PUBLIC NOTIFICATION

Approval Sought:	Material Change of Use
Proposed Development:	Dwelling House and Shed
Where:	621-623 Montgomerie Street, Lakes Creek
Lot Description:	Lot 1 and 3 on RP603374
Application Reference:	D/202-2025

Make a submission from:

6 June 2026 to 29 June 2026

You may make a submission to Rockhampton Regional Council

PO BOX 1860, Rockhampton QLD 4700
Email: enquiries@rrc.qld.gov.au
Phone: 07 4932 9000 or 1300 22 55 77

Click here to view the 'Guide to public notification of development and change applications'

For more information on planning requirements within the Rockhampton Region feel free to visit www.rrc.qld.gov.au



DA Form 1 – Development application details

Approved form (version 1.6 effective 2 August 2024) made under section 282 of the Planning Act 2016.

This form **must** be used to make a development application **involving code assessment or impact assessment**, except when applying for development involving only building work.

For a development application involving **building work only**, use *DA Form 2 – Building work details*.

For a development application involving **building work associated with any other type of assessable development (i.e. material change of use, operational work or reconfiguring a lot)**, use this form (*DA Form 1*) **and** parts 4 to 6 of *DA Form 2 – Building work details.*

Unless stated otherwise, all parts of this form **must** be completed in full and all required supporting information **must** accompany the development application.

One or more additional pages may be attached as a schedule to this development application if there is insufficient space on the form to include all the necessary information.

This form and any other form relevant to the development application must be used to make a development application relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994*, and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008.* For the purpose of assessing a development application relating to strategic port land and Brisbane core port land, any reference to a planning scheme is taken to mean a land use plan for the strategic port land, Brisbane port land use plan for Brisbane core port land, or a land use plan for airport land.

Note: *All terms used in this form have the meaning given under the Planning Act 2016, the Planning Regulation 2017, or the Development Assessment Rules (DA Rules).*

PART 1 – APPLICANT DETAILS

1) Applicant details	
Applicant name(s) (*individual or company full name*)	Annette and Daniel Sos
Contact name *(only applicable for companies)*	
Postal address *(P.O. Box or street address)*	157 Kent Street
Suburb	Rockhampton City
State	Queensland
Postcode	4700
Country	Australia
Contact number	0409277180
Email address *(non-mandatory)*	jadyjomi@hotmail.com
Mobile number *(non-mandatory)*	
Fax number *(non-mandatory)*	
Applicant's reference number(s) *(if applicable)*	

1.1) Home-based business
☐ Personal details to remain private in accordance with section 264(6) of *Planning Act 2016*

2) Owner's consent
2.1) Is written consent of the owner required for this development application?
☐ Yes – the written consent of the owner(s) is attached to this development application ☒ No – proceed to 3)

PART 2 – LOCATION DETAILS

3) Location of the premises *(complete 3.1) or 3.2), and 3.3) as applicable)*

***Note**: Provide details below and attach a site plan for any or all premises part of the development application. For further information, see DA Forms Guide: Relevant plans.*

3.1) Street address and lot on plan

☐ Street address **AND** lot on plan (*all lots must be listed*), ***or***

☐ Street address **AND** lot on plan for an adjoining or adjacent property of the premises *(appropriate for development in water but adjoining or adjacent to land e.g. jetty, pontoon. All lots must be listed).*

a)	Unit No.	Street No.	Street Name and Type	Suburb
		621-623	MONTGOMERIE	LAKES CREEK
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
		1	RP603374	ROCKHAMPTON
b)	Unit No.	Street No.	Street Name and Type	Suburb
		6210623	MONTGOMERIE STREET	LAKES CREEK
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
		3	RP603374	ROCKHAMPTON

3.2) Coordinates of premises *(appropriate for development in remote areas, over part of a lot or in water not adjoining or adjacent to land e.g. channel dredging in Moreton Bay)*

***Note**: Place each set of coordinates in a separate row.*

☐ Coordinates of premises by longitude and latitude

Longitude(s)	Latitude(s)	Datum	Local Government Area(s) *(if applicable)*
		☐ WGS84 ☐ GDA94 ☐ Other:	

☐ Coordinates of premises by easting and northing

Easting(s)	Northing(s)	Zone Ref.	Datum	Local Government Area(s) *(if applicable)*
		☐ 54 ☐ 55 ☐ 56	☐ WGS84 ☐ GDA94 ☐ Other:	

3.3) Additional premises

☐ Additional premises are relevant to this development application and the details of these premises have been attached in a schedule to this development application

☒ Not required

4) Identify any of the following that apply to the premises and provide any relevant details

☐ In or adjacent to a water body or watercourse or in or above an aquifer

Name of water body, watercourse or aquifer:	

☐ On strategic port land under the *Transport Infrastructure Act 1994*

Lot on plan description of strategic port land:	
Name of port authority for the lot:	

☐ In a tidal area

Name of local government for the tidal area *(if applicable)*:	
Name of port authority for tidal area *(if applicable)*	

☐ On airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*	
Name of airport:	
☐ Listed on the Environmental Management Register (EMR) under the *Environmental Protection Act 1994*	
EMR site identification:	
☐ Listed on the Contaminated Land Register (CLR) under the *Environmental Protection Act 1994*	
CLR site identification:	

5) Are there any existing easements over the premises?

Note: Easement uses vary throughout Queensland and are to be identified correctly and accurately. For further information on easements and how they may affect the proposed development, see DA Forms Guide.

☐ Yes – All easement locations, types and dimensions are included in plans submitted with this development application

☒ No

PART 3 – DEVELOPMENT DETAILS

Section 1 – Aspects of development

6.1) Provide details about the first development aspect

a) What is the type of development? *(tick only one box)*

☒ Material change of use ☐ Reconfiguring a lot ☐ Operational work ☐ Building work

b) What is the approval type? *(tick only one box)*

☒ Development permit ☐ Preliminary approval ☐ Preliminary approval that includes a variation approval

c) What is the level of assessment?

☐ Code assessment ☐ Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots)*:

PROPOSED DWELLING AND SHED

e) Relevant plans

***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms guide: Relevant plans.*

☒ Relevant plans of the proposed development are attached to the development application

6.2) Provide details about the second development aspect

a) What is the type of development? *(tick only one box)*

☐ Material change of use ☐ Reconfiguring a lot ☐ Operational work ☐ Building work

b) What is the approval type? *(tick only one box)*

☐ Development permit ☐ Preliminary approval ☐ Preliminary approval that includes a variation approval

c) What is the level of assessment?

☐ Code assessment ☐ Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots)*:

e) Relevant plans

***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*

☐ Relevant plans of the proposed development are attached to the development application

6.3) Additional aspects of development
☐ Additional aspects of development are relevant to this development application and the details for these aspects that would be required under Part 3 Section 1 of this form have been attached to this development application
☐ Not required
6.4) Is the application for State facilitated development?
☐ Yes - Has a notice of declaration been given by the Minister?
☒ No

Section 2 – Further development details

7) Does the proposed development application involve any of the following?	
Material change of use	☒ Yes – complete division 1 if assessable against a local planning instrument
Reconfiguring a lot	☐ Yes – complete division 2
Operational work	☐ Yes – complete division 3
Building work	☐ Yes – complete *DA Form 2 – Building work details*

Division 1 – Material change of use

***Note**: This division is only required to be completed if any part of the development application involves a material change of use assessable against a local planning instrument.*

8.1) Describe the proposed material change of use			
Provide a general description of the proposed use	Provide the planning scheme definition *(include each definition in a new row)*	Number of dwelling units *(if applicable)*	Gross floor area (m^2) *(if applicable)*
DWELLING AND SHED	DWELLING	1	

8.2) Does the proposed use involve the use of existing buildings on the premises?
☐ Yes
☒ No

8.3) Does the proposed development relate to temporary accepted development under the Planning Regulation?	
☐ Yes – provide details below or include details in a schedule to this development application	
☒ No	
Provide a general description of the temporary accepted development	Specify the stated period dates under the Planning Regulation

Division 2 – Reconfiguring a lot

***Note**: This division is only required to be completed if any part of the development application involves reconfiguring a lot.*

9.1) What is the total number of existing lots making up the premises?

9.2) What is the nature of the lot reconfiguration? *(tick all applicable boxes)*	
☐ Subdivision *(complete 10)*	☐ Dividing land into parts by agreement *(complete 11)*
☐ Boundary realignment *(complete 12)*	☐ Creating or changing an easement giving access to a lot from a constructed road *(complete 13)*

10) Subdivision				
10.1) For this development, how many lots are being created and what is the intended use of those lots:				
Intended use of lots created	Residential	Commercial	Industrial	Other, please specify:
Number of lots created				

10.2) Will the subdivision be staged?	
☐ Yes – provide additional details below ☐ No	
How many stages will the works include?	
What stage(s) will this development application apply to?	

11) Dividing land into parts by agreement – how many parts are being created and what is the intended use of the parts?				
Intended use of parts created	Residential	Commercial	Industrial	Other, please specify:
Number of parts created				

12) Boundary realignment			
12.1) What are the current and proposed areas for each lot comprising the premises?			
Current lot		Proposed lot	
Lot on plan description	Area (m^2)	Lot on plan description	Area (m^2)
12.2) What is the reason for the boundary realignment?			

13) What are the dimensions and nature of any existing easements being changed and/or any proposed easement? *(attach schedule if there are more than two easements)*				
Existing or proposed?	Width (m)	Length (m)	Purpose of the easement? *(e.g. pedestrian access)*	Identify the land/lot(s) benefitted by the easement

Division 3 – Operational work

***Note**: This division is only required to be completed if any part of the development application involves operational work.*

14.1) What is the nature of the operational work?		
☐ Road work	☐ Stormwater	☐ Water infrastructure
☐ Drainage work	☐ Earthworks	☐ Sewage infrastructure
☐ Landscaping	☐ Signage	☐ Clearing vegetation
☐ Other – please specify:		

14.2) Is the operational work necessary to facilitate the creation of new lots? *(e.g. subdivision)*	
☐ Yes – specify number of new lots:	
☐ No	

14.3) What is the monetary value of the proposed operational work? *(include GST, materials and labour)*

$

PART 4 – ASSESSMENT MANAGER DETAILS

15) Identify the assessment manager(s) who will be assessing this development application

ROCKHAMPTON REGIONAL COUNCIL

16) Has the local government agreed to apply a superseded planning scheme for this development application?

☐ Yes – a copy of the decision notice is attached to this development application
☐ The local government is taken to have agreed to the superseded planning scheme request – relevant documents attached
☒ No

PART 5 – REFERRAL DETAILS

17) Does this development application include any aspects that have any referral requirements?

***Note**: A development application will require referral if prescribed by the* Planning Regulation 2017.

☒ No, there are no referral requirements relevant to any development aspects identified in this development application – proceed to Part 6

Matters requiring referral to the **Chief Executive of the *Planning Act 2016***:

☐ Clearing native vegetation
☐ Contaminated land *(unexploded ordnance)*
☐ Environmentally relevant activities (ERA) *(only if the ERA has not been devolved to a local government)*
☐ Fisheries – aquaculture
☐ Fisheries – declared fish habitat area
☐ Fisheries – marine plants
☐ Fisheries – waterway barrier works
☐ Hazardous chemical facilities
☐ Heritage places – Queensland heritage place *(on or near a Queensland heritage place)*
☐ Infrastructure-related referrals – designated premises
☐ Infrastructure-related referrals – state transport infrastructure
☐ Infrastructure-related referrals – State transport corridor and future State transport corridor
☐ Infrastructure-related referrals – State-controlled transport tunnels and future state-controlled transport tunnels
☐ Infrastructure-related referrals – near a state-controlled road intersection
☐ Koala habitat in SEQ region – interfering with koala habitat in koala habitat areas outside koala priority areas
☐ Koala habitat in SEQ region – key resource areas
☐ Ports – Brisbane core port land – near a State transport corridor or future State transport corridor
☐ Ports – Brisbane core port land – environmentally relevant activity (ERA)
☐ Ports – Brisbane core port land – tidal works or work in a coastal management district
☐ Ports – Brisbane core port land – hazardous chemical facility
☐ Ports – Brisbane core port land – taking or interfering with water
☐ Ports – Brisbane core port land – referable dams
☐ Ports – Brisbane core port land – fisheries
☐ Ports – Land within Port of Brisbane's port limits *(below high-water mark)*
☐ SEQ development area
☐ SEQ regional landscape and rural production area or SEQ rural living area – tourist activity or sport and recreation activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – community activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – indoor recreation
☐ SEQ regional landscape and rural production area or SEQ rural living area – urban activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – combined use
☐ SEQ northern inter-urban break – tourist activity or sport and recreation activity

☐ SEQ northern inter-urban break – community activity
☐ SEQ northern inter-urban break – indoor recreation
☐ SEQ northern inter-urban break – urban activity
☐ SEQ northern inter-urban break – combined use
☐ Tidal works or works in a coastal management district
☐ Reconfiguring a lot in a coastal management district or for a canal
☐ Erosion prone area in a coastal management district
☐ Urban design
☐ Water-related development – taking or interfering with water
☐ Water-related development – removing quarry material *(from a watercourse or lake)*
☐ Water-related development – referable dams
☐ Water-related development –levees *(category 3 levees only)*
☐ Wetland protection area

Matters requiring referral to the **local government:**
☐ Airport land
☐ Environmentally relevant activities (ERA) (*only if the ERA has been devolved to local government)*
☐ Heritage places – Local heritage places

Matters requiring referral to the **Chief Executive of the distribution entity or transmission entity:**
☐ Infrastructure-related referrals – Electricity infrastructure

Matters requiring referral to:
- The **Chief Executive of the holder of the licence**, if not an individual
- The **holder of the licence**, if the holder of the licence is an individual

☐ Infrastructure-related referrals – Oil and gas infrastructure

Matters requiring referral to the **Brisbane City Council:**
☐ Ports – Brisbane core port land

Matters requiring referral to the **Minister responsible for administering the *Transport Infrastructure Act 1994*:**
☐ Ports – Brisbane core port land *(where inconsistent with the Brisbane port LUP for transport reasons)*
☐ Ports – Strategic port land

Matters requiring referral to the **relevant port operator**, if applicant is not port operator**:**
☐ Ports – Land within Port of Brisbane's port limits *(below high-water mark)*

Matters requiring referral to the **Chief Executive of the relevant port authority:**
☐ Ports – Land within limits of another port *(below high-water mark)*

Matters requiring referral to the **Gold Coast Waterways Authority:**
☐ Tidal works or work in a coastal management district *(in Gold Coast waters)*

Matters requiring referral to the **Queensland Fire and Emergency Service:**
☐ Tidal works or work in a coastal management district *(involving a marina (more than six vessel berths))*

18) Has any referral agency provided a referral response for this development application?

☐ Yes – referral response(s) received and listed below are attached to this development application
☒ No

Referral requirement	Referral agency	Date of referral response

Identify and describe any changes made to the proposed development application that was the subject of the referral response and this development application, or include details in a schedule to this development application *(if applicable).*

PART 6 – INFORMATION REQUEST

19) Information request under the DA Rules

☒ I agree to receive an information request if determined necessary for this development application

☐ I do not agree to accept an information request for this development application

***Note**: By not agreeing to accept an information request I, the applicant, acknowledge:*

- *that this development application will be assessed and decided based on the information provided when making this development application and the assessment manager and any referral agencies relevant to the development application are not obligated under the DA Rules to accept any additional information provided by the applicant for the development application unless agreed to by the relevant parties*
- *Part 3 under Chapter 1 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules or*
- *Part 2under Chapter 2 of the DA Rules will still apply if the application is for state facilitated development*

Further advice about information requests is contained in the DA Forms Guide.

PART 7 – FURTHER DETAILS

20) Are there any associated development applications or current approvals? *(e.g. a preliminary approval)*

☐ Yes – provide details below or include details in a schedule to this development application

☒ No

List of approval/development application references	Reference number	Date	Assessment manager
☐ Approval ☐ Development application			
☐ Approval ☐ Development application			

21) Has the portable long service leave levy been paid? *(only applicable to development applications involving building work or operational work)*

☐ Yes – a copy of the receipted QLeave form is attached to this development application

☐ No – I, the applicant will provide evidence that the portable long service leave levy has been paid before the assessment manager decides the development application. I acknowledge that the assessment manager may give a development approval only if I provide evidence that the portable long service leave levy has been paid

☒ Not applicable *(e.g. building and construction work is less than $150,000 excluding GST)*

Amount paid	Date paid (dd/mm/yy)	QLeave levy number (A, B or E)
$		

22) Is this development application in response to a show cause notice or required as a result of an enforcement notice?

☐ Yes – show cause or enforcement notice is attached

☒ No

23) Further legislative requirements

Environmentally relevant activities

23.1) Is this development application also taken to be an application for an environmental authority for an **Environmentally Relevant Activity (ERA)** under section 115 of the *Environmental Protection Act 1994*?

☐ Yes – the required attachment (form ESR/2015/1791) for an application for an environmental authority accompanies this development application, and details are provided in the table below

☒ No

***Note**: Application for an environmental authority can be found by searching "ESR/2015/1791" as a search term at www.qld.gov.au. An ERA requires an environmental authority to operate. See www.business.qld.gov.au for further information.*

Proposed ERA number:		Proposed ERA threshold:	
Proposed ERA name:			

☐ Multiple ERAs are applicable to this development application and the details have been attached in a schedule to this development application.

Hazardous chemical facilities

23.2) Is this development application for a **hazardous chemical facility**?

☐ Yes – *Form 536: Notification of a facility exceeding 10% of schedule 15 threshold* is attached to this development application

☒ No

***Note**: See www.business.qld.gov.au for further information about hazardous chemical notifications.*

Clearing native vegetation

23.3) Does this development application involve **clearing native vegetation** that requires written confirmation that the chief executive of the *Vegetation Management Act 1999* is satisfied the clearing is for a relevant purpose under section 22A of the *Vegetation Management Act 1999*?

☐ Yes – this development application includes written confirmation from the chief executive of the *Vegetation Management Act 1999* (s22A determination)

☒ No

***Note**: 1. Where a development application for operational work or material change of use requires a s22A determination and this is not included, the development application is prohibited development.*
2. See https://www.qld.gov.au/environment/land/vegetation/applying for further information on how to obtain a s22A determination.

Environmental offsets

23.4) Is this development application taken to be a prescribed activity that may have a significant residual impact on a **prescribed environmental matter** under the *Environmental Offsets Act 2014*?

☐ Yes – I acknowledge that an environmental offset must be provided for any prescribed activity assessed as having a significant residual impact on a prescribed environmental matter

☒ No

***Note**: The environmental offset section of the Queensland Government's website can be accessed at www.qld.gov.au for further information on environmental offsets.*

Koala habitat in SEQ Region

23.5) Does this development application involve a material change of use, reconfiguring a lot or operational work which is assessable development under Schedule 10, Part 10 of the Planning Regulation 2017?

☐ Yes – the development application involves premises in the koala habitat area in the koala priority area

☐ Yes – the development application involves premises in the koala habitat area outside the koala priority area

☒ No

***Note**: If a koala habitat area determination has been obtained for this premises and is current over the land, it should be provided as part of this development application. See koala habitat area guidance materials at www.desi.qld.gov.au for further information.*

Water resources

23.6) Does this development application involve **taking or interfering with underground water through an artesian or subartesian bore, taking or interfering with water in a watercourse, lake or spring, or taking overland flow water under the *Water Act 2000***?

☐ Yes – the relevant template is completed and attached to this development application and I acknowledge that a relevant authorisation or licence under the *Water Act 2000* may be required prior to commencing development

☒ No

***Note**: Contact the Department of Resources at www.resources.qld.gov.au for further information.*

DA templates are available from planning.statedevelopment.qld.gov.au. If the development application involves:

- *Taking or interfering with underground water through an artesian or subartesian bore: complete DA Form 1 Template 1*
- *Taking or interfering with water in a watercourse, lake or spring: complete DA Form1 Template 2*
- *Taking overland flow water: complete DA Form 1 Template 3.*

Waterway barrier works

23.7) Does this application involve **waterway barrier works?**

☐ Yes – the relevant template is completed and attached to this development application

☒ No

DA templates are available from planning.statedevelopment.qld.gov.au. For a development application involving waterway barrier works, complete DA Form 1 Template 4.

Marine activities

23.8) Does this development application involve **aquaculture, works within a declared fish habitat area or removal, disturbance or destruction of marine plants?**

☐ Yes – an associated *resource* allocation authority is attached to this development application, if required under the *Fisheries Act 1994*

☒ No

***Note**: See guidance materials at www.daf.qld.gov.au for further information.*

Quarry materials from a watercourse or lake

23.9) Does this development application involve the **removal of quarry materials from a watercourse or lake** under the *Water Act 2000?*

☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

☒ No

***Note**: Contact the Department of Resources at www.resources.qld.gov.au and www.business.qld.gov.au for further information.*

Quarry materials from land under tidal waters

23.10) Does this development application involve the **removal of quarry materials from land under tidal water** under the *Coastal Protection and Management Act 1995?*

☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

☒ No

***Note**: Contact the Department of Environment, Science and Innovation at www.desi.qld.gov.au for further information.*

Referable dams

23.11) Does this development application involve a **referable dam** required to be failure impact assessed under section 343 of the *Water Supply (Safety and Reliability) Act 2008* (the Water Supply Act)?

☐ Yes – the 'Notice Accepting a Failure Impact Assessment' from the chief executive administering the Water Supply Act is attached to this development application

☒ No

***Note**: See guidance materials at www.resources.qld.gov.au for further information.*

Tidal work or development within a coastal management district

23.12) Does this development application involve **tidal work or development in a coastal management district**?

☐ Yes – the following is included with this development application:
- ☐ Evidence the proposal meets the code for assessable development that is prescribed tidal work *(only required if application involves prescribed tidal work)*
- ☐ A certificate of title

☒ No

***Note**: See guidance materials at www.desi.qld.gov.au for further information.*

Queensland and local heritage places

23.13) Does this development application propose development on or adjoining a place entered in the **Queensland heritage register** or on a place entered in a local government's **Local Heritage Register**?

☐ Yes – details of the heritage place are provided in the table below

☒ No

***Note**: See guidance materials at www.desi.qld.gov.au for information requirements regarding development of Queensland heritage places.*

For a heritage place that has cultural heritage significance as a local heritage place and a Queensland heritage place, provisions are in place under the Planning Act 2016 that limit a local categorising instrument from including an assessment benchmark about the effect or impact of, development on the stated cultural heritage significance of that place. See guidance materials at www.planning.statedevelopment.qldgov.au for information regarding assessment of Queensland heritage places.

Name of the heritage place:		Place ID:	

Decision under section 62 of the *Transport Infrastructure Act 1994*

23.14) Does this development application involve new or changed access to a state-controlled road?

☐ Yes – this application will be taken to be an application for a decision under section 62 of the *Transport Infrastructure Act 1994* (subject to the conditions in section 75 of the *Transport Infrastructure Act 1994* being satisfied)

☒ No

Walkable neighbourhoods assessment benchmarks under Schedule 12A of the Planning Regulation

23.15) Does this development application involve reconfiguring a lot into 2 or more lots in certain residential zones (except rural residential zones), where at least one road is created or extended?

☐ Yes – Schedule 12A is applicable to the development application and the assessment benchmarks contained in schedule 12A have been considered

☒ No

***Note**: See guidance materials at www.planning.statedevelopment.qld.gov.au for further information.*

PART 8 – CHECKLIST AND APPLICANT DECLARATION

24) Development application checklist

I have identified the assessment manager in question 15 and all relevant referral requirement(s) in question 17 ***Note**: See the Planning Regulation 2017 for referral requirements*	☒ Yes
If building work is associated with the proposed development, Parts 4 to 6 of *DA Form 2 – Building work details* have been completed and attached to this development application	☐ Yes ☒ Not applicable
Supporting information addressing any applicable assessment benchmarks is with the development application ***Note**: This is a mandatory requirement and includes any relevant templates under question 23, a planning report and any technical reports required by the relevant categorising instruments (e.g. local government planning schemes, State Planning Policy, State Development Assessment Provisions). For further information, see DA Forms Guide: Planning Report Template.*	☒ Yes
Relevant plans of the development are attached to this development application ***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*	☒ Yes
The portable long service leave levy for QLeave has been paid, or will be paid before a development permit is issued *(see 21)*	☐ Yes ☒ Not applicable

25) Applicant declaration
☒ By making this development application, I declare that all information in this development application is true and correct ☒ Where an email address is provided in Part 1 of this form, I consent to receive future electronic communications from the assessment manager and any referral agency for the development application where written information is required or permitted pursuant to sections 11 and 12 of the *Electronic Transactions Act 2001* ***Note**: It is unlawful to intentionally provide false or misleading information.*
Privacy – Personal information collected in this form will be used by the assessment manager and/or chosen assessment manager, any relevant referral agency and/or building certifier (including any professional advisers which may be engaged by those entities) while processing, assessing and deciding the development application. All information relating to this development application may be available for inspection and purchase, and/or published on the assessment manager's and/or referral agency's website. Personal information will not be disclosed for a purpose unrelated to the *Planning Act 2016*, Planning Regulation 2017 and the DA Rules except where: • such disclosure is in accordance with the provisions about public access to documents contained in the *Planning Act 2016* and the Planning Regulation 2017, and the access rules made under the *Planning Act 2016* and Planning Regulation 2017; or • required by other legislation (including the *Right to Information Act 2009*); or • otherwise required by law. This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002.*

PART 9 – FOR COMPLETION OF THE ASSESSMENT MANAGER – FOR OFFICE USE ONLY

Date received: | Reference number(s):

Notification of engagement of alternative assessment manager	
Prescribed assessment manager	
Name of chosen assessment manager	
Date chosen assessment manager engaged	
Contact number of chosen assessment manager	
Relevant licence number(s) of chosen assessment manager	

QLeave notification and payment *Note: For completion by assessment manager if applicable*			
Description of the work			
QLeave project number			
Amount paid ($)		Date paid (dd/mm/yy)	
Date receipted form sighted by assessment manager			
Name of officer who sighted the form			

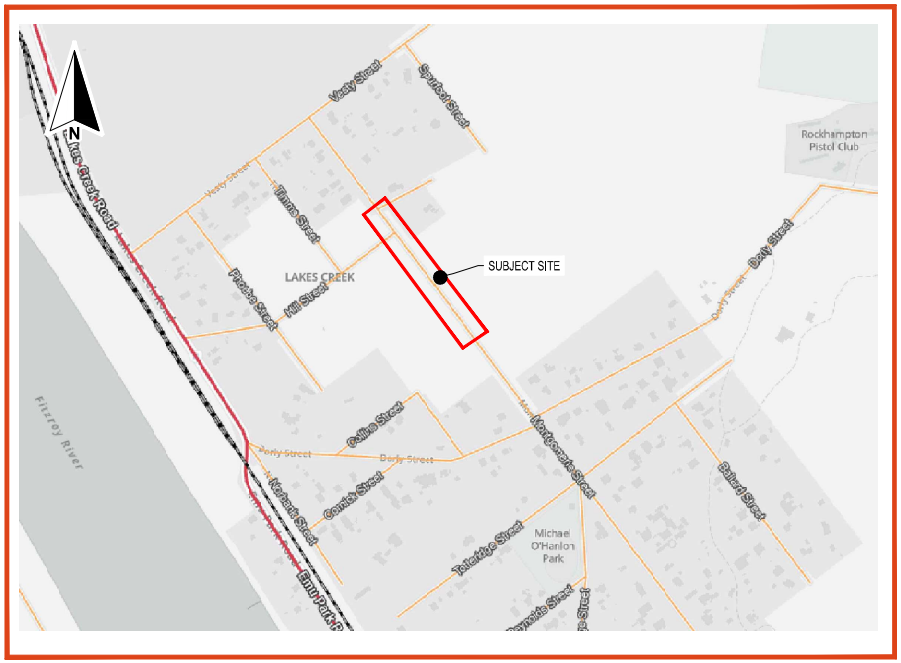
ACCESS WORKS

621-623 MONTGOMERIE STREET ACCESS

ANNETTE SOS

D25.349

CIVIL DESIGN



LOCALITY PLAN
(Not To Scale)

Sheet List Table		
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DILEIGH
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FOR CONSTRUCTION

WITH COUNCIL APPROVAL

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DATUM: HORIZ. GDA 2020 VERT. AHD

0 5 10 15 20 PLAN 1:1000

SCALES m. FULL SIZE A3

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CHECKED	AL
APPROVED	G J BROWN
RPEQ 7682	SIGN
21.11.2025	

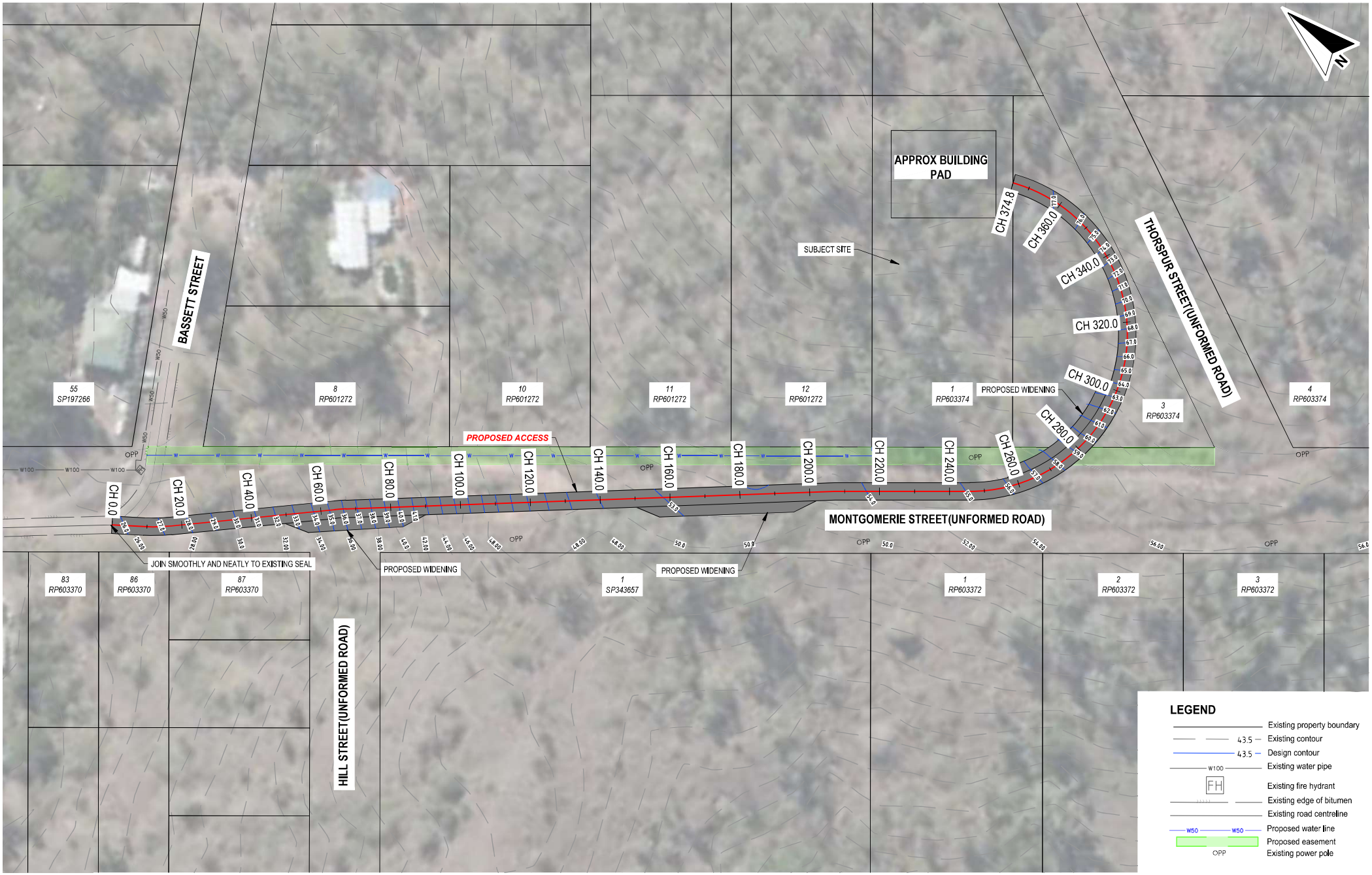
ANNETTE SOS
ACCESS WORKS
621-623 MONTGOMERIE STREET ACCESS
GENERAL
EXISTING FEATURES AND PLANS

DWG No. D25.349-01

CIVIL

REVISION B

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0 5 10 15 20 PLAN 1:1000

SCALES m. FULL SIZE A3

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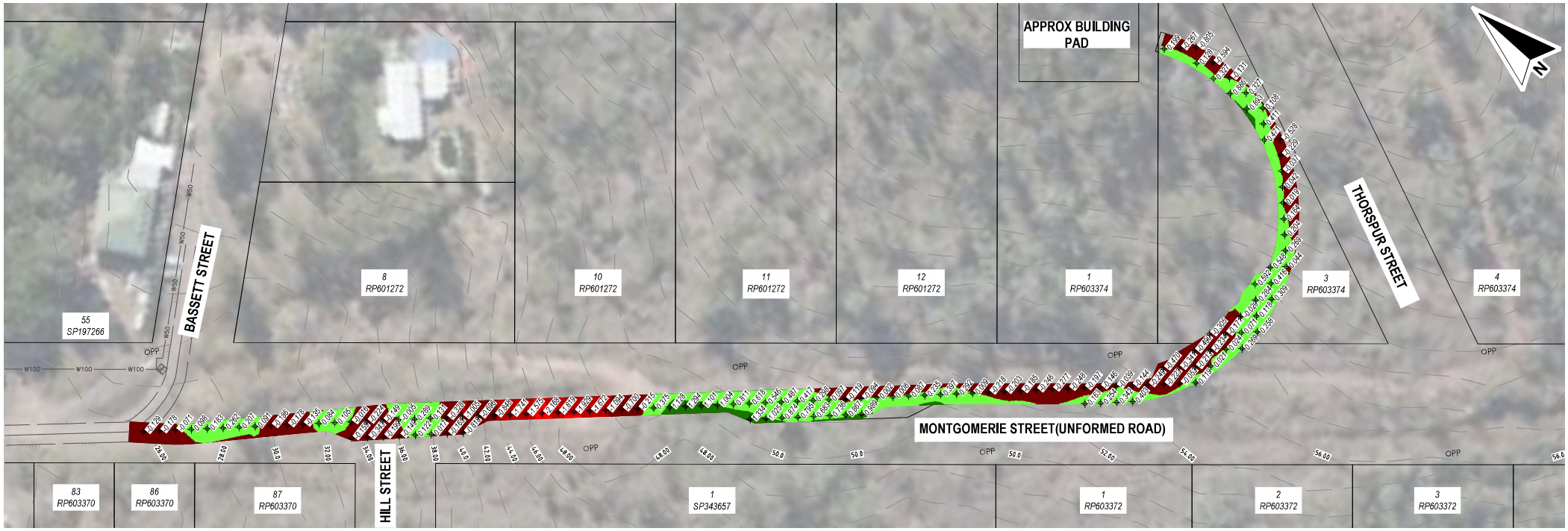
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ACCESS WORKS
621-623 MONTGOMERIE STREET ACCESS
GENERAL
PROPOSED PLAN

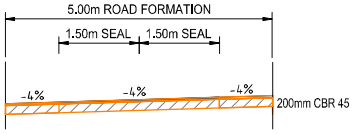
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CIVIL

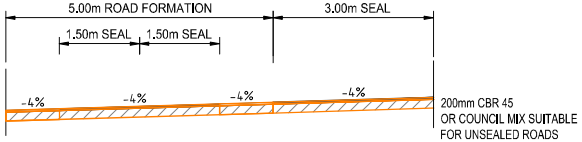
REVISION B

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DRIVEWAY TYPICAL SECTION
SCALE 1:100



WIDENING TYPICAL SECTION
SCALE 1:100

EARTHWORKS BALANCE		
VOLUME CUT (Cu.m)	VOLUME FILL (Cu.m)	BALANCE (Cu.m)
522	429	93(CUT)

RECOMMENDED EARTHWORKS AND DRIVEWAY NOTES

1. Control testing of the earthworks shall be undertaken in accordance with A.S.3798.
2. Allotment fill shall achieve a minimum dry density ratio (M.D.R.R) of 95% standard.
3. Road embankments shall achieve the following minimum standards:
   - 3.1. Greater than or equal to 0.3m below subgrade: 95% M.D.D.R standard
   - 3.2. Less than 0.3m below pavement subgrade: 98% M.D.D.R standard
   - 3.3. Non cohesive material: material shall achieve 80% M.D.D.R standard.
4. Field density tests shall be taken at the following minimum frequencies:
   - 4.1. Allotment fill: 1 test / 500cu.m or 1 test / allotment (whichever is greater)
   - 4.2. Subgrade fill and road pavement: 1 test/200cu.m or 1 test/200mm thickness/1000sq.metres (whichever is greater)
5. Road pavements shall be placed and compacted to achieve a M.D.D.R of 100% standard.
6. Earthworks greater than 0.4m depth to be control level 1 supervision in accordance with AS 3798.
7. The limits and tolerances applicable include:
   - 7.1. Stockpile sites:
     - 7.1.1. Relative compaction >95%,
     - 7.1.1. Height <3.0m,
     - 7.1.2. Batter < 1:1.5 and >1:3
   - 7.2. Spreading pavement materials: compacted layer thickness >100mm and <200mm
   - 7.3. Compaction acceptance: relative compaction >100% (standard compaction effort)
   - 7.4. Width of pavement:
     - 7.4.1. Edge of constructed pavement -50mm to 300mm
     - 7.4.2. Average width determined from 3 random sites over any 200mm road length, or part thereof, shall not be less than the specified width.
   - 7.5. Surface level:
     - 7.5.1. Subbase levels <±10mm from design level
     - 7.5.2. Base levels <±10mm from design level
     - 7.5.3. Base levels adjacent to kerb and gutter <±5mm from he lip levels of adjacent gutters minus design thickness of wearing surface shape deviation from a 3.0m straight edge on base surface immediately prior to sealing shall be less than 12mm.

EARTHWORKS DEPTHS SHADED TABLE ('SUBGRADE HEAT MAP')

No.	MIN. LEVEL	MAX. LEVEL	COLOUR	VOLUME
1	-3.000	-2.000		20.73
2	-2.000	-1.000		129.91
3	-1.000	0.000		977.75
4	0.000	1.000		1036.44
5	1.000	2.000		77.65

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SCALES m. FULL SIZE A3

FOR CONSTRUCTION

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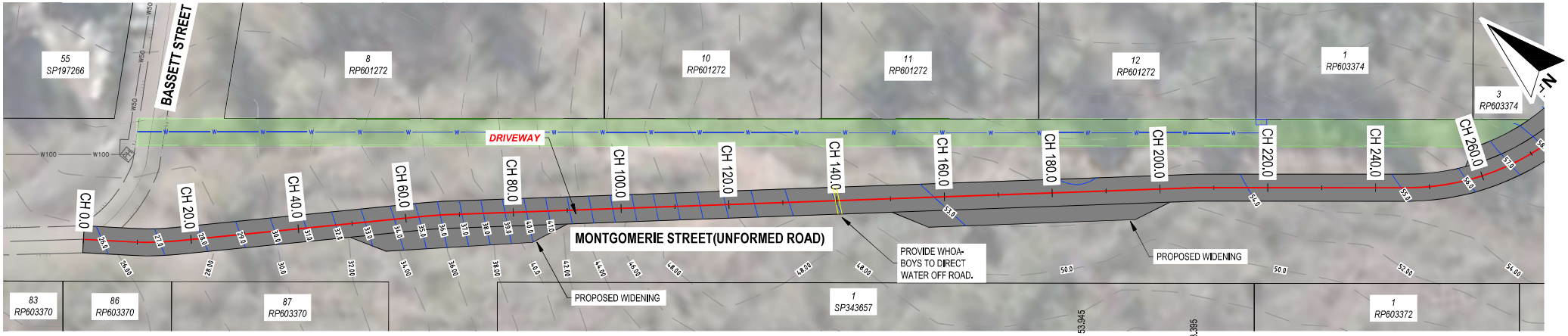
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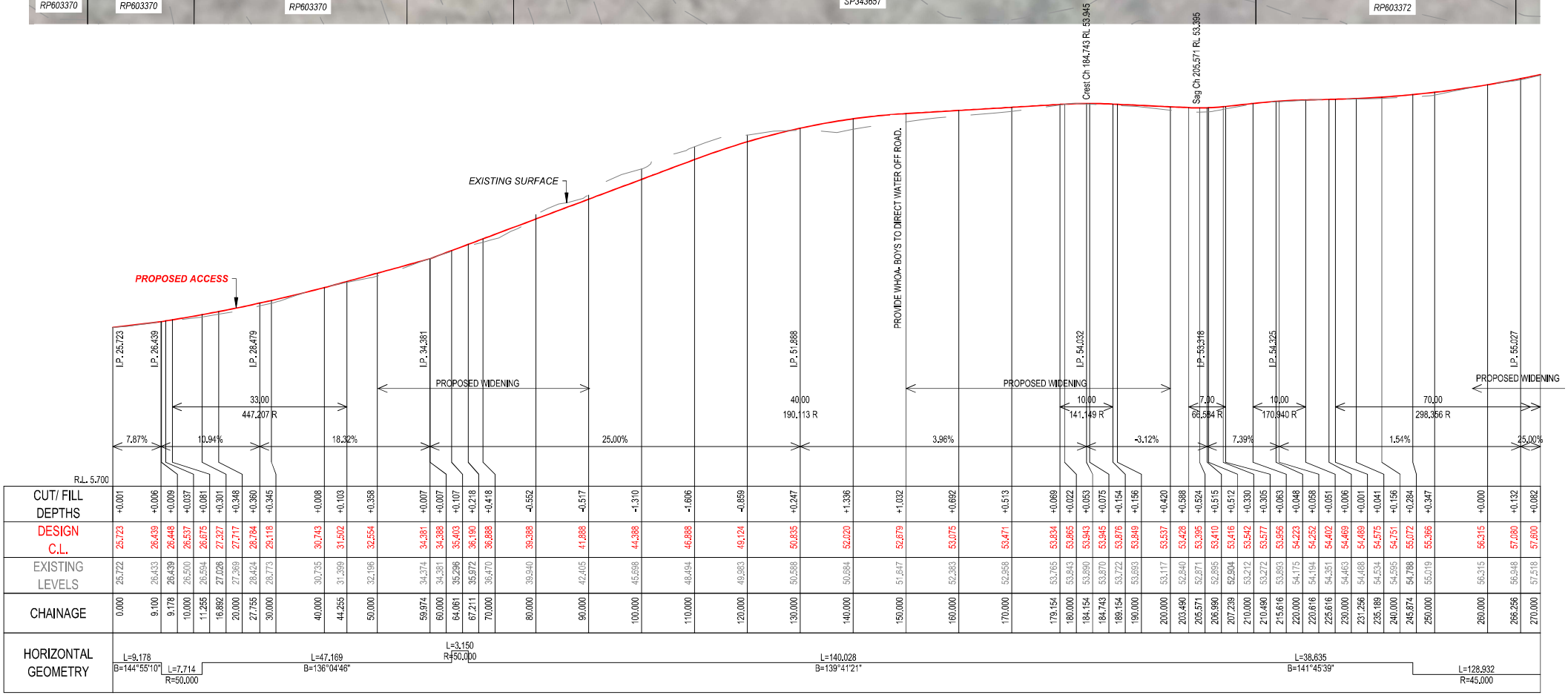
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ANNETTE SOS
ACCESS WORKS
621-623 MONTGOMERIE STREET ACCESS
GENERAL
EARTHWORKS

DWG No. D25.349-102
CIVIL
REVISION B

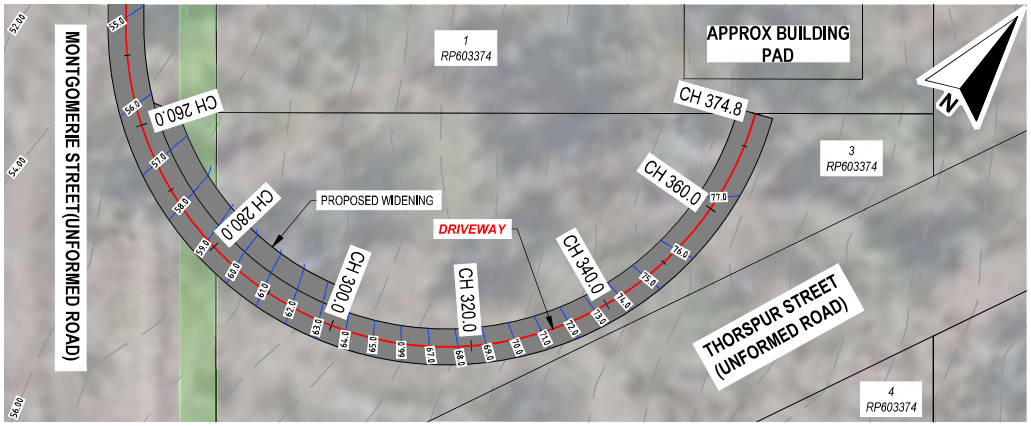
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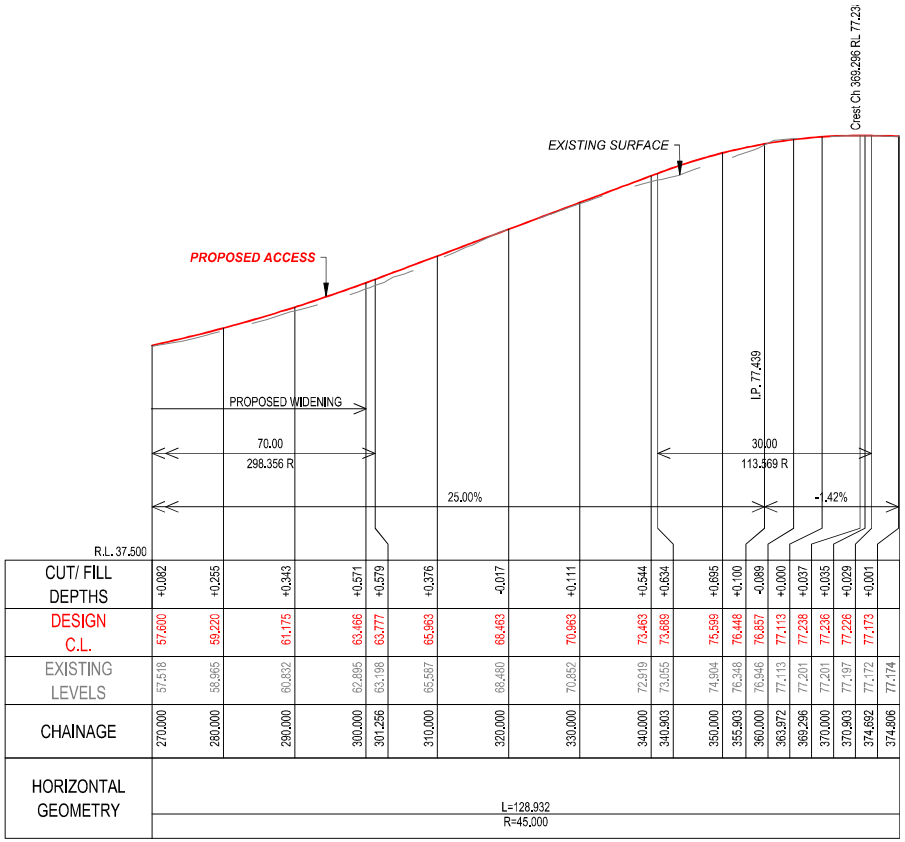

55 SP197266
BASSETT STREET
8 RP601272
10 RP601272
11 RP601272
12 RP601272
1 RP603374
3 RP603374
DRIVEWAY
CH 0.0
CH 20.0
CH 40.0
CH 60.0
CH 80.0
CH 100.0
CH 120.0
CH 140.0
CH 160.0
CH 180.0
CH 200.0
CH 220.0
CH 240.0
CH 260.0
MONTGOMERIE STREET(UNFORMED ROAD)
PROVIDE WHOA- BOYS TO DIRECT WATER OFF ROAD.
PROPOSED WIDENING
PROPOSED WIDENING
83 RP603370
86 RP603370
87 RP603370
1 SP343657
1 RP603372


EXISTING SURFACE
PROPOSED ACCESS
PROVIDE WHOA- BOYS TO DIRECT WATER OFF ROAD.
Crest Ch 184.743 RL 53.945
Sag Ch 205.571 RL 53.395
I.P. 25.723
I.P. 26.439
I.P. 28.479
I.P. 34.381
I.P. 51.888
I.P. 54.032
I.P. 53.318
I.P. 54.325
I.P. 55.027
PROPOSED WIDENING
PROPOSED WIDENING
PROPOSED WIDENING
33.00
447.207 R
40.00
190.113 R
10.00
141.149 R
7.00
66.584 R
10.00
170.940 R
70.00
298.356 R
7.87%
10.94%
18.32%
25.00%
3.96%
-3.12%
7.39%
1.54%
25.00%

R.L. 5.700

| | | |





CUT/ FILL DEPTHS	+0.082	+0.255	+0.343	+0.571	+0.579	+0.376	-0.017	+0.111	+0.544	+0.634	+0.695	+0.100	-0.089	+0.000	+0.037	+0.035	+0.029	+0.001					
DESIGN C.L.	57.600	58.220	61.175	63.466	63.777	65.963	68.463	70.963	73.463	73.688	75.599	76.448	76.857	77.113	77.238	77.236	77.226	77.173					
EXISTING LEVELS	57.518	57.965	60.832	62.895	63.198	65.587	68.480	70.852	72.919	73.055	74.904	76.348	76.946	77.113	77.201	77.201	77.197	77.172	77.174				
CHAINAGE	270.000	280.000	290.000	300.000	301.256	310.000	320.000	330.000	340.000	340.903	350.000	355.803	360.000	363.972	369.296	370.000	370.903	374.892	374.806				
HORIZONTAL GEOMETRY	L=128.932 R=45.000																						

DATUM: HORIZ. GDA 2020 VERT. AHD

0 3.75 7.5 11.25 15 HORIZONTAL 1:750

0 2.5 5 7.5 10 VERTICAL 1:500

SCALES m. FULL SIZE A3

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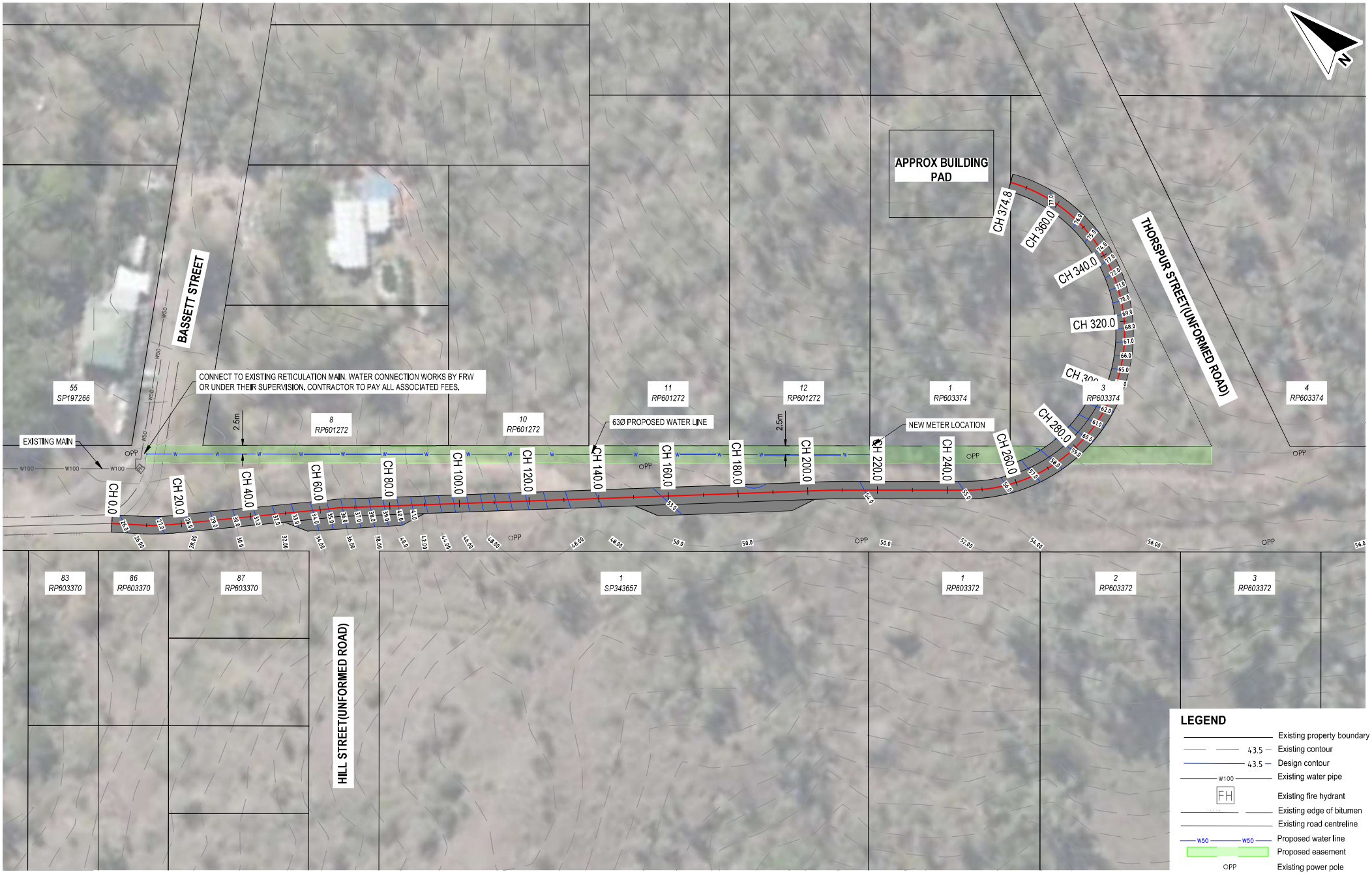
ANNETTE SOS
ACCESS WORKS
621-623 MONTGOMERIE STREET ACCESS
ROADWORKS
DRIVEWAY LONG SECTION (02 OF 02)

DWG No. D25.349-104

CIVIL

REVISION B

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DATUM: HORIZ. GDA 2020 VERT. AHD

0 5 10 15 20 PLAN 1:1000

SCALES m. FULL SIZE A3

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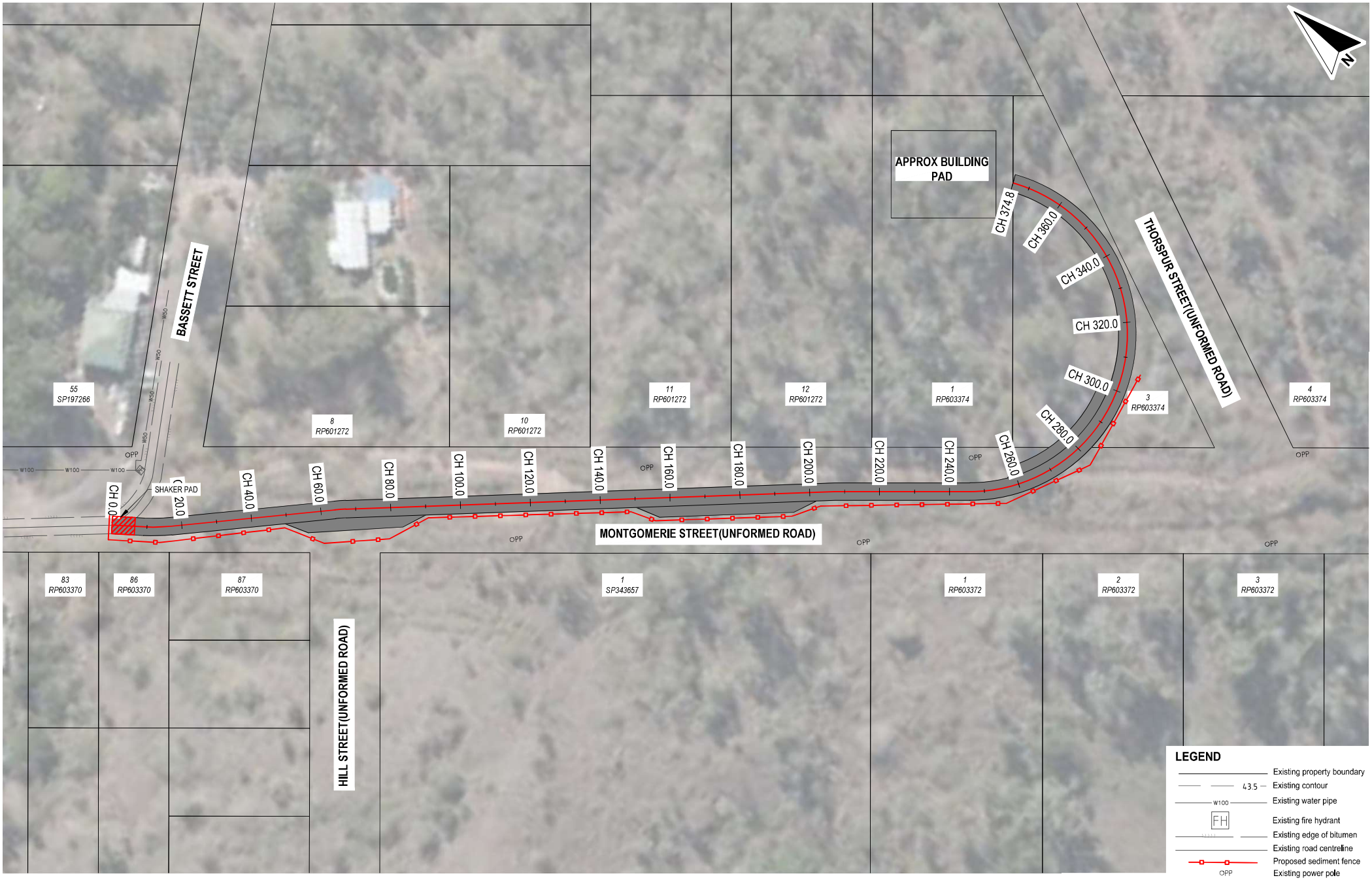
ANNETTE SOS
ACCESS WORKS
621-623 MONTGOMERIE STREET ACCESS
WATER
WATER CONNECTION

DWG No. D25.349-201

CIVIL

REVISION B

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ANNETTE SOS
ACCESS WORKS
621-623 MONTGOMERIE STREET ACCESS
EROSION AND SEDIMENT CONTROL
EROSION AND SEDIMENT CONTROL PLAN

DWG No. D25.349-301

CIVIL

REVISION B

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ENVIRONMENTAL MANAGEMENT NOTES:

1. PRIOR TO THE COMMENCEMENT OF EARTHWORKS, TOPSOIL SHALL BE STRIPPED AND STOCKPILED FROM SELECT AREAS ONLY FOR RE-SPREADING OVER DISTURBED AREAS PRIOR TO REVEGETATION AND LANDSCAPING.
2. PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS ALL SEDIMENT CONTROL DEVICES WILL BE ERECTED WHERE SHOWN ON THE DRAWINGS OR OTHERWISE DIRECTED BY THE ENGINEER.
3. ALL DISTURBED AREAS ON-SITE AND IN ROAD RESERVE WILL BE RE-TOPSOILED, TURFED OR LANDSCAPED.
4. ALL SOIL CONSERVATION AND ENVIRONMENTAL PROTECTION MEASURES SHALL BE MONITORED BY THE CONTRACTOR AT REGULAR INTERVALS DURING CONSTRUCTION. SEDIMENT CONTROL DEVICES WILL BE MONITORED AFTER RAIN EVENTS AND MADE GOOD WHERE NECESSARY. THIS WILL ALSO BE CARRIED OUT DURING THE DEFECTS LIABILITY PERIOD.
5. SILT FENCES SHALL BE INSTALLED ON THE LOW SIDE OF ALL STOCKPILES WHERE REQUIRED.
6. SILT FENCES SHALL REMAIN ON SITE UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETE AND THERE IS 90% VEGETATION COVERAGE OF PROPOSED LANDSCAPED AREAS.

NOISE MANAGEMENT:

1. WORKING HOURS - WORKING HOURS FOR THE SITE ARE TO BE 6.30am TO 6.30pm MONDAY TO SATURDAY. NO WORK TO BE UNDERTAKEN OUTSIDE OF TIMES SPECIFIED UNDER ANY CIRCUMSTANCES.
2. NOISE MINIMISATION METHODS - NOISE WILL BE MINIMISED USING THE FOLLOWING METHODS:-
   - 2.1. RESTRICTED WORKING HOURS AS DETAILED ABOVE
   - 2.2. NOISE GENERATING MACHINERY TO OPERATED ONLY WHEN NECESSARY TO UNDERTAKE WORKS - VEHICLES AND MACHINERY ARE NOT TO BE LEFT 'IDLING' WHEN NOT IN USE.
   - 2.3. NOISE SHIELDING ON PLANT TO BE INSPECTED PRIOR TO COMMENCEMENT OF WORKS AND MADE GOOD WHERE FOUND TO BE FAULTY.
   - 2.4. VEHICLES AND MACHINERY TO BE REGULARLY MAINTAINED TO REDUCE ENGINE NOISE THROUGH INFREQUENT MAINTENANCE.

DUST MANAGEMENT:

1. MINIMISING DUST GENERATION - THE FOLLOWING WORK PRACTICES WILL BE USED TO MINIMISE DUST GENERATION:-
   - 1.1. WIND CONDITIONS ON SITE ARE TO BE MONITORED AND SITE WORKS STOPPED IF WIND STRENGTH IS SUCH THAT EFFORTS TO MINIMISE AND/OR SUPPRESS DUST ARE INEFFECTIVE.
   - 1.2. SOIL STABILISATION OF BATTERS (THROUGH TOPSOILING AND REVEGETATION) TO BE UNDERTAKEN IMMEDIATELY AFTER FINAL TRIM TO MINIMISE EXPOSURE OF BARE EARTH.
   - 1.3. STOCKPILES INTENDING TO BE LEFT IN PLACE FOR 28 DAYS OR GREATER SHALL BE GRASS SEEDED.
2. DUST SUPPRESSION -
   - 2.1. WET DOWN DUST GENERATING SURFACES DAILY PRIOR TO COMMENCEMENT OF WORK USING WATER TRUCKS, SPRINKLERS AND HOSE WATERING BY HAND.
   - 2.2. ADDITIONAL WETTING DOWN OF SITE AREAS IS TO BE UNDERTAKEN AS NEEDED DURING THE COURSE OF THE DAY WHERE WORK AREAS HAVE DRIED AND ARE GENERATING DUST.

WEED MANAGEMENT:

1. MOVEMENT OF SOIL - EXISTING TOP SOIL IS TO BE STOCKPILED AND RE-USED ON SITE AFTER SITE WORKS ARE COMPLETE. ANY ADDITIONAL TOP SOIL REQUIRED IS TO BE FREE OF PLANT SEEDS PRIOR TO SPREADING ON SITE.
2. FILL MATERIAL - FILL MATERIAL TO BE IMPORTED ON SITE IS TO BE 'CLEAN FILL' AND FREE FROM ANY ORGANIC MATTER OR MATERIALS.

EMERGENCY VEHICLE ACCESS:

1. MAINTAIN CLEAR ACCESS TO SITE FOR EMERGENCY VEHICLES AT ALL TIMES

WASTE MANAGEMENT:

1. ALL LITTER AND WASTE TO BE CONTAINED ON SITE IN CONTAINERS PROVIDED FOR THAT PURPOSE.
2. ALL WASTE TO BE FURTHER DISPOSED OFF SITE IN A RESPONSIBLE MANNER.
3. WHERE POSSIBLE MINIMISE WASTE THROUGH WASTE MINIMIZATION AND RE-USE.

EROSION AND SEDIMENT MANAGEMENT:

DRAINAGE MANAGEMENT - WHERE POSSIBLE, RAINWATER DISCHARGE FROM UPSTREAM PROPERTIES IS TO BE DIRECTED AWAY FROM WORKS THROUGH TEMPORARY BUNDING.

1. SOIL STABILISATION -
   - 1.1. EXPOSED EARTH SHALL BE TOPSOILED, VEGETATED, AND LANDSCAPED AS SOON AS POSSIBLE AFTER TRIMMING.
   - 1.2. RE-VEGETATED AND LANDSCAPED AREAS SHALL BE REGULARLY WATERED TO ASSIST ESTABLISHMENT OF COVER.
   - 1.3. ALL BANKS AND BATTERS ARE TO BE REGULARLY INSPECTED TO IDENTIFY AREAS OF EROSION AND RESHAPED TO PREVENT FURTHER EROSION IF NECESSARY - RECTIFICATION WORKS ARE TO BE RE-VEGETATED IMMEDIATELY.
2. STOCKPILE PROTECTION -
   - 2.1. STOCKPILES ARE TO BE SITUATED SUCH THAT THEY ARE NOT IN ANY STORMWATER FLOW PATHS.
   - 2.2. SILT FENCING IS TO BE INSTALLED TO DOWNSTREAM SIDE OF STOCKPILE AREAS PRIOR TO THEIR USE.
   - 2.3. STOCKPILES INTENDING TO BE LEFT IN PLACE FOR 28 DAYS OR GREATER SHALL BE GRASS SEEDED.
   - 2.4. STOCKPILES TO HAVE A MAXIMUM SLOPE OF 2H:1V.
3. SEDIMENT TRAPS -
   - 3.1. SILT FENCING & SEDIMENT TRAPS TO BE INSTALLED AT AREAS OF SITE DISCHARGE AS SHOWN ON PLAN.
   - 3.2. SILT FENCING TO BE INSTALLED TO DOWNSTREAM SIDE OF STOCKPILE AREAS, STRIPPED AREAS, AND ANY OTHER AREAS OF BARE EARTH WHERE SILT LADEN RUNOFF CAN BE GENERATED.
   - 3.3. SEDIMENT FENCING TO BE INSTALLED IN ACCORDANCE WITH SEDIMENT FENCE DETAILS ON THIS SHEET.
   - 3.4. SEDIMENT FENCE LAYOUT SHALL CONFORM TO "TYPICAL LAYOUT ACROSS GRADE" AS DETAILED ON STANDARD DRAWING CMDG-D-050.
   - 3.5. SILT FENCES AND SEDIMENT TRAPS SHALL REMAIN ON SITE UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETE AND THERE IS 90% VEGETATION COVERAGE OF PROPOSED LANDSCAPED AREAS.
4. VEHICLE AND ROAD MANAGEMENT:-
   - 4.1. VEHICLES AND PLANT ARE TO ONLY ACCESS THE SITE FROM MONTGOMERIE STREET SITE ACCESS TO BE OVER A SHAKER ACCESS PAD OR RUMBLE GRID IN ACCORDANCE WITH STANDARD DWG CMDG-D-050.
   - 4.2. VEHICLE OPERATOR TO ASSESS MATERIAL ON VEHICLE PRIOR TO EXITING SITE AND REMOVE EXCESS WITH SHOVEL OR BRUSH.
   - 4.3. MONTGOMERIE STREET TO BE INSPECTED AT END OF EACH DAY AND ANY DEPOSITED MATERIAL IS TO BE REMOVED.

ACID SULFATE SOILS:

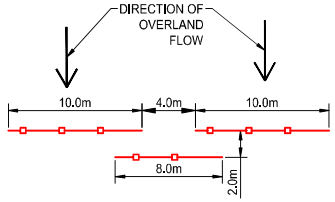
1. DUE TO THE ELEVATION AND SITE GEOLOGY IT IS UNLIKELY THAT A.S.S. WILL BE ENCOUNTERED ON THIS SITE.
2. IF A.S.S. ARE ENCOUNTERED ON THE SITE DURING CONSTRUCTION ENGAGE A SUITABLY QUALIFIED ENVIRONMENTAL CONSULTANT TO PRODUCE AN A.S.S. MANAGEMENT PLAN FOR IT.

VEGETATION MANAGEMENT:

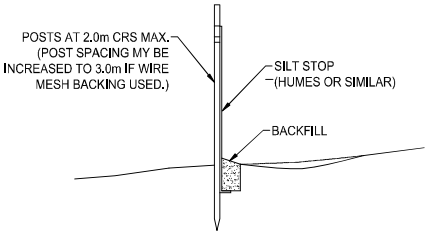
1. WHERE VEGETATION COVENANT EXISTS ON SITE, THIS AREA TO BE CLEARLY PEGGED AND FLAGGED OR FENCED PRIOR TO WORK COMMENCING ON SITE TO PREVENT ANY CLEARING IN THIS AREA.

BUSH FIRE MANAGEMENT:

1. THE SITE IS PREDOMINANTLY CLEARED AND NOT IN A BUSH FIRE HAZARD ZONE (BUT STILL MAY BE SUBJECT TO BUSH FIRES)
2. MULCHED STOCK PILES TO BE NO MORE THAN 2.0m HIGH AND WET DOWN DAILY.
3. REMOVE MULCH FROM SITE IF SAFE TO DO SO SHOULD BUSHFIRES THREATEN THE AREA.



SEDIMENT FENCE LAYOUT



SEDIMENT FENCE DETAIL

N.T.S

DATUM: HORIZ. GDA 2020 VERT. AHD

0 5 10 15 20 PLAN 1:1000

SCALES m. FULL SIZE A3

FOR CONSTRUCTION

WITH COUNCIL APPROVAL

REV	REVISION DESCRIPTION	DATE
A	FOR CONSTRUCTION	2025/11/06
B	ROAD DESIGN UPDATED	

DILEIGH
CIVIL / STRUCTURAL DESIGN & PROJECT MANAGEMENT
ACN 121 309 171
47 Normanby Street
Yeppoon, Queensland 4703
Phone: 07 49112553
Fax: 07 49383660
Email: admin@dileigh.com.au

DRAFTED	AN
DESIGNED	AN
CHECKED	AL
APPROVED	G J BROWN
RPEQ 7682	SIGN
21.11.2025	

ANNETTE SOS
ACCESS WORKS
621-623 MONTGOMERIE STREET ACCESS
EROSION AND SEDIMENT CONTROL
EROSION AND SEDIMENT CONTROL NOTES

DWG No. D25.349-302

CIVIL

REVISION B

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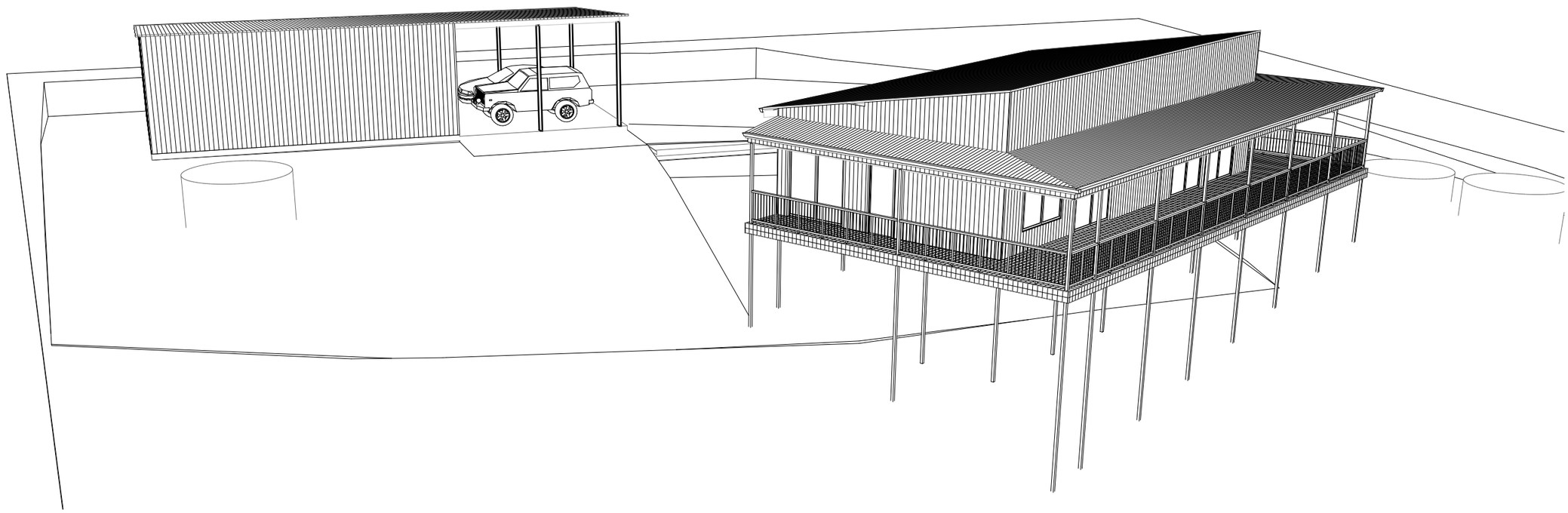
PRELIMINARY ONLY
PLANNING REVIEW AND APPLICATION
(NOT FOR CONSTRUCTION)

PROPOSED DWELLING & SHED

621-623 Montgomerie Street, Lakes Creek
ROCKHAMPTON QLD 4701

for

A & D SOS



REV ID	Issue Date	DESCRIPTION
A	4/11/2025	MCU APPLICATION

AMF Building Design
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andrew@amfbuildingdesign.com.au
0423 375 400

QBCC No 1068756
ABN 22143 527 198
all projects
residential.commercial.industrial

Project Name
PROPOSED DWELLING & SHED
621-623 Montgomerie Street, Lakes Creek
Client
A & D SOS

Drawing Title:
Cover Sheet

Scale: **As shown**
Date: **NOV 25**
Status: **SD**
Checked By: **AMF**
Project No: **AMF 25625**
Drawing No.: **SD/01**

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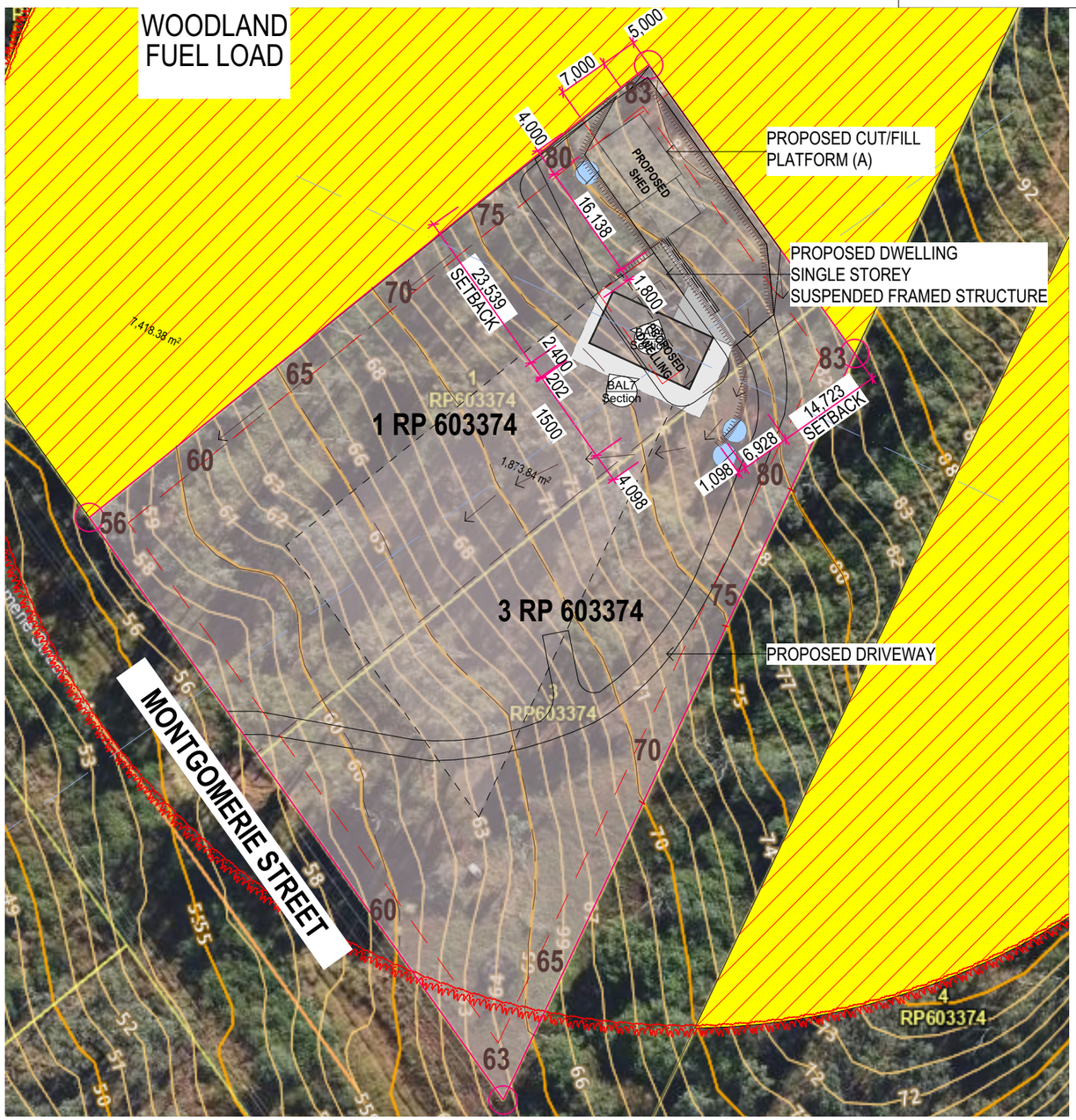
Plot Date: 2/12/2025

PRELIMINARY ONLY
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PROJECT REVIEW

ITEM	COMENTS	REVIEW
PLANNING		
ZONE	RURAL	
RRC OVERLAYS	NOTED ON BUSHFIRE CODE NOTED ON STEEP SITE NOTED ON ENVIROMENTAL NOTED ON SPECIAL MANAGEMENT AREA	
RURAL CODE		
A01.1	MAX HEIGTH 2 STORIES AND 10M	SINGLE STOREY, ELEVATED AT FRONT AND UNDER 10M - COMPLIES
A02.1	AQUACULTURE	N/A
A03.1	SETBACKS 20M TO ALL SITE BOUNDARIES	SMALL ALLOTMENT, THEREFORE NOT POSSIBLE TO ACHIEVE 20M SETBACK ALL SIDES. REQUESTED RURAL RESIDENTIAL CODE ASSESSMENT.
A03.2	SECONDARY DWELLING	N/A
A04.1	HOME BASED BUSINESS LESS THAN 100M2	N/A
A05.01	MAX 2 HEAVEY VEHICLES PER SITE	N/A
A06.01	ROADSIDE STALL	N/A
A07.1	SALES OFFICE	N/A
A08.1	SCREEN OUTDOOR STORAGE AREAS	N/A
A05.1	HARZARD MATERIALS	N/A
P010	NO IMPACT ON CHARACTER AND LANDSCAPE	VANCANT RURAL ALLOTMENTS, NO IMPACT ON CHARACTER
P011	NON RESDIENTIAL DEVELOPMENT	N/A
P012	SENSITIVE LAND USE	N/A
P013	DOES NOT UNDULY AFFECT THE AMENTIY OR CHARACTER OF THE AREA	REMAINS RURAL CHARACTER

RURAL RESIDENTIAL		
A01.1	MAX HEIGHT 8.5M, 15 %SLOPE MAX HEIGHT 10M GREATER THAN 15%	COMPLIES
A02.1	NON RESIDENTIAL SETBACK 50M	N/A
A03.1	CARETAKER, 1 X MAX	N/A
A03.2	SECONDARY DWELLING	N/A
A04.1	DWELLING ADEQUATE ACCESS TO SERVICES	LEGAL ACCESS TO A CONSTRUCTED ROAD. NOT WITHIN WATER SERVICE AREA.
A05.01	1 X CARETAKER	N/A
A06.01	CARETAKER ACCESS TO SERVICES	N/A
A07.1	HOME BASED BUSINESS	N/A
A08.1	MAX 2 HEAVEY VEHICLES	N/A
A09.1	ROAD SIDE STALL	N/A
A10.1	RURAL WORKERS ACCOMMODATION	N/A
P010	RURAL WORKERS ACCOMMODATION	N/A
P011	RURAL WORKERS ACCOMMODATION	N/A
P012	DOES NOT ADVERSELY AFFECT ADJOINING RESIDENTIAL	N/A
P013	SETBACK MIM 6M	DWELLING TO BE LOCATED AT REAR OF ALLOTMENT TO OBTAIN BEST VIEWS. SETBACK TO FRONT APPROX 77M.
P014	RESPONSE TO SENSITIVELY TO LAND USES	N/A
P015	ISOLATED USES	N/A
PO16	ECOLOGICAL VALUES , HABITAT CORRIDORS, SOIL AND WATER QUALITY PROTECTED	SITE AROUND DWELLING TO BE CLEARED AND NATIVE VEGETATION REPLANTED SOME MINOR SITE WORKS REQUIRED TO AVOID ERSOSION AND TO MAINTAIN SWALE PATHWAY, TO COLLECT AND RETAIN RUNOFF FROM ABOVE ALLOTMENT.
P017	ANIMAL KEEPING	N/A
PO18	AQUACULTURE	N/A
P019	BULK INDUSTRIES	N/A
PO20	ANIMAL INDUSTRIES	N/A
PO21-23	INTENSTIVE ANIMAL INDUSTRIES	N/A
PO24-25	INTENSTIVE HORTI-CULTURE	N/A
PO26	OUTDOOR SPORTS, RECREATION OR COMMUNITY DEVELOPMENT	N/A
PO27	RENEWABLE ENERGY FARM	N/A
PO28	TOURISM ACCOMODATION	N/A
PO29	TRANPORT AND FRIEGHT	N/A
PO30	RESPONSE TO SENSITIVELY TO LAND USES, EFFECTIVE SEPARATION	N/A
PO31	DOES NOT UNDULY AFFECT THE AMENTIY OR CHARACTER OF THE AREA	LOW IMPACT , TO BLEND INTO NATURAL ENVIROMENT.
PO32	RESPONSE TO SENSITIVELY TO LAND USES	N/A
PO33	COMMUNITY SAFETY	N/A
PO34	LOT RE CONFIGURATION	N/A



1 / - **SITE**
SCALE1:750

REV ID	Issue Date	DESCRIPTION
A	4/11/2025	MCU APPLICATION

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QBCC No 1068756
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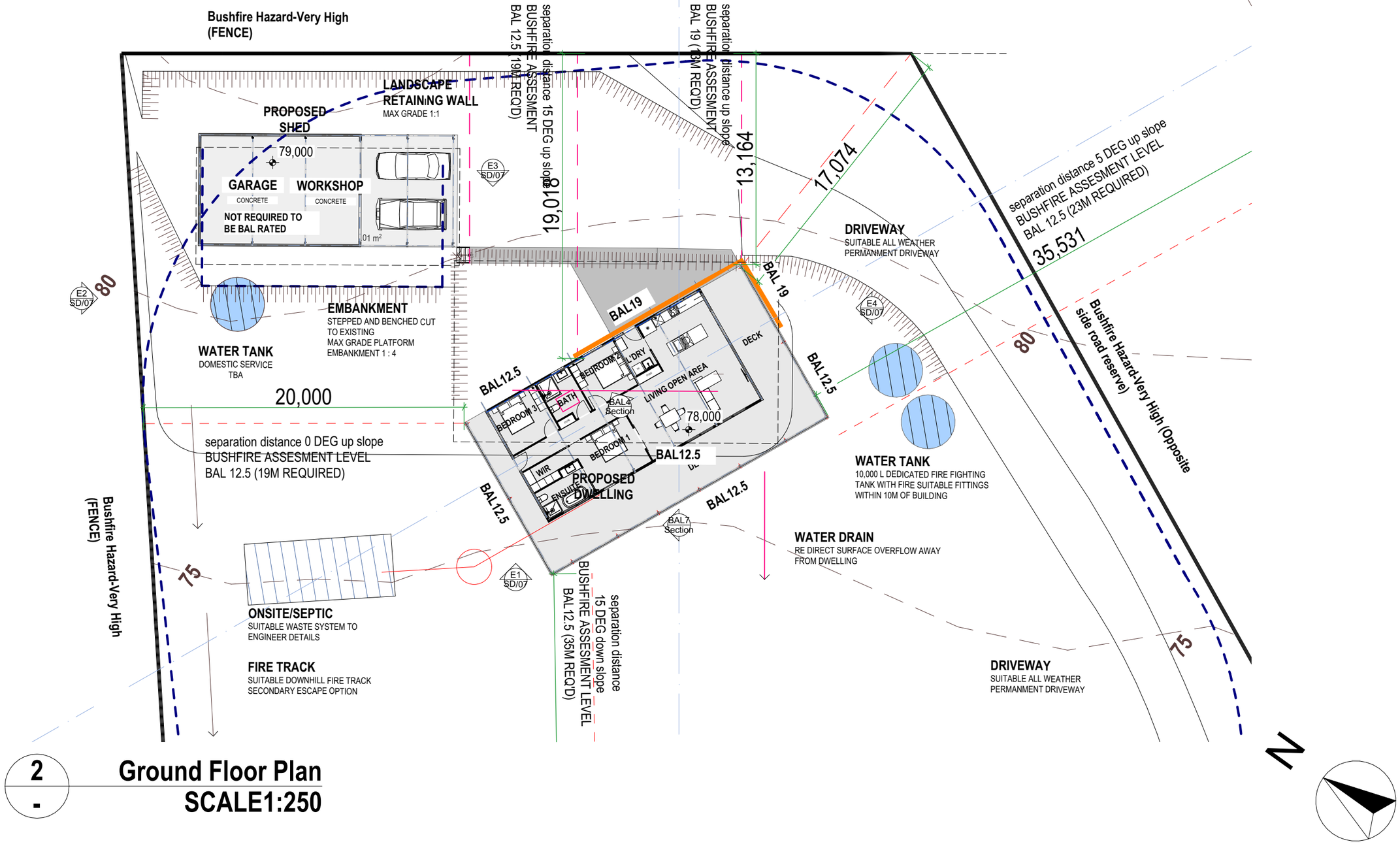
Project Name
PROPOSED DWELLING & SHED
621-623 Montgomerie Street, Lakes Creek
Client
A & D SOS

Drawing Title:
SITE PLAN

Scale: **As shown**
Date: **NOV 25**
Status: **SD**
Checked By: **AMF**
Project No: **AMF 25625**
Drawing No.: **SD/02**
Plot Date: 2/12/2025

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2 - Ground Floor Plan
SCALE1:250

REV ID	Issue Date	DESCRIPTION
A	4/11/2025	MCU APPLICATION

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amf BUILDING DESIGN

Project Name
PROPOSED DWELLING & SHED
621-623 Montgomerie Street, Lakes Creek
Client
A & D SOS

Drawing Title:
2. Ground Floor

Scale: **As shown**
Date: **NOV 25**
Status: **SD**
Checked By: **AMF**
Project No: **AMF 25625**
Drawing No.: **SD/04**
Plot Date: 2/12/2025

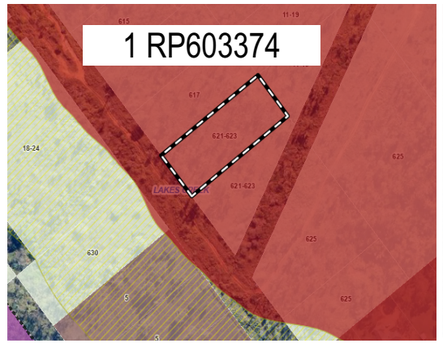
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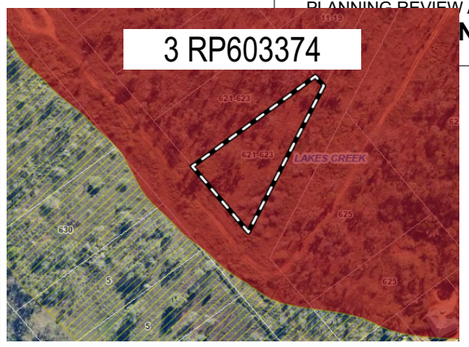
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NSTRUCTION)

TABLE 2.4.5

DETERMINATION OF BUSHFIRE ATTACK LEVEL (BAL)—FDI 40 (1090 K)

Vegetation classification	Bushfire Attack Levels (BALs)				
	BAL—FZ	BAL—40	BAL—29	BAL—19	BAL—12.5
	Distance (m) of the site from the predominant vegetation class				
	All upslopes and flat land (0 degrees)				
A. Forest	<10	10–<13	13–<20	20–<28	28–<100
B. Woodland	<6	6–<9	9–<13	13–<19	19–<100
C. Shrubland	<10	10–<13	13–<19	19–<27	27–<100
D. Scrub	<7	7–<9	9–<13	13–<19	19–<100
E. Mallee/Mulga	<6	6–<8	8–<12	12–<17	17–<100
F. Rainforest	<4	4–<5	5–<8	8–<12	12–<100
	Downslope >0 to 5 degrees				
A. Forest	<12	12–<16	16–<24	24–<34	34–<100
B. Woodland	<8	8–<11	11–<16	16–<23	23–<100
C. Shrubland	<11	11–<15	15–<22	22–<31	31–<100
D. Scrub	<7	7–<10	10–<15	15–<22	22–<100
E. Mallee/Mulga	<7	7–<9	9–<13	13–<20	20–<100
F. Rainforest	<5	5–<7	7–<10	10–<15	15–<100
	Downslope >5 to 10 degrees				
A. Forest	<15	15–<20	20–<29	29–<41	41–<100
B. Woodland	<9	9–<13	13–<19	19–<28	28–<100
C. Shrubland	<12	12–<17	17–<24	24–<35	35–<100
D. Scrub	<8	8–<11	11–<17	17–<25	25–<100
E. Mallee/Mulga	<7	7–<10	10–<15	15–<23	23–<100
F. Rainforest	<6	6–<8	8–<13	13–<19	19–<100
	Downslope >10 to 15 degrees				
A. Forest	<19	19–<25	25–<36	36–<49	49–<100
B. Woodland	<12	12–<16	16–<24	24–<35	35–<100
C. Shrubland	<14	14–<19	19–<28	28–<39	39–<100
D. Scrub	<9	9–<13	13–<19	19–<28	28–<100
E. Mallee/Mulga	<8	8–<11	11–<18	18–<26	26–<100
F. Rainforest	<8	8–<11	11–<16	16–<24	24–<100
	Downslope >15 to 20 degrees				
A. Forest	<24	24–<31	31–<44	44–<59	59–<100
B. Woodland	<15	15–<21	21–<31	31–<42	42–<100
C. Shrubland	<15	15–<21	21–<31	31–<43	43–<100
D. Scrub	<10	10–<15	15–<22	22–<31	31–<100
E. Mallee/Mulga	<9	9–<13	13–<20	20–<29	29–<100
F. Rainforest	<10	10–<14	14–<21	21–<30	30–<100





BUSHFIRE HAZARD-VERY HIGH

PROJECT REVIEW

ITEM	COMENTS	REVIEW
BUSHFIRE CODE (RRC NO)	VERY HIGH MAP AREA	VERY HIGH IMPACT MAPPED AREA SEPARATION VIA CLEARING AND BUILDING MANAGEMENT REQUIRED.
P01	DEVELOPMENT TO ENSURE LOCATION AND SITING WILL AVOID ENTRAPMENT, SAFE ACCESS AND EVACUATION DURING AN FIRE EVENT PROVIDED.	HISTORICALLY WOODLAND SCRUB SLOPE SITED WITH A KNOWN RISK DRIVEWAY SOUTHERN SIDE TO BE ESTABLISHED WITH SECONDARY ACCESS TRACK ALONG NORTHERN ALIGNMENT
P02	WATER SUPPLY LOCATED FOR FIRE FIGHTING PURPOSES	DEDICATED WATER TANK WITHIN 10M OF BUILDINGS WITH HARDSTAND AREA
PO3	HAZARDOUS MATERIALS	N/A NIL MATERIALS
P04	BAL AND LEVEL OF RISK	BAL 12.5 TO DOWN SLOPE BUILDING BAL19 TO UP SLOPE SIDES OF DWELLING TO INCORPORATE FIRE BUILDING MEASURES TO REDUCE IMPACT ON STRUCTURES. FIRE SHUTTER OVER WINDOWS STAINLESS STEEL LEAF GUTTER GUARDS NON COMBUSTIBLE LININGS TO WALL FACES AND SOFFITS
P05	COMMUNITY INFRASTRUCTURE	N/A DWELLING ONLY
P06	LOT RE CONFIGURATION	N/A
PO07	URBAN AREA	N/A
PO08	NON URBAN AREA - ACCESS TRAIL AVAILABLE FOR FIRE FIGHTING 4M WIDE TURNING ACCESS EVERY 60M GRADIENT 12.5% OR LESS	EXISTING 20% GRADE GRAVEL DRIVEWAY TO BE PERMANENTLY MAINTAINED AS DWELLING ACCESS. INCLUDING A 3 POINT TURN AROUND AT MID SECTION AND END OF PERMANENT ROAD
P09	ROAD WIDTHS	MIM 4M DRIVEWAY
P10-11	PERIMETER CLEARING OR TRAIL	SMALL ALLOTMENT, 4 M WIDE. 10M FULLY CLEARED IS DIFFICULT TO ACHIEVE.
P12	FIRE HYDRANTS	N/A
	BUSHFIRE PLAN	QFRA REVIEW TO BE UNDERTAKEN
	SEPARATION OF BUILDINGS	SINGLE DWELLING AND ANCILLARY BUILDINGS ONLY
8.2.4.4.3	WATER STORAGE	LOT GREATER THAN 1 HA, REQUIRED 25000 LITRES DEDICATED FIRE TANK FIRE FIGHTING FITTINGS INSTALLED

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BUILDING DESIGN

Project Name
PROPOSED DWELLING & SHED
621-623 Montgomerie Street, Lakes Creek
Client
A & D SOS

Drawing Title:
Bushfire Code

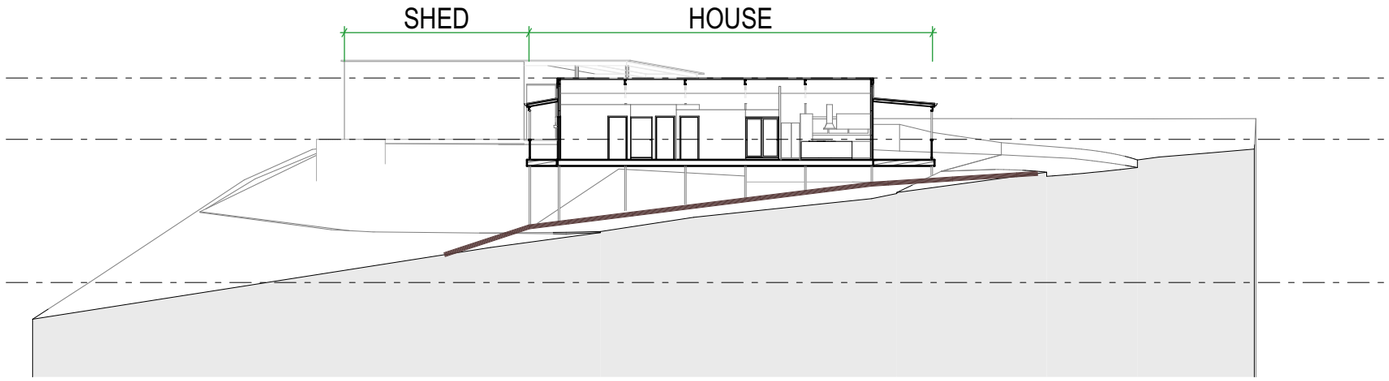
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Status: **SD**
Checked By: **AMF**
Project No: **AMF 25625**
Drawing No.: **SD/03**
Plot Date: 2/12/2025

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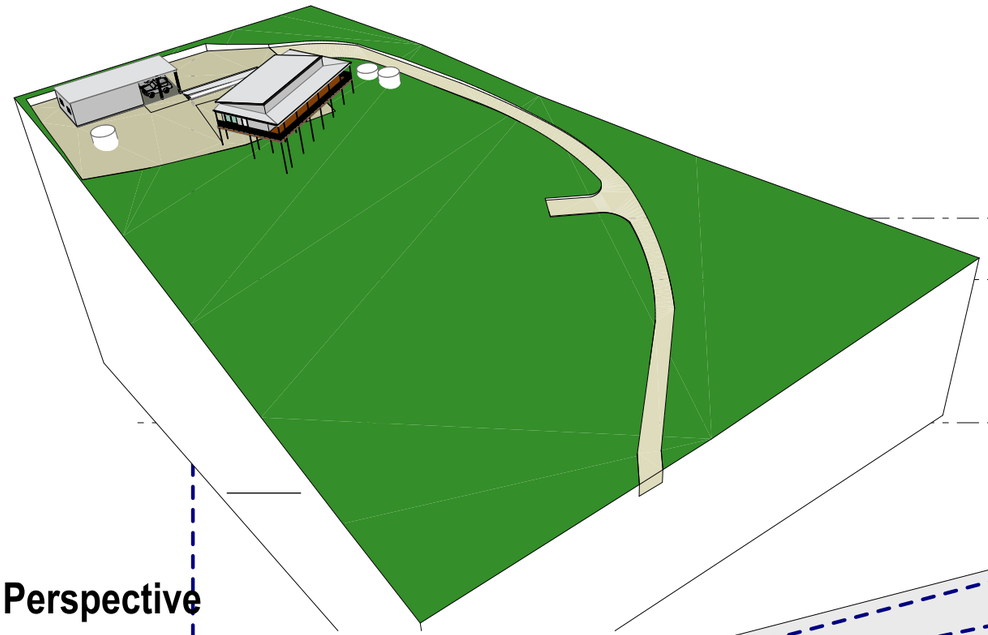
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PROJECT REVIEW

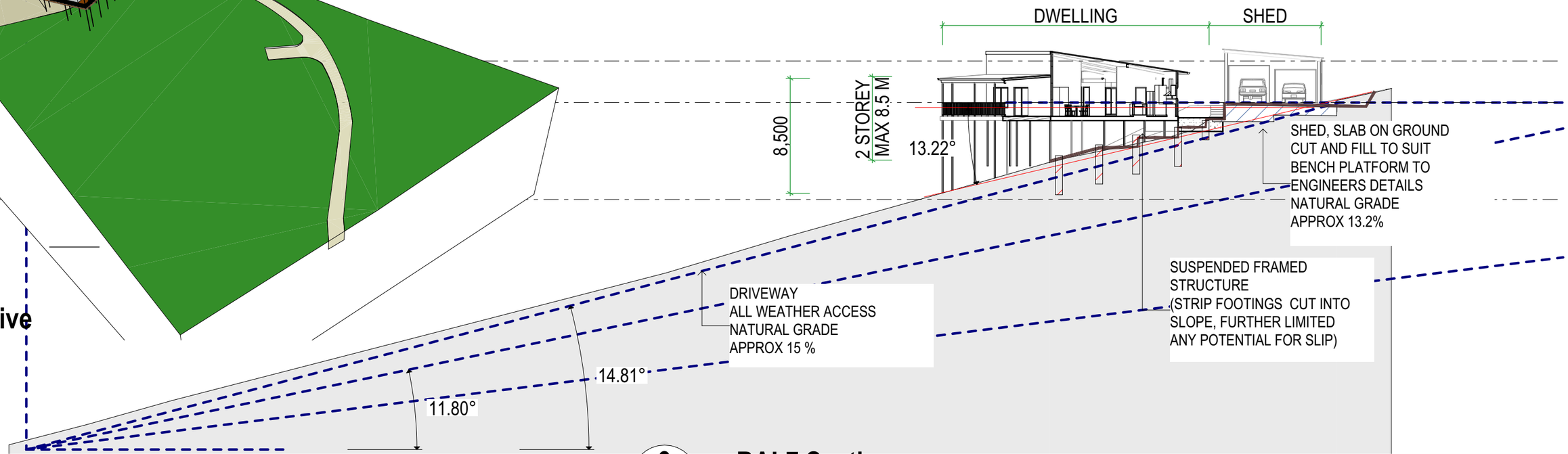
ITEM	COMENTS	REVIEW
STEEP SITE		
P01	DEVELOPMENT INCORPORATES DESIGN MEASURES TO ENSURE SITE STABILITY	STEPPED PLATFORM WATER DIRECTED AWAY FROM BUILDINGS STABLE SITE MATERIAL
P02	VEGETATION AND CLEARING DOES NOT INCREASE LANDSLIDE RISK	TREES CLEARED TO HOUSE PAD ONLY
P03	HAZADOUS MATERIALS	N/A
P04	EMERGENCY SERVICES	A CONSTRUCTED ACCESS DRIVEWAY REQUIRED.
P05	RE CONFIGURATION OF LOT	N/A
P06	OPERATIONAL WORKS	N/A
8.2	MIM LOT SIZE UP TO 20%, 1700M2 TWENTY 25 M FRONTAGE	N/A
8.2	MIM LOT SIZE UP TO 25%, 2000M2 TWENTY 30 M FRONTAGE	COMPLIES (7500M2 APPROX)



4 / - **BAL4 Section**
SCALE1:300



Perspective



3 / - **BAL7 Section**
SCALE1:300

REV ID	Issue Date	DESCRIPTION
A	4/11/2025	MCU APPLICATION

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all projects
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Project Name
PROPOSED DWELLING & SHED
621-623 Montgomerie Street, Lakes Creek
Client
A & D SOS

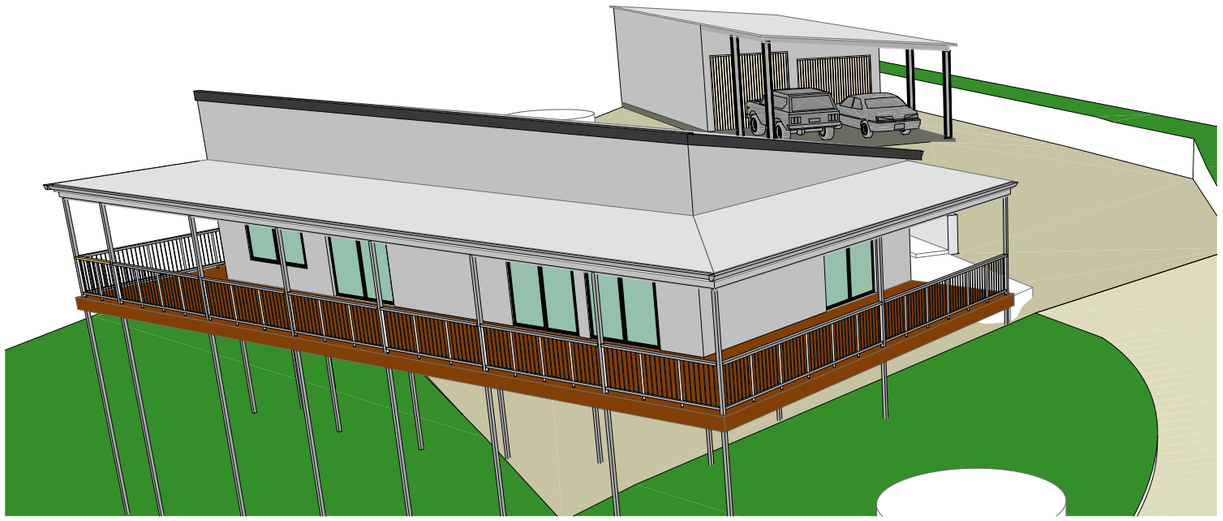
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Checked By: **AMF**
Project No: **AMF 25625**
Drawing No.: **SD/05**

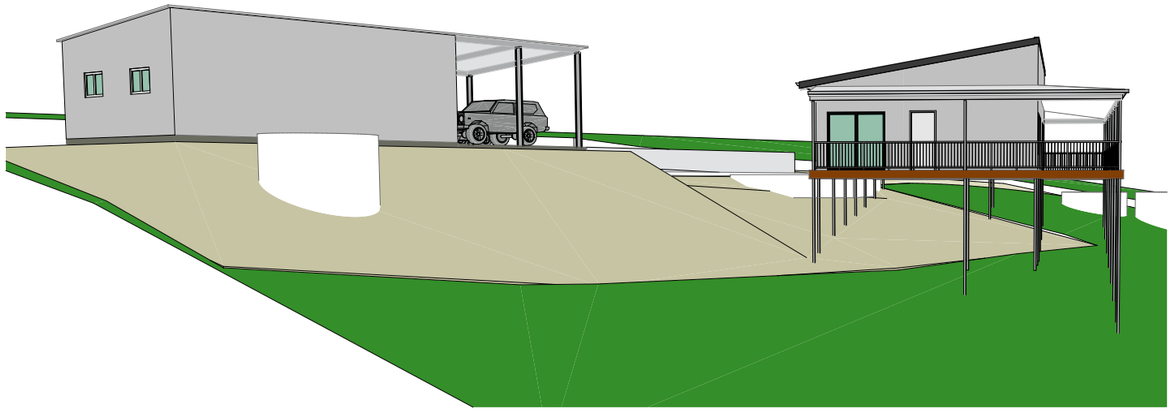
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Plot Date: 2/12/2025

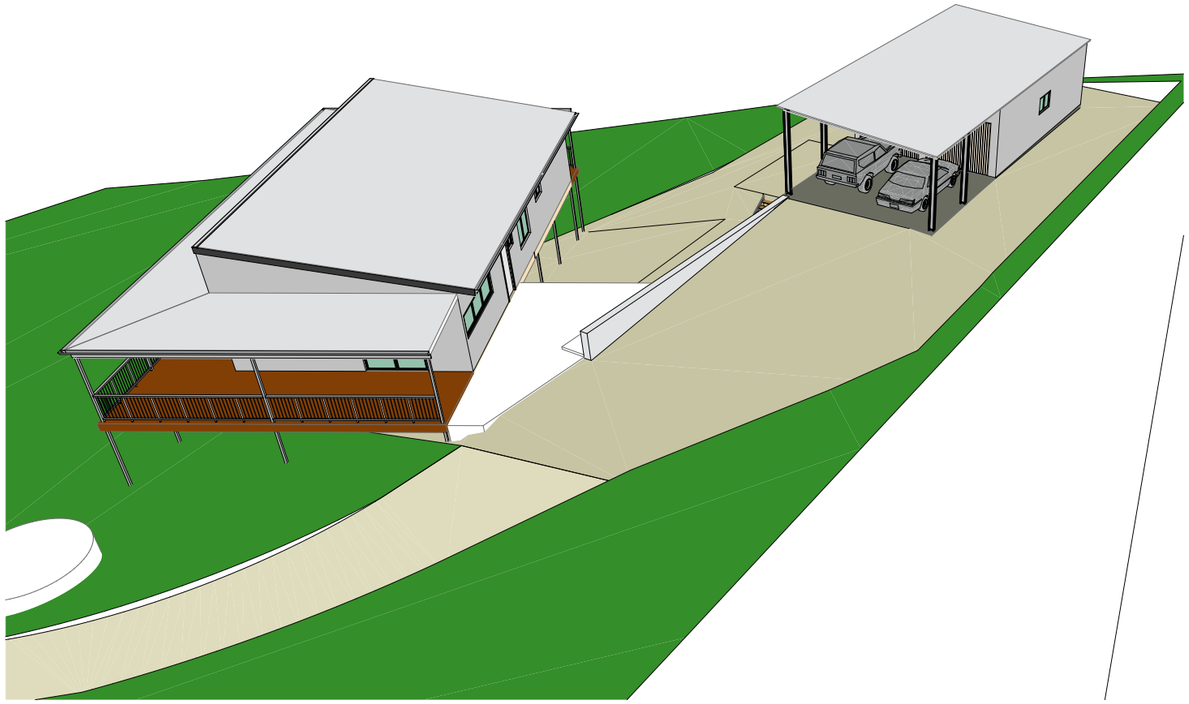
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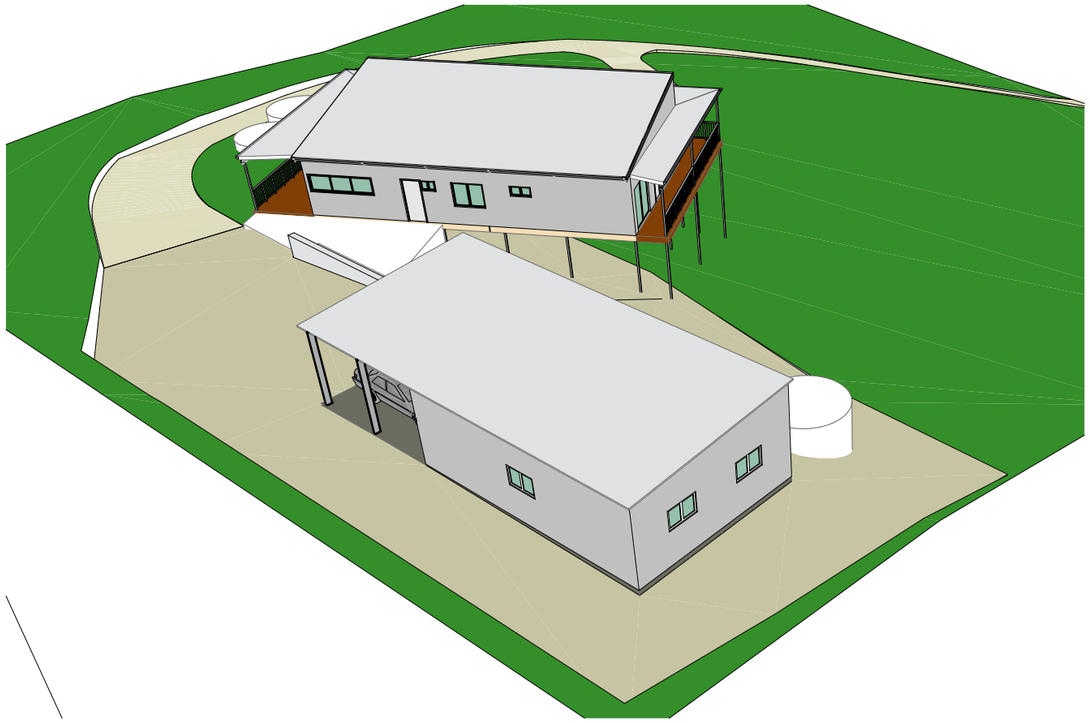
Perspective S



Perspective N/W



Perspective S/E



Perspective N

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Drawing Title:
Images

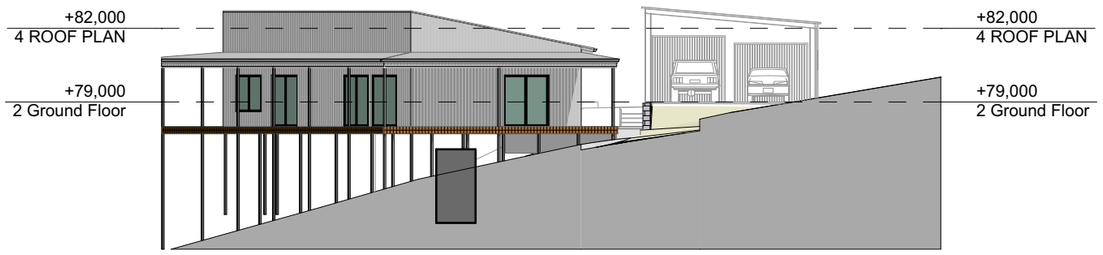
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Checked By: **AMF**
Project No: **AMF 25625**
Drawing No.: **SD/06**

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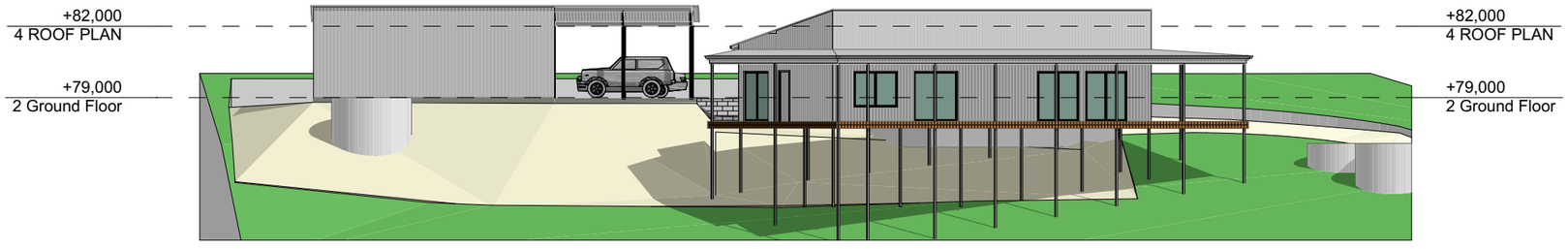
E4 - ELEV S/E
SCALE1:250



E3 - ELEV N/E
SCALE1:250



E2 - ELEV N/W
SCALE1:250



E1 - ELEV S/W
SCALE1:250

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Drawing Title:
Elevations

Scale: **As shown**
Date: **NOV 25**
Status: **SD**
Checked By: AMF
Project No:
AMF 25625
Drawing No.:
SD/07
Plot Date: 2/12/2025

C:\Users\AndrewFisk\AMF Building Design\Projects - Files\2025\25625 625 Montgomerie Street_Dwelling ASOS\05 Drawings\25625 625 Montgomerie Street_Dwelling ASOS_4 021225.pln

621-623 MONTOGERMIE ST, LAKES CREEK QLD 4701

PROPOSED DWELLING – Material Change of Use - DEVELOPMENT REPORT_ISSUE A 13/11/25

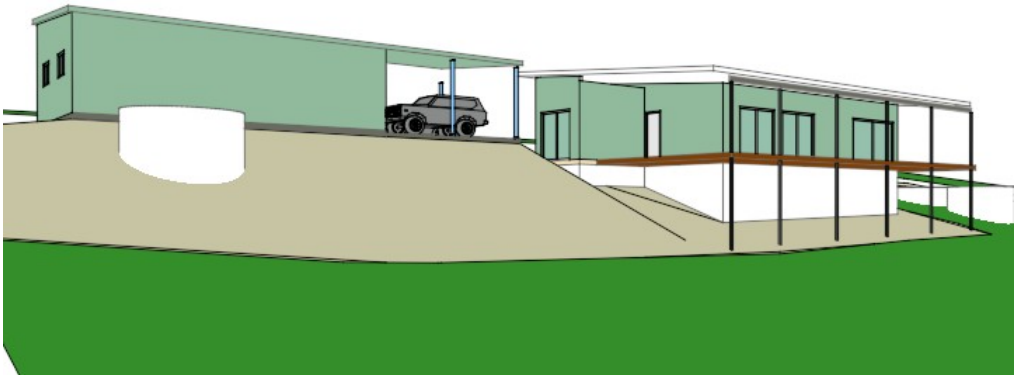
IMPACT ASSESSABLE PLANNING APPLICATION

PROJECT

MATERIAL CHANGE OF USE FOR DWELLING & SHED

FOR

Annette Sos & Daniel Sos



Andrew M Fisk
Director & Design Manager
0423375400
andrew@amfbuildingdesign.com.au
ABN 22143 527 198
QBCC Lic 1068756
BDAQ 1276
262 Grubb St Koongal QLD 4701

RESIDENTIAL : COMMERCIAL : INDUSTRIAL

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IMPACT ASSESSABLE PLANNING APPLICATION

23 October 2025

The Chief Executive Officer

Rockhampton Regional Council

PO Box 1860 – Rockhampton QLD 4700

Dear Sir,

This application is for a Material Change of Use for Dwelling & Shed to be located at 621-623 Montgomerie St Lakes Creek, QLD 4701 within the Rural Zone.

USE:

The proposed use is for single dwelling & shed which is consistent with the current rural planning zone.

BUILDING DESIGN:

The buildings are in keeping with typical design and building standards.

This building will have no adverse impacts on the adjoining uses.

INFRASTRUCTURE:

Limited infrastructure is supplied to the site and therefore the dwelling will need to be off grid for septic, water and electrical.

ENVIROMENTAL:

Being low impact, no adverse environmental impacts such as noise and dust are envisaged from the development.

Enclosed are the relevant sketch plans and engineering reports, along with a summary of the applicable planning codes.

We trust the RRC will consider this application favourably and we await the development approval.

Sincerely,

Andrew Fisk

621-623 MONTOGERMIE ST, LAKES CREEK QLD 4701

PROPOSED DWELLING – Material Change of Use - DEVELOPMENT REPORT_ISSUE A 13/11/25

SITE DETAILS

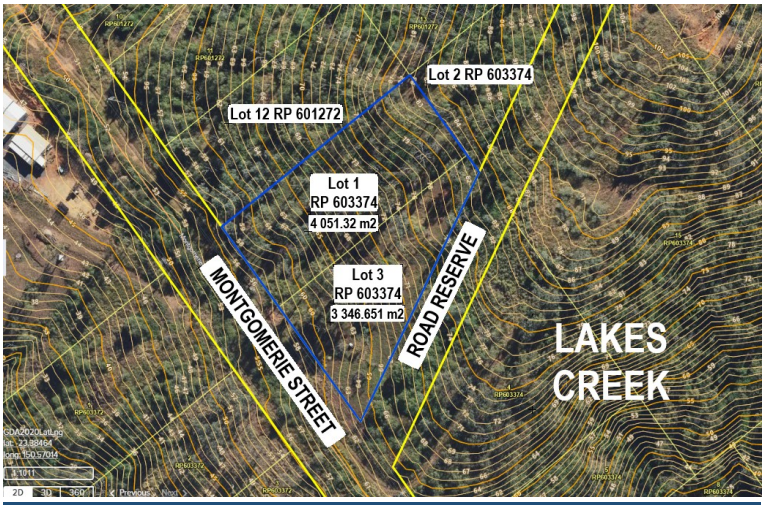
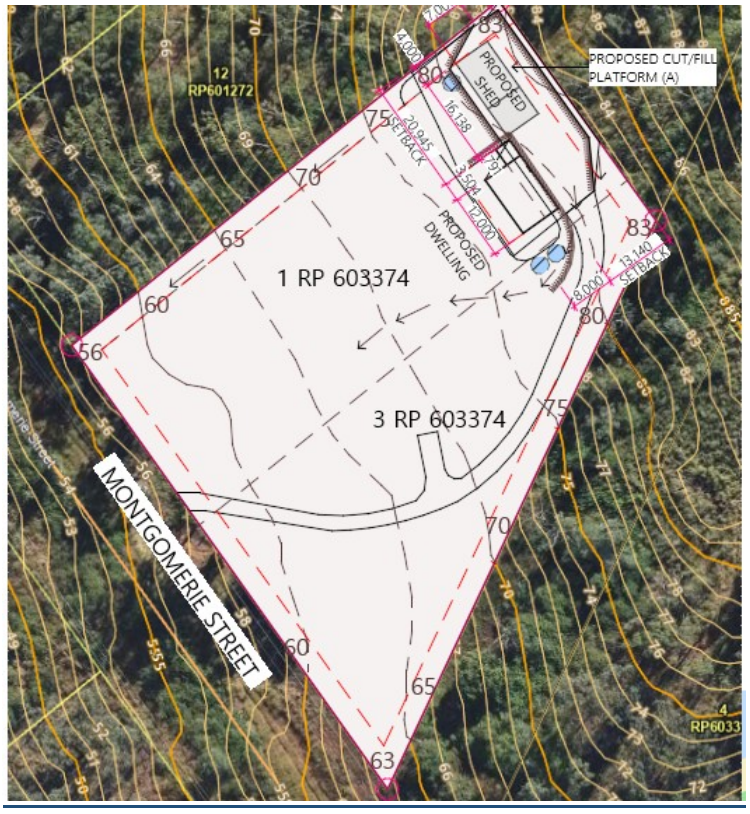
Site Details	Lot 1 RP 603374 & Lot 3 RP 603374, being 4051.32 m2 and 3346.651m2 in size respectively and located in 621-623 Montgomerie St Lakes Creek Rockhampton QLD 4701
Site Survey	TBA
Easements	Nil
Adjacent Allotment	Both lots: North: Lot 2 RP 603374 South: Montgomerie St East: Road Reserve West: Lot 12 RP 601272
Land-owner	Annette Sos and Daniel Sos
Applicant	*As above*
Proposed Use	**Single Dwelling & shed**

SITE PHOTOS

Site Photo	

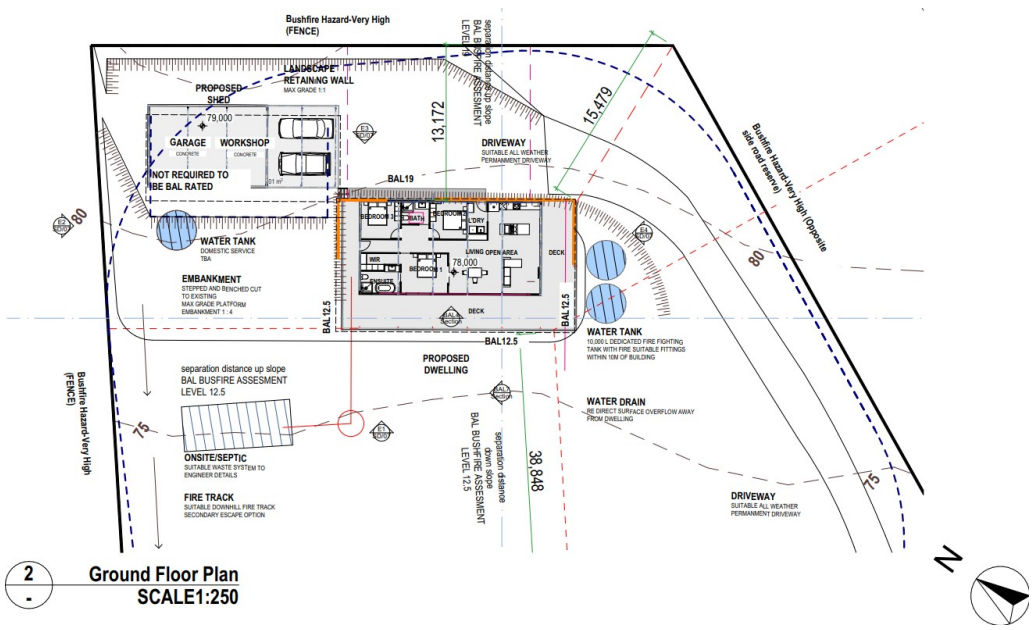
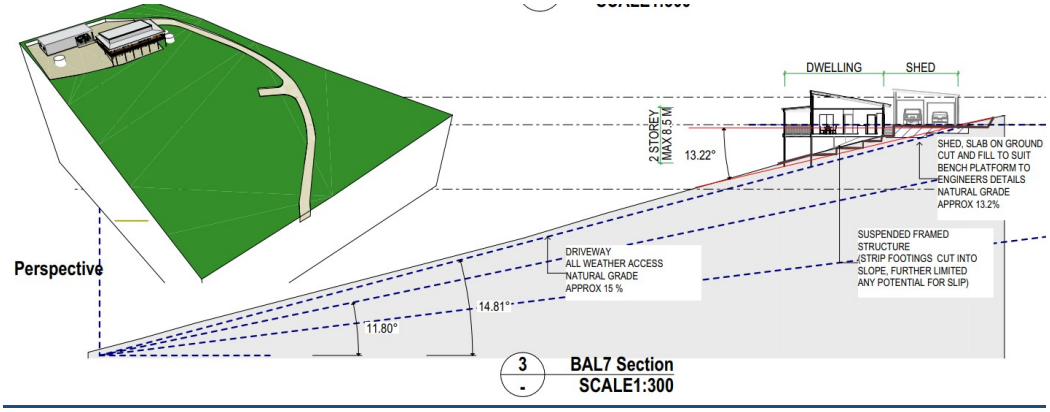
	
Site Phot0	
Site Photo	

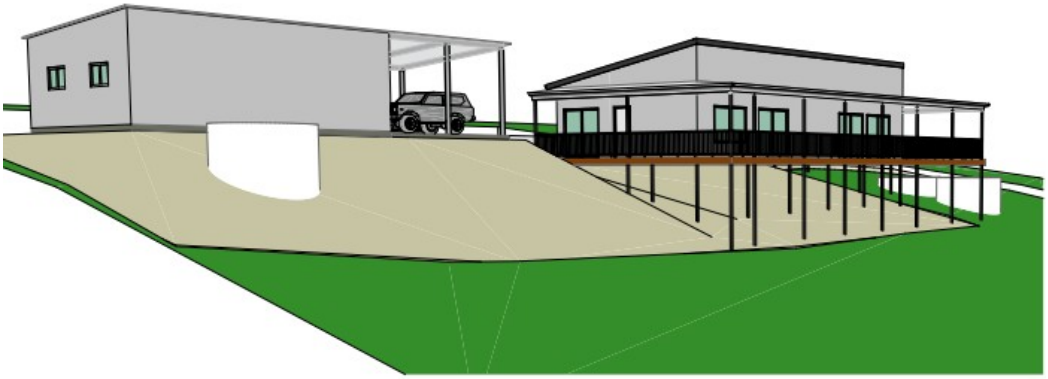
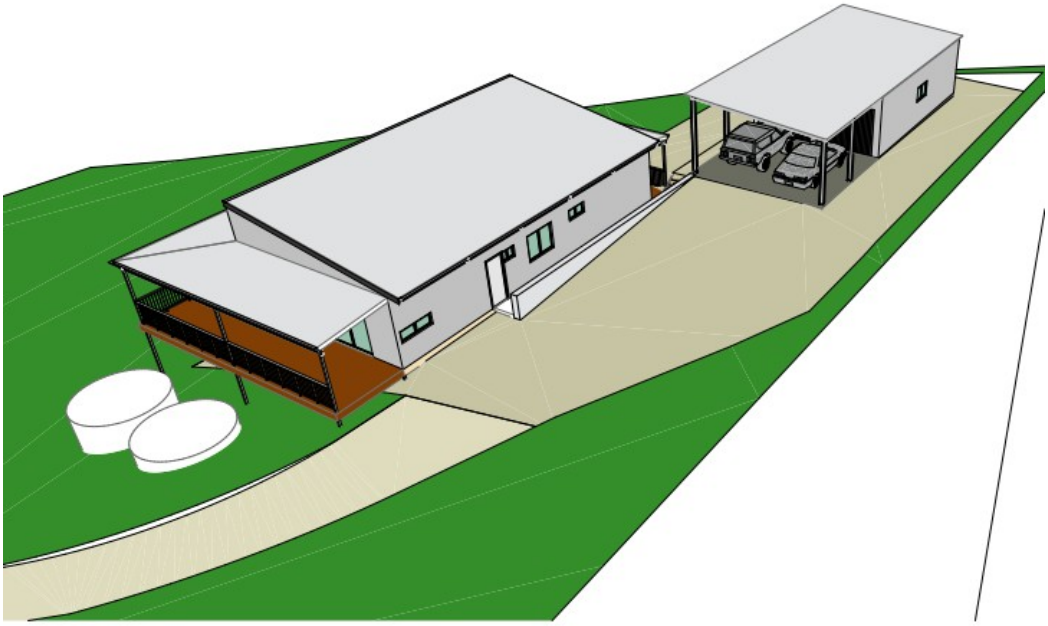
PROPOSAL

Allotments 1 & 3 ON RP603374	
Propsoed Site Plan	

621-623 MONTOGERMIE ST, LAKES CREEK QLD 4701

PROPOSED DWELLING – Material Change of Use - DEVELOPMENT REPORT_ISSUE A 13/11/25

Proposed Floor Plan	
Typical Cross Section	

Elevation House (n/w)	 **Perspective N/W**
Elevation (s/e)	 **Perspective S/E**

APPLICABLE CODES

Zone

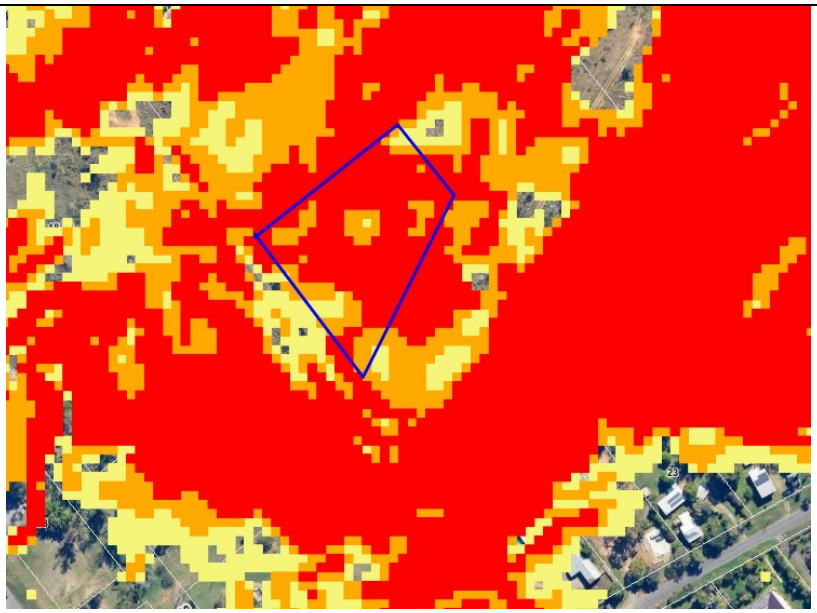
Rural

Rural Zone	

Overlays

- Special Management
- Steep Site
- Bushfire
- Vegetation

Special Management	 Overall  Site Specific

Steep Site **Steep Land 15-20%** Steep Land 15-20% **Steep Land 20-25%** Steep Land 20-25% **Steep Land 25% plus** Steep Land 25% plus	 Site Specific
Bushfire	 Site Specific

Vegetation 10 a	 Site Specific
Biodiversity Areas- Matters of State Environmental Significance (MSES)	

Summary

The following items have been identified as applicable to this application

Refer also code appendices

Site access	Montgomerie St provides a permanent roadway to the site frontage. The applicant is also seeking permission from RRC to upgrade this street access to be suitable for all vehicles.
Driveway grade	The proposed dwelling is located to obtain the best views at the rear of the allotment, and therefore a permanent maintain driveway will be required. Approximately 17.5 % grade, and will need an emergency vehicle turning point midway.
BAL 19	The proposed dwelling is located to the rear of the site to obtain views over Rockhampton. To achieve this the rear of the dwelling will be within the BAL 19 zone. The clearing of undergrowth downhill and to each side can be obtained to achieved permissible BAL12.5 zone to each side and Southern elevation. The proposed domestic shed is not required to be BAL rated and a four metre setback is requested to the rear of the allotment.
Setback, small lot	Historical zoning as a rural allotment, however compliance to the rural residential code is requested due to the small area. Setback to rural zone criteria cannot be obtained.
Vegetation	Remnant vegetation has been historically cleared. Clearing of the house site for bushfire separation will assist with removal of evasive pests and aid the re planting of remnant vegetation where possible.
Special Mangment Area	Located with the “buffer zone “of industrial uses such as, Teys Brothers and Boral. The applicant acknowledges this industrial use. Use as a proposed dwelling does not impose a negative impact on these industries.

REFERRAL AGENCIES

ITEM	REQ'D and/or PERMISSIBLE	COMMENT.	OUTCOME
EPA	Vegetation and Environmental protection	Does not contain any natural vegetation to be removed. Not adjacent to water course.	Complies with planning requirements.
Main roads	If within 100m of main road, approval from TMR.	Not within 100m of a Main Road.	Complies with planning requirements.
QLD Transport	If within 100m of railway (QR)	Not within 100mm of Railway corridor.	Complies with planning requirements.

Appendix 1

Building Plans.

621-623 MONTOGERMIE ST, LAKES CREEK QLD 4701

PROPOSED DWELLING – Material Change of Use - DEVELOPMENT REPORT_ISSUE A 13/11/25

SUMMARY

We are applying for permission from the Rockhampton Regional Council (RRC) to build a proposed dwelling and ancillary shed for private use on a small rural allotment.

- A private dwelling is a suitable use in a rural zone.
- There are no identified negative impacts on the adjacent uses.
- Being within a bushfire zone, building materials and construction articulation to BAL 19 building standards. A dedicated water tank and permanent site access will be provided to comply with the Bushfire Code.
- The site is noted on steep land mapping, however with limited excavation. Normal construction techniques can be applied to negate any chance of slip and or erosion.

We await the Rockhampton Regional Councils favourable approval.

Sincerely

Andrew M Fisk.

BArch.

Appendix 1

PROPOSED PLANS

AMF BUILDING DESIGN

Confirmation Notice

PLANNING ACT 2016, PART 1 OF THE DEVELOPMENT ASSESSMENT RULES

Application number:	**D/202-2025**	*For further information regarding this notice, please contact:*	Michelle Mackay
Date application properly made**:**	**15 December 2025**	Phone:	07 4936 8099

1. APPLICANT DETAILS

Name:	**Annette and Daniel Sos**		
Postal address:	**157 Kent Street** **ROCKHAMPTON CITY QLD 4700**		
Contact number:	0409 277 180	Email:	jadyjomi@hotmail.com

2. PROPERTY DESCRIPTION

Street address:	621-623 Montgomerie Street, Lakes Creek
Real property description:	Lots 1 and 3 on RP603374

3. OWNER DETAILS

Name:	A M Sos and D J Sos
Postal address:	157 Kent Street ROCKHAMPTON CITY QLD 4700

4. DEVELOPMENT APPROVAL SOUGHT

Development Permit for a Material Change of Use for a Dwelling House and Shed

5. APPLICATION TYPE

	Development Permit	**Preliminary Approval**
Development assessable under the planning scheme, a temporary local planning instrument, a master plan or a preliminary approval which includes a variation approval	☒	☐

6. REFERRAL AGENCIES	**NIL**

7. IMPACT ASSESSMENT

Will Impact Assessment be required?	**YES**

The whole of the application must be publicly notified under the provisions of Part 4 of the Development Assessment Rules by:

- Publishing a notice at least once in a newspaper circulating generally in the locality of the premises which are the subject of the application; and
- Placing a notice on the premises which are the subject of the application. The notice must remain on the premises for the period of time up to and including the stated day; and

- Giving a notice to all owners of any lots adjoining the premises which are the subject of the application.

8. PUBLIC NOTIFICATION DETAILS

The application requires public notification which must be undertaken in accordance with Section 53 of the *Planning Act 2016* and Part 4 of the Development Assessment Rules.

9. INFORMATION REQUEST

A further information request may be made by the assessment manager. Regardless of this advice, any concurrence agency for the application may make an information request.

10. SUPERSEDED PLANNING SCHEME

Is the application to be assessed under a Superseded Planning Scheme?	**NO**
Planning Scheme	
☒ The development was not assessable under the Superseded Planning Scheme and the application may proceed, as proposed.	
☐ The development was assessable under the Superseded Planning Scheme and this Development Application will be assessed under the Superseded Planning Scheme.	
☐ The application will not be assessed under the Superseded Planning Scheme. The application will instead be assessed against the current planning scheme.	

You are further advised that the truth and accuracy of the information provided in the application form and accompanying information is relied on when assessing and deciding this application. If you find an INACCURACY in any of the information provided above or have a query or seek clarification about any of these details, please contact Council's Development Assessment Unit.

11. ASSESSMENT MANAGER

Name: **Michelle Mackay** Signature: Date: 6 January 2026

PLANNING OFFICER



Rockhampton Office
232 Bolsover St, Rockhampton
Gracemere Office
1 Ranger St, Gracemere
Mount Morgan Office
32 Hall St, Mount Morgan

14 January 2026

Our reference: D/202-2025
Enquiries to: Michelle Mackay
Telephone: 07 4936 8099

A M Sos and D J Sos
157 Kent Street
ROCKHAMPTON CITY QLD 4700

Dear Sir/Madam

INFORMATION REQUEST – DEVELOPMENT APPLICATION D/202-2025 FOR A MATERIAL CHANGE OF USE FOR DWELLING HOUSE AND SHED – SITUATED AT 621-623 MONTGOMERIE STREET, LAKES CREEK - LOTS 1 AND 3 ON RP603374 – DESCRIBED AS LOT 621-623 MONTGOMERIE STREET, LAKES CREEK - LOTS 1 AND 3 ON RP603374, PARISH OF

Council refers to your application received by Council on 15 December 2025.

Council officers have undertaken a detailed assessment of the development application and require you to provide further information to address the following issues:

1.0 Planning Scheme Code Assessment

1.1 The application material submitted to Council does not contain any supporting information addressing applicable assessment benchmarks under the relevant categorising instrument (local government planning scheme). Please provide a planning report and supporting information addressing the following assessment benchmarks under the Rockhampton Region Planning Scheme 2015 (current version 5.0):

1.1.1. Rural Zone Code

1.1.2. Special Management Overlay Code

1.1.3. Bushfire Hazard Overlay Code

1.1.4. Steep Land Overlay Code

1.1.5. Biodiversity Overlay Code

Note: This is a mandatory requirement and includes any relevant templates under question 23 (of DA Form 1), a planning report and any technical reports required by the relevant categorising instruments (e.g. local government planning schemes, State Planning Policy, State Development Assessment Provisions). For further information, see DA Forms Guide: Planning Report Template (available for download here).

2.0 Access

2.1 Please submit an amended drawing for the proposed access track within Montgomerie Street and extending to the access driveway for the development site. Please demonstrate how the proposed access track and access driveway complies with the Bushfire Hazard Overlay Code requirements as follows:

2.1.1. The proposed access located within Montgomerie Street (unformed road) and internal to the development site must be four (4) metres wide.

2.1.2. The proposed access must be separated from hazardous vegetation by at least six (6) metres with minimum of 4.8 metre vertical clearance.

2.1.3. All of the proposed access must be designed with maximum gradient of 12.5% (1 in 8).

2.1.4. A turning circle with a minimum radius of eight (8) metres, at every sixty (60) metres is to be provided.

2.1.5. The drawings must be prepared by a Register Professional Engineer of Queensland (RPEQ).

Note: The access track would be developed as a private access arrangement to be maintained by the property owner.

3.0 Sewer

3.1 A site evaluation report in accordance with the Queensland Plumbing and Wastewater Code for On-site Sewerage is required. This report is to be undertaken by a qualified person in accordance with the Code.

4.0 Water

4.1 Please demonstrate how on-site water supply for domestic and firefighting purposes will be achieved. This must be certified by a hydraulic engineer or suitably qualified person.

5.0 Slope Stability Assessment

5.1 A Slope Stability Assessment must be provided for the proposed building envelope area and the access track (Montgomerie Street). The assessment must be carried out and signed by a suitably qualified person.

6.0 Waste Management

6.1 Please provide a waste management statement (general and recyclable waste) including waste generated from the development, types of bins, number of bins, bin storage area and collection location (if kerbside).

7.0 Bushfire Hazard Assessment

7.1 Please provide a Bushfire Management plan for the proposed development. This must be undertaken by a qualified person in accordance with relevant Code.

Under section 13 of the Development Assessment Rules, the Applicant has three (3) options available in response to this information request. The Applicant must give the Assessment Manager:

1. all of the information requested; or
2. part of the information requested, together with a notice requiring the Assessment Manager and each referral agency to proceed with the assessment of the application; or
3. a notice:
    i. stating the Applicant does not intend to supply any of the information requested; and
    ii. requiring the Assessment Manager and each referral agency to proceed with the assessment of the application.

A response needs to be received within a period of three (3) months from the date of this letter, In accordance with section 68 (1) of the *Planning Act 2016* and sections 12 and 13 of the Development Assessment Rules. Please forward your response to this information request to Council at your earliest convenience, in order for the assessment of your application to progress further.

Should you have any queries regarding this letter please contact Council's Development Advice Centre on 07 4936 8099 or email developmentadvice@rrc.qld.gov.au.

Yours faithfully



Michelle Mackay
Planning Officer
Planning and Regulatory Services

Information Request Response Form
(to be returned to the Assessment Manager with the response)

I _____ choose to respond to the Assessment Manager's Information Request:

- ☐ in full;

  OR

- ☐ in part, with this notice requiring the Assessment Manager and each referral agency to proceed with the assessment of the application;

  OR

- ☐ stating that I do not intend to supply any of the information requested; and requiring the Assessment Manager and each referral agency to proceed with the assessment of the application.

A copy of the response to the Assessment Manager's information request has been provided to all Referral Agencies nominated on the Confirmation Notice.

I understand the requirements of this Information Request as listed above.

Signed : _____ Date : _____

Position : _____

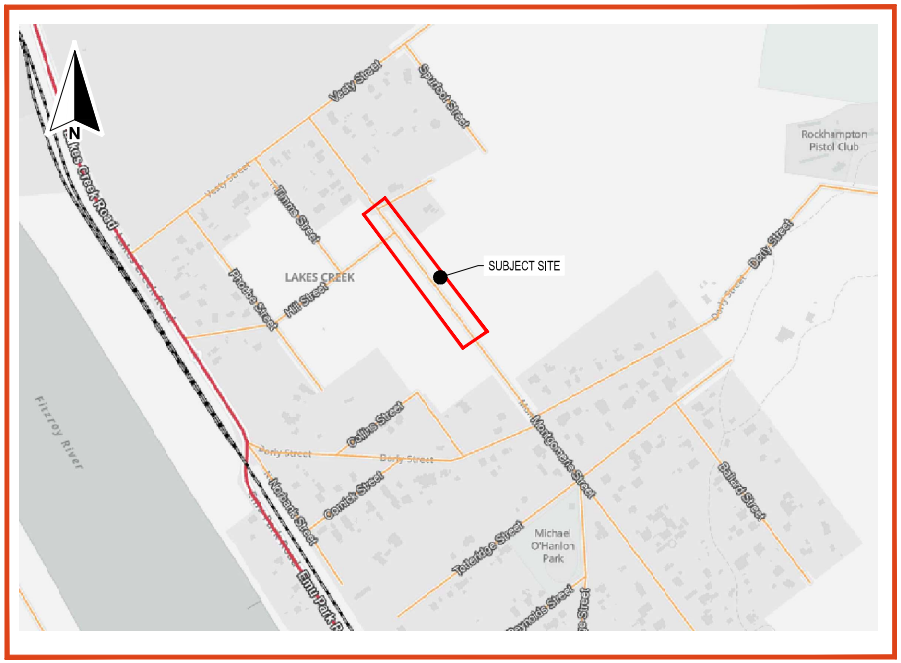
ACCESS WORKS

621-623 MONTGOMERIE STREET ACCESS

ANNETTE SOS

D25.349

CIVIL DESIGN



LOCALITY PLAN
(Not To Scale)

Sheet List Table		
Sheet Number	Sheet Title	REV
00	COVER SHEET	C
CIVIL: GENERAL		
01	EXISTING FEATURES AND PLANS	C
101	PROPOSED PLAN	C
102	EARTHWORKS	C
CIVIL: ROADWORKS		
103	DRIVEWAY LONG SECTION (01 of 02)	C
104	DRIVEWAY LONG SECTION (02 of 02)	C
CIVIL: STORMWATER AND WATER		
201	WATER CONNECTION AND STORMWATER LAYOUT	C
CIVIL: EROSION AND SEDIMENT CONTROL		
301	EROSION AND SEDIMENT CONTROL PLAN	C
302	EROSION AND SEDIMENT CONTROL NOTES	C

DILEIGH
CIVIL / STRUCTURAL DESIGN & PROJECT MANAGEMENT

ACN 121 309 171
47 Normanby Street
Yeppoon, Queensland 4703

Phone: 07 49112553
Fax: 07 49383660
Email: admin@dileigh.com.au

FOR CONSTRUCTION

WITH COUNCIL APPROVAL

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DATUM: HORIZ. GDA 2020 VERT. AHD

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SCALES m. FULL SIZE A3

FOR CONSTRUCTION

WITH COUNCIL APPROVAL

REV	REVISION DESCRIPTION	DATE
A	FOR CONSTRUCTION	2025/11/06
B	ROAD DESIGN UPDATED	
C	RFI AMENDMENTS	2025/12/12

DILEIGH
CIVIL / STRUCTURAL DESIGN & PROJECT MANAGEMENT

ACN 121 309 171
47 Normanby Street
Yeppoon, Queensland 4703

Phone: 07 49112553
Fax: 07 49383680
Email: admin@dileigh.com.au

DRAFTED	AN
DESIGNED	AN
CHECKED	AL
APPROVED	G J BROWN
RPEQ 7682	SIGN
19.12.2025	

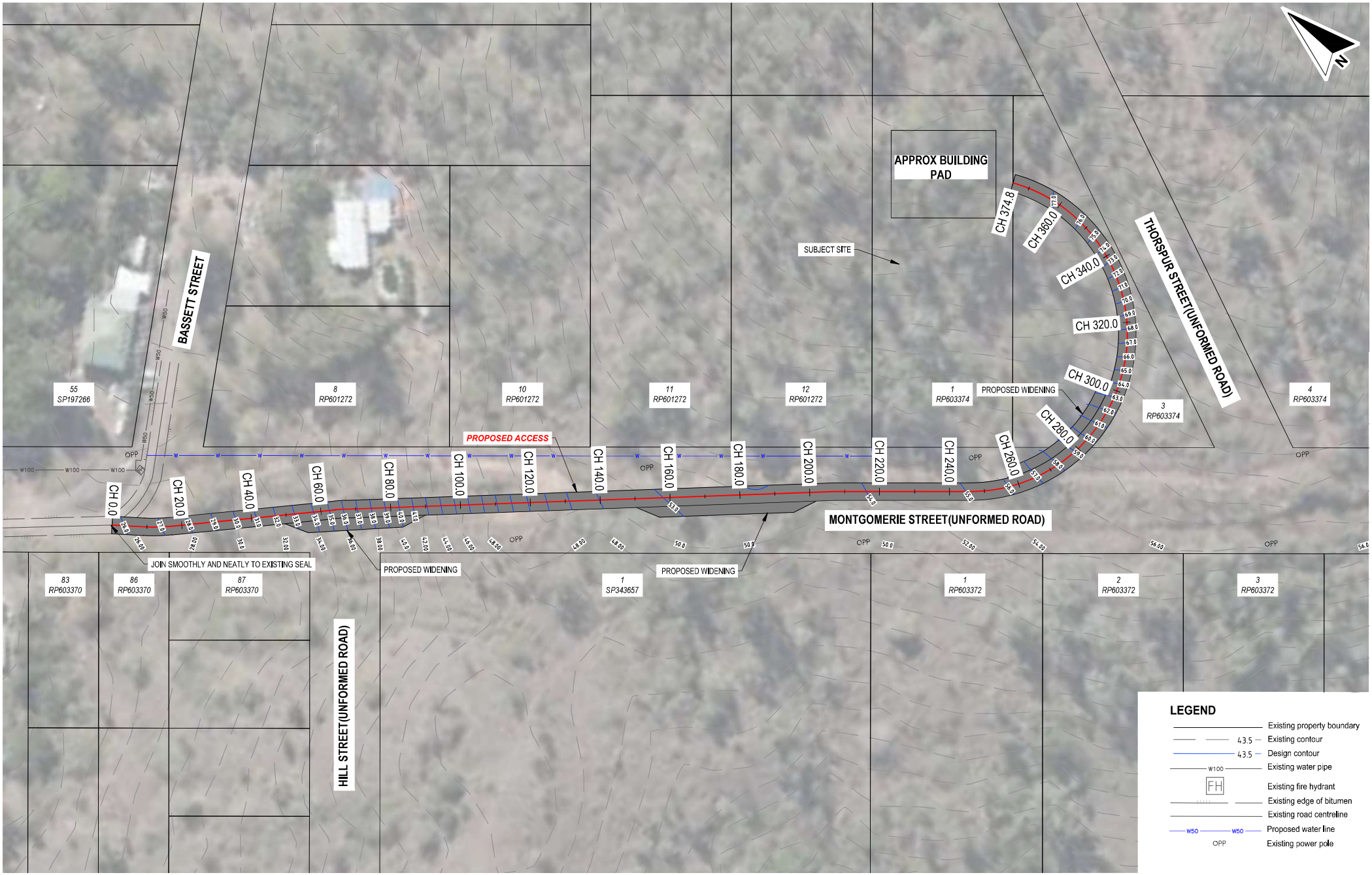
ANNETTE SOS
ACCESS WORKS
621-623 MONTGOMERIE STREET ACCESS
GENERAL
EXISTING FEATURES AND PLANS

DWG No. D25.349-01

CIVIL

REVISION C

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DATUM: HORIZ. GDA 2020 VERT. AHD

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FOR CONSTRUCTION

WITH COUNCIL APPROVAL

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CHECKED	AL
APPROVED	G J BROWN
RPEQ 7682	SIGN
19.12.2025	

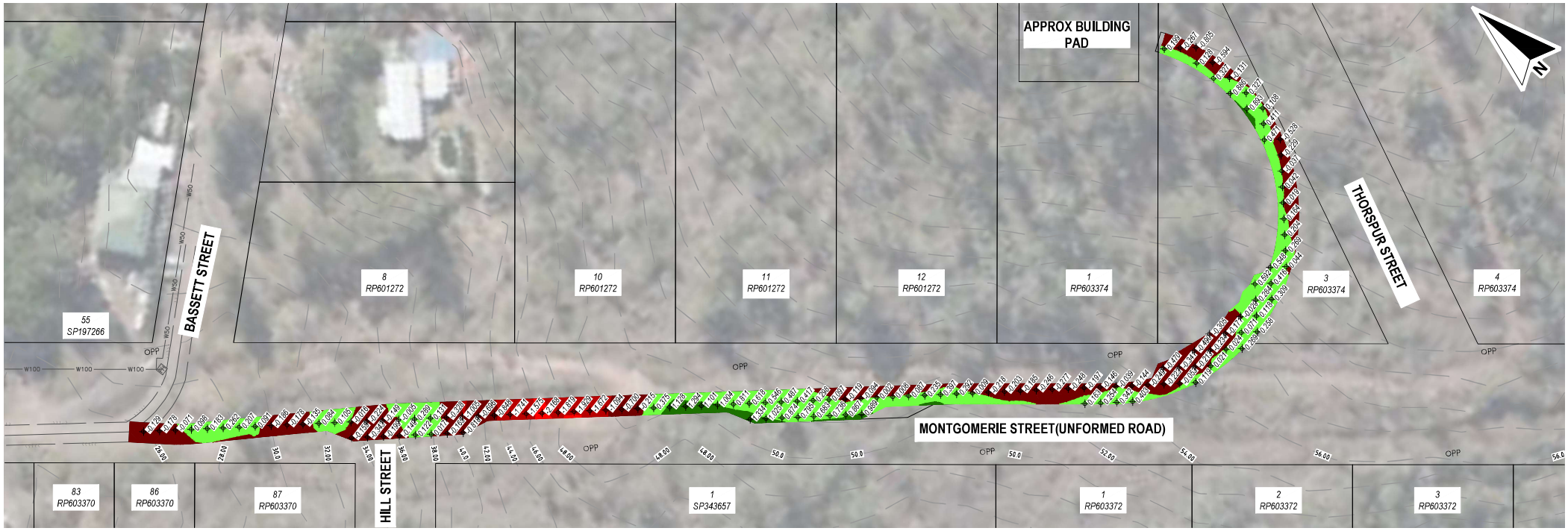
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ACCESS WORKS
621-623 MONTGOMERIE STREET ACCESS
GENERAL
PROPOSED PLAN

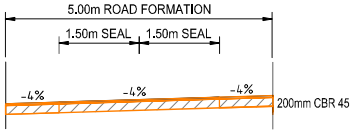
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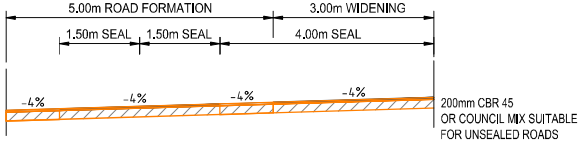
REVISION C

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DRIVEWAY TYPICAL SECTION
SCALE 1:100



WIDENING TYPICAL SECTION
SCALE 1:100

SEAL DESIGN - SINGLE/ SINGLE

FINAL SEAL	10mm AGG @ 125 m²/m³ C170 @ 1.73 L/m²
PRIME	AMCO @ 1.0 L/m²

EARTHWORKS BALANCE		
VOLUME CUT (Cu.m)	VOLUME FILL (Cu.m)	BALANCE (Cu.m)
522	429	93(CUT)

RECOMMENDED EARTHWORKS AND DRIVEWAY NOTES

1. Control testing of the earthworks shall be undertaken in accordance with A.S.3798.
2. Allotment fill shall achieve a minimum dry density ratio (M.D.R.R) of 95% standard.
3. Road embankments shall achieve the following minimum standards:
   - 3.1. Greater than or equal to 0.3m below subgrade: 95% M.D.D.R standard
   - 3.2. Less than 0.3m below pavement subgrade: 98% M.D.D.R standard
   - 3.3. Non cohesive material: material shall achieve 80% M.D.D.R standard.
4. Field density tests shall be taken at the following minimum frequencies:
   - 4.1. Allotment fill: 1 test / 500cu.m or 1 test / allotment (whichever is greater)
   - 4.2. Subgrade fill and road pavement: 1 test/200cu.m or 1 test/200mm thickness/1000sq.metres (whichever is greater)
5. Road pavements shall be placed and compacted to achieve a M.D.D.R of 100% standard.
6. Earthworks greater than 0.4m depth to be control level 1 supervision in accordance with AS 3798.
7. The limits and tolerances applicable include:
   - 7.1. Stockpile sites:
     - 7.1.1. Relative compaction >95%,
     - 7.1.1. Height <3.0m,
     - 7.1.2. Batter < 1:1.5 and >1:3
   - 7.2. Spreading pavement materials: compacted layer thickness >100mm and <200mm
   - 7.3. Compaction acceptance: relative compaction >100% (standard compaction effort)
   - 7.4. Width of pavement:
     - 7.4.1. Edge of constructed pavement -50mm to 300mm
     - 7.4.2. Average width determined from 3 random sites over any 200mm road length, or part thereof, shall not be less than the specified width.
   - 7.5. Surface level:
     - 7.5.1. Subbase levels <±10mm from design level
     - 7.5.2. Base levels <±10mm from design level
     - 7.5.3. Base levels adjacent to kerb and gutter <±5mm from he lip levels of adjacent gutters minus design thickness of wearing surface shape deviation from a 3.0m straight edge on base surface immediately prior to sealing shall be less than 12mm.

EARTHWORKS DEPTHS SHADED TABLE ('SUBGRADE HEAT MAP')

No.	MIN. LEVEL	MAX. LEVEL	COLOUR	VOLUME
1	-3.000	-2.000		20.73
2	-2.000	-1.000		129.91
3	-1.000	0.000		977.75
4	0.000	1.000		1036.44
5	1.000	2.000		77.65

DATUM: HORIZ. GDA 2020 VERT. AHD

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SCALES m. FULL SIZE A3

FOR CONSTRUCTION

WITH COUNCIL APPROVAL

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B	ROAD DESIGN UPDATED	
C	RFI AMENDMENTS	2025/12/12

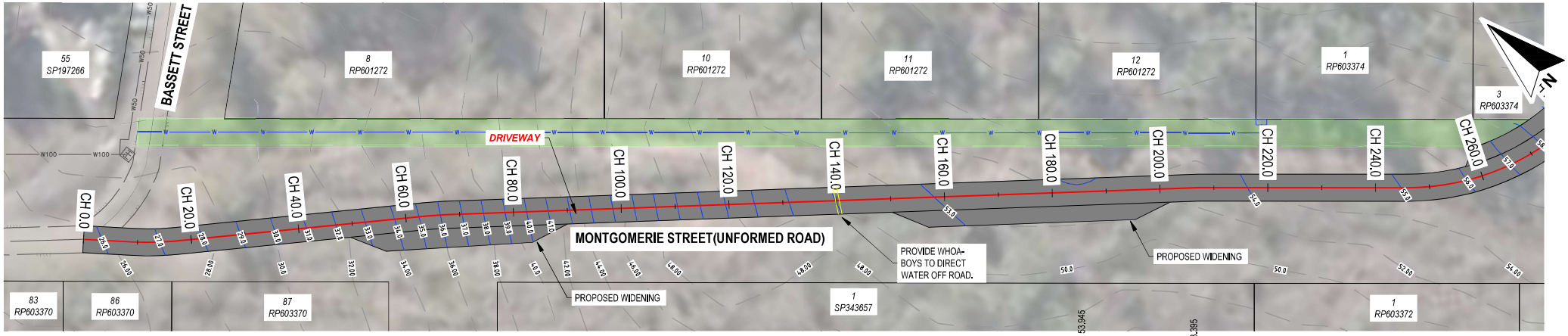
DILEIGH
CIVIL / STRUCTURAL DESIGN & PROJECT MANAGEMENT
ACN 121 309 171
47 Normanby Street
Yeppoon, Queensland 4703
Phone: 07 49112553
Fax: 07 49383660
Email: admin@dileigh.com.au

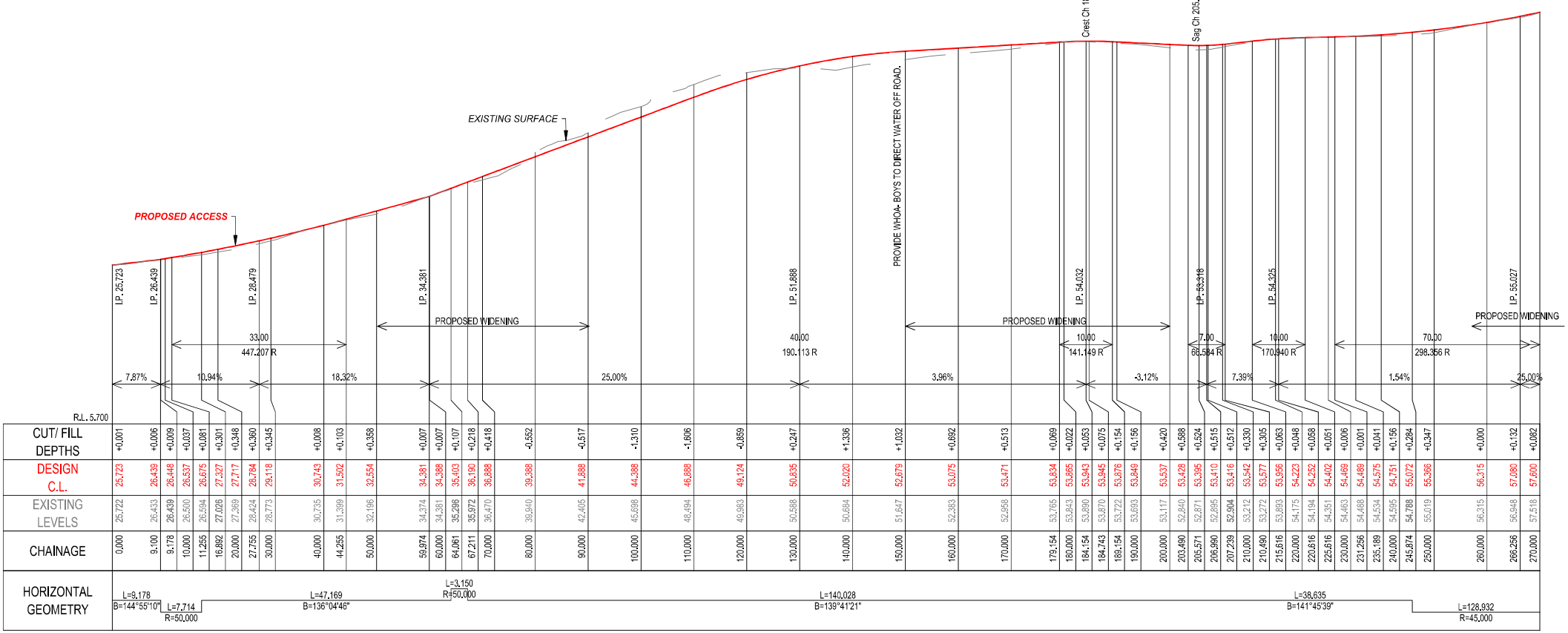
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CHECKED	AL
APPROVED	G J BROWN
RPEQ 7682	SIGN
19.12.2025	

ANNETTE SOS
ACCESS WORKS
621-623 MONTGOMERIE STREET ACCESS
GENERAL
EARTHWORKS

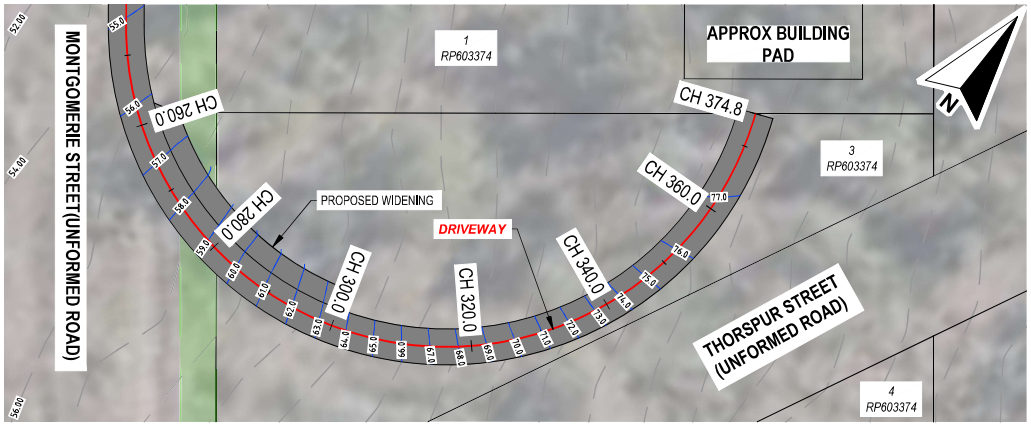
DWG No. D25.349-102
CIVIL
REVISION C

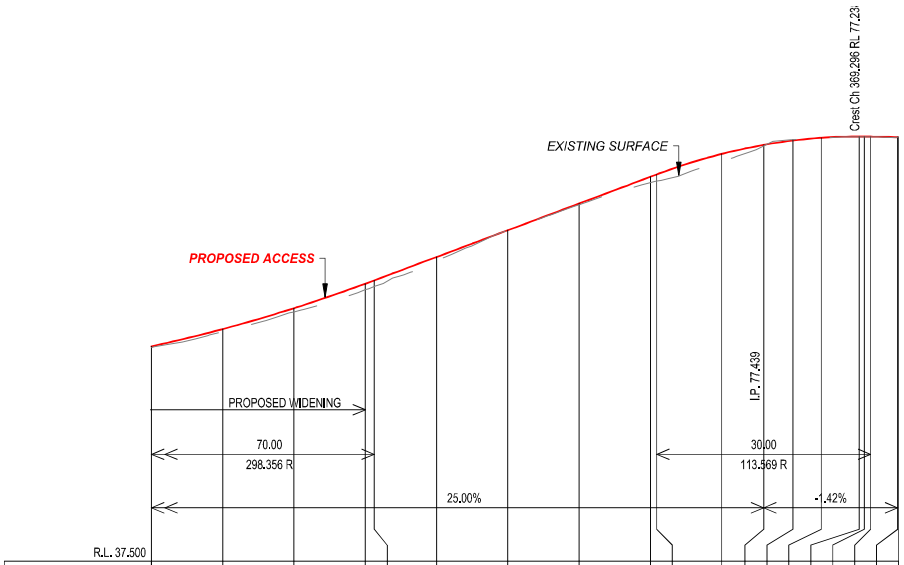
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BASSETT STREET
DRIVEWAY
MONTGOMERIE STREET(UNFORMED ROAD)
PROVIDE WHOA-BOYS TO DIRECT WATER OFF ROAD.
PROPOSED WIDENING
PROPOSED WIDENING
55 SP197266
8 RP601272
10 RP601272
11 RP601272
12 RP601272
1 RP603374
3 RP603374
83 RP603370
86 RP603370
87 RP603370
1 SP343657
1 RP603372
CH 0.0
CH 20.0
CH 40.0
CH 60.0
CH 80.0
CH 100.0
CH 120.0
CH 140.0
CH 160.0
CH 180.0
CH 200.0
CH 220.0
CH 240.0
CH 260.0
N


EXISTING SURFACE
PROPOSED ACCESS
PROVIDE WHOA- BOYS TO DIRECT WATER OFF ROAD.
Crest Ch 184.743 RL 53.945
Sag Ch 205.571 RL 53.395
I.P. 25.723
I.P. 26.439
I.P. 28.479
I.P. 34.381
I.P. 51.888
I.P. 54.032
I.P. 55.318
I.P. 54.325
I.P. 55.027
PROPOSED WIDENING
33.00
447.207 R
40.00
190.113 R
10.00
141.149 R
7.00
66.584 R
10.00
170.940 R
70.00
298.356 R
7.87%
10.94%
18.32%
25.00%
3.96%
-3.12%
7.39%
1.54%
25.00%
R.L. 5.700

| | | |





CUT/ FILL DEPTHS	+0.082	+0.255	+0.343	+0.571	+0.579	+0.376	-0.017	+0.111	+0.544	+0.634	+0.695	+0.100	-0.089	+0.000	+0.037	+0.035	+0.029	+0.001						
DESIGN C.L.	57.600	58.220	61.175	63.466	63.777	65.963	68.463	70.963	73.463	73.688	75.599	76.448	76.857	77.113	77.238	77.236	77.226	77.173						
EXISTING LEVELS	57.518	58.965	60.832	62.895	63.198	65.587	68.480	70.852	72.919	73.055	74.904	76.348	76.946	77.113	77.201	77.201	77.197	77.172	77.174					
CHAINAGE	270.000	280.000	290.000	300.000	301.256	310.000	320.000	330.000	340.000	340.903	350.000	355.903	360.000	363.972	369.296	370.000	370.903	374.892	374.806					
HORIZONTAL GEOMETRY	L=128.932 R=45.000																							

DATUM: HORIZ. GDA 2020 VERT. AHD

0 3.75 7.5 11.25 15 HORIZONTAL 1:750

0 2.5 5 7.5 10 VERTICAL 1:500

SCALES m. FULL SIZE A3

FOR CONSTRUCTION

WITH COUNCIL APPROVAL

REV	REVISION DESCRIPTION	DATE
A	FOR CONSTRUCTION	2025/11/06
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C	RFI AMENDMENTS	2025/12/12

DILEIGH
CIVIL / STRUCTURAL DESIGN & PROJECT MANAGEMENT

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APPROVED	G J BROWN
RPEQ 7682	SIGN
19.12.2025	

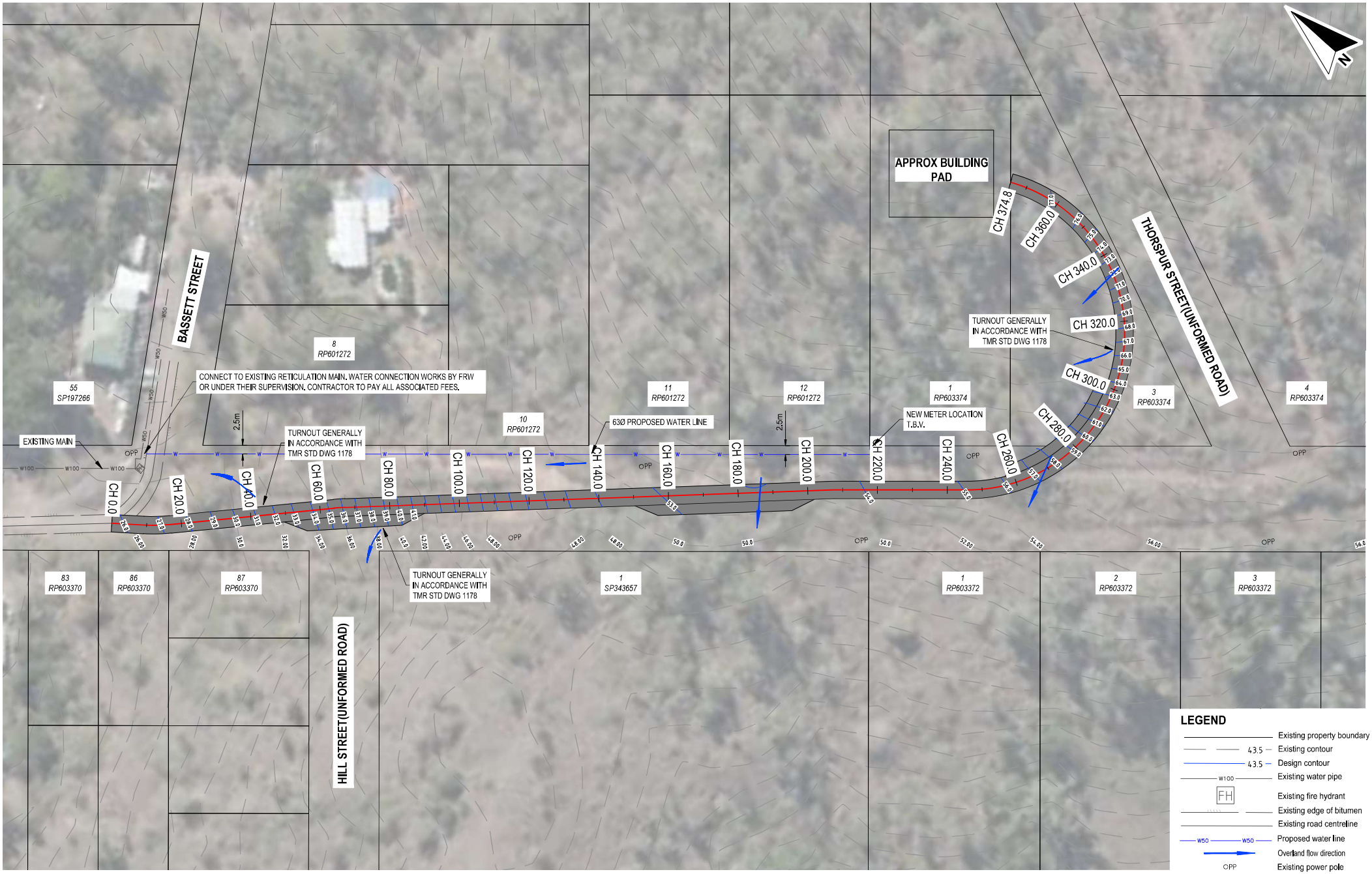
ANNETTE SOS
ACCESS WORKS
621-623 MONTGOMERIE STREET ACCESS
ROADWORKS
DRIVEWAY LONG SECTION (02 OF 02)

DWG No. D25.349-104

CIVIL

REVISION C

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DATUM: HORIZ. GDA 2020 VERT. AHD

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SCALES m. FULL SIZE A3

FOR CONSTRUCTION

WITH COUNCIL APPROVAL

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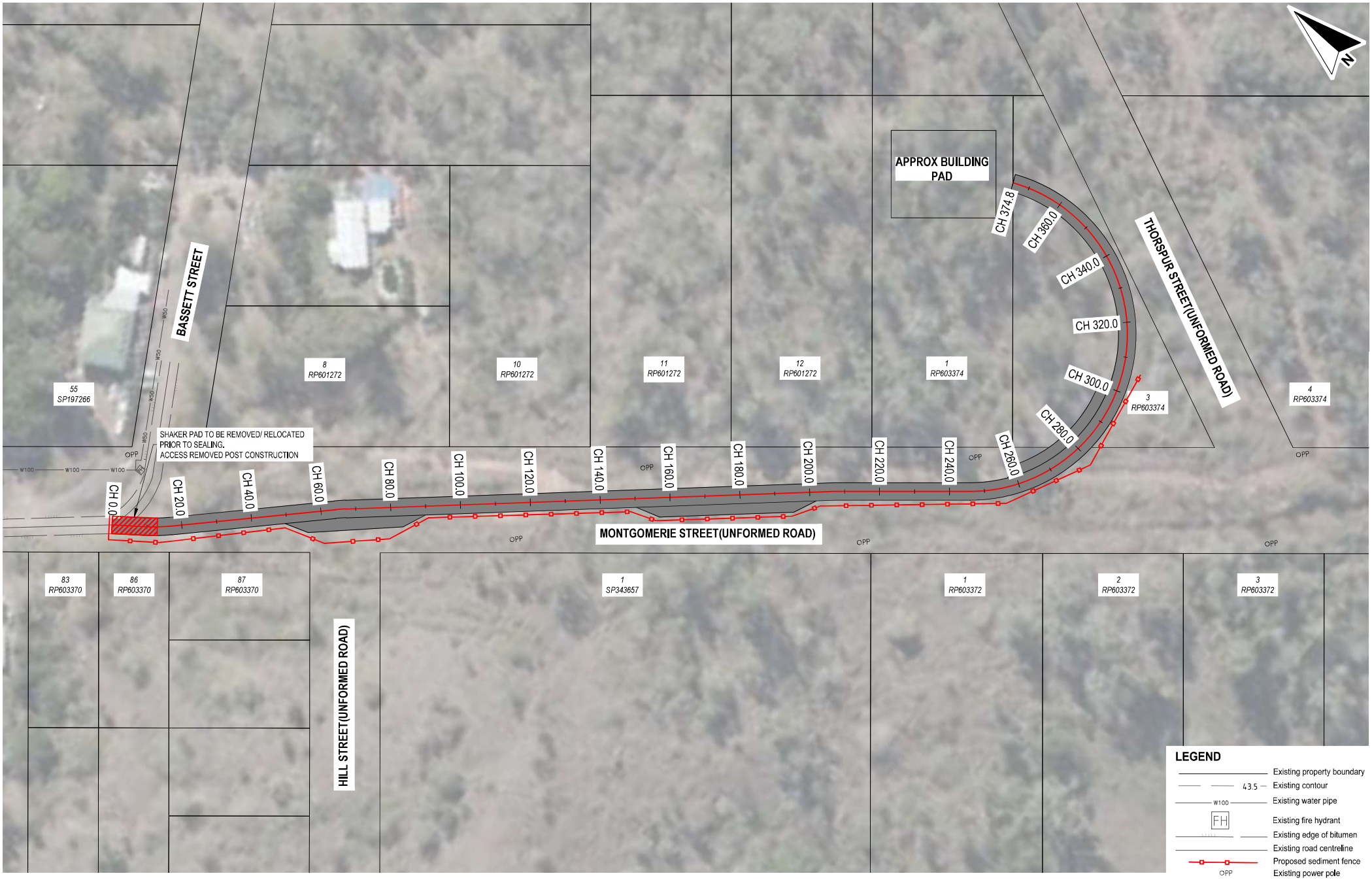
ANNETTE SOS
ACCESS WORKS
621-623 MONTGOMERIE STREET ACCESS
STORMWATER AND WATER
WATER CONNECTION AND STORMWATER LAYOUT

DWG No. D25.349-201

CIVIL

REVISION C

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DATUM: HORIZ. GDA 2020 VERT. AHD

0 5 10 15 20 1:1000 PLAN

SCALES m. FULL SIZE A3

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APPROVED	G J BROWN
RPEQ 7682	SIGN
19.12.2025	

ANNETTE SOS
ACCESS WORKS
621-623 MONTGOMERIE STREET ACCESS
EROSION AND SEDIMENT CONTROL
EROSION AND SEDIMENT CONTROL PLAN

DWG No. D25.349-301

CIVIL

REVISION C

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ENVIRONMENTAL MANAGEMENT NOTES:

1. PRIOR TO THE COMMENCEMENT OF EARTHWORKS, TOPSOIL SHALL BE STRIPPED AND STOCKPILED FROM SELECT AREAS ONLY FOR RE-SPREADING OVER DISTURBED AREAS PRIOR TO REVEGETATION AND LANDSCAPING.
2. PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS ALL SEDIMENT CONTROL DEVICES WILL BE ERECTED WHERE SHOWN ON THE DRAWINGS OR OTHERWISE DIRECTED BY THE ENGINEER.
3. ALL DISTURBED AREAS ON-SITE AND IN ROAD RESERVE WILL BE RE-TOPSOILED, TURFED OR LANDSCAPED.
4. ALL SOIL CONSERVATION AND ENVIRONMENTAL PROTECTION MEASURES SHALL BE MONITORED BY THE CONTRACTOR AT REGULAR INTERVALS DURING CONSTRUCTION. SEDIMENT CONTROL DEVICES WILL BE MONITORED AFTER RAIN EVENTS AND MADE GOOD WHERE NECESSARY. THIS WILL ALSO BE CARRIED OUT DURING THE DEFECTS LIABILITY PERIOD.
5. SILT FENCES SHALL BE INSTALLED ON THE LOW SIDE OF ALL STOCKPILES WHERE REQUIRED.
6. SILT FENCES SHALL REMAIN ON SITE UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETE AND THERE IS 90% VEGETATION COVERAGE OF PROPOSED LANDSCAPED AREAS.

NOISE MANAGEMENT:

1. WORKING HOURS - WORKING HOURS FOR THE SITE ARE TO BE 6.30am TO 6.30pm MONDAY TO SATURDAY. NO WORK TO BE UNDERTAKEN OUTSIDE OF TIMES SPECIFIED UNDER ANY CIRCUMSTANCES.
2. NOISE MINIMISATION METHODS - NOISE WILL BE MINIMISED USING THE FOLLOWING METHODS:-
   - 2.1. RESTRICTED WORKING HOURS AS DETAILED ABOVE
   - 2.2. NOISE GENERATING MACHINERY TO OPERATED ONLY WHEN NECESSARY TO UNDERTAKE WORKS - VEHICLES AND MACHINERY ARE NOT TO BE LEFT 'IDLING' WHEN NOT IN USE.
   - 2.3. NOISE SHIELDING ON PLANT TO BE INSPECTED PRIOR TO COMMENCEMENT OF WORKS AND MADE GOOD WHERE FOUND TO BE FAULTY.
   - 2.4. VEHICLES AND MACHINERY TO BE REGULARLY MAINTAINED TO REDUCE ENGINE NOISE THROUGH INFREQUENT MAINTENANCE.

DUST MANAGEMENT:

1. MINIMISING DUST GENERATION - THE FOLLOWING WORK PRACTICES WILL BE USED TO MINIMISE DUST GENERATION:-
   - 1.1. WIND CONDITIONS ON SITE ARE TO BE MONITORED AND SITE WORKS STOPPED IF WIND STRENGTH IS SUCH THAT EFFORTS TO MINIMISE AND/OR SUPPRESS DUST ARE INEFFECTIVE.
   - 1.2. SOIL STABILISATION OF BATTERS (THROUGH TOPSOILING AND REVEGETATION) TO BE UNDERTAKEN IMMEDIATELY AFTER FINAL TRIM TO MINIMISE EXPOSURE OF BARE EARTH.
   - 1.3. STOCKPILES INTENDING TO BE LEFT IN PLACE FOR 28 DAYS OR GREATER SHALL BE GRASS SEEDED.
2. DUST SUPPRESSION -
   - 2.1. WET DOWN DUST GENERATING SURFACES DAILY PRIOR TO COMMENCEMENT OF WORK USING WATER TRUCKS, SPRINKLERS AND HOSE WATERING BY HAND.
   - 2.2. ADDITIONAL WETTING DOWN OF SITE AREAS IS TO BE UNDERTAKEN AS NEEDED DURING THE COURSE OF THE DAY WHERE WORK AREAS HAVE DRIED AND ARE GENERATING DUST.

WEED MANAGEMENT:

1. MOVEMENT OF SOIL - EXISTING TOP SOIL IS TO BE STOCKPILED AND RE-USED ON SITE AFTER SITE WORKS ARE COMPLETE, ANY ADDITIONAL TOP SOIL REQUIRED IS TO BE FREE OF PLANT SEEDS PRIOR TO SPREADING ON SITE.
2. FILL MATERIAL - FILL MATERIAL TO BE IMPORTED ON SITE IS TO BE 'CLEAN FILL' AND FREE FROM ANY ORGANIC MATTER OR MATERIALS.

EMERGENCY VEHICLE ACCESS:

1. MAINTAIN CLEAR ACCESS TO SITE FOR EMERGENCY VEHICLES AT ALL TIMES

WASTE MANAGEMENT:

1. ALL LITTER AND WASTE TO BE CONTAINED ON SITE IN CONTAINERS PROVIDED FOR THAT PURPOSE.
2. ALL WASTE TO BE FURTHER DISPOSED OFF SITE IN A RESPONSIBLE MANNER.
3. WHERE POSSIBLE MINIMISE WASTE THROUGH WASTE MINIMIZATION AND RE-USE.

EROSION AND SEDIMENT MANAGEMENT:

DRAINAGE MANAGEMENT - WHERE POSSIBLE, RAINWATER DISCHARGE FROM UPSTREAM PROPERTIES IS TO BE DIRECTED AWAY FROM WORKS THROUGH TEMPORARY BUNDING.

1. SOIL STABILISATION -
   - 1.1. EXPOSED EARTH SHALL BE TOPSOILED, VEGETATED, AND LANDSCAPED AS SOON AS POSSIBLE AFTER TRIMMING.
   - 1.2. RE-VEGETATED AND LANDSCAPED AREAS SHALL BE REGULARLY WATERED TO ASSIST ESTABLISHMENT OF COVER.
   - 1.3. ALL BANKS AND BATTERS ARE TO BE REGULARLY INSPECTED TO IDENTIFY AREAS OF EROSION AND RESHAPED TO PREVENT FURTHER EROSION IF NECESSARY - RECTIFICATION WORKS ARE TO BE RE-VEGETATED IMMEDIATELY.
2. STOCKPILE PROTECTION -
   - 2.1. STOCKPILES ARE TO BE SITUATED SUCH THAT THEY ARE NOT IN ANY STORMWATER FLOW PATHS.
   - 2.2. SILT FENCING IS TO BE INSTALLED TO DOWNSTREAM SIDE OF STOCKPILE AREAS PRIOR TO THEIR USE.
   - 2.3. STOCKPILES INTENDING TO BE LEFT IN PLACE FOR 28 DAYS OR GREATER SHALL BE GRASS SEEDED.
   - 2.4. STOCKPILES TO HAVE A MAXIMUM SLOPE OF 2H:1V.
3. SEDIMENT TRAPS -
   - 3.1. SILT FENCING & SEDIMENT TRAPS TO BE INSTALLED AT AREAS OF SITE DISCHARGE AS SHOWN ON PLAN.
   - 3.2. SILT FENCING TO BE INSTALLED TO DOWNSTREAM SIDE OF STOCKPILE AREAS, STRIPPED AREAS, AND ANY OTHER AREAS OF BARE EARTH WHERE SILT LADEN RUNOFF CAN BE GENERATED.
   - 3.3. SEDIMENT FENCING TO BE INSTALLED IN ACCORDANCE WITH SEDIMENT FENCE DETAILS ON THIS SHEET.
   - 3.4. SEDIMENT FENCE LAYOUT SHALL CONFORM TO "TYPICAL LAYOUT ACROSS GRADE" AS DETAILED ON STANDARD DRAWING CMDG-D-050.
   - 3.5. SILT FENCES AND SEDIMENT TRAPS SHALL REMAIN ON SITE UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETE AND THERE IS 90% VEGETATION COVERAGE OF PROPOSED LANDSCAPED AREAS.
4. VEHICLE AND ROAD MANAGEMENT:-
   - 4.1. VEHICLES AND PLANT ARE TO ONLY ACCESS THE SITE FROM MONTGOMERIE STREET SITE ACCESS TO BE OVER A SHAKER ACCESS PAD OR RUMBLE GRID IN ACCORDANCE WITH STANDARD DWG CMDG-D-050.
   - 4.2. VEHICLE OPERATOR TO ASSESS MATERIAL ON VEHICLE PRIOR TO EXITING SITE AND REMOVE EXCESS WITH SHOVEL OR BRUSH.
   - 4.3. MONTGOMERIE STREET TO BE INSPECTED AT END OF EACH DAY AND ANY DEPOSITED MATERIAL IS TO BE REMOVED.

ACID SULFATE SOILS:

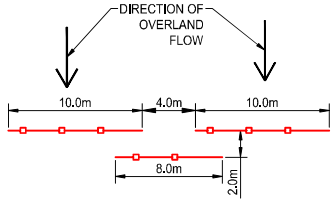
1. DUE TO THE ELEVATION AND SITE GEOLOGY IT IS UNLIKELY THAT A.S.S. WILL BE ENCOUNTERED ON THIS SITE.
2. IF A.S.S. ARE ENCOUNTERED ON THE SITE DURING CONSTRUCTION ENGAGE A SUITABLY QUALIFIED ENVIRONMENTAL CONSULTANT TO PRODUCE AN A.S.S. MANAGEMENT PLAN FOR IT.

VEGETATION MANAGEMENT:

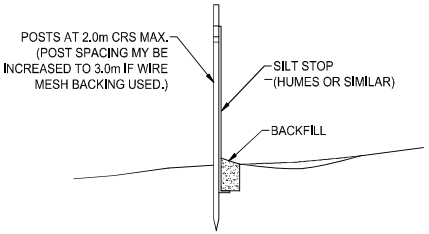
1. WHERE VEGETATION COVENANT EXISTS ON SITE, THIS AREA TO BE CLEARLY PEGGED AND FLAGGED OR FENCED PRIOR TO WORK COMMENCING ON SITE TO PREVENT ANY CLEARING IN THIS AREA.

BUSH FIRE MANAGEMENT:

1. THE SITE IS PREDOMINANTLY CLEARED AND NOT IN A BUSH FIRE HAZARD ZONE (BUT STILL MAY BE SUBJECT TO BUSH FIRES)
2. MULCHED STOCK PILES TO BE NO MORE THAN 2.0m HIGH AND WET DOWN DAILY.
3. REMOVE MULCH FROM SITE IF SAFE TO DO SO SHOULD BUSHFIRES THREATEN THE AREA.



SEDIMENT FENCE LAYOUT



SEDIMENT FENCE DETAIL

N.T.S

DATUM: HORIZ. GDA 2020 VERT. AHD

0 5 10 15 20 PLAN 1:1000

SCALES m. FULL SIZE A3

FOR CONSTRUCTION

WITH COUNCIL APPROVAL

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RPEQ 7682	SIGN
19.12.2025	

ANNETTE SOS
ACCESS WORKS
621-623 MONTGOMERIE STREET ACCESS
EROSION AND SEDIMENT CONTROL
EROSION AND SEDIMENT CONTROL NOTES

DWG No. D25.349-302

CIVIL

REVISION C

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This information is provided by Rockhampton Regional Council from TechnologyOne ECM

1.1.5 Biodiversity Overlay Code

Biodiversity Overlay Code – Compliance Assessment
621–623 Montgomerie Street, Lakes Creek (Lot 1& 3 RP603374)

Performance Outcomes	Comments
Matters of State and Local (High) Environmental Significance	
PO1 Development retains and protects significant natural assets, habitat and environmental values.	The dwelling is located on an elevated area already largely free of trees, ensuring no remnant vegetation or mapped MSES/MLES values are disturbed. Vegetated slopes remain intact, with no changes to natural landforms, hydrology, or drainage.
PO2 Native vegetation is retained, regenerated or rehabilitated to maintain ecological connectivity.	Native vegetation is retained across the site, with only minimal clearing required for the dwelling and driveway. Vegetation on the slopes—where mapped biodiversity values occur—is fully protected. Connectivity with adjoining habitat is maintained. Weed species to be removed where encountered.
Matters of Local (General) Environmental Significance	
PO3 Development minimises impacts on biodiversity values.	The development is confined to an upper site area with minimal vegetation, avoiding disturbance to mapped biodiversity values. No waterways, drainage paths, or locally significant habitat features occur within the footprint. Natural landforms and wildlife movement remain unaffected.
Biodiversity Corridors and Wildlife Habitats	
PO4 Development maintains unimpeded movement of terrestrial and aquatic fauna.	The mapped biodiversity corridor function is provided by the vegetated slopes, which remain untouched. Development on the lightly vegetated upper landform does not create barriers to fauna movement. No fencing or structures that impede fauna movement are proposed.
PO5 Wildlife habitat and critical life-stage ecological processes are retained and protected.	No mapped wildlife habitat features occur within the development footprint. Vegetated areas that may support fauna are retained. Ecological processes associated with wildlife habitat remain undisturbed.
Wetlands and Waterways	
PO6 Development does not adversely impact vegetation, habitat, ecological functions, water quality or conservation values.	No wetlands, waterways, or buffers are mapped on the site. The development does not alter hydrology or drainage patterns and therefore has no potential to impact aquatic ecological values.
Hydrology	
PO8 Development maintains the natural groundwater hydrological regime.	The proposal does not involve excavation, filling, or works that would alter groundwater levels or hydrostatic pressure. The natural hydrological regime remains unchanged.
Non-Native Pest Management	

This information is provided by Rockhampton Regional Council from TechnologyOne ECM

Performance Outcomes	Comments
PO9 Development avoids the introduction or spread of pest species.	The development does not introduce pest species. Landscaping will use locally native species where required, and weed species to are currently being removed from the site.
Ongoing Management, Construction and Operation	
PO10 Development is managed to avoid or minimise impacts during construction and operation.	Construction is confined to the upper site area with minimal vegetation, reducing the risk of off-site impacts. Standard erosion and sediment controls will be implemented. No environmentally significant areas will be disturbed.
Protected Area Estates	
PO11 Development maintains access and buffers to protected areas.	The site does not adjoin a national park or protected area estate. Not applicable.
Management Arrangements	
PO12 Development facilitates conservation of significant areas and ecological processes.	All areas supporting mapped biodiversity values are retained and protected through avoidance. No clearing of significant vegetation is proposed. No public access or tenure changes are required.
Rehabilitation	
PO13 Degraded areas are rehabilitated.	No areas are degraded as a result of the development. The development footprint is already largely free of vegetation, and no rehabilitation is required.
Reconfiguring a Lot	
PO14 Habitat fragmentation is avoided.	No reconfiguration is proposed. Not applicable.

Overall Compliance Statement

The proposed development complies with all relevant Performance Outcomes of the Biodiversity Overlay Code.

By locating the dwelling on an upper site area already largely free of trees, the proposal:

- avoids clearing remnant vegetation
- protects mapped MSES and MLES values
- maintains ecological connectivity and corridor function
- avoids impacts on hydrology, waterways, and habitat
- prevents fragmentation of environmentally significant areas

The development is low-impact, environmentally appropriate, and fully consistent with the purpose and overall outcomes of the Biodiversity Overlay Code.

This information is provided by Rockhampton Regional Council from TechnologyOne ECM

Development Application Summary – Vegetation Clearing for Dwelling

1. Purpose of the Application

This application seeks approval for the construction of a single dwelling and shed, including associated operational works such as vegetation clearing for the building footprint, access, services, and bushfire safety requirements.

The proposed clearing is limited to what is necessary for establishing a dwelling and complies with the Accepted Development Vegetation Clearing Code – Establishing New Buildings or Structures under Schedule 21 of the *Planning Regulation 2017*.

---

2. Site Description

- **Lot:** 1 & 3
- **Plan:** RP603374
- **Area:** 4,047 m² (0.4047 ha)
- **Tenure:** Freehold
- **Local Government:** Rockhampton Regional Council
- **Zoning:** Rural
- **Bioregion:** Brigalow Belt
- **Subregion:** Marlborough Plains

---

3. Vegetation Mapping Summary

Based on the Vegetation Management Property Report (23/03/2026):

Vegetation Categories

"Category B – 0.40 ha"
"Regional ecosystems present… Least concern"

- The lot contains 0.40 ha of Category B remnant vegetation, all mapped as Least Concern regional ecosystems.
- No Category A, C, or R vegetation is present.
- No wetlands, essential habitat, or protected plant triggers apply.

Regional Ecosystems Present

All mapped regional ecosystems are Least Concern, including:

- RE 11.12.3
- RE 11.12.4
- RE 11.12.6a

This information is provided by Rockhampton Regional Council from TechnologyOne ECM

4. Applicable Clearing Exemptions

Under Schedule 21 – Accepted Development Vegetation Clearing Code, clearing is permitted for:

- Establishing new buildings or structures
- On Category B (Least Concern) vegetation
- Where total clearing is less than 2 hectares

The subject lot is 0.4047 ha, well below the 2-hectare threshold.

Therefore, the proposed clearing meets the criteria for accepted development and does not require a development approval under the Vegetation Management Act.

---

5. Proposed Clearing Extent

The clearing will be limited to:

- Dwelling footprint
- Driveway and service connections
- Bushfire Asset Protection Zone (APZ)
- Construction access

All clearing will remain within the 0.4047 ha lot boundary, and no clearing will occur outside the property.

---

6. Compliance with Accepted Development Code

The proposal will comply with the relevant performance outcomes of the Accepted Development Vegetation Clearing Code – Establishing New Buildings or Structures, including:

- Minimising soil erosion
- Retaining vegetation outside the building envelope
- Avoiding impacts on watercourses
- Managing debris and runoff
- Maintaining groundcover where possible

---

7. Conclusion

The proposed vegetation clearing for the construction of a dwelling on Lot 1 RP603374:

- Occurs only on Category B (Least Concern) vegetation
- Is less than 2 hectares
- Meets the requirements of Schedule 21 – Accepted Development Vegetation Clearing Code
- Does not trigger a development approval under the Vegetation Management Act
- Is consistent with the Rural Zone intent under the Rockhampton Regional Planning Scheme

Accordingly, the clearing is accepted development.

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4.1 Water

On-Site Water Supply & Firefighting Water Supply Table

Category	Details
Property Context	Dwelling house and ancillary shed in Rockhampton Regional Council area.
Total Water Storage	Possibly 60,000 L across three tanks.
Potable / General Use Storage	40,000 L (Two × 20,000 L tanks located on the southern side of the house) or connection to local supply
Firefighting Storage	20,000 L dedicated firefighting tank located beside the house. Isolated from potable supply to prevent drawdown.
Rainwater Harvesting	Roof catchments from both the dwelling and shed. Guttering fitted with leaf guards and first-flush diverters.
Potable Water Treatment	Multi-stage filtration (sediment + carbon) and UV sterilisation. Powered by the dwelling's off-grid solar-battery system.
Supply to Buildings	Dwelling receives treated potable water via pressure pump.
Firefighting Outlet	QFES-compliant 65 mm Storz outlet on the dedicated firefighting tank. Non-combustible fittings. Signage: "FIRE WATER – DO NOT USE".
Fire Appliance Access	Firefighting tank beside the house positioned adjacent to a suitable hardstand area.
Compliance Summary	System meets RRC Rural Zone requirements, aligns with QFES rural firefighting guidelines.

Proposed Water Supply System

Potable Water Storage System – Off Grid

The potable water supply consists of two 20,000 L above-ground poly tanks or equivalent, possibly two 10 000L tanks or several 5 000L tanks (40,000 L total). Half of the tanks to be connected to the shed and the other half connected to the dwelling. Each tank is fitted with compliant inlets, outlets, and filtration components to ensure safe potable water delivery to the dwelling.

Dedicated Firefighting Water Supply

A 20,000 L dedicated firefighting tank is installed beside the house, isolated from the domestic system. This tank is designed specifically to meet and exceed the requirements of the Bushfire Risk Minimisation Code (P3 / A3.2).

Firefighting Tank Fittings

The firefighting tank proposed to include:

- 100 mm screened inlet strainer
- 90 mm screened overflow
- Dedicated 65 mm Storz outlet (QFES-compliant)
- Storz cap and chain
- Hardstand access within 6 m for fire appliances

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- Isolation from domestic supply (no cross-connection)
- Signage: “FIRE WATER – DO NOT USE”

Low-level outlet height ensuring full 20,000 L reserve is always available

Possible firefighting tank material type **-** steel, concrete, and buried polyethylene.

Firefighting Water Tank Material Comparison Table

Tank Material	Bushfire Performance	Advantages	Limitations / Considerations	Suitability for Firefighting Supply
Steel (Galvanised or Colorbond)	Non-combustible; excellent resistance to radiant heat and ember attack	- High structural integrity - Long lifespan- Widely accepted by fire authorities - Easy to fit metal Storz outlets	- Can heat up in direct flame contact - Requires corrosion protection in coastal areas	**Highly suitable** — strong above-ground option for bushfire-prone sites
Concrete	Fully non-combustible; highest thermal stability	- Best performance under extreme heat - No deformation under fire conditions - Very long lifespan - Minimal maintenance	- Heavy; requires stable foundation - Higher installation cost	**Ideal** — highest bushfire resilience and long-term durability
Buried Polyethylene	Protected by soil; unaffected by radiant heat when buried	- Cost-effective - Fully shielded from heat when installed below ground - Maintains water temperature stability - Minimal visual impact	- Must be buried with correct soil cover (≥300 mm) - Requires reinforced risers - All fittings must be metal	Suitable when buried — achieves equivalent protection to non-combustible tanks

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CQ SOIL TESTING

AS1547 Wastewater Design

SITE ADDRESS:	Lot 1 (RP603374) 621-623 Montgomerie Street, Lakes Creek
Prepared for:	Annette Sos
Job Number:	CQ30906
Issue Date:	26/05/2026

Certified System OHS ISO 45001 SAI GLOBAL
Certified System Environment ISO 14001 SAI GLOBAL
Certified System Quality ISO 9001 SAI GLOBAL

SUMMARY OF RECOMMENDATIONS

Treatment
All-Waste Septic Tank (3000 litre minimum)
With serviceable filter

Disposal Mechanism
Two (2) Evapotranspiration/Absorption Bed
2.1 metres x 19.5 metres – Total Area 82 sqm

Document Set ID: 41324214
Version: 1, Version Date: 01/06/2026
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Client & Document Information

Client:	Annette Sos
Project:	Lot 1 (RP603374)
	621-623 Montgomerie Street, Lakes Creek
Investigation Type:	**Wastewater Investigation**
Job Number:	CQ30906
Date of Issue:	26/05/2026

Contact Information

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Document Control

Version	Concept By	Design Drawings	Design Review	Issue Approved By	Date
A	C Tindoc	C Tindoc	P Munro	PM	26/05/2026

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1. INTRODUCTION

The purpose of this report is to evaluate and define a suitable on-site sewerage treatment and disposal system for household effluents in accordance with Australian Standard 1547 "On-site domestic-wastewater management". The Queensland Plumbing and Wastewater Code has been used for reference purposes during the compiling of this report.

The field investigation was carried out on the 29th April 2026. This report relates exclusively to the proposed dwelling at the site identified on Page 1 of this report. This document has been prepared for the express purpose stated above. This document does not cover any other elements related to construction on the site.

2. SITE DESCRIPTION AND SUPPLIED INFORMATION

2.1 Allotment and Effluent Disposal Site

- ***The landholder was interviewed. All information included in this report relating to the dwelling size, water source, fixtures etc have been provided by the landholder or the landholders representative.***

- ***The landholder shall read and understand all aspects of this design. CQ Soil Testing may carry out amendments to this design if requested, additional fees shall apply.***

- ***The landholder is to liaise with neighbouring properties regarding the presence of discrete/unregistered bores that may exist/be proposed on adjacent allotments prior to system installation.***

- The site is a rural allotment located at 621-623 Montgomerie Street, Lakes Creek (an unsealed road).
- The slope configuration in relation to surface drainage is linear planar.
- The proposed effluent disposal area falls toward the southwest and is considered to have fair drainage.
- The soil surface condition was dry at the time of testing.
- There was no evidence of cracking of the surface during the investigation.
- There were no visible boulders on the surface of the allotment.
- There were no rock outcrops evident.
- There was no watercourse, bore, well, or dam evident within 50 m of the proposed disposal area at the time of this investigation.
- The proposed effluent disposal area is exposed to sun and wind.
- The proposed disposal site is an existing grassed area.
- Surface water will drain toward the southwest.
- Surface water drainage from adjoining allotments may traverse this site.
- The weather conditions prior to testing were periods of moist conditions.
- The site is not a known flood area.

2.1 Dwelling and Fixtures

- The dwelling type is single storey - 3 bedrooms.
  (5 equivalent persons – AS 1547:2012 Appendix J)
- The water source is retic supply.
  (150 litre/person/day – AS 1547:2012 Appendix H)
- Standard water reducing fixtures ***are to be*** used throughout the dwelling.
- A spa bath ***is not*** proposed to be installed.
- A food waste disposal unit ***is not*** proposed to be installed.

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3. SOIL PROFILE

The borelogs carried out at the site (refer attached Site Plan for localities) indicate that the soil profile typically consists of gravelly silty clay which is underlain by silty clay then gravelly silty clay followed by weathered rock. Soil logs are detailed in this report.

Groundwater was not encountered during the field investigation.
Weathered rock was encountered during the field investigation.

Table 1 - Determination of Soil Category

Soil Category BH2	Soil Texture	Structure	Indicative Permeability	Indicative Drainage Class
4 (00-200 mm)	Clay Loam	Massively Structured	0.06 - 0.12m/day	Imperfectly Drained
5 (200-900 mm)	Light Clay	Moderately Structured	0.06 – 0.12 m/day	Poorly Drained
4 (900-1300 mm)	Clay Loam	Massively Structured	0.06 - 0.12m/day	Imperfectly Drained
(1300–1400 mm)	Weathered Rock			

Table 2 – Permeability test results and conclusions

Test No.	Soil Permeability	Test hole depth	Recommended Design Loading Rate
PT 1	0.09	500 mm	
Average	**0.09**		**5.0 (mm/day)**

Permeability testing aids in the design of an "On-site domestic–wastewater management system". CQ Soil Testing carries out a permeability testing in accordance with Appendix 4.1F of the Australian Standard 1547.

Whilst every effort has been made to ensure that the borelogs carried out at the subject allotment are indicative of the soil profile over the site any discrepancy between the profile detailed in the borelogs and that observed during construction shall be referred to CQ Soil Testing for immediate attention.

4. INVESTIGATION DETAILS

The investigation carried out at the site included machine augured boreholes up to 1500 mm depth and a series of permeability test pits (see Appendix 4). These test pits are located in the proposed effluent disposal area as shown on the attached site report. The Queensland Plumbing and Wastewater Code and AS 1547 suggests that the use of a primary-treated effluent disposal system will be satisfactory provided:

- Sufficient permeable surface soil overlying rock is present over the disposal area, not less than 1.2 metres depth.
- A suitable soil category material (as per AS 1547) and minimum required depth is encountered.
- A minimum set-back distance of 50m is obtained.
- Acceptable permeability rates are obtained.

All the above requirements have been met, therefore it is concluded that the use of a primary-treated effluent septic system is acceptable.

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5. FINDINGS AND RECOMMENDATIONS

- All work must be carried out by a licensed plumber or drainer.
- All pipework shall be installed in accordance with AS3500.2.2, National Plumbing and Drainage, Part 2.2, Sanitary Plumbing and Drainage.
- The Design Loading Rate of 5 mm/day has been adopted.
- A 100% reserve effluent disposal area can be obtained on this allotment and shall be kept clear of development for possible future expansion.

5.1. Treatment

- Septic Tank – 3000 Litre minimum to be installed.
- The local authority may require the installation of a grease trap.
- The septic tank shall be de-sludged and pumped out at a maximum interval of 5 years.
- A Septic Tank Filter shall be installed between the septic tank and the disposal area. Regular maintenance of the filter shall be undertaken, normally 3 monthly.

5.2. Disposal

- For the purpose of calculating evaporation, the long term average monthly pan evaporation and rainfall figures from the Bureau of Meteorology weather station at Mackay have been adopted. Water Balance and design calculations are appended.
- All wastewater shall be disposed of by Evapotranspiration/Absorption.
- The land application facility shall be by evapotranspiration-absorption bed/s with a total minimum area of **82 sqm**.
- A diversion mound shall be constructed above/around the disposal area to divert overland water flows.
- Effluent shall be distributed evenly throughout the bed/s via the use of a distribution chamber or equivalent system.
- The beds shall be 2.1 m in width and 19.5 m in length. Two (2) are required.
- The beds shall be installed level and across the natural contour of the land.
- The finished surface shall shed water.
- Detailed design drawings are attached to this report.
- The disposal area has been calculated on a daily all-waste flow rate of 750 litres/day, (3 bedroom/5 people each using 150 litres per day) and a design load rate of 5 mm/day. This flow rate will accommodate all-waste flows from the proposed three bedroom residence using Standard Water-Reducing Devices, which include using a dual flush 6/3 litre water closet (maximum), shower flow restrictors, aerated faucets and a water conserving washing machine.
- The disposal area should be located in the vicinity of BH1, BH2 & BH3 and as per attached site plan.
- All set-back distances as required by the local authority shall be met.
- Stormwater run-off including roofwater from buildings shall be diverted around and away from the disposal area. Imported fill may be required should there be insufficient soil available for the design of the disposal system.
- **For Category 5 and 6 type soils the base of the proposed system shall be scarified and conditioned by adding gypsum at a rate of not less than 1kg/1sqm.**

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5.3. Setback Distances

Table 3 - Setback distances for subsurface land application area for greywater treatment plant or an on-site sewage treatment plant (QLD Plumbing & Wastewater Code Version 1:2025)

Feature	Horizontal separation distance ①		
	Up slope	Down slope	Level
Property boundaries, pedestrian paths, walkways, recreation areas, retaining wall, and footings for buildings and other structures.	2	4	2
Inground swimming pools	6	6	6
Inground potable water *tank* not exposed to primary effluent	6	6	6
Inground potable water *tank* exposed to primary effluent	15	15	15

① Distances are given in metres and are measured from the edge of trench/bed excavation or subsurface irrigation distribution pipework to the nearest point of the feature

Table 4- Setback distances for on-site sewage facilities and greywater use facilities – Protection of surface water and groundwater (QLD Plumbing & Wastewater Code Version 1:2025)

Feature	Separation distance ①		
For onsite – see Table 2.1 in AS 1546.3	**Advanced Secondary**	**Secondary**	**Primary**
For *greywater* – see Table 2.1 in AS 1546.4	**Level 1 and Level 2**	**Level 3**	**Untreated**
Top of bank of permanent water course	10	30	50
Top of bank of intermittent water course			
Top of bank of a lake, bay, or estuary			
Open stormwater drainage channel or drain			
Bore or a dam			
Unsaturated soil depth to a permanent water table (vertically)	0.3	0.6	1.2

① Distances are given in metres and are measured from the edge of the irrigated wetted area to any point of the feature
② Note: Primary effluent typically has a (BOD^5) (Biochemical Oxygen Demand) of between 120 – 240 mg/L and Total Suspended Solids of between 65 – 180 mg/L.

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5.4. Vegetation and signage

- Water tolerant vegetation shall be planted to maximize evapotranspiration and shall be carefully chosen. See vegetation specified in AS 1547:2012 "Disposal Systems for Effluent from Domestic Premises (Appendix C)". CQ Soil Testing recommends consultation with local nurseries for selection/density of plantings.
- At least two signs stating "Recycled water – Do Not Drink" are to be erected on boundaries.

- The presence of buried pipes shall:

  (a) Be indicated e.g. using underground marking tape to AS/NZS 2648.1; OR
  (b) Be indicated by signage. Signs shall be prominently displayed with the words:

  "Sewage effluent pipework installed below. DO NOT DIG."

5.5. Greywater

Surface irrigation of greywater directly (without treatment) from the dwelling's washing machine is permissible. CQ Soil Testing recommends the surface irrigation of greywater. The washing machine shall be connected to a flexible hose with the hose distributing greywater to the landholder's garden/lawn. Provide an air admittance valve and suspend drainage (per AS/NZS 3500) to a rigid, fixed position external to building and reduce to a flexible hose fitting (minimum diam. 32 mm). Greywater should be used with care and used responsibly - Avoid:

- *Ponding of water.*
- *Run-off to neighbouring properties.*
- *Causing an odour.*

When using greywater:

- Choose laundry detergents with low phosphorus, sodium and nitrogen content.
- Take care not to keep watering the same spot - it can affect soil and can cause plants to die.
- Be careful when using on native plants and do not use on edible parts of vegetables or fruits.
- Make sure it does not enter swimming pools or flow into neighbouring properties.
- Avoid ponding, bad smells or damage to plants by restricting use or moving the outlet.
- Keep away from children's play areas and the footings of buildings.

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6. CERTIFICATION

The local authority may request that an inspection and certification is to be undertaken on the installation of the system when nearing completion. CQ Testing is qualified to undertake this task and issue the appropriate Form 8 **(additional fees apply)**. If certification is required, the installer must:

- Contact CQ Soil Testing prior to "burying" the system to arrange an inspection.
- Must photograph the entire installation process and supply to CQ Soil Testing.
- Supply to CQ Soil Testing a Form 8 signed by the licensed installer.

Yours faithfully

PATRICK MUNRO	SCOTT WALTON
Senior Soil Technician	Laboratory Manager

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CQ SOIL TESTING

Soil Logs

BOREHOLE 1

Depth (m)	Visual Class'n Symbol	Visual Description of Material
0.0 0.3	CL	**Fill** Gravelly Silty CLAY, low plasticity, fine to coarse size gravel, brown, D, ST. ***CAT 4 Clay Loam – massively structured***
0.3 0.6	CH	**Natural** CLAY, high plasticity, trace fine to medium grained sand, reddish brown, D, VST - H w/depth. ***CAT 6 Medium Clay – weakly structured***
0.6 1.2	CI	Silty CLAY, medium plasticity, trace fine to coarse grained sand, reddish brown, D, H. ***CAT 5 Light Clay – strongly structured***
1.2 1.5	CL	Gravelly Silty CLAY, low plasticity, fine to coarse size gravel, brown, D, H. ***CAT 4 Clay Loam – massively structured***

Borehole terminated at 1.5 m

MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY
D – Dry	VS – Very Soft	VL – Very Loose
M – Moist	S – Soft	L – Loose
W – Wet	F – Firm	MD – Med Dense
	ST – Stiff	D – Dense
	V/ST – Very Stiff	VD – Very Dense
	H – Hard	

Allowable Bearing Pressure calculated using the guidelines in "Determination of Allowable Bearing Pressure under Small Structures" by MI Stockwell (NZ Engineering June 1997)

DCP test results are to be used as a guide only to relative density and consistency of soils. Changes in moisture contents or the presence of coarse-grained material can greatly influence the outcome of this test.

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CQ SOIL TESTING

Soil Logs

BOREHOLE 2

Depth (m)	Visual Class'n Symbol	Visual Description of Material
0.0 0.2	CL	**Fill** Gravelly Silty CLAY, low plasticity, fine to coarse size gravel, brown, D, ST. ***CAT 4 Clay Loam – massively structured***
0.2 0.9	CI	Silty CLAY, medium plasticity, trace fine to coarse grained sand, trace fine sized gravel, reddish brown, D, H. ***CAT 5 Light Clay – strongly structured***
0.9 1.4	CL	Gravelly Silty CLAY, low plasticity, fine to coarse size gravel, brown, D, H. **Weathered Rock ***CAT 4 Clay Loam – massively structured***

Tungsten carbide drill bit refusal at 1.4 m

MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY
D – Dry	VS – Very Soft	VL – Very Loose
M – Moist	S – Soft	L – Loose
W – Wet	F – Firm	MD – Med Dense
	ST – Stiff	D – Dense
	V/ST – Very Stiff	VD – Very Dense
	H – Hard	

Allowable Bearing Pressure calculated using the guidelines in "Determination of Allowable Bearing Pressure under Small Structures" by MI Stockwell (NZ Engineering June 1997)

DCP test results are to be used as a guide only to relative density and consistency of soils. Changes in moisture contents or the presence of coarse-grained material can greatly influence the outcome of this test.

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APPENDIX 1 - NOTES

1. Recommendations given in this report are based on the information supplied by the client regarding the proposed building construction in conjunction with the findings of the investigation. Any change in construction type, building location or omission in the client supplied information, may require additional testing and/or make the recommendations invalid.
2. Every reasonable effort has been made to locate the test sites so that the borehole profiles are representative of the soil conditions within the area investigated. The client should be made aware however, that exploration is limited by time available and economic restraints. In some cases, soil conditions can change dramatically over short distances, therefore, even careful exploration programs may not locate all the variations.
3. If soil conditions different from those shown in this report are encountered or are inferred from other sources, then the author must be notified immediately.
4. This report may not be reproduced except in full, and only then with the permission of the entity trading as CQ Soil Testing. The information and site sketch shall only be used and will only be applicable for the development shown on the client-supplied information provided for this site.
5. All information contained within this report is the intellectual property of the entity trading as CQ Soil testing. All information contained with can only be used for the express purposes of the commissioned scope of works.
6. Any dimensions, contours, slope directions and magnitudes shown on the site sketch plan shall not be used for any building construction or costing calculations. The purpose of the plan is to show approximate location of field tests only.
7. Any changes made to these recommendations by persons unauthorized by the author will legally be interpreted at that person assuming the responsibility for the long-term performance of the system.
8. The following documents are available from various sources and shall be read and adhered to in relation to this site:

   AS/NZS 1547:2012 - On-site domestic wastewater management
   https://www.standards.org.au/standards-catalogue/sa-snz/waterandwasteservices/ws-013
   AS/NZS 1546.1 - On-site domestic wastewater treatment units - Septic tanks
   http://www.standards.com.au/
   AS/NZS 1546.2 - On-site domestic wastewater treatment units - Waterless composting toilets
   http://www.standards.com.au/
   AS/NZS 1546.3 - On-site domestic wastewater treatment units -Aerated wastewater treatment systems
   http://www.standards.com.au/
   Queensland Plumbing and Wastewater Code
   https://www.housing.qld.gov.au/__data/assets/pdf_file/0025/82708/qpwc-2025.pdf
   Standard Sewerage Law
   http://www.legislation.qld.gov.au/LEGISLTN/SLS/1998/98SL099.pdf

Periodically during the course of your trench, ETA bed or irrigation areas life span it will most likely require maintenance such as deep scarification to promote the uptake, and transmission of effluent. This can also be achieved via deeper drilling, rotary hoe or excavator tines.

The Land Application Area designed by CQ Soil Testing is in accordance with the relevant Australian Standards to provide the most economical solution. Generally, this initial installation will be sufficient to successfully handle the load from the dwelling and/or building. Occasionally, however, all of the effluent is not absorbed or transpired due to reasons such as:

- diversion drains are not effective and stormwater enters the Land Application area.
- plants used for the aid of transpiration have not reached maturity resulting in less than optimum transpiration.
- water conservation is not being practiced within the household or building.
- soils can vary significantly over short distances resulting in significant variations in absorption characteristics.

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APPENDIX 2 - WASTEWATER TREATMENT SYSTEM "DO'S AND DON'TS"

DO'S

- Do use cleaning and laundry products labelled "septic safe" only.
- Do ensure you have the treatment system serviced regularly as specified by the manufacturer. Your local shire council requires that your system is serviced by an approved service person.
- Do make sure treated water from your system stays on your property, don't allow it to run-off into the street or onto your neighbours property.

DON'TS

- Don't use fine droplet or mist sprays on your irrigation line, the fine spray can be carried a long way by the wind.
- Don't allow surface water to flood the tank system or wastewater disposal area.
- Don't use bleaches, strong disinfectants, or large amounts of natural antibacterial' s such as eucalyptus oil. Your treatment system relies on beneficial bacteria to treat the wastewater. Bleaches and other strong disinfectants can kill off these helpful bacteria, seriously reducing the system's effectiveness.
- Don't put cooking fat or oils down the sink.
- Don't wash paint brushes or pour other chemicals in the sink.
- Don't allow the treated water to come in contact with people or animals.
- Don't use the treated water on your vegetable garden.
- Don't pour Napisan or other soakers down the drain, soak clothes in a bucket and empty the bucket out on the grass instead.
- After mopping the floor, don't pour the bucket of water (with Pine O Clean or other disinfectant/cleaner), down the drain. Empty the bucket out on the grass instead.
- Don't use 'Toilet Blue' or toilet deodorizers that hang in the bowl. These add a continual low dose of disinfectant to the system.

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EVAPO-TRANSPIRATION ABSORPTION

SITE DATA		
Soil Category:	5	
Soil Texture:	Light Clay	
Soil Structure:	Moderate	
Measured Permeability:	0.09	m/day

DESIGN DATA (AS1547:2000)			
Retension Rate:	0.5		
Evapotranspiration Factor:	0.75		
Design Loading Rate:	5	mm/day	(T4.2A2)
Indicative Permeability:	0.06-0.12	m/day	(T4.2A2)

DESIGN FLOWS (AS1547:2000)			
No. Bedrooms:	3		
Flow Rate per Person:	150	ltr/day	(A4.2D)
No. of persons:	5		(T4.3A1)
Black Water Factor:	1.00		
Daly Flow Rate (Total):	750.0	ltr/day	

http://www.bom.gov.au/climate/averages/tables/cw_039123_All.shtml

AREA CALCULATION

	Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Sum	Ave
Days	31	28	31	30	31	30	31	31	30	31	30	31		
Mean rainfall (mm)	129.8	144	104.7	43	45.3	37.8	31.8	27.1	24.5	49.5	66.3	104.3	808.1	67.3
Retained Rainfall (mm)	64.9	72.0	52.4	21.5	22.7	18.9	15.9	13.6	12.3	24.8	33.2	52.2	404.1	33.7
Pan Evaporation	198.4	165.2	167.4	135.0	105.4	90.0	96.1	108.5	129.0	167.4	180.0	195.3	1737.7	144.8
Mean daily evaporation (mm)	7.4	6.7	6.2	5.3	4.1	3.5	3.6	4.4	5.8	6.8	7.6	7.7	69.1	5.8
Evapotranspiration (mm)	229.4	187.6	192.2	159.0	127.1	105.0	111.6	136.4	174.0	210.8	228.0	238.7	2099.8	175.0
DLR per month (mm)	155.0	140.0	155.0	150.0	155.0	150.0	155.0	155.0	150.0	155.0	150.0	155.0	1825.0	152.1
Disposal Rate per month (ltr)	319.5	255.6	294.9	287.5	259.5	236.1	250.7	277.9	311.8	341.1	344.9	341.6	3520.8	293.4
Effluent per month (ltr)	23250.0	21000.0	23250.0	22500.0	23250.0	22500.0	23250.0	23250.0	22500.0	23250.0	22500.0	23250.0	273750.0	22812.5
Area (sq.m)	72.8	82.2	78.9	78.3	89.6	95.3	92.7	83.7	72.2	68.2	65.2	68.1		78.9

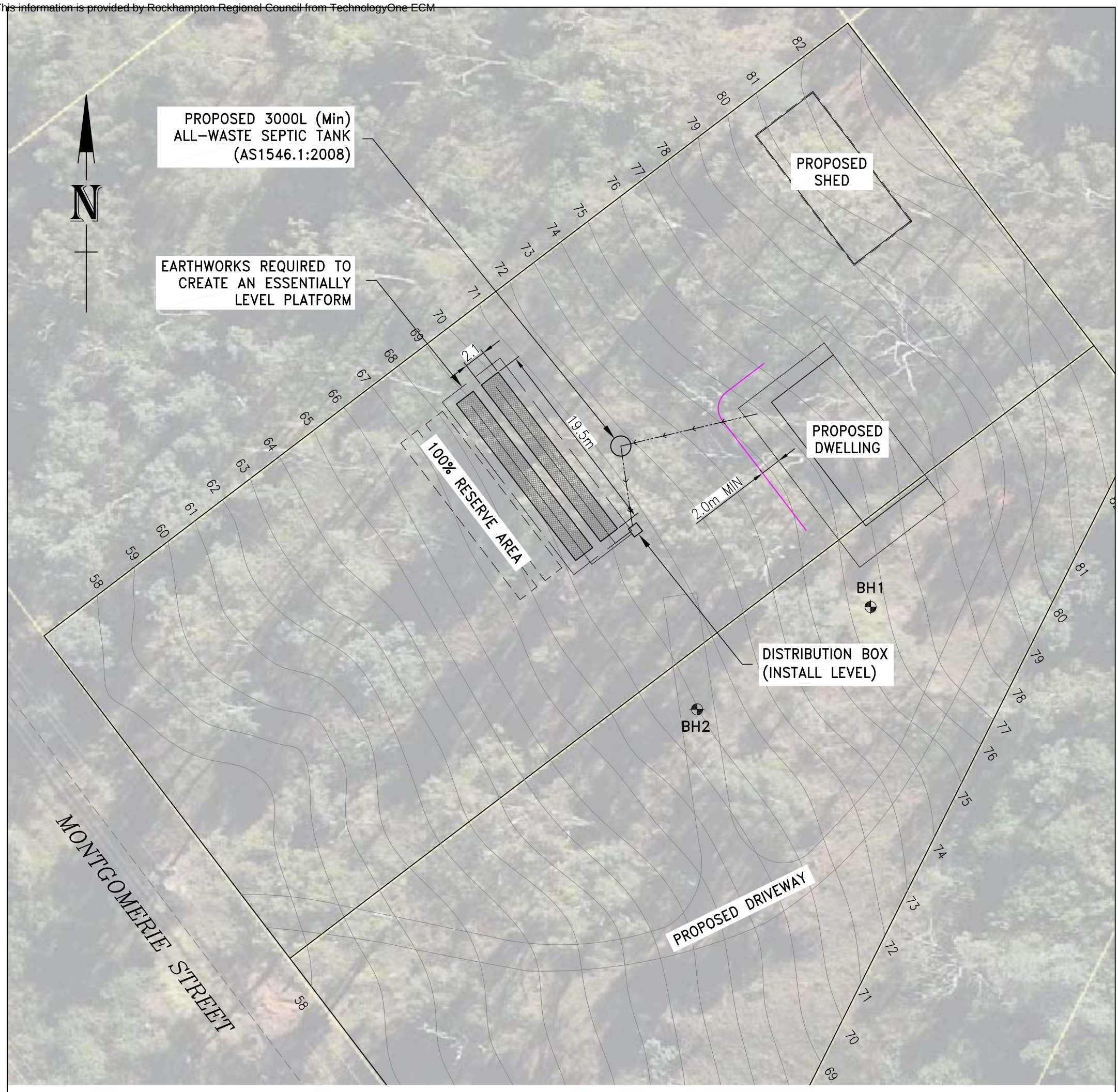
STORAGE CHECK

		Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Area (sq.m)	82												
Application Rate (mm)		283.5	256.1	283.5	274.4	283.5	274.4	283.5	283.5	274.4	283.5	274.4	283.5
Disposal Rate (mm)		319.5	255.6	294.9	287.5	259.5	236.1	250.7	277.9	311.8	341.1	344.9	341.6
Excess Effluent (mm)		-36.0	0.5	-11.3	-13.1	24.1	38.3	32.8	5.7	-37.4	-57.5	-70.5	-58.0
Stored Effluent Increase (mm)		-119.9	1.7	-37.7	-43.7	80.3	127.6	109.5	19.0	-124.5	-191.7	-234.9	-193.4
Effluent Depth for month (mm)		0.0	0.0	1.7	0.0	0.0	80.3	207.9	317.4	336.3	211.8	20.1	0.0
Effluent Depth Total (mm)	0	0.0	1.7	0.0	0.0	80.3	207.9	317.4	336.3	211.8	20.1	0.0	0.0

Depth of Gravel	200	mm
Depth of Sand	200	mm
Depth of Storage Area	400	mm
Freeboard	50	mm
Permitted Depth of Effluent	350	mm

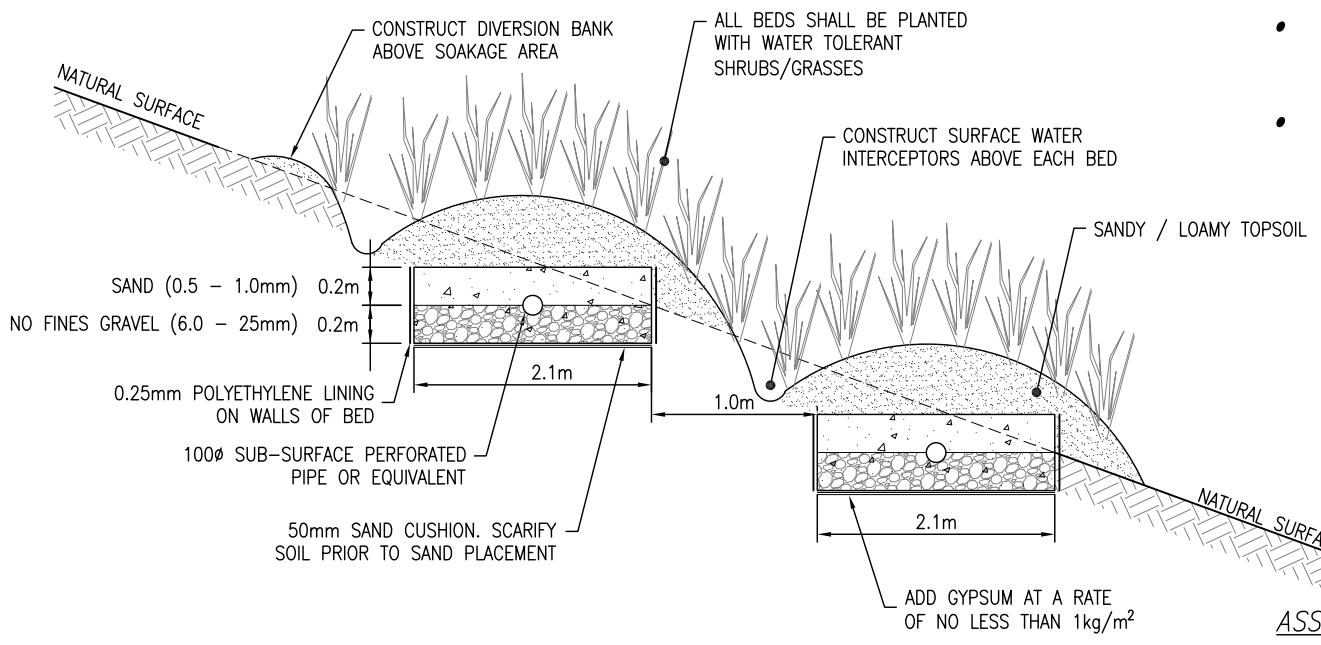
Area of ETA Bed	82	
Bed Dimensions		
No. of Beds	2	
Bed Length	19.5	m
Bed Width	2.1	m

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SEWERAGE NOTES:

- *ENSURE THE BED IS INSTALLED LEVEL TO ALLOW EVEN DISTRIBUTION OF EFFLUENT*
- *FINISHED SURFACE IS TO SHED WATER*
- *DIVERSION DRAINS/BANKS TO DIVERT WATER AROUND THE DISPOSAL AREA*
- *CLAY BASED SOILS ARE NOT TO BE USED AS TOPSOIL*
- *0.3m WIDE STRIP OF FILTER CLOTH ALONG FULL LENGTH OF PERFORATED PIPE*
- *AN INSPECTION PORT SHALL BE INSTALLED IN ACCORDANCE WITH AS1547_4.5*
- *ALL WORK TO BE IN ACCORDANCE WITH THE CONSTRUCTION TECHNIQUES STATED IN AS1547*
- *DISPOSAL AREA TO BE FENCED OFF FROM LIVESTOCK*



TYPICAL SECTION OF 41.0m² ETA BED (TOTAL AREA 82m²)

- *Plumber to confirm suitability of all infrastructure with landholder prior to installation.*
- *Any sugestions to change the design contact CQ Soil Testing.*

ASSUMED LEVELS:

A) PROPOSED SEPTIC TANK INVERT ≈ 71.50
B) PROPOSED INVERT OF DISTRIBUTION BOX ≈ 70.50

CQ SOIL TESTING
Servicing all of Central Queensland

QBCC - 15 305 465 ABN - 87 656 845 448

Phone: (07) 4936 1163
Email: info@cqsoiltesting.com.au
Website: www.cqsoiltesting.com.au

Project:
LOT 1-3 MONTGOMERIE STREET
LAKES CREEK, QLD

For:
A SOS

Title: EFFLUENT DISPOSAL DESIGN

Scale: 1:400 (A3)	*Date:* MAY '26
Sheet: 1 of 1	*Drawn:* C.T.
Job No: CQ30906	*Rev:* A

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1.1.1 Rural Zone Code

621–623 Montgomerie Street, Lakes Creek (Lot 1 RP603374)

Performance Outcome	Acceptable Outcome	Comment
PO1 – Rural character maintained	AO1.1 Height ≤ 10 m / 2 storeys	**Complies.** The dwelling and shed are single-storey and well below the height limit. The dwelling's stumped construction reduces earthworks and maintains the natural landform, preserving rural character.
PO2 – Aquaculture	AO2.1	**Not Applicable.** No aquaculture proposed.
PO3 – Dwelling separation from rural industries	AO3.1	**Does Not Meet AO3.1 but Complies with PO3.** The required 20-metre setback cannot be achieved due to the physical constraints of the site. It is not physically possible way to achieve a 20 m setback on both sides of the dwelling due to the side of the block. In addition, a 20 m setback from the rear boundary would place the dwelling on steep terrain and within dense mature vegetation, requiring substantial tree removal and major excavation works**.** These impacts would be significantly greater than the proposed siting. To minimise disturbance, the dwelling is located on the only practical upper-site area already largely free of trees, and will be constructed on stumps to avoid cut and fill. This ensures the development has the least amount of impact possible on landform, vegetation, and drainage. There are no intensive animal industries, extractive industries, or haul routes nearby, and the reduced setback does not compromise any existing or potential rural uses. The proposal therefore satisfies the *intent* of PO3.
PO4 – Dwellings have adequate access to services to ensure the safety and	AO4.1 A	**Complies.** The site has legal access to a constructed road. Vehicular access to the dwelling and shed will

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Performance Outcome	Acceptable Outcome	Comment
well-being of residents and the water supply is adequate for the current and future needs of the development.		be provided in accordance with the engineer's certified access design for the road reserve, ensuring safe, compliant and practical entry to the site. The engineered access layout addresses gradients, sight distances, drainage, and construction standards appropriate for the steep terrain. The dwelling will be serviced by an adequate on-site water supply and an on-site wastewater system designed in accordance with the Plumbing Code of Australia.
PO5–PO6 Caretaker's accommodation	AO5.1–AO6.1	**Not Applicable.** No caretaker's accommodation proposed.
PO7 – Home-based business	AO7.1–AO7.11	**Not Applicable.** No home-based business proposed.
PO8 – Heavy vehicle home-based business	AO8.1–AO8.6	**Not Applicable.** No heavy vehicle use proposed.
PO9 – Roadside stall	AO9.1–AO9.3	**Not Applicable.** No roadside stall proposed.
PO10–PO11 Rural workers' accommodation	AO10.1–AO11.1	**Not Applicable.** No rural workers' accommodation proposed.
PO12 – Outdoor lighting	AO12.1	**Complies.** Minimal domestic lighting only; no impact on adjoining land.
PO13 – Alton Downs precinct	AO13.1	**Not Applicable.** Site is not within this precinct.
PO14 – Non-rural uses on least productive land	No AO	**Complies.** The dwelling and shed are located on the least constrained and least productive part of the site. The use of stumps avoids cut and fill, ensuring the natural landform is retained and rural land productivity is not affected.
PO15 – Uses requiring isolation	No AO	**Not Applicable.** No such uses proposed.
PO16 – Protection of ecological values, soil & water	No AO	**Complies.** The site is steep, but the dwelling and shed are positioned on an upper-site area already largely free of trees. The dwelling will be constructed on stumps, significantly reducing the need for excavation and ensuring the development has the least amount of impact possible. Natural drainage lines,

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Performance Outcome	Acceptable Outcome	Comment
		steep slopes, and vegetated areas are avoided.
PO17 – Kennels/catteries	AO17.1–AO17.6	**Not Applicable.** No animal keeping proposed.
PO18 – Aquaculture (large-scale)	AO18.1	**Not Applicable.** No aquaculture proposed.
PO19 – Bulk landscaping supplies / rural industry	AO19.1–AO19.4	**Not Applicable.** No such uses proposed.
PO20–PO23 Intensive animal industry	No AO	**Not Applicable.** No intensive animal industry proposed.
PO24–PO25 Intensive horticulture	No AO	**Not Applicable.** No intensive horticulture proposed.
PO26 – Outdoor sport & recreation / community use	No AO	**Not Applicable.** No such uses proposed.
PO27 – Wind farms	No AO	**Not Applicable.** No renewable energy facility proposed.
PO28 – Tourism / farm stay / rural workers' accommodation	No AO	**Not Applicable.** No such uses proposed.
PO29 – Transport & freight uses	No AO	**Not Applicable.** No transport or freight use proposed.
PO30 – Separation from sensitive uses	No AO	**Complies.** The dwelling and shed are appropriately separated from rural industries and do not create land-use conflict.
PO31 – Amenity & character	No AO	**Complies.** Both structures are modest in scale. The dwelling's stumped design reduces earthworks, ensuring minimal disturbance to the steep landform and maintaining rural amenity.
PO32 – Response to topography, drainage, vegetation	No AO	**Complies.** The block is steep, but the dwelling and shed are deliberately located on a stable and least vegetated part of the site. The dwelling will be constructed on stumps, avoiding cut and fill and ensuring the development has the least possible impact on topography, drainage, and vegetation.
PO33 – Community safety & health	No AO	**Complies.** The development avoids, as much as possible, hazards associated with

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Performance Outcome	Acceptable Outcome	Comment
		steep slopes and environmental constraints.
PO34 – Reconfiguring a lot	AO34.1	**Not Applicable.** No subdivision proposed.
PO35–PO36 Alton Downs precinct	AO36.1–AO36.2	**Not Applicable.** Not within this precinct.
PO37–PO38 Cropping & horticulture precinct	AO38.1	**Not Applicable.** Not within this precinct.

Updated Overall Compliance Statement

The proposed dwelling and shed comply with all relevant provisions of the Rural Zone Code. Although the site contains steep terrain, the development has been carefully designed to minimise environmental and physical impacts by:

- locating both structures on the least constrained, least vegetated upper-site area
- constructing the dwelling on stumps, avoiding cut and fill
- retaining the natural landform and drainage patterns
- avoiding steep slopes and remnant vegetation
- maintaining rural character and amenity

This approach ensures the development has the least amount of impact possible, is environmentally sensitive, and is entirely appropriate for the Rural Zone.

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1.1.2 Special Management Area Overlay Code

621–623 Montgomerie Street, Lakes Creek (Lot 1 RP603374)

Performance Outcome	Acceptable Outcome	Assessment Comment
PO1 – Development does not involve the further intensification of sensitive land uses.	**AO1.1** Where involving replacement/alteration/extension: no secondary dwellings. **AO1.2** No new dwelling houses to be established.	**Complies with PO1.** The proposal involves the establishment of **one dwelling house and one ancillary shed** on a rural lot. This does not intensify sensitive land uses beyond what is already permissible. No secondary dwelling is proposed, and the shed is an ancillary rural structure. The development does not compromise existing or future industrial or landfill operations.
PO2 – Development does not result in a sensitive land use being exposed to air, noise or odour emissions that impact human health, amenity or well-being.	**AO2.1** Indoor noise objectives, air quality objectives and odour assessment requirements are met.	**Complies with PO2.** The site is located within proximity to Boral's operations and the Teys Australia meat processing facility; however, the separation distance, topography, and intervening rural land ensure that the proposed dwelling and shed are not exposed to air, noise, or odour emissions at levels that would impact human health or amenity. The site is elevated and positioned outside any mapped impact areas, and there are no identified exceedances affecting the lot. Given the distance from both facilities and the absence of mapped constraints, no specialised air, noise, or odour assessment is required.
PO3 – Development incorporates design measures to minimise adverse effects.	No acceptable outcome nominated.	**Complies with PO3.** There are no nearby industrial noise or emission sources requiring buffering, screening, or specialised design responses. The

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Performance Outcome	Acceptable Outcome	Assessment Comment
		dwelling and shed are appropriately sited on the lot and do not require additional mitigation measures. The proposal does not compromise existing or future industrial operations.
PO4 – No further lots are created which could increase the number of persons living within proximity to industrial or landfill uses.	**AO4.1** No additional lots are created.	**Complies with PO4.** No reconfiguration of a lot is proposed. The dwelling and shed do not increase population density beyond what is already permissible under the existing zoning.

Overall Compliance Statement

The proposed **dwelling house and shed** at **621–623 Montgomerie Street, Lakes Creek** fully comply with the **Special Management Area Overlay Code**. The development:

- does **not** intensify sensitive land uses
- is **appropriately separated** from Boral and Teys Meatworks
- is **not** exposed to emissions at levels affecting health or amenity
- does **not** require specialised mitigation measures
- does **not** involve subdivision or population increase
- does **not** compromise existing or future industrial or landfill operations

The proposal is therefore **consistent with the purpose and overall outcomes** of the Special Management Area Overlay Code and is suitable for approval.

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6.1 Waste Management Statement -Bushfire-Prone Land

Development Description

The proposed development comprises a single detached dwelling and an associated shed located on a two-acre property identified as bushfire-prone land. Waste management practices will be designed to minimise fire risk while accommodating typical low-density residential use.

Waste Generation

Waste generated from the development will be limited to normal domestic waste streams, including:

- **General household waste**
- **Recyclable waste** (paper, cardboard, glass, plastics, and metals)
- **Limited green waste**, managed on-site where appropriate or disposed of lawfully

No industrial, hazardous, or flammable commercial waste will be generated.

Waste Storage and Bin Types

Waste will be stored in standard residential wheelie bins provided by the local waste authority:

- **1 x General waste bin** (typically 240L)
- **1 x Recyclable waste bin** (typically 240L)

All bins will be fitted with secure, close-fitting lids to prevent ember entry, vermin access, and wind-blown litter.

Bin Storage Area

Bins will be stored within a designated bin storage area located in close proximity to the dwelling and/or shed. The storage area will:

- Be located within a **managed asset protection zone**
- Be positioned on a non-combustible hardstand surface (such as concrete or paving)
- Be maintained clear of accumulated combustible materials
- Be readily accessible to residents while minimising fire risk
- Not obstruct accessways or emergency access routes

Where required, bins may be stored within a non-combustible enclosure or screened area to further reduce bushfire risk.

Waste Collection

Waste collection will occur via **kerbside collection** in accordance with council requirements. On collection days, bins will be relocated to the designated kerbside collection point in a

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manner that does not impede emergency access or create fire hazards. Bins will be returned to the on-site storage area promptly following collection.

Ongoing Bushfire Risk Management

Waste management practices will be maintained to reduce bushfire risk, including:

- Regular removal of waste to prevent fuel accumulation
- Appropriate separation and containment of waste materials
- Ongoing maintenance of the bin storage area to ensure compliance with bushfire protection measures

Here is a **complete, polished Waste Management Statement** written for situations **where no council waste collection service is available**.
It mirrors the structure and tone of your existing section so it can be inserted directly into your planning report.

Waste Management Statement Bushfire-Prone Land – No Council Collection Service

Development Description

The proposed development comprises a single detached dwelling and an associated shed located on a two-acre rural property identified as bushfire-prone land. As the site is not serviced by council-provided kerbside waste collection, all waste management practices will be undertaken on-site or via lawful private disposal arrangements. Waste handling has been designed to minimise bushfire risk while supporting the needs of a low-density rural residential use.

Waste Generation

Waste generated from the development will be limited to typical domestic waste streams, including:

- General household waste
- Recyclable materials (paper, cardboard, glass, plastics, metals)
- Limited green waste generated from routine property maintenance

No industrial, hazardous, or commercial waste will be produced.

Waste Storage and Bin Types

Waste will be stored in secure, lidded containers suitable for rural properties without council collection. These include:

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- **General waste storage bins** (240 L or equivalent)
- **Recycling storage bins** (240 L or equivalent)
- **Green waste containment area** or composting system (where appropriate)

All containers will have **tight-fitting lids** to prevent ember entry, vermin access, and wind-blown litter.

Bin Storage Area

A designated waste storage area will be established on site. This area will:

- Be located within the managed asset protection zone
- Be positioned on a non-combustible hardstand surface (concrete, gravel, or paving)
- Be kept free of accumulated combustible materials
- Remain easily accessible to residents
- Not obstruct emergency access routes
- Provide the option for a non-combustible enclosure to further reduce bushfire risk

Waste Disposal Method (No Council Collection)

If council kerbside collection is not available, waste will be managed through the following acceptable solutions:

General Waste

- Transported by the resident to the nearest **licensed waste transfer station** at regular intervals
- Stored securely on site between disposal trips to prevent fuel build-up
- Removed frequently enough to avoid accumulation of combustible materials

Recyclable Waste

- Sorted and stored separately in secure containers
- Transported to a **licensed recycling facility** or transfer station
- Reused on site where appropriate (e.g., clean cardboard for mulching, provided it does not increase fire risk)

Green Waste

- Managed on site through:
    - Controlled composting within a non-combustible enclosure, or
    - Mulching and reuse within the asset protection zone in accordance with bushfire safety guidelines
- Excess green waste transported to a lawful disposal facility
- No long term stockpiling of dry vegetation or combustible materials

Bulk or Occasional Waste

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- Larger items (e.g., furniture, appliances) will be transported to a licensed facility as required
- No burning of waste will occur on site

Ongoing Bushfire Risk Management

To minimise bushfire risk associated with waste storage and handling, the following measures will be implemented:

- Regular removal of waste to prevent fuel accumulation
- Maintenance of the waste storage area in a clean, low-fuel condition
- Ensuring all bins remain closed and secured
- Avoiding storage of waste materials against buildings or combustible structures
- Ensuring green waste is managed in accordance with bushfire protection principles

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1.1.3 Bushfire Hazard Overlay Code

Site: 621–623 Montgomerie Street, Lakes Creek QLD 4701
Proposal: Class 1a Dwelling & Class 10a Shed
Supporting Document: Max Bushfire Protection Consulting – Bushfire Hazard Assessment (2026)

Performance Outcome	Acceptable Outcome	Assessment Comment
PO1 – Bushfire Risk Mitigation	Development avoids increasing bushfire risk.	The bushfire report confirms the development incorporates siting, APZ, and BAL-29 construction to mitigate risk. “The proposed development has been designed and managed to ensure that the exposure of people and property to unacceptable bushfire hazard risks has not increased.”
PO2 – Asset Protection Zone	AO2.1 A compliant APZ is established and maintained.	APZ includes 10 m IPA and OPA distances of 30 m SW, 24 m NW, 17 m SE, 21 m NE. APZ is fully contained within the site and maintained in low-fuel condition.
PO3 – Building Siting & Design	AO3.1 Buildings constructed to AS3959 appropriate BAL.	Dwelling will be constructed to BAL-29. Sited in cleared area to minimise vegetation removal.
PO4 – Emergency Access	AO4.1 Safe, all-weather access for emergency vehicles.	Driveway is all-weather, width compliant, turning area provided. Suitable for emergency vehicle access.
PO5 – Firefighting Water Supply	AO5.1 Dedicated firefighting water supply provided.	A 10,000 L static firefighting tank (or reticulated hydrant if available) will be installed within 10 m of the dwelling with compliant fittings.
PO6 – Landscaping & Fuel Management	AO6.1 Landscaping reduces fuel loads.	IPA: grass <100 mm, shrubs <10% cover, canopy <15%. OPA: canopy <30%. Weed and fuel load management implemented.
PO7 – Entrapment Avoidance	AO7.1 Development avoids creating entrapment areas.	Clear access/egress, defendable space, no dead-end entrapment risks.
PO8 – Avoid Intensifying Hazard	AO8.1 Development avoids steep slopes and hazardous vegetation.	Dwelling placed away from hazardous vegetation; APZ reduces hazard intensity.
PO9 – Infrastructure Resilience	AO9.1 Infrastructure designed to function during bushfire.	Driveway, water supply, and BAL-29 construction ensure resilience during bushfire conditions.
PO10 – Ongoing Management	AO10.1 Ongoing vegetation and APZ maintenance.	Ongoing APZ maintenance, vegetation management, and fuel reduction measures implemented per the Bushfire Management Plan.

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Summary Statement

The proposed development at 621–623 Montgomerie Street, Lakes Creek achieves full compliance with the Rockhampton Regional Council Bushfire Hazard Overlay Code.
The bushfire assessment confirms:

- A fully compliant Asset Protection Zone
- BAL-29 construction for the dwelling
- Safe and compliant emergency access
- Adequate firefighting water supply
- Effective landscape and fuel management
- No increased risk to people, property, or adjoining land

The development therefore meets the Performance Outcomes and is suitable for approval under the Planning Scheme.

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Vegetation management report

For Lot: 1 Plan: RP603374
23/03/2026

nrmmrrd.qld.gov.au

Queensland Government

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Recent changes

Updated mapping

Updated vegetation mapping was released on 22 November 2023 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, essential habitat, wetland and high-value regrowth mapping.

The Department of the Environment, Tourism, Science and Innovation have also updated their koala protection mapping to align with the Queensland Herbarium scientific updates.

The latest version (v10) of the Protected Plants Flora Survey Trigger Map (trigger map) was released on 6 September 2023.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:
Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of the Environment, Tourism, Science and Innovation who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of the Environment, Tourism, Science and Innovation who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:
- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

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Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 8 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

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1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 1 Plan: RP603374 are listed in Table 1.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Property title area (sq metres)
1	RP603374	Freehold	4,047

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

Does the property Lot: 1 Plan: RP603374 have a freehold tenure and is in the Wet Tropics of Queensland World Heritage Area?

No, this property is not located in the Wet Tropics of Queensland World Heritage Area.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 1 Plan: RP603374, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Rockhampton Regional	Fitzroy	Brigalow Belt	Marlborough Plains

2. Vegetation management framework (administered by the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development)

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2023, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem identified in the Vegetation Management Regional Ecosystem Description Database (VM REDD) as having a grassland structure; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/exemptions/.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/codes/

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at
https://vegetation-apps.dnrm.qld.gov.au

This information is provided by Rockhampton Regional Council from TechnologyOne ECM

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development and then follow the conditions and requirements listed in the AMP.

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/area-management-plans

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at

https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/development

2.5. Contact information for the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development

For further information on the vegetation management framework:

Phone 135VEG (135 834)

Email vegetation@nrmmrrd.qld.gov.au

Visit https://www.nrmmrrd.qld.gov.au/?contact=vegetation to submit an online enquiry.

3. Vegetation management framework for Lot: 1 Plan: RP603374

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property

Vegetation category	Area (ha)
Category B	0.40

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact the Department to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

There is no Property Map of Assessable Vegetation (PMAV) present on this property.

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at
https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
11.12.3	Least concern	B	0.08	Eucalyptus crebra, E. tereticornis, Angophora leiocarpa woodland on igneous rocks especially granite	Sparse
11.12.4	Least concern	B	0.10	Semi-evergreen vine thicket and microphyll vine forest on igneous rocks	Dense
11.12.6a	Least concern	B	0.22	Corymbia citriodora open forest on igneous rocks (granite)	Mid-dense

Please note:
1. All area and area derived figures included in this table have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses

Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands

There are no vegetation management wetlands present on this property.

3.5 Essential habitat

Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that

are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C
No records

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

No Class A

No Class B

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 1 Plan: RP603374.

This information is provided by Rockhampton Regional Council from TechnologyOne ECM

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:
https://www.qld.gov.au/environment/land/management/vegetation/maps/map-request

Regulated vegetation management map
The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

Vegetation management supporting map
The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

Coastal/non-coastal map
The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture
The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

4.1 Regulated vegetation management map

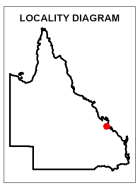


Regulated Vegetation Management Map

Queensland Government

- Category A area (Vegetation offsets/compliance notices/VDecs)
- Category B area (Remnant vegetation)
- Category C area (High-value regrowth vegetation)
- Category R area (Reef regrowth watercourse vegetation)
- Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
- Water
- Other land parcel boundaries
- Selected Lot and Plan

LOCALITY DIAGRAM



N

0 140 280 420 560 700 m

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Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.nrmmrrd.qld.gov.au or contact the Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development.

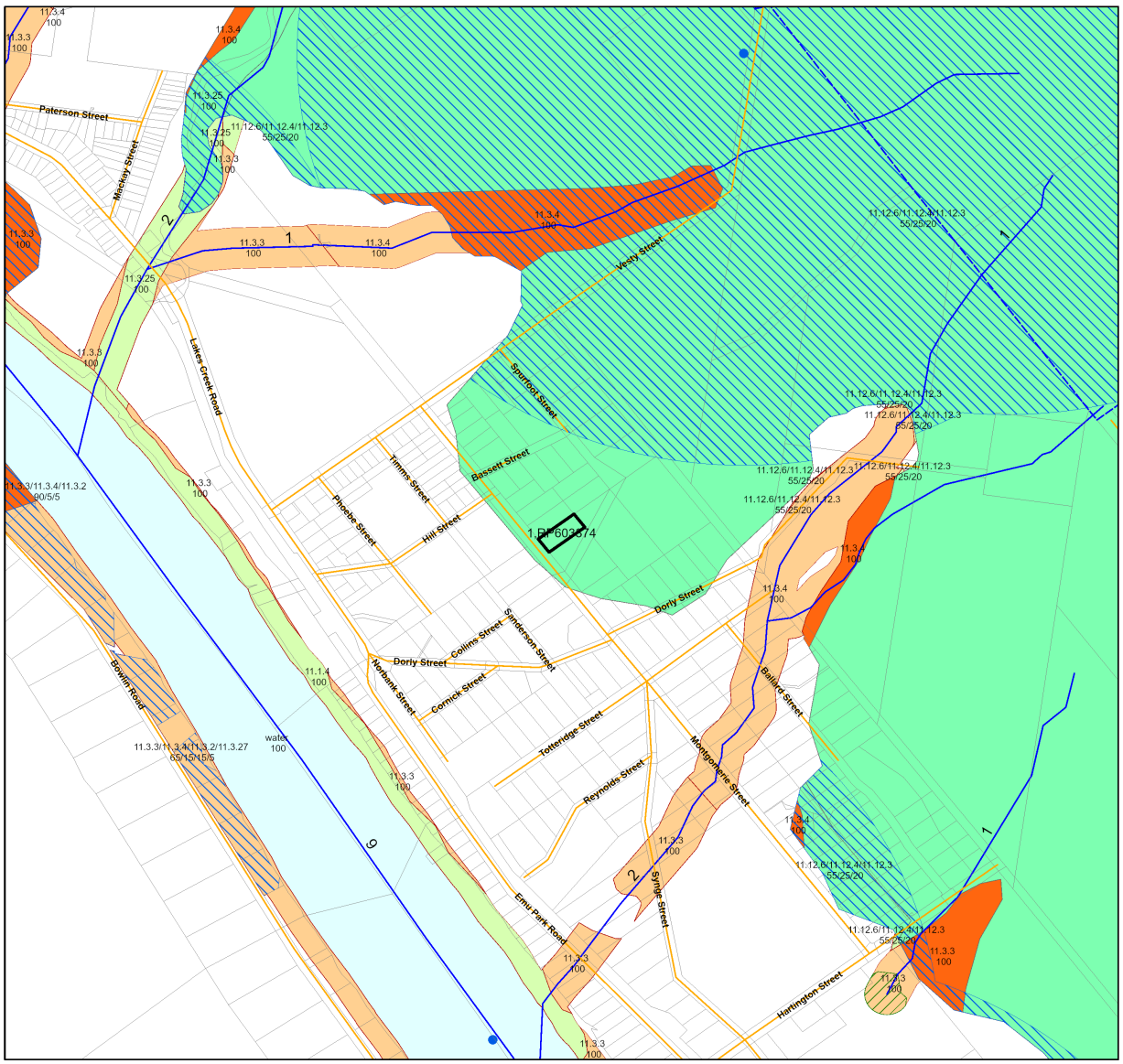
Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.spatial.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

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4.2 Vegetation management supporting map

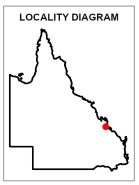


Vegetation Management Supporting Map

- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category C or R area containing endangered regional ecosystems
- Category C or R area containing of concern regional ecosystems
- Category C or R area that is a least concern regional ecosystem
- Category X area
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourses and drainage features on the vegetation management watercourse and drainage features map (Stream order shown as black number against stream where available)
- Highway
- Connector
- Street/Local Road
- National Parks, State Forest and other reserves
- Other land parcel boundaries
- Selected Lot and Plan

Queensland Government

LOCALITY DIAGRAM



N

0 100 200 300 400 500 m

This product is displayed in: GDA2020

Labels for Essential Habitat are centred on the area of enquiry.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.

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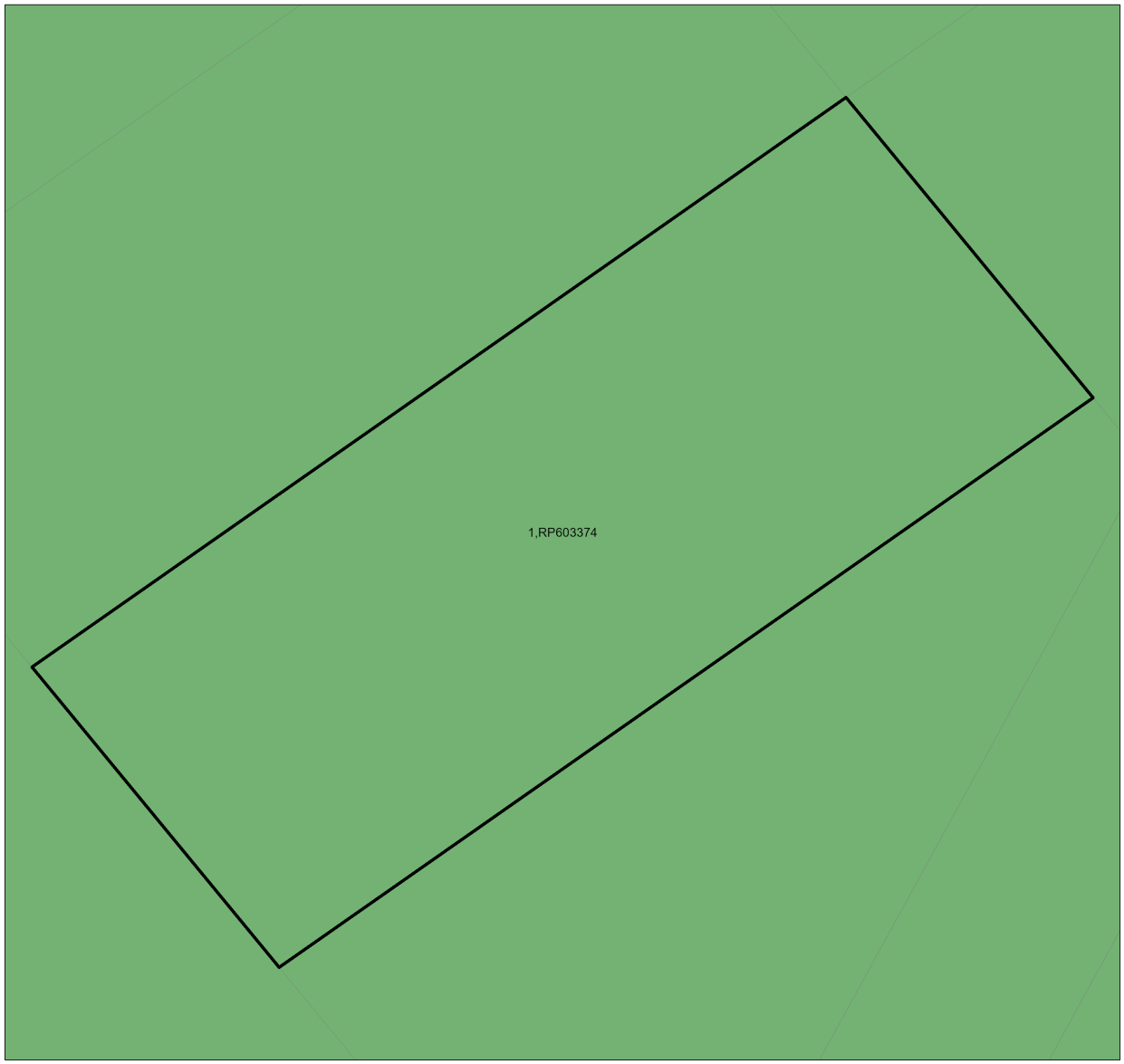
Additional information may be required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.nrmmrrd.qld.gov.au or contact the Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development.

Digital data for the vegetation management watercourse and drainage feature map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at http://www.spatial.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

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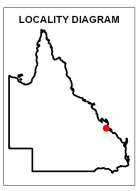
4.3 Coastal/non-coastal map



Coastal/Non Coastal Map

Coastal
Non Coastal
Other land parcel boundaries
Selected Lot and Plan

LOCALITY DIAGRAM



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Land parcel boundaries shown are provided as a locational aid only.

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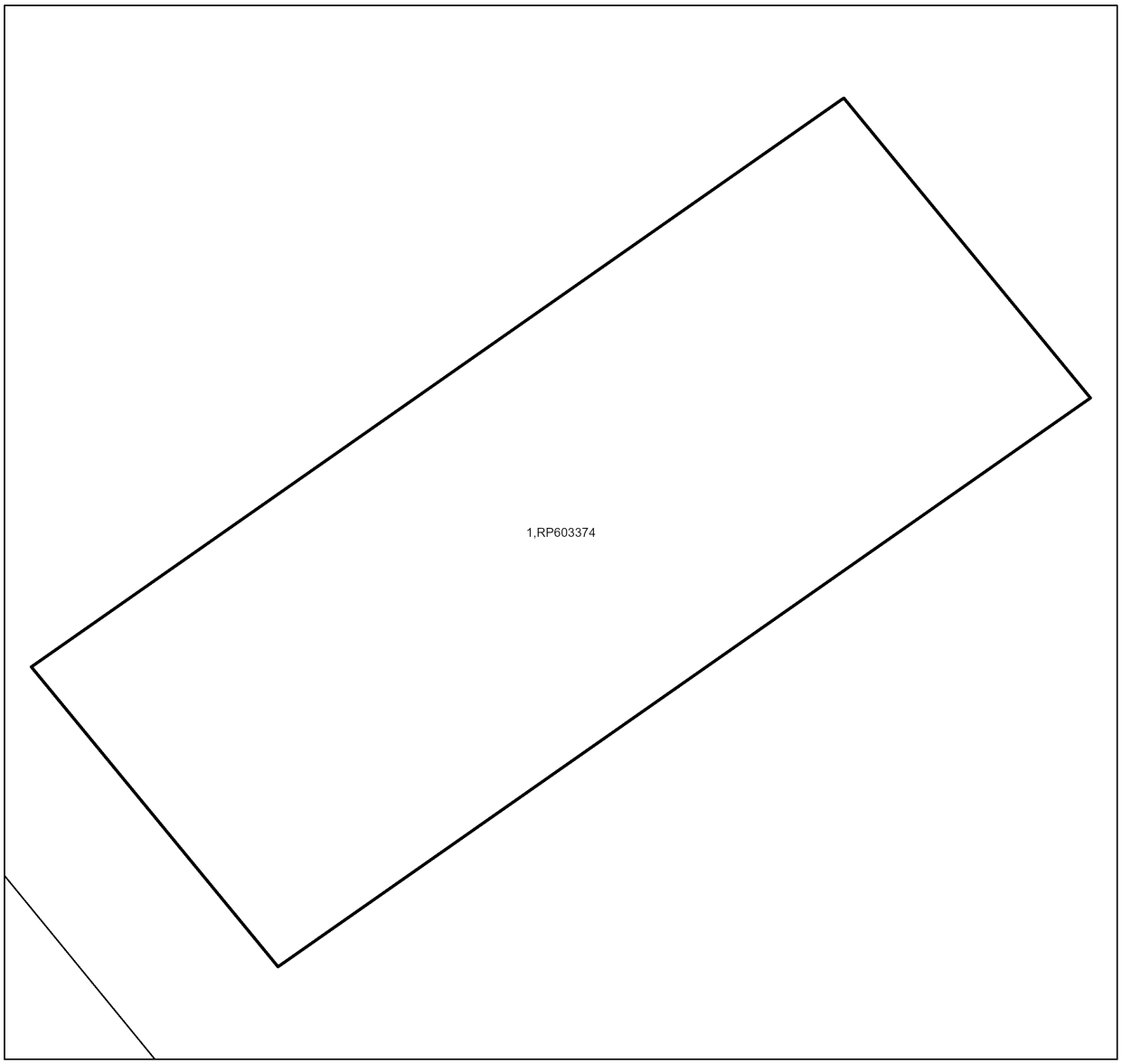
0 6.45 12.9 19.35 25.8 32.25 m

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4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture



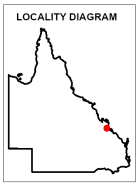
Agricultural Land Class A or B
as per State Planning Policy: State Interest for Agriculture

- Towns
- Rivers and creeks
- Freeways / motorways; Highways
- Secondary roads; Streets

Agricultural land class A or B

- A
- B
- Not class A or B
- Selected Lot and Plan

LOCALITY DIAGRAM



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0 6.45 12.9 19.35 25.8 32.25 m

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5. Protected plants framework (administered by the Department of the Environment, Tourism, Science and Innovation (DETSI))

In Queensland, all plants that are native to Australia are protected plants under the *Nature Conservation Act 1992* (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see Operational policy: When a protected plant in Queensland is considered to be 'in the wild') that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The flora survey trigger map identifies high-risk areas for threatened and near threatened plants. These are areas where threatened or near threatened plants are known to exist or are likely to exist based on the habitat present. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the Flora survey guidelines. The main objective of a flora survey is to locate any threatened or near threatened plants that may be present in the clearing impact area.

If the flora survey identifies that threatened or near threatened plants are not present within the clearing impact area or clearing within 100m of Endangered, Vulnerable, Near-Threatened (EVNT) plants can be avoided, the clearing activity is exempt from a permit. An exempt clearing notification form must be submitted to the Department of the Environment, Tourism, Science and Innovation, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that threatened or near threatened plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the clearing permit application form.

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that threatened or near threatened plantsare present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DETSI

For further information on the protected plants framework:
Phone 1300 130 372 (and select option four)
Email palm@detsi.qld.gov.au
Visit https://www.qld.gov.au/environment/plants-animals/plants/protected-plants

This information is provided by Rockhampton Regional Council from TechnologyOne ECM

5.5 Protected plants flora survey trigger map

This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

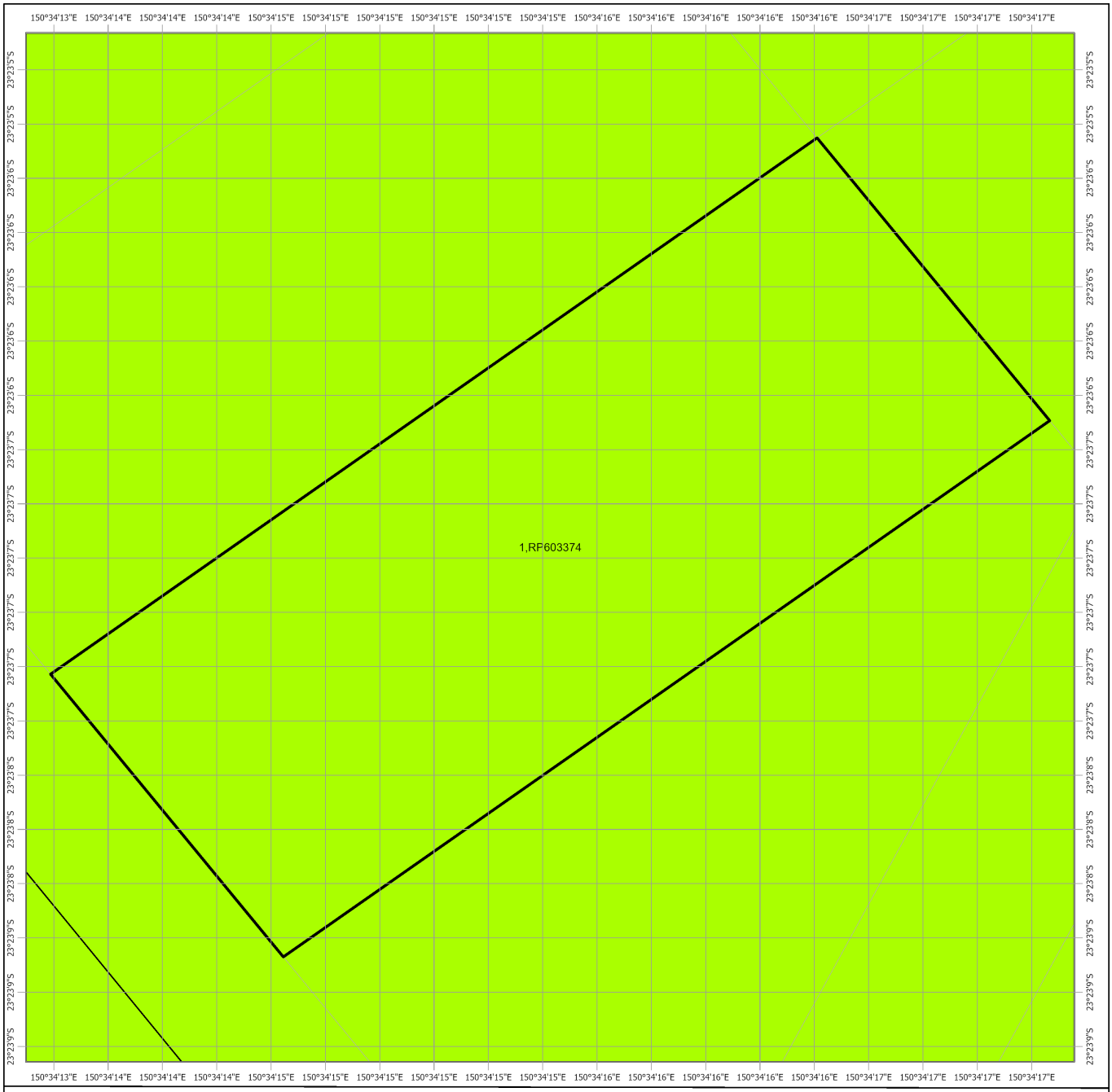
Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the Queensland Spatial Catalogue, the Department of the Environment, Tourism, Science and Innovation does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of the Environment, Tourism, Science and Innovation webpage on the clearing of protected plants for more information.

This information is provided by Rockhampton Regional Council from TechnologyOne ECM



Protected Plants Flora Survey Trigger Map

High risk area
Other land parcel boundaries
Freeways / motorways / highways
Secondary roads / streets
Selected Lot and Plan

LOCALITY DIAGRAM



N

0 4.45 8.9 13.35 17.8 22.25 m

This product is displayed in:
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This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of the Environment, Tourism, Science and Innovation at palm@detsi.qld.gov.au

Disclaimer: While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

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6. Koala protection framework (administered by the Department of the Environment, Tourism, Science and Innovation (DETSI))

The koala (*Phascolarctos cinereus*) is listed in Queensland as endangered by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document Spatial modelling in South East Queensland.

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document Guideline - Requests to make, amend or revoke a koala habitat area determination.

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas
There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

1. Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
2. Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the Planning Regulation 2017. More information on exempted development can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:

  - the local government planning scheme makes the development assessable;
  - the premises includes an area that is both a koala priority area and a koala habitat area; and
  - the development does not involve interfering with koala habitat (defined above); and

- development in identified koala broad-hectare areas.

The Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

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6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017 prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DETSI

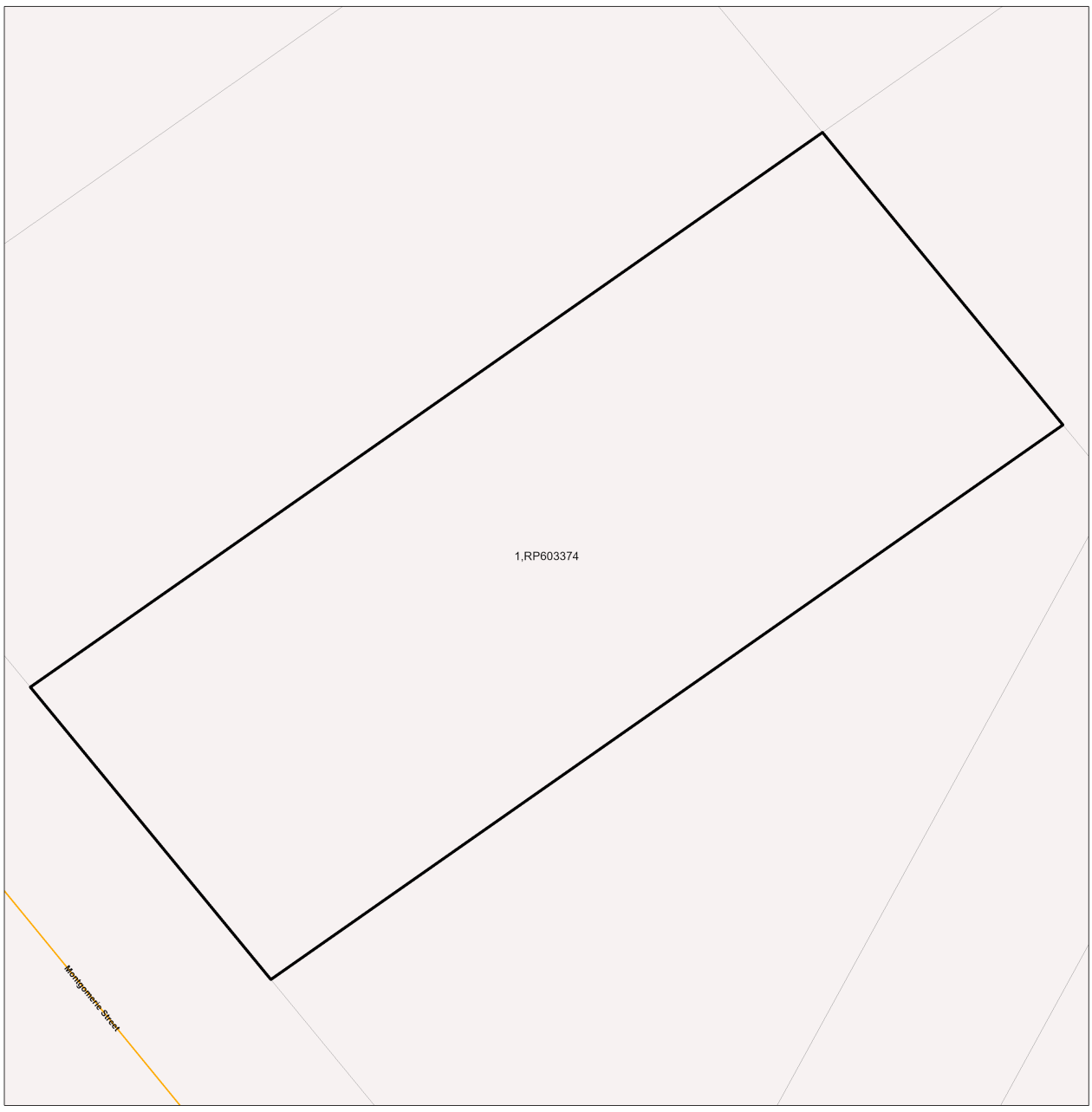
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@detsi.qld.gov.au
Visit https://environment.desi.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 1 Plan: RP603374

7.1 Koala districts

Koala District C

7.2 Koala priority area, koala habitat area and identified koala broad-hectare map



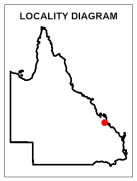
Koala priority area, koala habitat area and identified koala broad-hectare area map

- Koala habitat area (core)
- Koala habitat area (locally refined)
- Koala priority area
- Identified koala broad-hectare area
- Cadastral Boundaries
- Towns
- Major rivers/creeks
- Highway
- Connector
- Street/Local Road
- Queensland
- Selected Lot and Plan

The koala habitat mapping within South East Queensland uses regional ecosystem linework compiled at a scale varying from 1:25,000 to 1:100,000. Linework should be used as a guide only. The positional accuracy of regional ecosystem data mapped at a scale of 1:100,000 is +/- 100 metres.

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LOCALITY DIAGRAM



N

0 6.2 12.4 18.6 24.8 31 m

This product is displayed in GDA2020

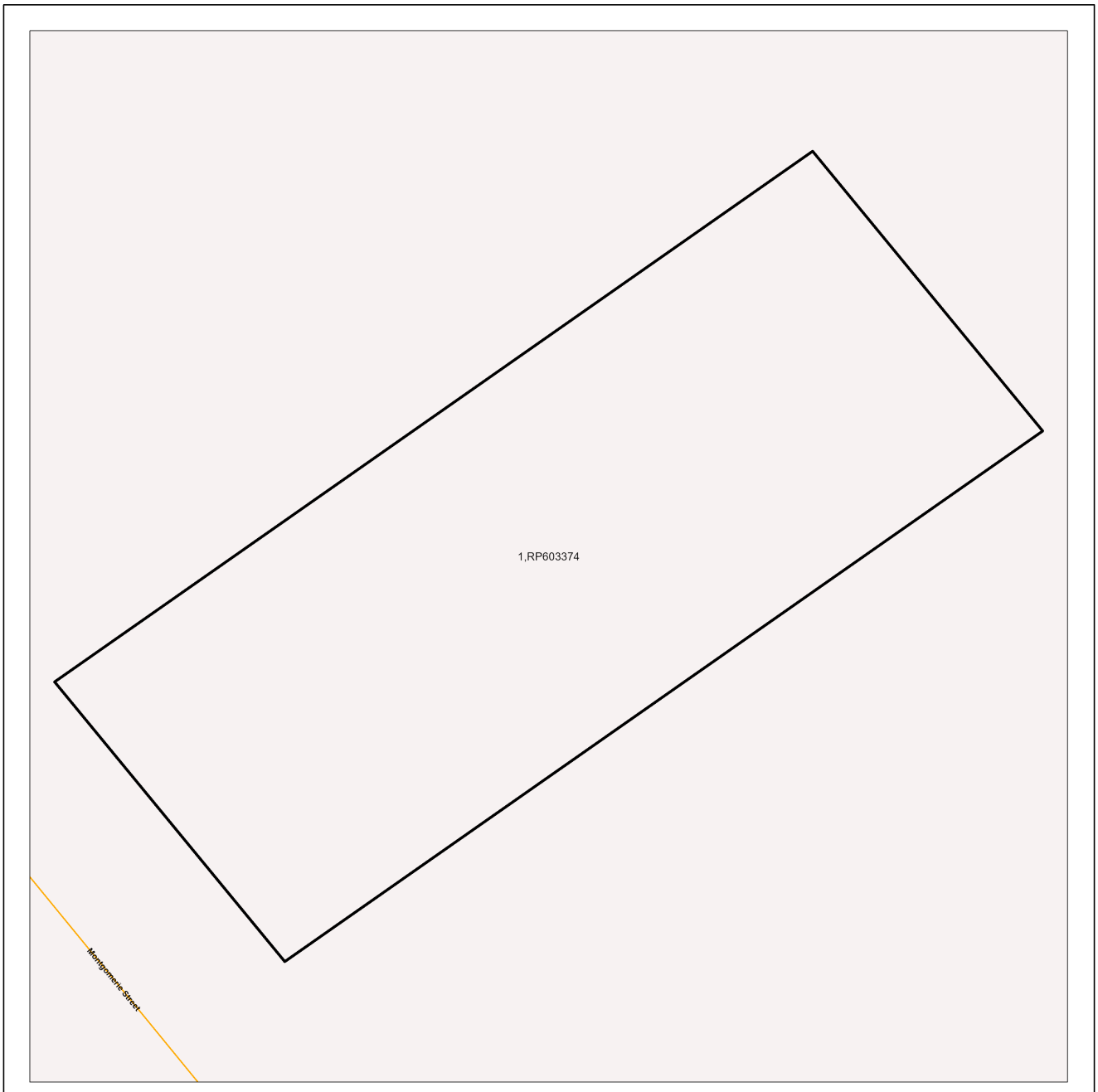
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The koala conservation plan maps will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

In order to ensure that the most recent map for an area of interest can be accessed, prior to the annual update, a register of changes made to koala habitat areas as a result of the map amendment process will be available at: https://environment.desi.qld.gov.au/wildlife/animals/living-with/koalas/mapping/. The register will include lot on plan for the change, the date the decision was made and the map issued to the landholder which shows areas determined to be koala habitat areas.

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7.3 Koala habitat regional ecosystems for core koala habitat areas



Koala habitat regional ecosystems for core koala habitat areas

Koala habitat area (core)
Towns
Highway
Connector
Street/Local Road
Major rivers/creeks
Queensland
Selected Lot and Plan

LOCALITY DIAGRAM



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0 6.2 12.4 18.6 24.8 31 m

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Due to varying sources of data, spatial locations may not coincide when overlaid.

The koala habitat mapping within South East Queensland uses regional ecosystem linework compiled at a scale varying from 1:25,000 to 1:100,000. Linework should be used as a guide only. The positional accuracy of regional ecosystem data mapped at a scale of 1:100,000 is +/- 100 metres.

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8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
Interference with overland flow	*Water Act 2000*	Department of Local Government, Water and Volunteers	Ph: 13 QGOV (13 74 68) www.dlgwv.qld.gov.au
Earthworks, significant disturbance	*Soil Conservation Act 1986*	Queensland Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development	Ph: 13 QGOV (13 74 68) www.nrmmrrd.qld.gov.au
Fire Permits	*Fire and Emergency Services Act 1990*	Queensland Fire Department	Ph: 13 QGOV (13 74 68) www.fire.qld.gov.au
Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Queensland Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism	Ph: 13 QGOV (13 74 68) www.tatsipca.qld.gov.au
Mining and environmentally relevant activities Infrastructure development (coastal) Heritage issues	*Environmental Protection Act 1994* *Coastal Protection and Management Act 1995* *Queensland Heritage Act 1992*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 13 QGOV (13 74 68) www.detsi.qld.gov.au
Protected plants and protected areas	*Nature Conservation Act 1992* *Planning Act 2016*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 1300 130 372 (option 4) palm@detsi.qld.gov.au www.detsi.qld.gov.au
Koala mapping and regulations	*Nature Conservation Act 1992*	Queensland Department of the Environment, Tourism, Science and Innovation	Ph: 13 QGOV (13 74 68) Koala.assessment@detsi.qld.gov.au
Interference with fish passage in a watercourse, mangroves Forestry activities	*Fisheries Act 1994* *Forestry Act 1959*	Queensland Department of Primary Industries	Ph: 13 QGOV (13 74 68) www.dpi.qld.gov.au
Matters of National Environmental Significance including listed threatened species and ecological communities	*Environment Protection and Biodiversity Conservation Act 1999*	Department of Climate Change, Energy, the Environment and Water (Australian Government)	Ph: 1800 920 528 www.dcceew.gov.au
Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Queensland Department of State Development, Infrastructure and Planning	Ph: 13 QGOV (13 74 68) www.planning.qld.gov.au
Coordinated projects	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Office of the Coordinator-General	Ph: 13 QGOV (13 74 68) www.statedevelopment.qld.gov.au/coordinator-general
Wet Tropics World Heritage Area	*Wet Tropics World Heritage Protection and Management Act 1993*	Queensland Wet Tropics Management Authority	Ph: (07) 4241 0500 www.wettropics.gov.au
Requirements on State controlled road	*Transport Infrastructure Act 1994*	Queensland Department of Transport and Main Roads	Ph: 13 QGOV (13 74 68) https://www.tmr.qld.gov.au
Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Your relevant local government office	Local Government Contact Directory

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CQ SOIL TESTING

Landslide Susceptibility Analysis

Site Address: Proposed Dwelling and Shed
Lot 1 (RP603374)
621-623 Montgomerie Street, Lakes Creek

Prepared For: Annette Sos

Job Number: CQ30906

Issue Date: 25/05/2026

Certified System OHS ISO 45001 SAI GLOBAL
Certified System Environment ISO 14001 SAI GLOBAL
Certified System Quality ISO 9001 SAI GLOBAL

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Client & Document Information

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Project:	Lot 1 (RP603374) 621-623 Montgomerie Street, Lakes Creek
Investigation Type:	Landslide Susceptibility Assessment
Job Number:	CQ30906
Issue Date:	25/05/2026

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Document Control

Version	Date	Author	Design Drawings	Reviewer	Reviewer Initials
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		C Burke			

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1. Introduction

This report outlines the results of the landslide susceptibility assessment and geotechnical investigation conducted by CQ Soil Testing for proposed dwelling and shed at 621-623 Montgomerie Street, Lakes Creek.

Building design plans prepared by AMF Building Design indicate that the proposed works comprise a single-storey dwelling, to be suspended above ground on posts with a surrounding timber deck (Figure 1). The proposed works also comprise a shed to be constructed on levelled pad to be cut into the northern part of the site above the dwelling.

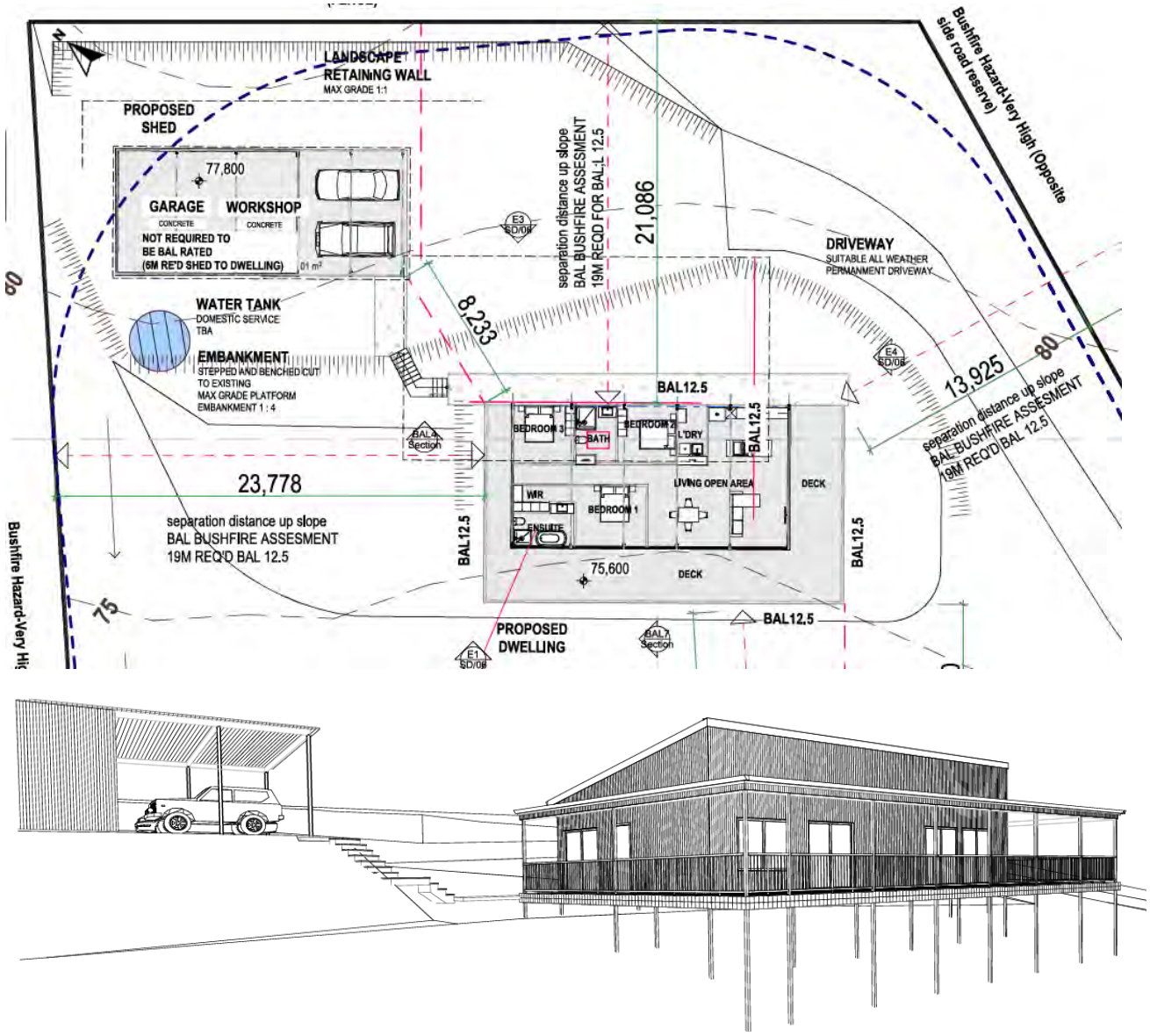


Figure 1: Extracts from design plans (Source: AMF Building Design, Dwg No. SD/06, dated February 2026)

Although no earthworks drawings were available at the time of reporting, based on the provided sections, cut and fill earthworks for the building areas in the order of about 2.2 m deep and 1.5 m high are expected, respectively. The upper cutting for the shed pad will be supported by a landscape retaining wall with the embankment between the shed and residence shown to be benched and batter with maximum grade of 1V:4H.

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The provided documentation does not give specific structural details, such as the layout of footings and loading conditions for the proposed structures. However, for purposes of this report, it has been assumed that the loading conditions are consistent with those of a standard residential dwelling, with foundation pressures not exceeding 100 kPa.

This report outlines the results of the fieldwork, laboratory testing, analysis and interpretive reporting on the following items:

- Summary of subsurface conditions and adopted ground model.
- Foundation soil reactivity in accordance with AS2870 (Site Classification).
- Landslide Susceptibility Analysis.
- Earthworks and site preparation.
- Retaining wall design parameters.
- Footing recommendations, including allowable bearing pressure for high-level footings and ultimate base bearing and ultimate skin friction for the design of piles (as relevant).
- Drainage.

This report must be kept in its entirety. It relates exclusively to the proposed dwelling and shed at the address on page one and has been prepared for the express purpose stated above. This document does not cover any other elements related to construction on the site.

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2. Site Description

The site is formally described as Lot 1 on RP603374 and covers an area of 4,047 m^2, with frontage to Montgomerie Street along the southwestern boundary. A recent aerial image of the site and immediate surrounds is provided in Figure 2 below. Drone images of the site taken during the investigation are provided in Figure 3.

At the time of the investigation, the property was vacant and comprised sparse vegetation including medium to large trees and grass. The driveway and building envelope had been cleared for building works. The site was surrounded by rural residential properties, mostly being vacant at the time of the assessment. Mount Archer National Park is located to the north of the property and the Fitzroy River is located further to the south.



Figure 2: Recent aerial image of the site and surrounds (Source: Qld GeoResGlobe)



Figure 3: Drone images of site looking north (LHS) and south (RHS)

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Review of the attached contour plan, along with hillside shading data sourced from GeoResGlobe indicates that the site is located on the south westerly facing flank of a southerly dipping spur on the edge of the Mount Archer range, which crests to the northeast (Figure 4). The site itself slopes downward from the northeast to the southwest from an elevation of about RL 83 m to 57 m AHD, with moderate gradients across the allotment. The calculated slope across the building areas was estimated to range between about 12 to 16 degrees.

Natural surface drainage follows ground-surface gradients from the northeast to the southwest of the site. Surface water is expected to drain well from the site, considering the positive gradients however, poorer drainage conditions could potentially develop on levelled areas.

During the CQ visit, the general topography of the building area and immediate surrounds were visually assessed for signs of previous landslide instability. No indications of recent landslides or slips were observed across the proposed building area, suggesting that there have been no recent soil creep or landslides in the upper soil mantle. There was however a shallow coverage of colluvium and scattered boulders strewn about the somewhat uneven ground surface that may be indicative of relic or ancient forms of instability.

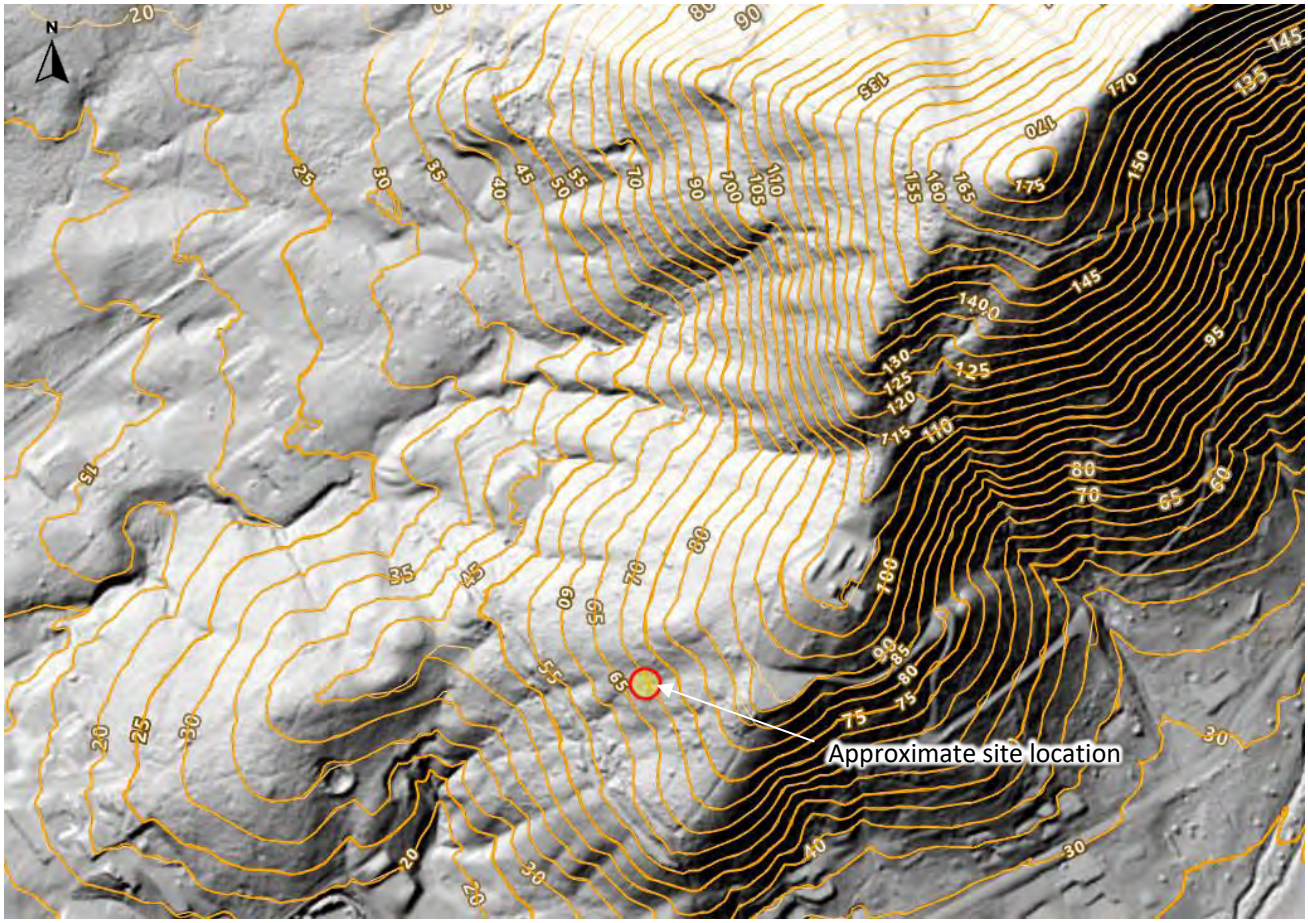


Figure 4: Hillside shading and ground surface contours (Source: QLD GeoResGlobe)

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Review of regional surface geology presented on the Queensland Government website GeoResGlobe indicates that the site is underlain by Early Permian age Lakes Creek Formation (Pkl) comprising 'siltstone and lithic sandstone'.

This report includes photographs of the site taken during the fieldwork, a sketch and GeoResGlobe mapping, as well as reports to improve understanding and appreciation of the site conditions and features.

3. Fieldwork

Fieldwork was undertaken on 27 April 2026 and included three boreholes (nominated BH1 to BH3). Boreholes were drilled using a ute-mounted solid flight auger rig to depths between 1.5 m to 3.0 m below ground level (BGL), with shallower depths due to refusal on weathered rock. The subsurface conditions were logged through tactile and visual assessment of returned spoil by an experienced geotechnician. Borehole logs and a test location plan are attached.

In summary, the subsurface conditions were as follows:

- **Uncontrolled Fill:** stiff gravelly silty clay of low plasticity to depths between 0.3 m and 0.4 m BGL.
- **Residual Soils:** very stiff to hard with depth clay of high plasticity was encountered in BH1 and BH3 to depths between 0.8 m and 1.2 m BGL. Hard silty sandy and gravelly clay of low to medium plasticity was encountered to depths between 1.0 m to 3.0 m BGL (borehole BH2 termination depth).
- **Natural Soils:** a layer of very dense, silty clayey sand of low plasticity was encountered in BH2 between the clay layers (i.e. 1 m to 2 m BGL).
- **Weathered Rock:** extremely weathered (XW) rock, described as very dense clayey sandy gravel was encountered in BH1and BH3 to depths of 1.5 m and 2.8 m BGL, at which depth auger drilling refusal was encountered.

Groundwater was not encountered during the borehole investigation with the soils logged as mostly dry. Groundwater is expected to rise significantly during the wet season and after heavy, prolonged rainfall.

It is important to note that the soil profile across the site may differ from what is indicated in the borehole logs. Therefore, if different conditions occur during construction, it is recommended to notify CQ Soil Testing.

4. Laboratory Testing

The laboratory testing undertaken on selected representative soil samples following AS1289- Methods of Testing for Engineering Purposes aims to determine the typical soil characteristics required for the engineering assessment. The results of the laboratory tests are attached to this report.

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5. Landslide Susceptibility Assessment

5.1 Landslide Hazard & Steep Land Overlap Mapping

Rockhampton Regional Council has developed a Planning Scheme mapping tool to identify sites requiring a landslide hazard assessment before obtaining building approval. The Planning Scheme mapping identifies that part of the site, including the proposed building area, is mapped as “steep land”, as shown in Figure 5 below, hence the need for a slope stability assessment under current regulatory guidelines.

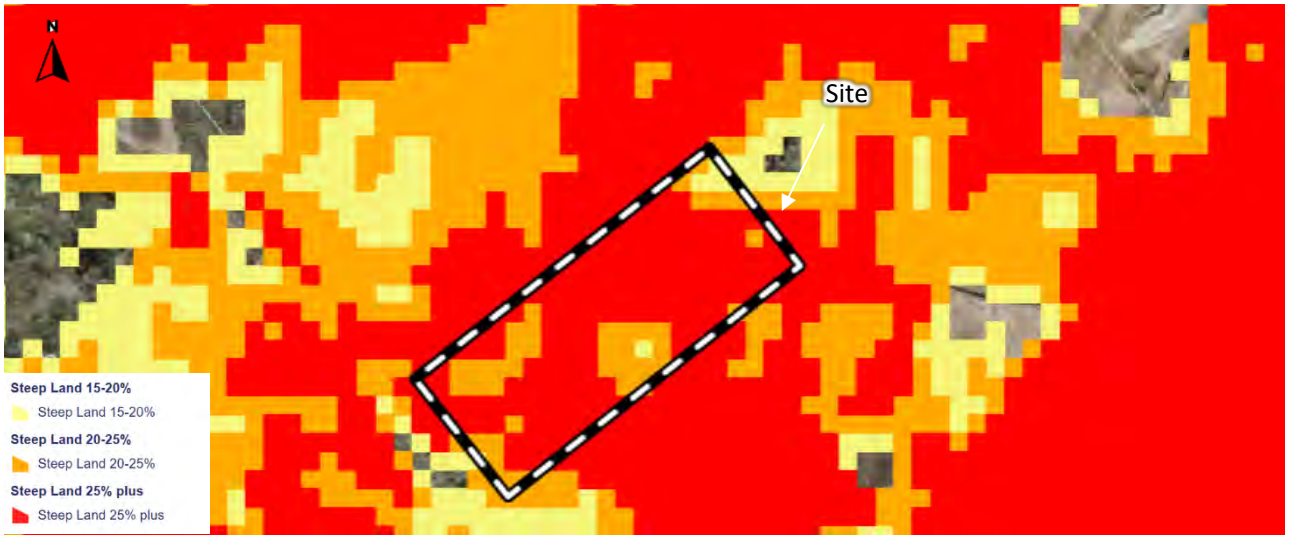


Figure 5: Council Landslide Hazard Overlay Map

5.2 Landslide Susceptibility Analysis

The results of Landslide Susceptibility Analysis (refer to attached), including the relative susceptibility and correlated susceptibility rating, are summarised in Table 1 below.

The following are assumed to achieve the reported Correlated Susceptibility Rating:

- Natural site slope angles across the building area are between 15 and 30 degrees.
- The building is situated on a rough/irregular slope.
- Colluvial soil < 1 m deep.
- Cut and fill earthworks estimated to be between 1 m and 3 m depth/height.
- Slope of cut less than 30 degrees (to the horizontal).
- Slope support has been assigned gabion wall as details of the landscaping retaining wall are not known.
- Located on the mid slope.
- No signs of instability.

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- Onsite disposal of sewage to surface.
- Stormwater managed via rainwater tank with overflows.

Table 1: Results of Landslide Susceptibility Analysis

Relative Susceptibility	Correlated Susceptibility Rating
2.9	High

Based on the existing site conditions, the site has a High susceptibility rating. Recommendations and development limitations are provided in Section 5.3 and Section 6 to achieve a **Low Risk** of slope instability.

Relative Levels of risk and their implications are provided in "Qualitative Terminology for Use in Assessing Risk to Property" from the AGS 2007 Practice Note Guidelines for Landslide Risk Management.

5.3 Landslide Risk Mitigation - Development Limitations & Considerations

To achieve a **Low Risk** from slope instability for the proposed extensions, the following recommendations must be implemented:

- No significant further earthworks shall be carried out unless assessed and approved by CQ. Minor additional earthworks (< 0.5 m depth/height) may be carried out to form finished levels with overall cut and fill heights to be limited to 2.2 m deep and 1.5 m high. All earthworks greater than 1 m high, must be supported by engineer designed and certified retaining structures. Earthworks must not exceed these amounts unless assessed and approved by CQ.
- The residence and all ancillary structures (e.g. retaining walls) must be supported on piles that penetrate through any fill and to socket at least 2 m into the underlying very stiff to hard natural clay or 1 m into extremely weathered rock. The piles should be engineered to resist design action effects, including bending moments and shear forces induced by lateral soil movements associated with the sloping terrain.
- Drainage improvements must be made to intercept and redirect water away from the development area to discharge into a formal drainage system.
- The attached geomechanics hillside practices should be adopted for the dwelling.
- A geotechnical RPEQ should inspect the site during construction to ensure the above mitigation measures are appropriately implemented and established.

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6. Comments

The geotechnical comments in this report are based on factual information gathered during the fieldwork, industry practices, local experience, and published literature.

6.1 Site Classification

To indicate potential shrink-swell ground movements due to normal seasonal moisture variations that could be experienced at this site, a shrink-swell index (Iss) value of 3% was inferred (based on the laboratory testing and previous experience in the area). Based on the inferred shrink-swell value and empirical methods described in Section 2.3 of AS2870, the calculated surface movement (ys) could be up to 45 mm (Class H1).

Shrink-swell ground movements due to the influence of trees (including recently removed trees) (Yt) could be up to 25 mm.

The introduction of new fill will influence potential shrink-swell ground movements. The site must be reclassified if cut-and-fill earthworks are undertaken as part of this development. The fill settlement will be in addition to ground movements due to normal seasonal moisture variations. Typically, for well-compacted controlled fill placed within 2% of its OMC, the self-weight settlement is estimated to be approximately 1% (upper limit) to 0.5% (lower limit) of the fill height and generally occurs over an approximate 10-to-20-year period.

Proper site maintenance is crucial for the long-term performance of any building's foundation system. As such, the guidelines outlined in the attached CSIRO publication "Foundation Maintenance and Footing Performance: A Homeowners Guide" and “guide-preventing-structural-damages” should be followed to ensure the site remains in optimal condition.

6.2 Site and Subgrade Preparation

Subgrade preparation should be undertaken on all site areas before the placement of controlled fill, the construction of pavements, or the construction of ground slabs. Following the removal of vegetation and topsoil, large roots should be ‘grubbed out’.

To achieve a uniformly well-compacted subgrade, the subgrade should be uniformly compacted to a depth of approximately 0.5 metres and achieve a minimum of 100% standard compaction or 75% dry density index. To prepare the subgrade, the upper 0.5 m depth may need to be scarified and moisture-conditioned (if required), and then recompacted.

Test rolling should be undertaken after subgrade preparation of the natural soils using specific plant and load conditions such as a static 12 tonne smooth steel wheeled roller, a pneumatic-tired plant that weighs at least 20 tonnes and has a ground pressure not less than 450 kPa per tyre, or a highway truck with a rear axle

loaded to not less than 8 tonnes, with tyres inflated to 550 kPa. There should be no noticeable movement during the test roll.

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Proper drainage is recommended to prevent soil damage caused by swelling and softening. To achieve this, the subgrade should be carefully reshaped and graded to ensure it drains freely, allowing stormwater to flow away from the site and avoid ponding. The subgrade should also be appropriately sloped to prevent the formation of low spots, as these can act as drainage sinks and result in localised soil swelling and softening.

6.3 Earthworks

Earthworks must be carried out in accordance with AS3798-2007 *Guidelines on earthworks for commercial and residential developments*. Key recommendations regarding earthworks are provided below.

All vegetation, topsoil, existing uncontrolled fill and firm/loose (or weaker) materials must be removed, and sloping ground should be benched prior to placement of any new fill.

Fill earthworks must be carried out in accordance with AS3798-2007 *Guidelines on earthworks for commercial and residential developments*. Fill materials should be compacted at moisture contents within the range of -2% to +2% of OMC for Standard Compaction using a pad foot roller and achieve a dry density ratio of at least 95% of the Standard Maximum Dry Density Ratio (DDR). Confirmatory compaction testing should be carried out at regular intervals as per AS3798.

Cut and fill earthworks up to 1 m high may be formed no steeper than 1V:2.5H, and protected against erosion, or otherwise supported by retaining structures.

Excavations in close proximity to existing structures and infrastructure, including on neighbouring properties, will need to be specifically designed to prevent undermining. If undermining is a potential issue the existing structures/infrastructure may need to be underpinned or excavations may require temporary structural shoring. The advice of a suitably qualified and experienced structural RPEQ must be sought regarding any potential undermining and design and construction of any underpins/temporary shoring (if required).

The above recommendations do not supersede any existing safety regulations or legislation applicable to excavations (e.g. limits on personnel entry into trenches).

The site should be graded to shed surface water runoff away from construction areas.

6.4 Inferred Preliminary Retaining Wall Design Parameters

Table 2 recommends retaining wall design parameters for the materials encountered during the investigation. These parameters are unfactored and drained (of pore pressures) and have been inferred based on available information.

AS 4678:2002 – Earth Retaining Structures recommends using long-term (drained) soil strength parameters for retaining wall design. These parameters should be considered when assessing long-term loading conditions, such as sustained lateral pressures acting on piles or embedded elements that form part of the retaining wall system. Long-term loads allow pore pressures within the soil to dissipate, and the soil behaviour is governed by its drained strength.

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Table 2: Global Stability Mohr-Coulomb Unfactored Material Parameters

Material	Unsaturated Unit Weight (kN/m ³)	Saturated Unit Weight (kN/m³)	Friction Angle (ϕ')	Cohesion (C')
Future fill	*	*	*	*
Existing uncontrolled clay fill	18	19	24	0
Very stiff to hard clays	18	19	25	1
Very dense silty clayey sand	18	19	30	0
Weathered rock	23	24	32	5

Note: * depends on fill material quality and compaction

To ensure the safety and stability of retaining walls, it is recommended that they be designed and certified by a qualified structural engineer and constructed in accordance with the minimum requirements outlined in AS4678—Earth Retaining Structures.

It is recommended that global stability analysis be undertaken on all retaining structures to ensure that suitable global stability FoS are reached and to confirm that an appropriate global stability factor of safety is achieved. For tiered retaining walls, the design should consider the entire system, rather than each wall in isolation, to ensure that the combined effects of height, ground slope, wall arrangement, and applied loads are appropriately accounted for.

It is recommended that passive pressures be ignored where disturbance may occur (i.e. future trenching or earthworks processes).

Where retaining wall backfill may be exposed to overland flow, it should be capped with a low-permeability clay layer and/or an impermeable membrane (e.g. HDPE) to minimise stormwater ingress. Depending on the outcomes of a hydraulic assessment of the upslope catchment, surface diversion drains may also be required upslope of retaining walls. Subsurface drainage must be provided behind all retaining walls (e.g. a slotted pipe wrapped in a filter sock and embedded in free-draining gravel). The design must also consider site-specific groundwater conditions, with appropriate allowances made for hydrostatic pressure.

6.5 Footings

All footings for the proposed dwelling and ancillary structures (e.g. shed etc.) must extend through any fill and unsuitable natural soil to socket at least 2 m into the underlying very stiff to hard natural clay or 1 m extremely weathered 'bedrock' (not 'floaters' in the soil profile). Based on the findings of the boreholes, it is anticipated that minimum footing depths in the order of 2 m to 2.5 m (existing ground level) will be required.

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Print Date: 5 June 2026, 4:13 pm

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On this basis, it is recommended that steel reinforced concrete shear piles or 'bucket piers' will be required to support the proposed structures. Conventional high-level, strip or pad footings may be possible in areas where the target founding stratum are encountered at foundation subgrade level subject to an inspection by a geotechnical RPEQ during construction.

All piles should be engineered to resist design action effects, including bending moments and shear forces induced by lateral soil movements associated with sloping terrain.

When footings are located near an underground service or other structural elements (such as other footings or retaining walls), they should be founded at least 0.3 metres below an imaginary line extending at a 45-degree angle from the base of the service or obstruction. Where footings are positioned near other structures, such as retaining walls or existing foundations, the potential influence on and from those structures should also be assessed. Figure 6 provides a visual reference.

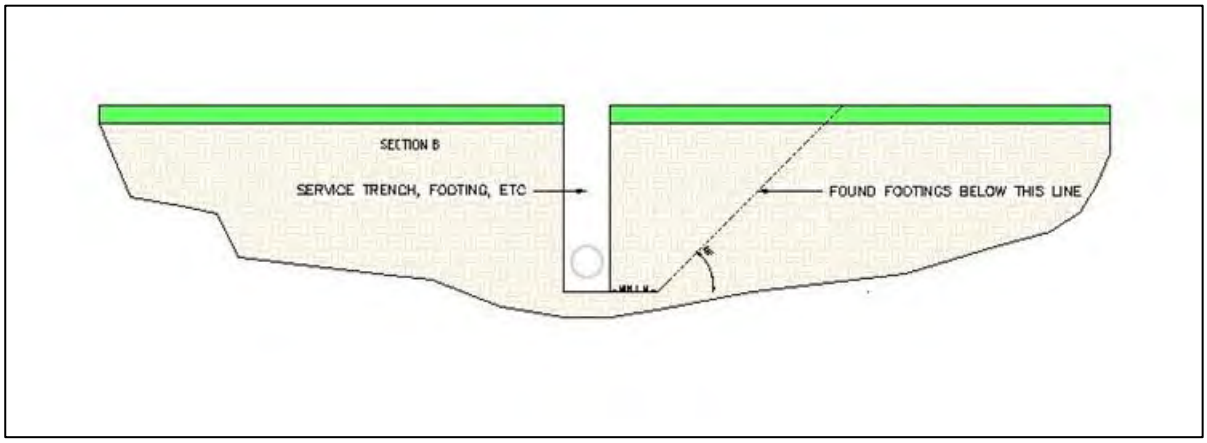


Figure 6: Recommended influence zone

The design of vertically loaded piers or 'bucket piers' founded at least two 'pile' diameters or 2x the pier width into the designated strata can adopt the ultimate values in Table 3. Screw piles are not recommended for this site.

The upper one metre of the pile skin friction in the clay soils should be ignored in the design, along with any sections of piers that require liners. For example, the piers should be designed assuming a 1-metre length of the pile is sticking out of the ground, cantilevering this metre. This precaution is necessary because a potential separation between the pile and the ground can occur due to soil shrinkage during drying.

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Table 3: Ultimate Unfactored Bored Pile Design Parameters

Material	Skin Friction (kPa)	End Bearing (kPa)
Fill	Not recommended	Not recommended
Silty clayey sand	Not recommended	Not recommended
Very stiff to hard clays	25	900
Weathered rock	50	1800

To ensure the proper performance of piers, it is recommended that they be designed and certified by a qualified structural engineer and constructed in accordance with the minimum requirements specified in AS 2159—Piling Design and Installation. This standard outlines guidelines for the design and construction of piles, including the necessary reduction factors and design considerations.

Settlements of loaded piers like the one described above are not expected to exceed approximately 1% to 2% of the pier's diameter or width.

Most equipment, including excavators with auger attachments, should be able to excavate bored pile excavations in the fill, residual soils, and very low-strength weathered rock. However, when underlying low-strength or stronger weathered rock is encountered during bored pile excavations, larger machinery with specialised rock auger attachments will likely be needed to excavate rock formations, particularly below the borehole refusal depths. Pilot holes may be necessary to achieve the required pile depths and diameter. Due to the possibility of oversize cobble or boulder materials, 'bucket' piers may be required to support the residence.

A suitably qualified geotechnical engineer should inspect and certify footings for bearing capacity during construction to ensure that they are correctly constructed and perform as expected over their design life.

6.6 Drainage

Permanent site drainage must be installed to ensure that surface water runoff is directed away from any structures, batters or retaining walls. Surface diversion swales and/or bunds must be constructed above the existing batters. Additional surface drainage should also be constructed around the dwelling to manage stormwater.

Specific drainage recommendations are as follows:

- Construct diversion drainage upslope of the proposed building area and effluent disposal areas (e.g. landscaped swale etc.) to divert stormwater away from any buildings, structures, embankments or effluent disposal areas. The diversion drainage must be adequately sized for the upslope catchment to ensure that water does not overtop and discharge uncontrollably.

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- Where potentially exposed to overland flow, retaining wall backfill materials should be capped with a low permeability clay layer, and/or impermeable membrane (e.g. HDPE), in order to minimise the ingress of stormwater. Subject to hydraulic analysis of the up-slope catchment, it may also be necessary to install additional surface drainage swales above retaining walls. The lining selected for such drainage (e.g. turf rock, concrete, etc.) would depend on consideration by the designer of factors such as flow velocity and maintenance requirements.
- Grade the building platform(s) (minimum 1V:100H) to achieve positive drainage into edge drains.

Subsurface drainage must be installed behind any retaining walls (e.g. slotted 'aggi' pipe wrapped in filter 'sock' placed in gravel backfill). Depending on matters such as the extent of drainage installed and site-specific groundwater conditions, the designer must make an assessment of hydrostatic pressure to be accounted for in the design of the retaining structure.

All stormwater collected around the residence and other areas should be directed by pipes or lined channels (e.g. rock lined swales) to discharge into water tanks or any existing stormwater system. All overflow must be directed by pipes or lined channels to discharge into the existing stormwater infrastructure or at least 10 m downslope of any structure or embankment. A rock dissipator (or similar) should be constructed at stormwater outlets where not discharging into a constructed pit.

Subsurface disposal of stormwater must not be undertaken (including infiltration pits).

The surface and subsurface drainage system must be designed by a suitably qualified and experienced civil/hydraulic RPEQ.

If you should have any queries regarding this report, please do not hesitate to contact the undersigned at your convenience.

Yours faithfully





David Pollock

Geotechnical Consultant – RPEQ (14121), NER, MIEAust

PATRICK MUNRO

Senior Soil Technician

Document Set ID: 41324220
Version: 1, Version Date: 01/06/2026
Print Date: 5 June 2026, 4:13 pm

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APPENDIX A – Borehole Logs

Document Set ID: 41324220
Version: 1, Version Date: 01/06/2026
Print Date: 5 June 2026, 4:13 pm

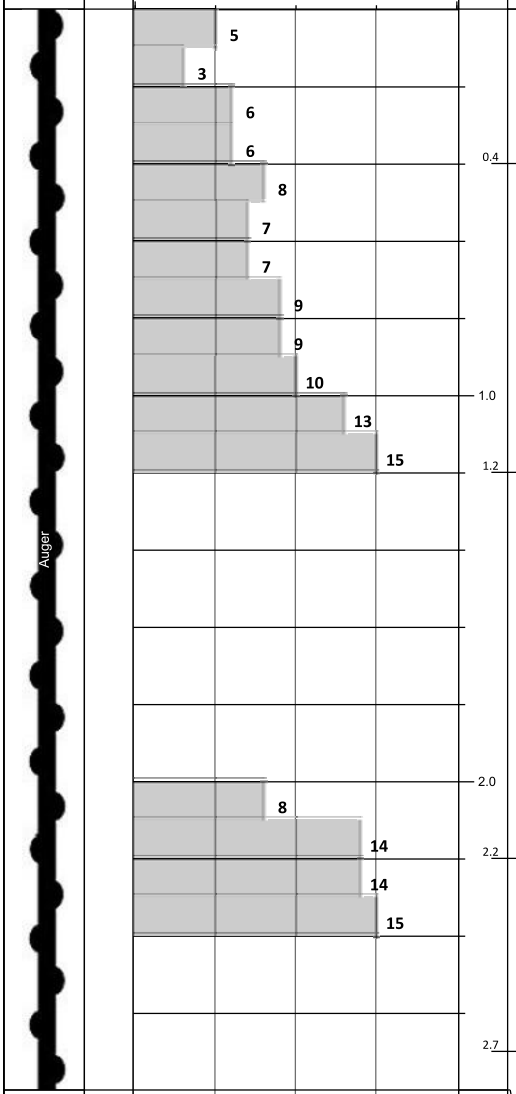
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CQ Soil Testing
32 Alexandra St, Park Avenue QLD 4701
Phone: 07 4936 1163

Geotechnical Log - Borehole

BH1

Latitude	: -23.38531	Location	: 621-623 Montgomerie St, Lakes Creek QLD 4701, Australia	Job Number	: CQ30906
Longitude	: 150.57137	Logged By	: Matt Walton	Client	: Annette Sos
Total Depth	: 2.8 m	Date	: 27/04/2026	Project	: Slope Stability



Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Samples
					Bulk Disturbed
0.4	UNCONTROLLED Fill		CL	Uncontrolled Fill Gravelly Silty CLAY low plasticity, fine to coarse sized gravel, brown, dry, stiff.	
1.0	Residual		CH	Residual CLAY CH: high plasticity, trace fine to medium grained sand, reddish brown, dry, very stiff to hard with depth.	
1.2	Residual		CI	Residual Silty Sandy CLAY medium plasticity, trace fine to coarse grained sand, trace fine sized gravel, reddish brown, hard.	Bulk Disturbed
2.2	Residual		CL	Residual Gravelly Silty CLAY low plasticity, fine to coarse sized gravel, brown, dry, hard.	
2.7	Extremely Weathered Rock		XW	Extremely Weathered Rock Clayey Sandy GRAVEL XW: well-graded, sub-rounded, fine to coarse sized, fine to coarse grained sand, low plasticity clay, brown, dry, very dense.	
				BH1 Refusal at 2.8 m (Tungsten carbide drill tip refusal on weathered	

METHOD

EX	Excavator bucket
R	Ripper
HA	Hand auger
PT	Push tube
SON	Sonic drilling
AH	Air hammer
PS	Percussion sampler
AS	Short spiral auger
AD/V	Solid flight auger:V-Bit
AD/T	Solid flight auger:TC-Bit
HFA	Hollow flight auger
WB	Washbore drilling
RR	Rock roller

PENETRATION

VE	Very Easy(No Resistance)
E	Easy
F	Firm
H	Hard
VH	Very Hard(Refusal)

WATER

- Water Level on Date
- Water inflow
- Water outflow

FIELD TESTS

SPT	- Standard Penetration Test
PP	- Hand/Pocket Penetrometer
DCP	- Dynamic Cone Penetrometer
PSP	- Perth Sand Penetrometer
MC	- Moisture Content
PBT	- Plate Bearing Test
IMP	- Borehole Impression Test
PID	- Photo Ionisation Detector
VS	- Vane Shear; P=Peak, R=residual (unconnected kPa)

SAMPLES

B	- Bulk disturbed sample
D	- Disturbed sample
ES	- Environmental sample
U	- Thin wall tube "undisturbed"

MOISTURE

D	- Dry
M	- Moist
W	- Wet
PL	- plastic limit
LL	- liquid limit
W	- Moisture content

SOIL CONSISTENCY

VS	- Very soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very stiff
H	- Hard

RELATIVE DENSITY

VL	- Very loose
L	- Loose
MD	- Medium dense
D	- Dense
VD	- Very dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

CQ Soil Testing

Document Set ID: 41324220
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Print Date: 5 June 2026, 4:13 pm

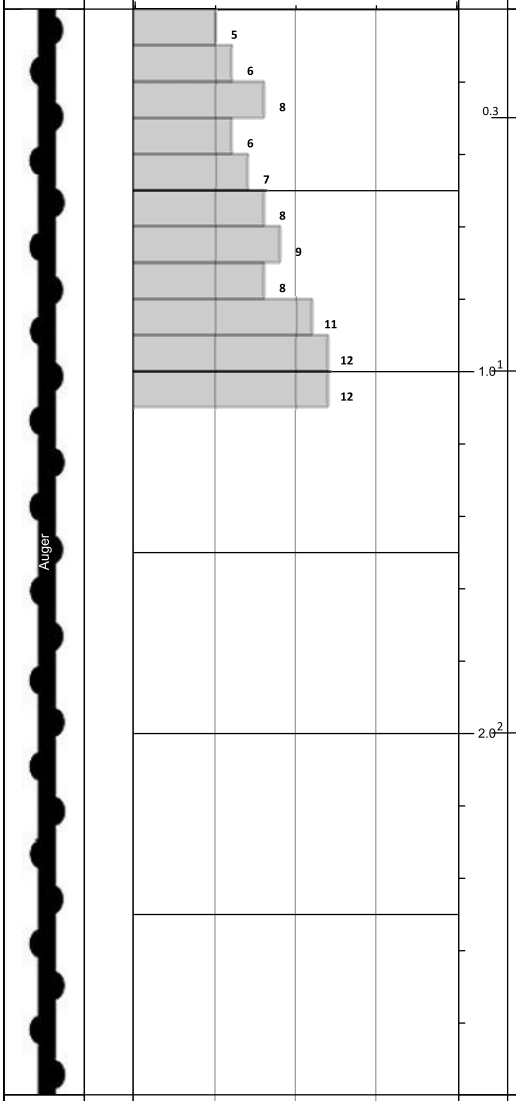
This information is provided by Rockhampton Regional Council from TechnologyOne ECM

CQ Soil Testing
32 Alexandra St, Park Avenue QLD 4701
Phone: 07 4936 1163

Geotechnical Log - Borehole

BH2

Latitude	: -23.38531	Location	: 621-623 Montgomerie St, Lakes Creek QLD 4701, Australia	Job Number	: CQ30906
Longitude	: 150.57137	Logged By	: Matt Walton	Client	: Annette Sos
Total Depth	: 3 m	Date	: 27/04/2026	Project	: Slope Stability



Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description	Samples: Bulk Disturbed
0.3	UNCONTROLLED Fill		CL	Uncontrolled Fill Gravelly Silty CLAY low plasticity, fine to coarse sized gravel, brown, dry, stiff.	
1.0	Residual		CI	Residual Sandy Silty CLAY medium plasticity, fine to coarse grained sand, trace fine sized gravel, reddish brown, hard.	
2.0	Natural		SC	Natural Silty Clayey SAND SC: fine to coarse grained, low plasticity clay, trace fine to coarse gravel, reddish brown, dry, very dense.	Bulk Disturbed
	Residual		CL	Residual Gravelly Silty CLAY low plasticity, fine to coarse sized gravel, brown, dry, hard.	
				BH2 Terminated at 3 m	

METHOD

EX	Excavator bucket
R	Ripper
HA	Hand auger
PT	Push tube
SON	Sonic drilling
AH	Air hammer
PS	Percussion sampler
AS	Short spiral auger
AD/V	Solid flight auger:V-Bit
AD/T	Solid flight auger:TC-Bit
HFA	Hollow flight auger
WB	Washbore drilling
RR	Rock roller

PENETRATION

VE	Very Easy(No Resistance)
E	Easy
F	Firm
H	Hard
VH	Very Hard(Refusal)

WATER

- Water Level on Date
- Water inflow
- Water outflow

FIELD TESTS

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PP	- Hand/Pocket Penetrometer
DCP	- Dynamic Cone Penetrometer
PSP	- Perth Sand Penetrometer
MC	- Moisture Content
PBT	- Plate Bearing Test
IMP	- Borehole Impression Test
PID	- Photo Ionisation Detector
VS	- Vane Shear; P=Peak, R=residual (unconnected kPa)

SAMPLES

B	- Bulk disturbed sample
D	- Disturbed sample
ES	- Environmental sample
U	- Thin wall tube "undisturbed"

MOISTURE

D	- Dry
M	- Moist
W	- Wet
PL	- plastic limit
LL	- liquid limit
W	- Moisture content

SOIL CONSISTENCY

VS	- Very soft
S	- Soft
F	- Firm
St	- Stiff
VSt	- Very stiff
H	- Hard

RELATIVE DENSITY

VL	- Very loose
L	- Loose
MD	- Medium dense
D	- Dense
VD	- Very dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

CQ Soil Testing

Document Set ID: 41324220
Version: 1, Version Date: 01/06/2026
Print Date: 5 June 2026, 4:13 pm

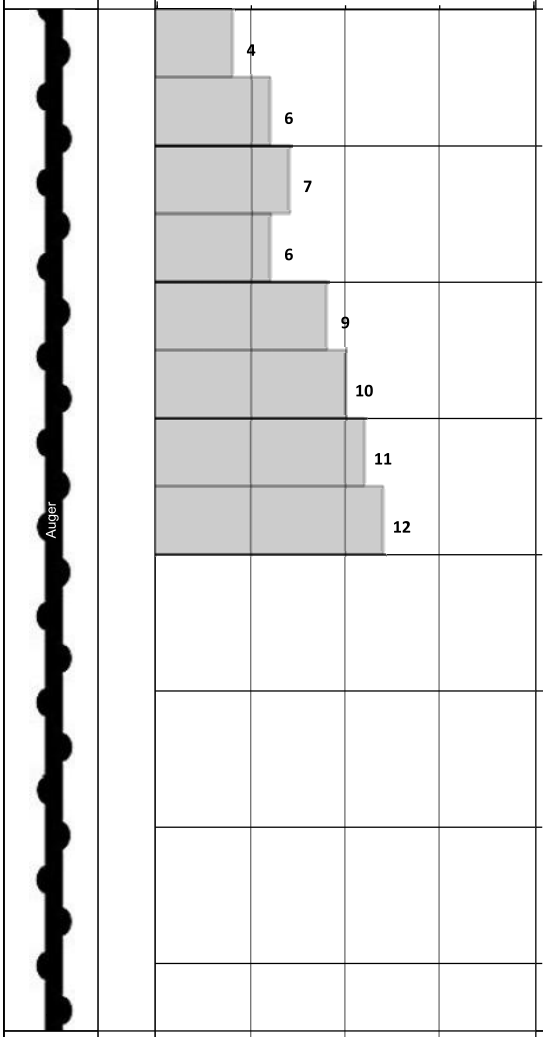
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CQ Soil Testing
32 Alexandra St, Park Avenue QLD 4701
Phone: 07 4936 1163

Geotechnical Log - Borehole

BH3

Latitude	: -23.38531	**Location**	: 621-623 Montgomerie St, Lakes Creek QLD 4701, Australia	**Job Number**	: CQ30906
Longitude	: 150.57137	**Logged By**	: Matt Walton	**Client**	: Annette Sos
Total Depth	: 1.5 m	**Date**	: 27/04/2026	**Project**	: Slope Stability



Depth (m)	Soil Origin	Graphic Log	Classification Code	Material Description
0.3	UNCONTROLLED Fill		CL	Uncontrolled Fill Gravelly Silty CLAY low plasticity, fine to coarse sized gravel, brown, dry, stiff.
0.8	Residual		CH	Residual CLAY CH: high plasticity, trace fine to medium grained sand, reddish brown, dry, very stiff to hard with depth.
1.0	Residual		CI	Residual Silty CLAY CI: medium plasticity, trace fine to coarse grained sand, trace fine sized gravel, reddish brown, hard.
1.2	Residual		CL	Residual Gravelly Silty CLAY low plasticity, fine to coarse sized gravel, brown, dry, hard.
1.4	Extremely Weathered Rock		XW	Extremely Weathered Rock Clayey Sandy GRAVEL XW: well-graded, sub-rounded, fine to coarse sized, fine to coarse grained sand, low plasticity clay, brown, dry, very dense.
				BH3 Refusal at 1.5 m (Tungsten carbide drill tip refusal on weathered rock)

METHOD

EX	Excavator bucket
R	Ripper
HA	Hand auger
PT	Push tube
SON	Sonic drilling
AH	Air hammer
PS	Percussion sampler
AS	Short spiral auger
AD/V	Solid flight auger:V-Bit
AD/T	Solid flight auger:TC-Bit
HFA	Hollow flight auger
WB	Washbore drilling
RR	Rock roller

PENETRATION

VE	Very Easy(No Resistance)
E	Easy
F	Firm
H	Hard
VH	Very Hard(Refusal)

WATER

- Water Level on Date
- Water inflow
- Water outflow

FIELD TESTS

SPT	- Standard Penetration Test
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DCP	- Dynamic Cone Penetrometer
PSP	- Perth Sand Penetrometer
MC	- Moisture Content
PBT	- Plate Bearing Test
IMP	- Borehole Impression Test
PID	- Photo Ionisation Detector
VS	- Vane Shear; P=Peak, R=residual (unconnected kPa)

SAMPLES

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SOIL CONSISTENCY

VS	- Very soft
S	- Soft
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St	- Stiff
VSt	- Very stiff
H	- Hard

RELATIVE DENSITY

VL	- Very loose
L	- Loose
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D	- Dense
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Refer to explanatory notes for details of abbreviations and basis of descriptions

CQ Soil Testing

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APPENDIX B – Site Photographs

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Version: 1, Version Date: 01/06/2026
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CH to CI



slickenides

CQ SOIL TESTING
(07) 4936 1163
32 Alexandra Street, North Rockhampton QLD 4701
info@cqsoiltesting.com.au

Photo description	Borehole 1		
Client	Annette Sos		
Location	621-623 Montgomerie St, Lakes Creek...		
Project name	Slope Stability		
Project No	CQ30906	**Scale**	Not to Scale
BH No	BH1	**BH Depth**	

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CQ SOIL TESTING
(07) 4936 1163
32 Alexandra Street, North Rockhampton QLD 4701
info@cqsoiltesting.com.au

Photo description	Borehole 2		
Client	Annette Sos		
Location	621-623 Montgomerie St, Lakes Creek...		
Project name	Slope Stability		
Project No	CQ30906	**Scale**	Not to Scale
BH No	BH2	**BH Depth**	

This information is provided by Rockhampton Regional Council from TechnologyOne ECM





CQ SOIL TESTING
(07) 4936 1163
32 Alexandra Street, North Rockhampton QLD 4701
info@cqsoiltesting.com.au

Photo description	Borehole 3		
Client	Annette Sos		
Location	621-623 Montgomerie St, Lakes Creek...		
Project name	Slope Stability		
Project No	CQ30906	**Scale**	Not to Scale
BH No	BH3	**BH Depth**	

This information is provided by Rockhampton Regional Council from TechnologyOne ECM





CQ SOIL TESTING
(07) 4936 1163
32 Alexandra Street, North Rockhampton QLD 4701
info@cqsoiltesting.com.au

Photo description	Borehole 4		
Client	Annette Sos		
Location	621-623 Montgomerie St, Lakes Creek...		
Project name	Slope Stability		
Project No	CQ30906	**Scale**	Not to Scale
BH No	BH4	**BH Depth**	

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CQ SOIL TESTING
(07) 4936 1163
32 Alexandra Street, North Rockhampton QLD 4701
info@cqsoiltesting.com.au

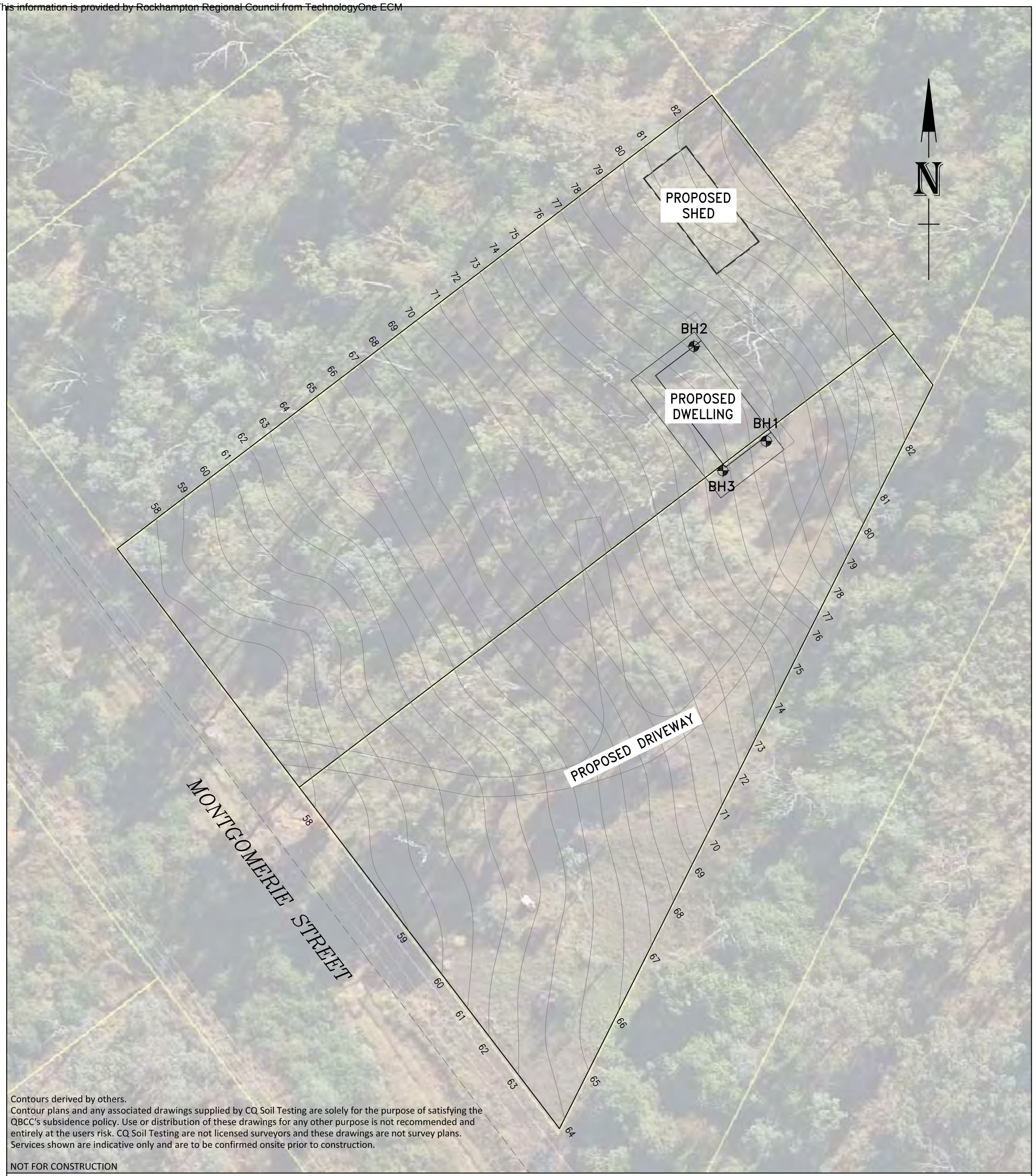
Photo description	Site Photo 4		
Client	Annette Sos		
Location	621-623 Montgomerie St, Lakes Creek...		
Project name	Slope Stability		
Project No	CQ30906	**Scale**	Not to Scale
BH No	site photos	**BH Depth**	

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APPENDIX C – Site Plan

Document Set ID: 41324220
Version: 1, Version Date: 01/06/2026
Print Date: 5 June 2026, 4:13 pm

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Contours derived by others.
Contour plans and any associated drawings supplied by CQ Soil Testing are solely for the purpose of satisfying the QBCC's subsidence policy. Use or distribution of these drawings for any other purpose is not recommended and entirely at the users risk. CQ Soil Testing are not licensed surveyors and these drawings are not survey plans.
Services shown are indicative only and are to be confirmed onsite prior to construction.

NOT FOR CONSTRUCTION

SERVICES LEGEND:

E	Electricity Pit	T	Telecom Turret	—T—	U/G Telecom Line
S	Storm water pit	T	Telecom Pit	—W—	U/G Water Line
H	Fire Hydrant	G	Gully Pit	—SW—	U/G Stormwater Line
K	Kerb Adapter	S	Sewer Manhole	—OHP—	Overhead Power
W	Water Meter	—S—	Sewerage Line	HC	Sewer House Connection
	Street Light	—E—	U/G Power Line		Stormwater Gully Pit

SITE LEGEND & NOTES:

10.000	RL 10.000 is assumed as datum level (ie Not AHD)
9.2	Existing Contour
9.820	Denotes Surveyed RL

Field Technician: R.G. Date: 02.05.2026

CQ SOIL TESTING
Servicing all of Central Queensland

QBCC - 15 305 465 ABN - 87 656 845 448

Phone: (07) 4936 1163
Email: info@cqsoiltesting.com.au
Website: www.cqsoiltesting.com.au

Project:
LOT 1–3 MONTGOMERIE STREET
LAKES CREEK, QLD

For:
A SOS

Title: CONTOUR & SITE PLAN

Scale:	1:500 (A3)	Date:	MAY '26
Sheet:	1 of 1	Drawn:	C.T.
Job No:	CQ30906	Rev:	A

Document Set ID: 41324220
Version: 1, Version Date: 01/06/2026
Print Date: 5 June 2026, 4:13 pm

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APPENDIX D – Laboratory Test Results

Document Set ID: 41324220
Version: 1, Version Date: 01/06/2026
Print Date: 5 June 2026, 4:13 pm

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Material Test Report

Report Number: P24104-514
Issue Number: 2 - *This version supersedes all previous issues*
Reissue Reason: *Material description updated*
Date Issued: 12/05/2026
Client: CQ Soil Testing Pty Ltd

Contact: Alison Alick
Project Number: P24104
Project Name: CQST Labs
Project Location: Delivered
Contractor: CQ Soil Testing
Client Reference: CQ30906, 623 Montgomerie St Lakes Creekt
Work Request: 923
Sample Number: S923A
Date Sampled: 29/04/2026
Dates Tested: 30/04/2026 - 11/05/2026
Sampling Method: Sampled by Client
The results apply to the sample as received
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Site Selection: Selected by Client
Sample Location: **BH1, Depth: 1.2-2.0m**
Material: Silty Sandy CLAY(CI)Brown
Material Source: Insitu

CQ Soil Laboratory
32 Alexandra Street Park Avenue QLD 4701
Phone: 07 4839 7345
Email: ricky@cqsl.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

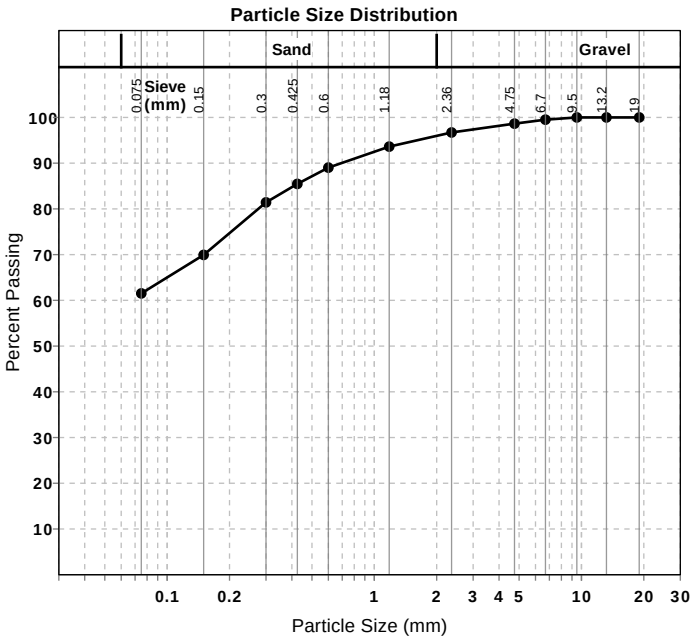
Approved Signatory: Ricky Sinnott
Laboratory Manager
Laboratory Number: 21232

Particle Size Distribution (AS1289 3.6.1)			
Sieve	Passed %	Passing Limits	
19 mm	**100**		
13.2 mm	**100**		
9.5 mm	**100**		
6.7 mm	**100**		
4.75 mm	**99**		
2.36 mm	**97**		
1.18 mm	**94**		
0.6 mm	**89**		
0.425 mm	**85**		
0.3 mm	**81**		
0.15 mm	**70**		
0.075 mm	**62**		

Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	36		
Plastic Limit (%)	25		
Plasticity Index (%)	**11**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	**9.5**		
Cracking Crumbling Curling	Curling		

Moisture Content (AS 1289 2.1.1)		Min	Max
Moisture Content (%)	15.1		



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Material Test Report

Report Number: P24104-514
Issue Number: 2 - *This version supersedes all previous issues*
Reissue Reason: *Material description updated*
Date Issued: 12/05/2026
Client: CQ Soil Testing Pty Ltd

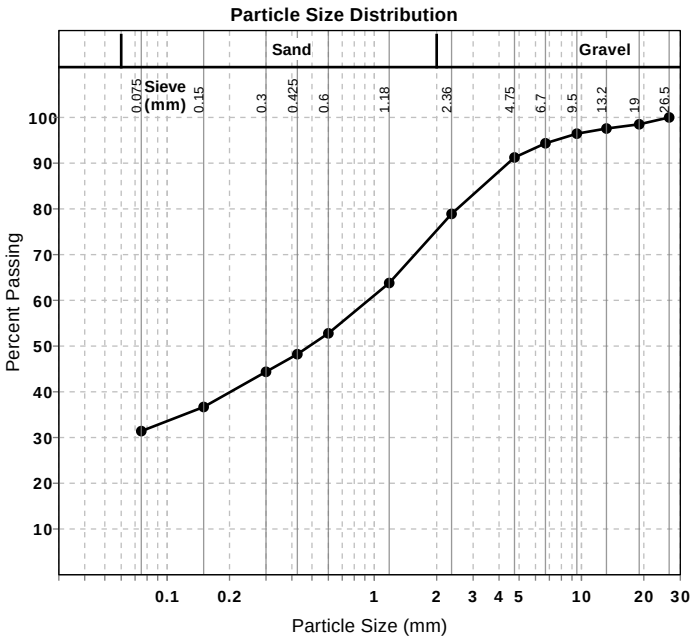
Contact: Alison Alick
Project Number: P24104
Project Name: CQST Labs
Project Location: Delivered
Contractor: CQ Soil Testing
Client Reference: CQ30906, 623 Montgomerie St Lakes Creekt
Work Request: 923
Sample Number: S923B
Date Sampled: 29/04/2026
Dates Tested: 30/04/2026 - 11/05/2026
Sampling Method: Sampled by Client
The results apply to the sample as received
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Site Selection: Selected by Client
Sample Location: **BH2, Depth: 1.0-1.5m**
Material: Silty Clayey Sand(SC)Brown
Material Source: Insitu

CQ Soil Laboratory
32 Alexandra Street Park Avenue QLD 4701
Phone: 07 4839 7345
Email: ricky@cqsl.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Ricky Sinnott
Laboratory Manager
Laboratory Number: 21232

Particle Size Distribution (AS1289 3.6.1)			
Sieve	Passed %	Passing Limits	
26.5 mm	**100**		
19 mm	**99**		
13.2 mm	**98**		
9.5 mm	**96**		
6.7 mm	**94**		
4.75 mm	**91**		
2.36 mm	**79**		
1.18 mm	**64**		
0.6 mm	**53**		
0.425 mm	**48**		
0.3 mm	**44**		
0.15 mm	**37**		
0.075 mm	**31**		



Atterberg Limit (AS1289 3.1.2 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	29		
Plastic Limit (%)	19		
Plasticity Index (%)	**10**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	**6.5**		
Cracking Crumbling Curling	Cracking		

Moisture Content (AS 1289 2.1.1)		Min	Max
Moisture Content (%)	10.0		

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APPENDIX E – Attachments

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Legend

Cadastre (DCDB) parcel

Places: My Places(1)

Site

N

0 25 metres

Scale: 1:1500

Printed at: A4

Print date: 14/5/2026

Projection: Web Mercator EPSG 102100 (3857)

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Queensland Government

Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development

Print Date: 5 June 2026, 4:13 pm

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PDF report

Lot:	1
Plan:	RP603374
Lot plan:	1RP603374
Area (sq m):	4047
Tenure:	Freehold
Segment parcel:	42177113
Parcel indicator:	
Local government:	Rockhampton Regional
Locality:	Lakes Creek
Accuracy:	UPGRADE ADJUSTMENT - 1M
Surveyed:	Y
Smart Map:	https://apps.information.qld.gov.au/data/v2/Cadastre/SmartMap?lot=1&plan=RP603374
st_area(shape):	3.576e-7
st_perimeter(shape):	0.002663505
Layer:	Cadastre (DCDB) parcel

Created On: 14/05/2026, 7:39:54 am Created By: Guest

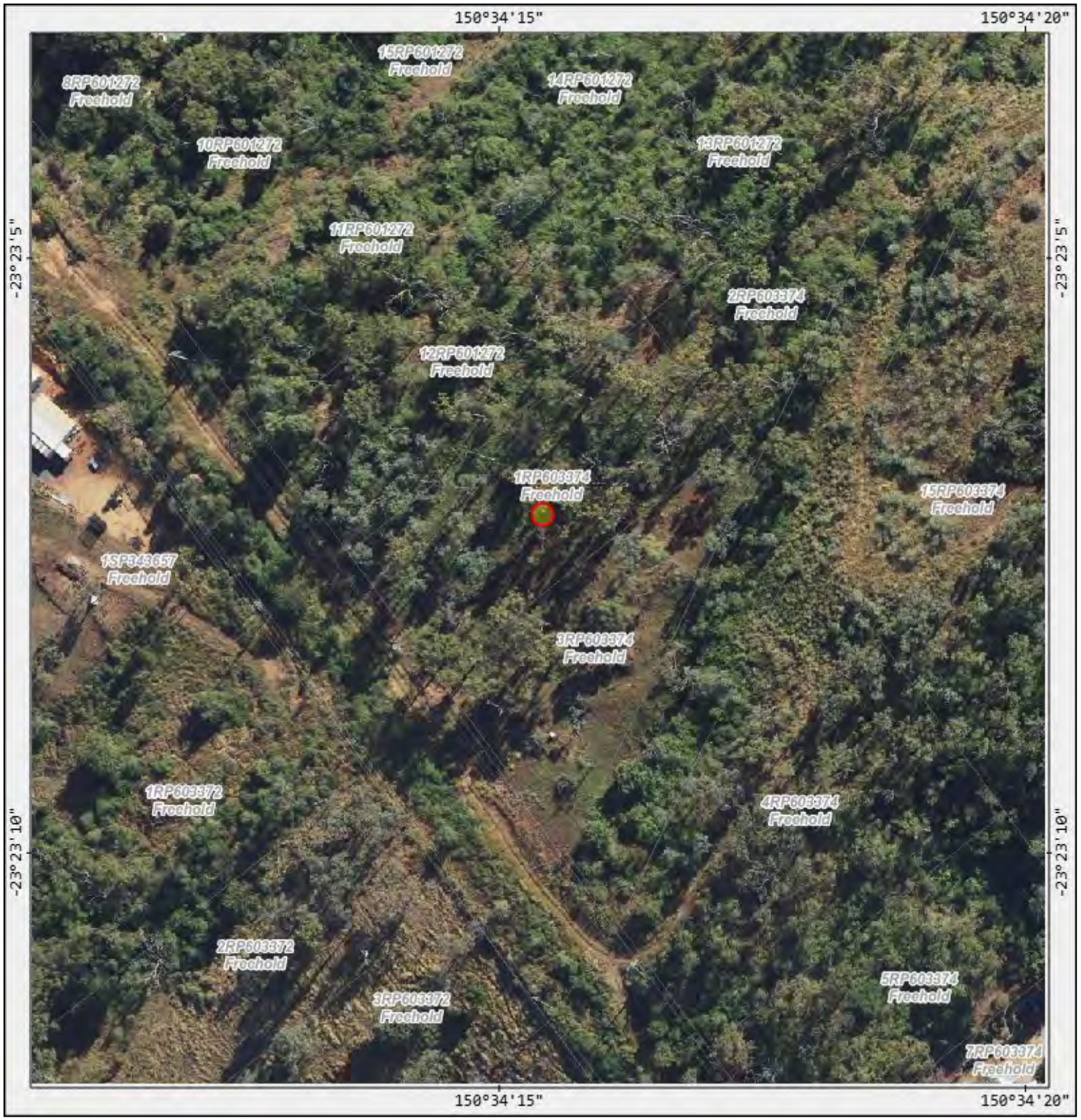
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Legend

Cadastre (DCDB) parcel

Places: My Places(1)

Site

N

0 25 metres

Scale: 1:1500

Printed at: A4

Print date: 14/5/2026

Projection: Web Mercator EPSG 102100 (3857)

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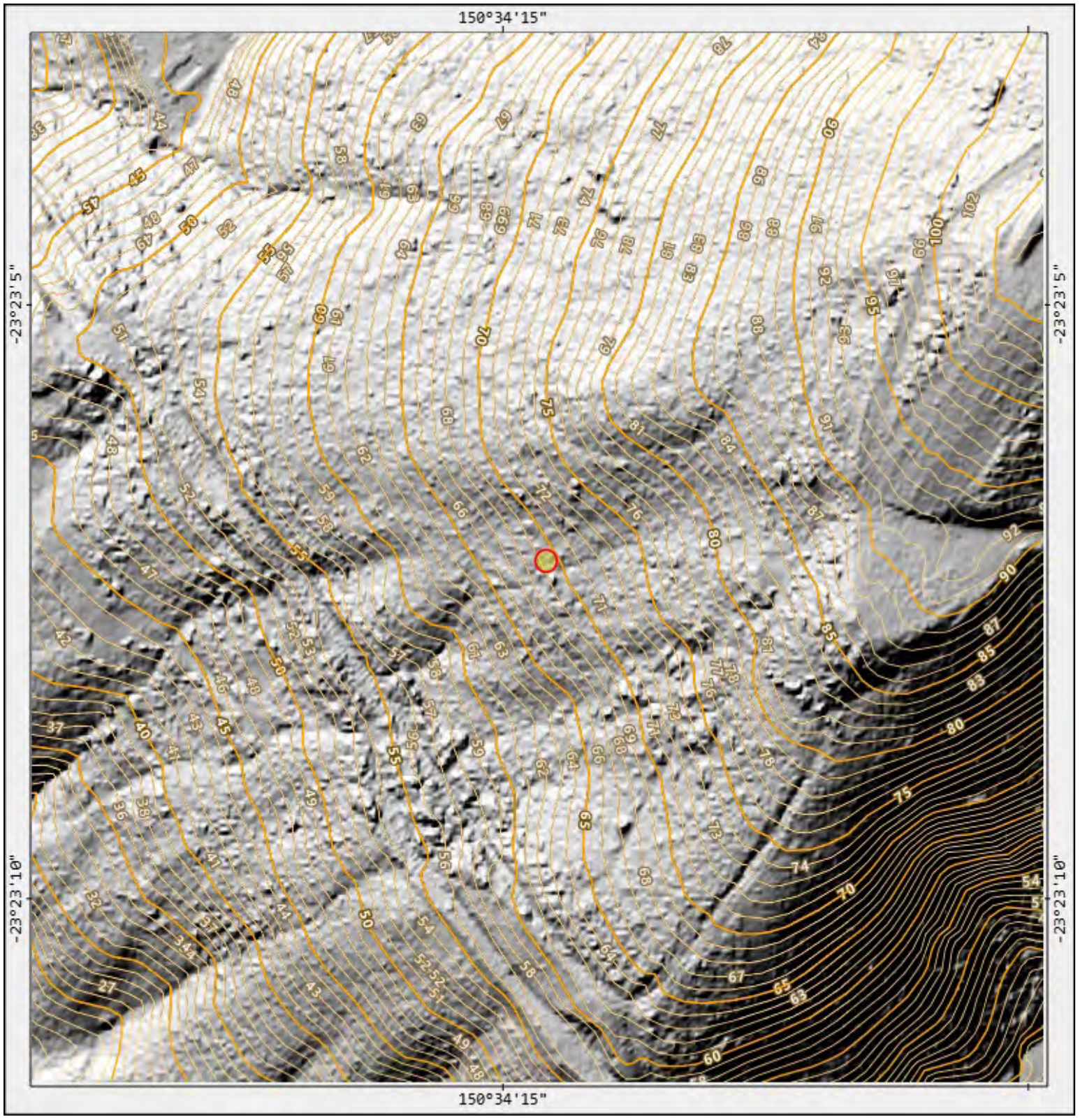
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Legend located on next page

N

0 25 metres

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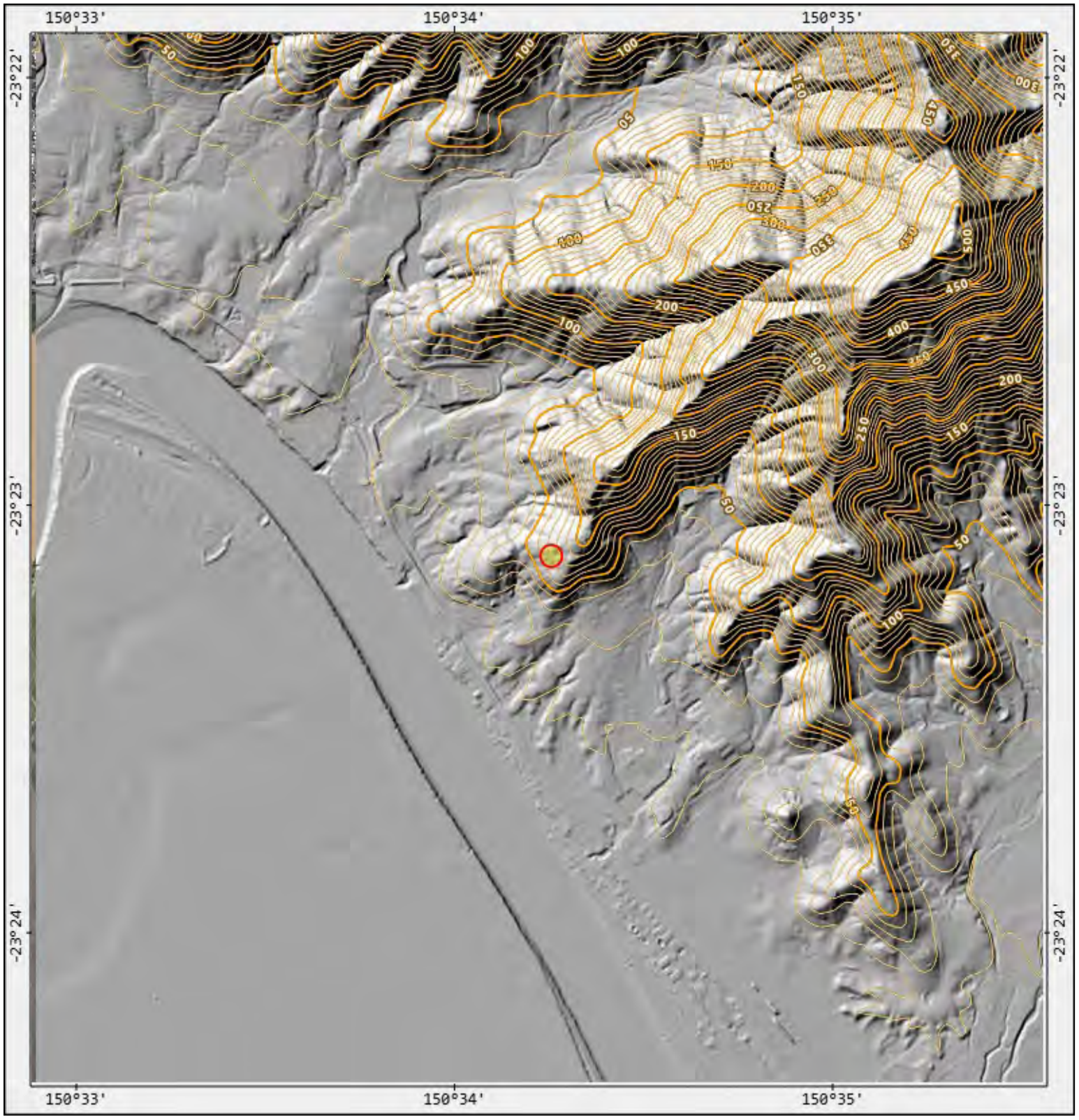
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Legend located on next page

N

0 500 metres

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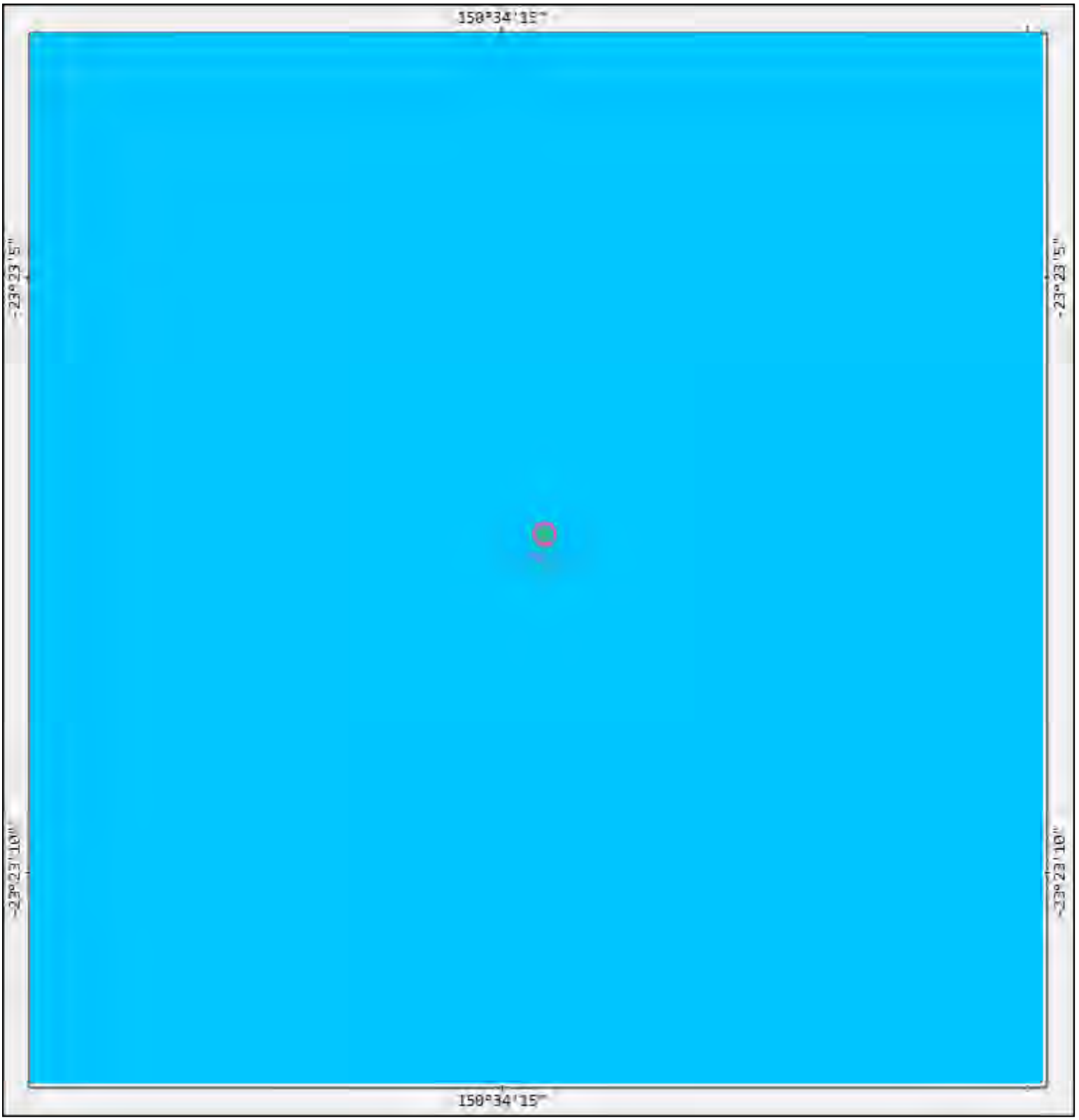
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Document Set ID: 41324220
Version: 1, Version Date: 01/06/2026

Legend

Detailed surface geology

Lakes Creek Formation

Places: My Places(1)

Site

N

0 25 metres

Scale: 1:1500

Printed at: A4

Print date: 14/5/2026

Projection: Web Mercator EPSG 102100 (3857)

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PDF report

Rock unit key (Surface):	11746
Rock unit name:	Lakes Creek Formation
Map symbol:	Pkl
Lithological summary:	Siltstone and lithic sandstone
Dominant rock:	ARENITE-MUDROCK
Rock type:	STRATIFIED UNIT (INCLUDING VOLCANIC AND METAMORPHIC)
Age:	EARLY PERMIAN
Legend:	Lakes Creek Formation (Pkl)
Legend sequence:	3290
Rock unit key (Solid):	11746
Layer:	Detailed surface geology

Created On: 14/05/2026, 8:40:46 am Created By: Guest

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AUSTRALIAN GEOGUIDE LR7 (LANDSLIDE RISK)

LANDSLIDE RISK

Concept of Risk

Risk is a familiar term, but what does it really mean? It can be defined as *"a measure of the probability and severity of an adverse effect to health, property, or the environment."* This definition may seem a bit complicated. In relation to landslides, geotechnical practitioners (GeoGuide LR1) are required to assess risk in terms of the likelihood that a particular landslide will occur and the possible consequences. This is called landslide risk assessment. The consequences of a landslide are many and varied, but our concerns normally focus on loss of, or damage to, property and loss of life.

Landslide Risk Assessment

Some local councils in Australia are aware of the potential for landslides within their jurisdiction and have responded by designating specific "landslide hazard zones". Development in these areas is often covered by special regulations. If you are contemplating building, or buying an existing house, particularly in a hilly area, or near cliffs, go first for information to your local council.

Landslide risk assessment must be undertaken by a geotechnical practitioner. It may involve visual inspection, geological mapping, geotechnical investigation and monitoring to identify:

- potential landslides (there may be more than one that could impact on your site)
- the likelihood that they will occur
- the damage that could result
- the cost of disruption and repairs and
- the extent to which lives could be lost.

Risk assessment is a predictive exercise, but since the ground and the processes involved are complex, prediction tends to lack precision. If you commission a landslide risk assessment for a particular site you should expect to receive a report prepared in accordance with current professional guidelines and in a form that is acceptable to your local council, or planning authority.

Risk to Property

Table 1 indicates the terms used to describe risk to property. Each risk level depends on an assessment of how likely a landslide is to occur and its consequences in dollar terms. "Likelihood" is the chance of it happening in any one year, as indicated in Table 2. "Consequences" are related to the cost of repairs and temporary loss of use if a landslide occurs. These two factors are combined by the geotechnical practitioner to determine the Qualitative Risk.

TABLE 2: LIKELIHOOD

Likelihood	Annual Probability
Almost Certain	1:10
Likely	1:100
Possible	1:1,000
Unlikely	1:10,000
Rare	1:100,000
Barely credible	1:1,000,000

The terms "unacceptable", "may be tolerated", etc. in Table 1 indicate how most people react to an assessed risk level. However, some people will always be more prepared, or better able, to tolerate a higher risk level than others.

Some local councils and planning authorities stipulate a maximum tolerable level of risk to property for developments within their jurisdictions. In these situations the risk must be assessed by a geotechnical practitioner. If stabilisation works are needed to meet the stipulated requirements these will normally have to be carried out as part of the development, or consent will be withheld.

TABLE 1: RISK TO PROPERTY

Qualitative Risk		Significance - Geotechnical engineering requirements
Very high	VH	**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 the value of the property.
High	H	**Unacceptable** without treatment. Detailed investigation, planning and implementation of treatment options required to reduce risk to acceptable level. Work would cost a substantial sum in relation to the value of the property.
Moderate	M	**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 possible.
Low	L	**Usually acceptable** to regulators. Where treatment has been needed to reduce the risk to this level, ongoing maintenance is required.
Very Low	VL	**Acceptable**. Manage by normal slope maintenance procedures.

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AUSTRALIAN GEOGUIDE LR7 (LANDSLIDE RISK)

Risk to Life

Most of us have some difficulty grappling with the concept of risk and deciding whether, or not, we are prepared to accept it. However, without doing any sort of analysis, or commissioning a report from an "expert", we all take risks every day. One of them is the risk of being killed in an accident. This is worth thinking about, because it tells us a lot about ourselves and can help to put an assessed risk into a meaningful context. By identifying activities that we either are, or are not, prepared to engage in we can get some indication of the maximum level of risk that we are prepared to take. This knowledge can help us to decide whether we really are able to accept a particular risk, or to tolerate a particular likelihood of loss, or damage, to our property (Table 2).

In Table 3, data from NSW for the years 1998 to 2002, and other sources, is presented. A risk of 1 in 100,000 means that, in any one year, 1 person is killed for every 100,000 people undertaking that particular activity. The NSW data assumes that the whole population undertakes the activity. That is, we are all at risk of being killed in a fire, or of choking on our food, but it is reasonable to assume that only people who go deep sea fishing run a risk of being killed while doing it.

It can be seen that the risks of dying as a result of falling, using a motor vehicle, or engaging in water-related activities (including bathing) are all greater than 1:100,000 and yet few people actively avoid situations where these risks are present. Some people are averse to flying and yet it represents a lower risk than choking to death on food. Importantly, the data also indicate that, even when the risk of dying as a consequence of a particular event is very small, it could still happen to any one of us any day. If this were not so, no one would ever be struck by lightning.

Most local councils and planning authorities that stipulate a tolerable risk to property also stipulate a tolerable risk to life. The AGS Practice Note Guideline recommends that 1:100,000 is tolerable in newly developed areas, where works can be carried out as part of the development to limit risk. The tolerable level is raised to 1:10,000 in established areas, where specific landslide hazards may have existed for many years. The distinction is deliberate and intended to prevent the concept of landslide risk management, for its own sake, becoming an unreasonable financial burden on existing communities. Acceptable risk is usually taken to be one tenth of the tolerable risk (1:1,000,000 for new developments and 1:100,000 for established areas) and efforts should be made to attain these where it is practicable and financially realistic to do so.

TABLE 3: RISK TO LIFE

Risk (deaths per participant per year)	**Activity/Event Leading to Death** (NSW data unless noted)
1:1,000	Deep sea fishing (UK)
1:1,000 to 1:10,000	Motor cycling, horse riding , ultra-light flying (Canada)
1:23,000	Motor vehicle use
1:30,000	Fall
1:70,000	Drowning
1:180,000	Fire/burn
1:660,000	Choking on food
1:1,000,000	Scheduled airlines (Canada)
1:2,300,000	Train travel
1:32,000,000	Lightning strike

More information relevant to your particular situation may be found in other AUSTRALIAN GEOGUIDES:

- GeoGuide LR1 - Introduction
- GeoGuide LR2 - Landslides
- GeoGuide LR3 - Landslides in Soil
- GeoGuide LR4 - Landslides in Rock
- GeoGuide LR5 - Water & Drainage
- GeoGuide LR6 - Retaining Walls
- GeoGuide LR8 - Hillside Construction
- GeoGuide LR9 - Effluent & Surface Water Disposal
- GeoGuide LR10 - Coastal Landslides
- GeoGuide LR11 - Record Keeping

The Australian GeoGuides (LR series) are a set of publications intended for property owners; local councils; planning authorities; developers; insurers; lawyers and, in fact, anyone who lives with, or has an interest in, a natural or engineered slope, a cutting, or an excavation. They are intended to help you understand why slopes and retaining structures can be a hazard and what can be done with appropriate professional advice and local council approval (if required) to remove, reduce, or minimise the risk they represent. The GeoGuides have been prepared by the Australian Geomechanics Society, a specialist technical society within Engineers Australia, the national peak body for all engineering disciplines in Australia, whose members are professional geotechnical engineers and engineering geologists with a particular interest in ground engineering. The GeoGuides have been funded under the Australian governments' National Disaster Mitigation Program.

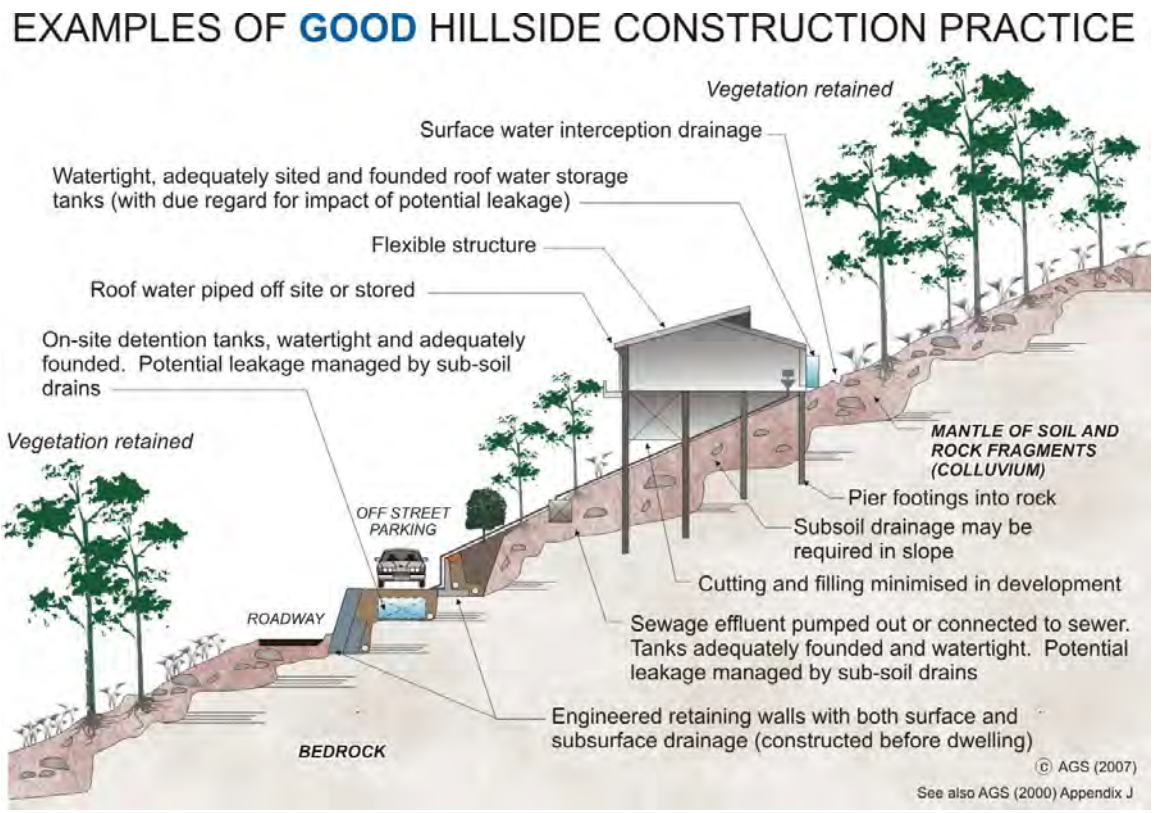
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AUSTRALIAN GEOGUIDE LR8 (CONSTRUCTION PRACTICE)

HILLSIDE CONSTRUCTION PRACTICE

Sensible development practices are required when building on hillsides, particularly if the hillside has more than a low risk of instability (GeoGuide LR7). Only building techniques intended to maintain, or reduce, the overall level of landslide risk should be considered. Examples of good hillside construction practice are illustrated below.



WHY ARE THESE PRACTICES GOOD?

Roadways and parking areas - are paved and incorporate kerbs which prevent water discharging straight into the hillside (GeoGuide LR5).

Cuttings - are supported by retaining walls (GeoGuide LR6).

Retaining walls - are engineer designed to withstand the lateral earth pressures and surcharges expected, and include drains to prevent water pressures developing in the backfill. Where the ground slopes steeply down towards the high side of a retaining wall, the disturbing force (see GeoGuide LR6) can be two or more times that in level ground. Retaining walls must be designed taking these forces into account.

Sewage - whether treated or not is either taken away in pipes or contained in properly founded tanks so it cannot soak into the ground.

Surface water - from roofs and other hard surfaces is piped away to a suitable discharge point rather than being allowed to infiltrate into the ground. Preferably, the discharge point will be in a natural creek where ground water exits, rather than enters, the ground. Shallow, lined, drains on the surface can fulfil the same purpose (GeoGuide LR5).

Surface loads - are minimised. No fill embankments have been built. The house is a lightweight structure. Foundation loads have been taken down below the level at which a landslide is likely to occur and, preferably, to rock. This sort of construction is probably not applicable to soil slopes (GeoGuide LR3). If you are uncertain whether your site has rock near the surface, or is essentially a soil slope, you should engage a geotechnical practitioner to find out.

Flexible structures - have been used because they can tolerate a certain amount of movement with minimal signs of distress and maintain their functionality.

Vegetation clearance - on soil slopes has been kept to a reasonable minimum. Trees, and to a lesser extent smaller vegetation, take large quantities of water out of the ground every day. This lowers the ground water table, which in turn helps to maintain the stability of the slope. Large scale clearing can result in a rise in water table with a consequent increase in the likelihood of a landslide (GeoGuide LR5). An exception may have to be made to this rule on steep rock slopes where trees have little effect on the water table, but their roots pose a landslide hazard by dislodging boulders.

Possible effects of ignoring good construction practices are illustrated on page 2. Unfortunately, these poor construction practices are not as unusual as you might think and are often chosen because, on the face of it, they will save the developer, or owner, money. You should not lose sight of the fact that the cost and anguish associated with any one of the disasters illustrated, is likely to more than wipe out any apparent savings at the outset.

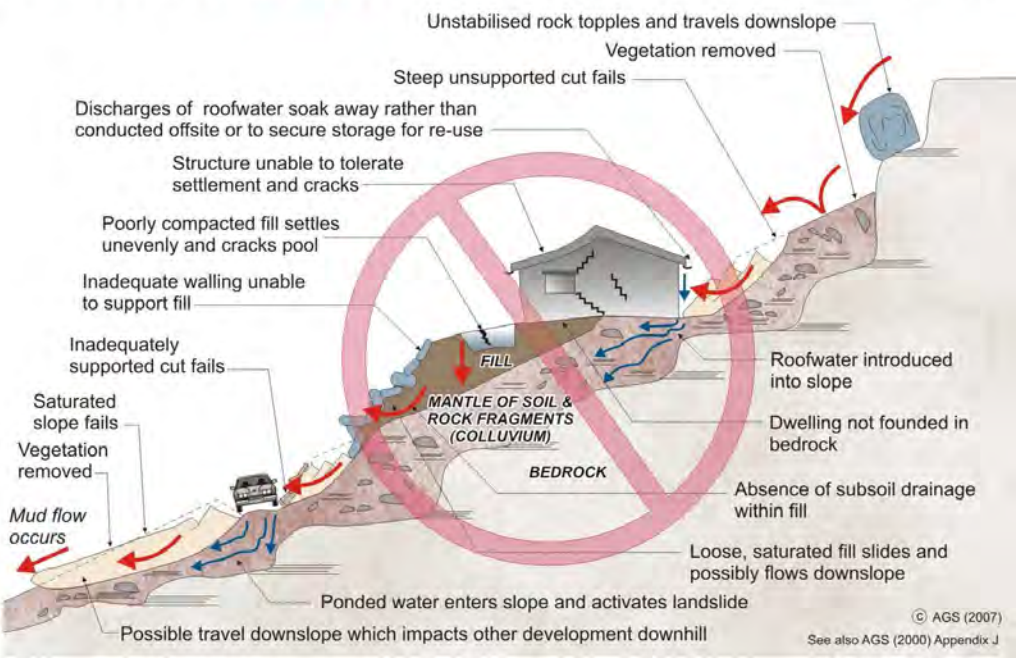
ADOPT GOOD PRACTICE ON HILLSIDE SITES

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AUSTRALIAN GEOGUIDE LR8 (CONSTRUCTION PRACTICE)

EXAMPLES OF POOR HILLSIDE CONSTRUCTION PRACTICE



WHY ARE THESE PRACTICES POOR?

Roadways and parking areas - are unsurfaced and lack proper table drains (gutters) causing surface water to pond and soak into the ground.

Cut and fill - has been used to balance earthworks quantities and level the site leaving unstable cut faces and added large surface loads to the ground. Failure to compact the fill properly has led to settlement, which will probably continue for several years after completion. The house and pool have been built on the fill and have settled with it and cracked. Leakage from the cracked pool and the applied surface loads from the fill have combined to cause landslides.

Retaining walls - have been avoided, to minimise cost, and hand placed rock walls used instead. Without applying engineering design principles, the walls have failed to provide the required support to the ground and have failed, creating a very dangerous situation.

A heavy, rigid, house - has been built on shallow, conventional, footings. Not only has the brickwork cracked because of the resulting ground movements, but it has also become involved in a man-made landslide.

Soak-away drainage - has been used for sewage and surface water run-off from roofs and pavements. This water soaks into the ground and raises the water table (GeoGuide LR5). Subsoil drains that run along the contours should be avoided for the same reason. If felt necessary, subsoil drains should run steeply downhill in a chevron, or herring bone, pattern. This may conflict with the requirements for effluent and surface water disposal (GeoGuide LR9) and if so, you will need to seek professional advice.

Rock debris - from landslides higher up on the slope seems likely to pass through the site. Such locations are often referred to by geotechnical practitioners as "debris flow paths". Rock is normally even denser than ordinary fill, so even quite modest boulders are likely to weigh many tonnes and do a lot of damage once they start to roll. Boulders have been known to travel hundreds of metres downhill leaving behind a trail of destruction.

Vegetation - has been completely cleared, leading to a possible rise in the water table and increased landslide risk (GeoGuide LR5).

DON'T CUT CORNERS ON HILLSIDE SITES - OBTAIN ADVICE FROM A GEOTECHNICAL PRACTITIONER

More information relevant to your particular situation may be found in other Australian GeoGuides:

- GeoGuide LR1 - Introduction
- GeoGuide LR2 - Landslides
- GeoGuide LR3 - Landslides in Soil
- GeoGuide LR4 - Landslides in Rock
- GeoGuide LR5 - Water & Drainage
- GeoGuide LR6 - Retaining Walls
- GeoGuide LR7 - Landslide Risk
- GeoGuide LR9 - Effluent & Surface Water Disposal

GeoGuide LR10 - Coastal Landslides

- GeoGuide LR11 - Record Keeping

The Australian GeoGuides (LR series) are a set of publications intended for property owners; local councils; planning authorities; developers; insurers; lawyers and, in fact, anyone who lives with, or has an interest in, a natural or engineered slope, a cutting, or an excavation. They are intended to help you understand why slopes and retaining structures can be a hazard and what can be done with appropriate professional advice and local council approval (if required) to remove, reduce, or minimise the risk they represent. The GeoGuides have been prepared by the Australian Geomechanics Society, a specialist technical society within Engineers Australia, the national peak body for all engineering disciplines in Australia, whose members are professional geotechnical engineers and engineering geologists with a particular interest in ground engineering. The GeoGuides have been funded under the Australian governments' National Disaster Mitigation Program.

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8 APPENDICES

Appendix A - Landslide susceptibility analysis form

LANDSLIDE SUSCEPTIBILITY ANALYSIS **Analysis No.** 1

Location: **Site No.**

1 Natural Surface Slope

Site		Level	Factor
	Less than 5 degrees	L	0.1
	Between 5 and 15 degrees	M	0.5
X	Between 15 and 30 degrees	M	0.8
	Between 30 and 45 degrees	H	1.2
	More than 45 degrees	M	0.8

2 Slope Shape

Site		Level	Factor
	Crest or ridge	L	0.7
	Planar / Convex	M	0.9
X	Rough / Irregular	H	1.2
	Concave	H	1.5

3 Site Geology

Site		Level	Factor
	Volcanic Extrusive rock	H	1.1
X	Sedimentary rock	M	1
	Low grade metamorphic rock	M	1
	High grade metamorphic rock	L	0.9
	Volcanic Intrusive rock	M	1

4 Soils

Site		Level	Factor
	Rock at surface	VL	0.1
	Residual soil < 1m deep	L	0.5
	Residual soil 1-3m deep	M	0.9
	Residual soil > 3m deep	H	1.5
X	Colluvial soil < 1m deep	H	1.5
	Colluvial soil 1-3m deep	VH	2
	Colluvial soil > 3m deep	VH	4

5 Fill height

Site		Level	Factor
	None	L	1
	Less than 1m	M	1.1
X	Between 1 and 3m	M	1.3
	Between 3 and 6m	H	1.7
	More than 6m	VH	2.5

6 Evidence of groundwater

Site		Level	Factor
X	None apparent	L	0.7
	Minor moistness	M	0.9
	Generally wet	H	1.5
	Surface springs	VH	3

7 Cut height

Site		Level	Factor
	None	L	1
	Less than 1m	M	1.1
X	Between 1 and 3m	M	1.3
	Between 3 and 6m	H	1.7
	More than 6m	VH	2.5

8 Slope of cut face

Site		Level	Factor
X	Less than 30 degrees	L	0.5
	Between 30 and 45 degrees	M	1
	Between 45 and 60 degrees	H	1.5
	More than 60 degrees	VH	3

9 Material in cutting

Site		Level	Factor
	High strength rock	L	0.5
	Medium strength rock	L	1
	Low strength rock	M	1.2
X	Very low strength rock and soil	H	1.5
	Soil	VH	2

10 Cut slope support

Site		Level	Factor
	Concrete wall	L	0.5
	Crib wall	M	0.9
	Gabion wall	M	1
	Rockwall	H	1.5
X	Unsupported	H	2

11 Concentration of surface water

Site		Level	Factor
	Ridge	L	0.7
	Crest	L	0.8
	Upper slope	M	0.9
X	Mid slope	H	1.2
	Lower slope	VH	1.5

12 Wastewater Disposal

Site		Level	Factor
	Fully sewered	L	1
X	Onsite disposal - Surface	L	1.2
	Onsite disposal - Soak/Trenches	M	1.5

13 Stormwater Disposal

Site		Level	Factor
	All stormwater piped into road drain	L	0.7
X	Rain water tank with overflows	L	1
	Stormwater discharge on site	M	1.5

14 Evidence of instability

Site		Level	Factor
X	No sign of instability	L	0.8
	Soil Creep	H	1.2
	Minor irregularity	VH	2
	Major irregularity	VH	5
	Active instability	VH	10

Summary

			Factor
1	Natural surface slope		0.8
2	Slope shape		1.2
3	Site geology		1
4	Soils		1.5
5	Fill height		1.3
6	Evidence of groundwater		0.7
7	Cut height		1.3
8	Slope of cut face		0.5
9	Material in cut		1.5
10	Cut slope support		2
11	Concentration of surface water		1.2
12	Wastewater disposal		1.2
13	Stormwater disposal		1
14	Evidence of instability		0.8
Relative Susceptibility (1x2x3x4x5x6x7x8x9x10x11x12x13x14			2.944

2.9

Appendix B - Correlation between relative susceptibility and susceptibility rating

Relative Susceptibility	Susceptibility Rating
Less than 0.2	Very Low
0.2 - 0.6	Low

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0.6 - 2.0	Moderate
2.0 - 6.0	High
Greater than 6.0	Very High

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PROPERTY REPORT

Effective Date: 28/03/2025

Status: Current

Property Details

Address	621-623 Montgomerie Street Lakes Creek QLD 4701
Property Size	4,047 m^2
Lot and Plan	1RP603374



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Zones

Rural

Overlay - Airport Environs

Obstacle Limitation Surface - Up to 45 metres above ground level

Wildlife Hazard Buffer Area - 13km

Overlay - Biodiversity

Biodiversity Areas – Matters of Local Environmental Significance (MLES) - High

Biodiversity Areas – Matters of Local Environmental Significance (MLES) – General

Biodiversity Areas – Matters of State Environmental Significance (MSES)

Overlay - Bushfire Hazard

Bushfire Hazard Classification - Very High

Information Overlay - Road Hierarchy

Road Hierarchy - Minor Rural Collector

Overlay - Special Management Area

Special Management Area

Overlay - Steep Land

Steep Land 15-20%

Steep Land 20-25%

Steep Land 25%+

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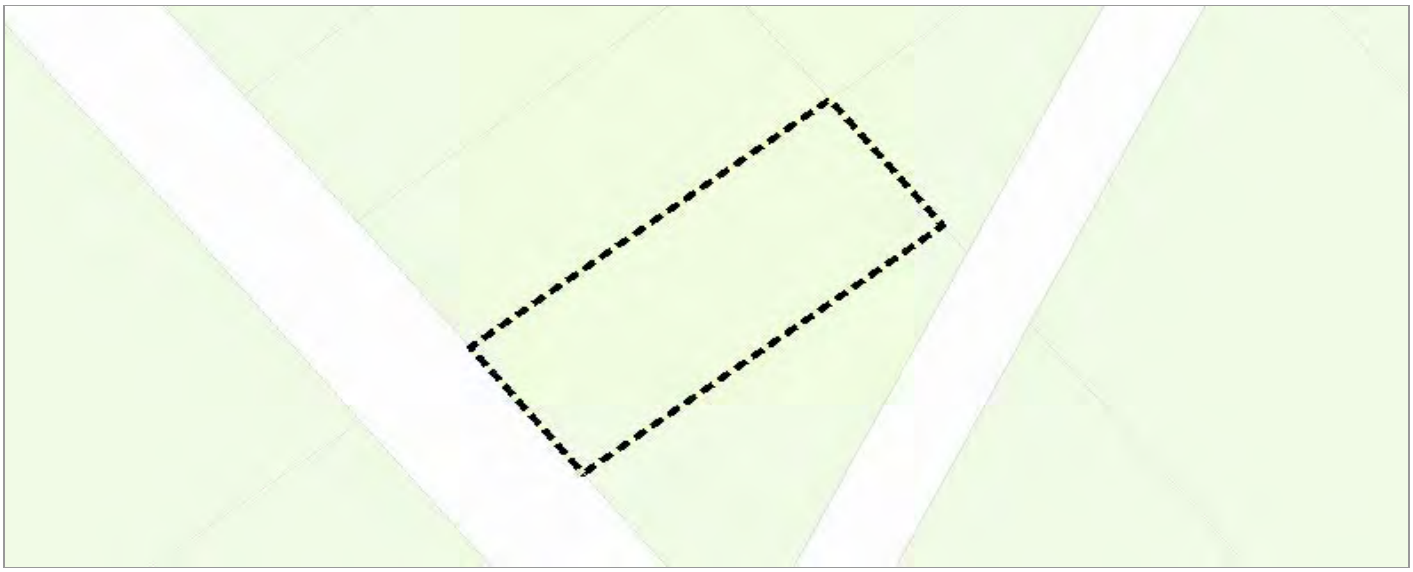
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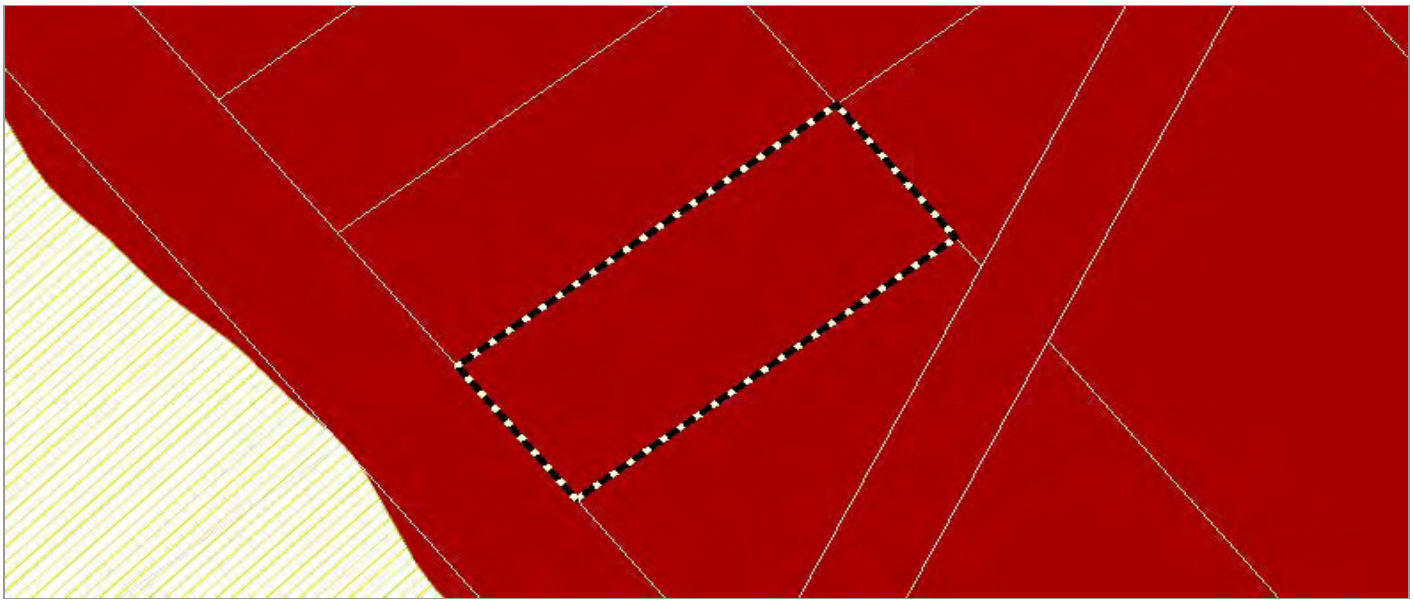
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The maps below represent only a selection of the overlays that may apply to this property. To view the complete list of applicable overlays, refer to the full list provided at the beginning of this report.

ZONES AND PRECINCTS



BUSHFIRE HAZARD OVERLAY



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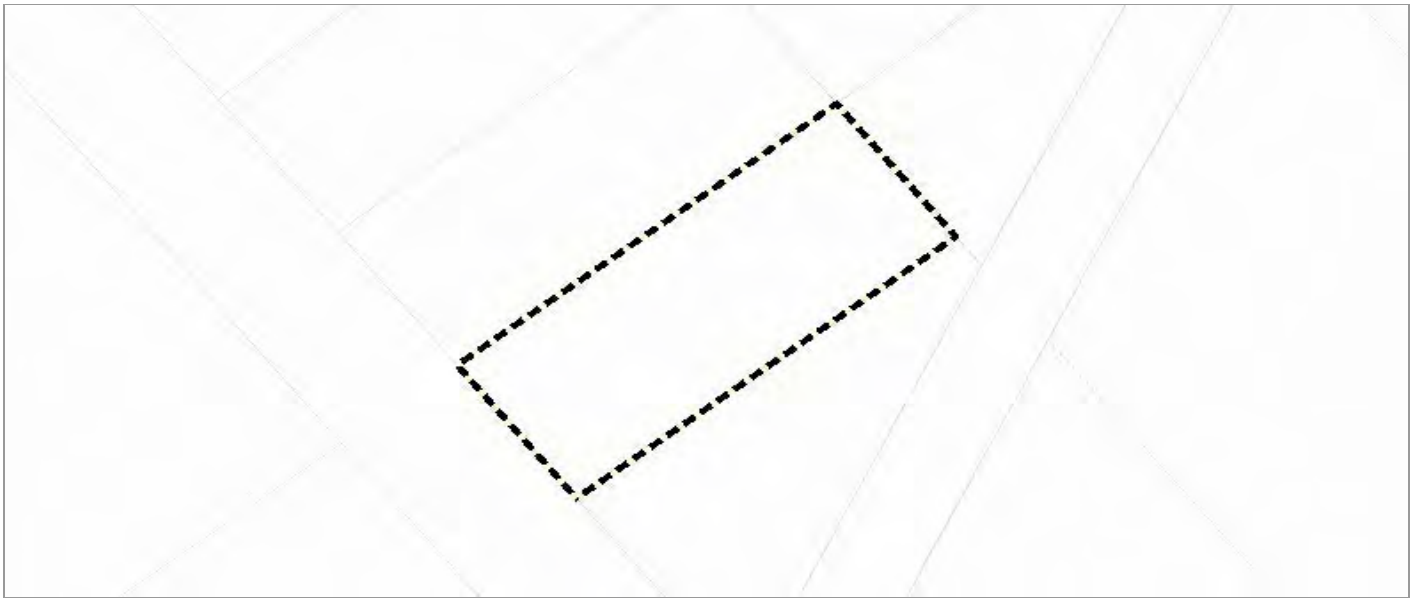
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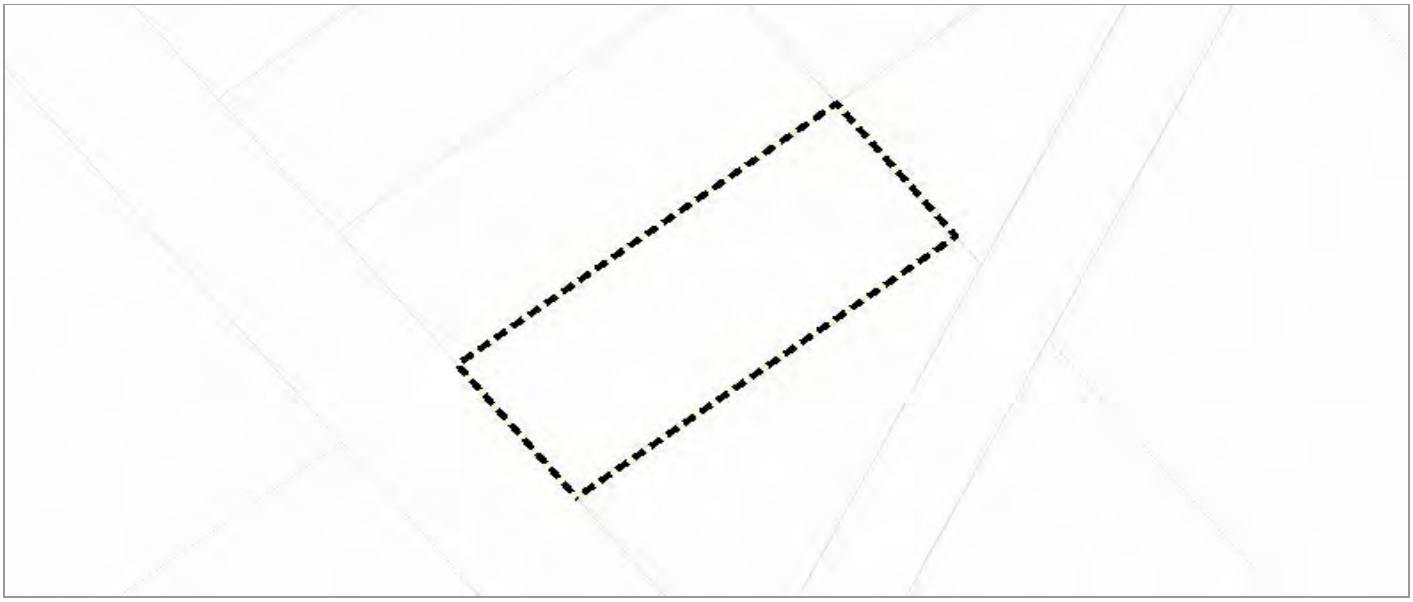
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CHARACTER OVERLAY



FLOOD HAZARD OVERLAY



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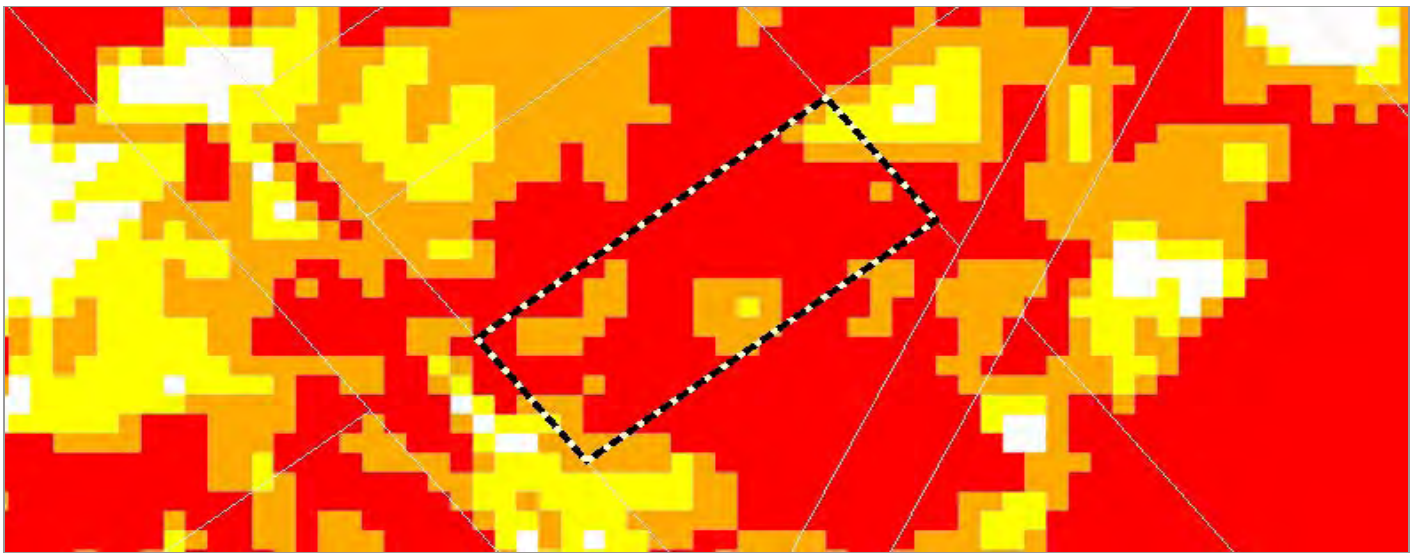
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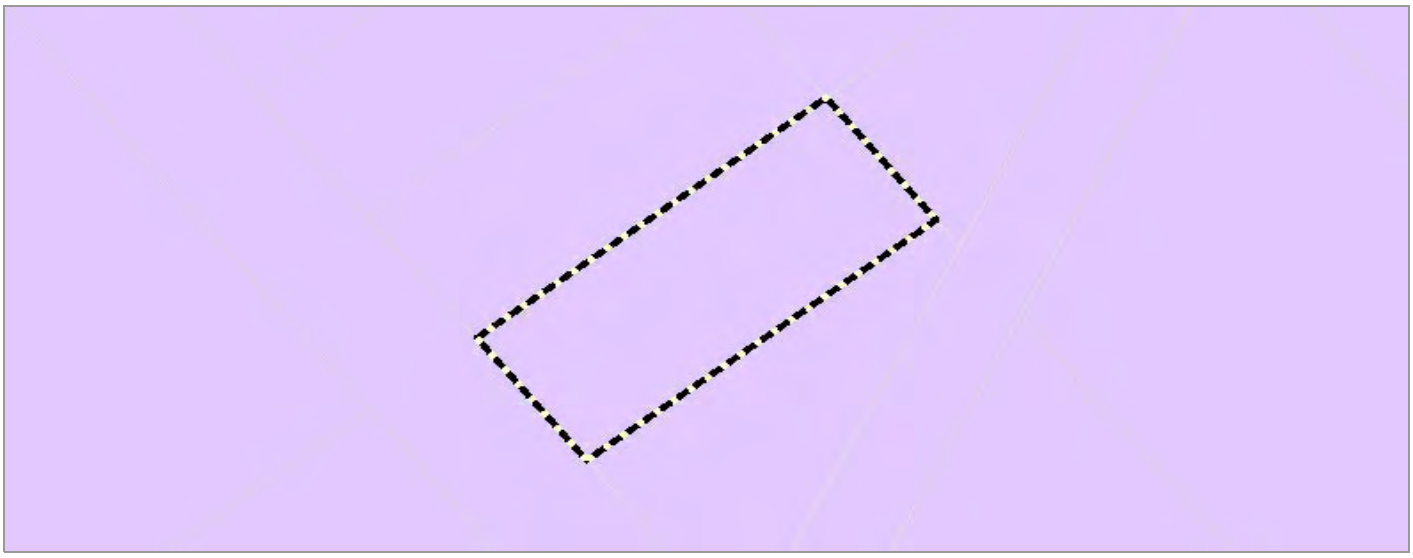
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STEEP LAND OVERLAY



SPECIAL MANAGEMENT AREA OVERLAY



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PROPERTY REPORT

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Contact Council

For further information, contact Rockhampton Regional Council:

- By phone on **07 4932 9000**
- By email to enquiries@rrc.qld.gov.au

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LIMITATIONS

1. Recommendations given in this report are based on the information supplied by the client regarding the proposed building construction in conjunction with the findings of the investigation. Any change in construction type, building location or omission in the client supplied information, may require additional testing and/or make the recommendations invalid.

2. The recommendations herein may identify a target soil stratum into which the footings should be founded. The target stratum has been located by the depth in mm of the target stratum's upper horizon boundary below the existing ground surface level at the time of the site investigation. Any cutting or filling works and any surface erosion or deposits subsequent to the site investigation, will alter the measured location of the stratum relative to the surface. Where required, the author should be notified in such cases to confirm the location of the target stratum.

3. The description of the soil given in Section 3.0 of this report is intended as a brief overview of the soil's primary constituents. For a detailed classification of the soil, the reader should refer to the Soil Profile Reports and/or Borehole Reports.

4. Every reasonable effort has been made to locate the test sites so that the borehole profiles are representative of the soil conditions within the area investigated. The client should be made aware, however, that exploration is limited by time available and economic restraints. In some cases, soil conditions can change dramatically over short distances, therefore, even careful exploration programs may not locate all the variations.

5. If soil conditions different from those shown in this report are encountered or are inferred from other sources, then the author must be notified immediately.

6. This report may not be reproduced except in full, and only then with the permission of the entity trading as CQ Soil Testing. The information and site sketch shall only be used and will only be applicable for the development shown on the client-supplied information provided for this site.

7. All information contained within this report is the intellectual property of the entity trading as CQ Soil Testing. All information contained within can only be used for the express purposes of the commissioned scope of works.

8. Any dimensions, contours, slope directions and magnitudes shown on the site sketch plan shall not be used for any building construction or costing calculations. The purpose of the plan is to show the approximate location of field tests only.

9. Any changes made to these recommendations by persons unauthorized by the author will legally be interpreted by that person assuming the responsibility for the long-term performance of the footing system.

10. The recommendations contained in this report have not taken into consideration the long-term effects of any previous, current, or potential subsurface work by mining companies or potential slope instability problems. At the time of writing this report neither our client (nor his agent) nor the local authority had made the author aware that these problems may be affecting this allotment. If a mining subsidence or slope stability assessment is required for this allotment, the recommendations of a suitably qualified geotechnical engineer should be sought.

11. Removal of trees from a site before an investigation can cause significant swelling of the soil over large areas. The removal of large trees from a construction site during development is rarely picked up during the investigation phase and is generally outside the scope of AS2870. Sites affected by large trees are often classified "P". If, during the footing excavation, it is noticed that there are soils with varying moisture contents or evidence of large trees having been removed CQ Soil Testing should be notified immediately.

12. The following documents are available from the CSIRO and QBCC and shall be read and adhered to in relation to this site:

    - Builder's Guide to Preventing Damage to Dwellings- Part 1 Site Investigation and Preparation
      http://www.publish.csiro.au/nid/22/pid/3621.html
    - Builder's Guide to Preventing Damage to Dwellings- Part 2 Sound Construction Methods
      http://www.publish.csiro.au/nid/22/pid/3661.html
    - QBCC Subsidence Fact Sheet
      https://www.qbcc.qld.gov.au/sites/default/files/Homeowner%27s%20Guide%20to%20Subsidence.pdf

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Explanatory Notes of Abbreviations and Terms

Used on Borehole and Excavation Logs

General

Information obtained from site investigations is recorded on log sheets. The "Engineering Log – Borehole or Non Cored Borehole" presents data from drilling operations where a core barrel has not been used to recover material, and information is based on a combination of regular sampling and in-situ testing. The material penetrated in non-core drilling is commonly soil but may include rock. The "Engineering Log – Cored Borehole" presents data from drilling operations where a core barrel has been used to recover material – commonly rock. The "Engineering Log - Excavation" presents data obtained on the subsurface profile from observations of excavations, either natural or man-made. It may contain a scaled, graphical presentation of the typical excavation profile. Refusal of the excavation plant is noted should it occur.

As far as is practicable, the data contained on the log sheets is factual. Some interpretation is inevitable in the assessment of material boundaries in areas of partial sampling, the location of areas of core loss, description and classification of material, estimation of strength and identification of drilling induced fractures. Material description and classification is generally based on AS1726-2017.

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Drilling Method

Code	Description
ADT	Auger drilling with TC-bit
ADV	Auger drilling V-bit
AS	Auger screwing
AT	Air track
CA	Casing advancer
CC	Concrete core
CTR	Cable tool rig
DB	Wash bore drag bit
HA	Hand auger
HAND	Hand methods
HF	Hollow flight auger
HMLC	Diamond core 62mm diameter
HQ	Wire line core barrel 64mm diameter
HQ3	Wire line core barrel 62mm diameter
NDD	Non destructive drilling
NMLC	Diamond core 52mm diameter
NQ	Wire line core barrel 47mm diameter
NQ3	Wire line core barrel 45mm diameter
PT	Continuous push tube
PQ	Wire line core barrel 85mm diameter
RAB	Rotary air blast
RC	Reverse circulation
RD	Rotary blade or drag bit
RR	Rock roller
RT	Rotary tricone bit
SD	Sonic drilling
TBX	Tube-X
VC	Vibro-core drilling
WB	Wash bore drilling

Drilling Penetration

Ease of penetration in non-core drilling

VE	Very easy
E	Easy
F	Firm
H	Hard
VH	Very hard

Support and Casing

Code	Description	Code	Description
C	Casing	Hw	114.3 mm
M	Mud	NW	88.9 mm
W	Water	PVC	150 mm

Core Run

Core lifts are identified by a line and depth with core loss per run as a percentage. Core loss is shown in the core run unless otherwise indicated.

Defect Spacing

The average distance between defects is measured parallel to the core axis in mm and may be expressed as a range or average.

Angle / Orientation

Angle from horizontal and orientation to magnetic north.

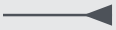
For inclined cored boreholes the Alpha and Beta angles are presented for orientated core. Alpha (α) is measured relative to the core axis, whilst Beta (β) is measured clockwise from the reference line looking down the core axis in the direction of drilling.

Excavation Method

N	Natural exposure
X	Existing excavation
BB	Tractor mounted backhoe bucket
EX	Hydraulic excavator
EH	Hydraulic excavator with hammer
B	Bulldozer blade
R	Ripper

Water / Drilling Fluid

The drilling fluid used is identified and loss of return to the surface is estimated as a percentage, generally of each core lift.

Symbol	Description
	Water inflow
	Water outflow
	Water level: during drilling or immediately after completion of drilling
	Groundwater level with date observed prior to introduction of fluids or after standpipe construction
Not observed	The observation of groundwater, whether present or not, was not possible due to drilling water, surface seepage or cave in of the borehole / test pit.
Not encountered	The borehole / test pit was dry soon after excavation, however groundwater could be present in less permeable strata. Inflow may have been observed had the borehole / test pit been left open for a longer period.

Colour

The colour of a soil or rock is described in a moist/wet condition using simple terms, such as black, white, grey, red, brown, orange, yellow green or blue. These are modified as necessary by 'pale', 'dark' or 'mottled'. Borderline colours are described as a combination of these colours (e.g. orange-brown). Where a soil or rock consists of a primary colour with a secondary mottling it is described as (primary colour) mottled (first colour) and (secondary colour).



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Description of Soil

i. Soil name (BLOCK LETTERS)
ii. Plasticity or particle size of soil
iii. Colour
iv. Secondary soil components names & estimated proportions, including their plasticity / particle characteristics, colour
v. Minor soil components name, estimated proportions, including their plasticity / particle characteristics, colour
vi. Other minor soil components
vii. Moisture condition
viii. Consistency / density
ix. Structure of soil, geological origin
x. Additional observations

Particle Size

Term		Grain Size
Clay		< 2 µm
Silt		2 – 75 µm
Sand	Fine	0.075 – 0.21 mm
	Medium	0.21 – 0.6 mm
	Coarse	0.6 – 2.36 mm
Gravel	Fine	2.36 – 6.7 mm
	Medium	6.7 – 19 mm
	Coarse	19 – 63 mm
Cobbles		63 – 200 mm
Boulders		> 200 mm

Fine Grained and Coarse Grained Soils

Term	Description
Fine Grained Soil (cohesive)	More than 35% of the material less than 63 mm is smaller than 0.075 mm (silts and clays)
Coarse Grained Soil	More than 65% of the material less than 63 mm is larger than 0.075 mm (sands, gravels and cobbles)

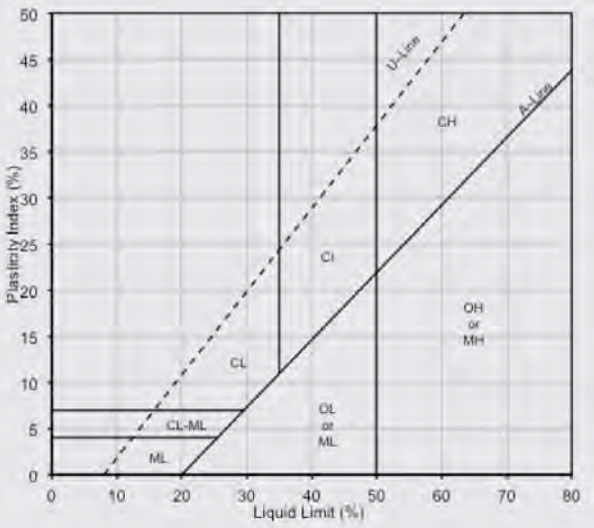
Descriptive Terms for Secondary and Minor Components

Designation of Components	In coarse grained soils				In fine grained soils	
	% Fines	Terminology	% Accessory coarse fraction	Terminology	% Sand / Gravel	Terminology
Minor	≤5	trace	≤15	trace	≤15	trace
	>5, ≤12	with	>15, ≤30	with	>15, ≤30	with
Secondary	>12	prefix	>30	prefix	>30	prefix

Plasticity – Fine Grained Soils

Liquid Limit (LL) %	Description
≤ 35	Low plasticity (L)
>35 to ≤ 50	Medium plasticity (I)
> 50	High plasticity (H)

Plasticity Chart– Fine Grained Soils



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Consistency Terms – Fine Grained Soils

Term	Undrained shear strength (kPa)	Indicative SPT (N) Blow Count	Field Guide to Consistency
Very Soft (VS)	<12	0 – 2	Easily penetrated several centimetres by fist, exudes between fingers when squeezed in fist
Soft (S)	12 – 25	2 – 4	Easily penetrated several centimetres by thumb, easily moulded by light finger pressure
Firm (F)	25 – 50	4 – 8	Can be penetrated several centimetres by thumb with moderate effort, and moulded between the fingers by strong pressure
Stiff (St)	50 – 100	8 – 15	Readily indented by thumb but penetrated only with difficultly. Cannot be moulded by fingers
Very Stiff (VSt)	100 – 200	15 –30	Readily indented by thumb nail, still very tough
Hard (H)	>200	>30	Indented with difficulty by thumb nail, brittle
Friable (Fr)	-		Can be easily crumbled or broken into small pieces

Density Terms – Coarse Grained Soils

Term	Density Index (%)	SPT (N) Blow Count
Very Loose (VL)	< 15	0 – 4
Loose (L)	15 – 35	4 – 10
Medium Dense (MD)	35 – 65	10 – 30
Dense (D)	65 – 85	30 – 50
Very Dense (VD)	> 85	>50

Particle Characteristics – Coarse Grained Soils

Term	Description
Well Graded	Having good representation of all particle sizes
Poorly graded	With one or more intermediate size poorly represented
Gap graded	With one or more intermediate sizes absent
Uniform	Essentially of one size

Angularity – Coarse Grained Soils

	Rounded
	Sub-rounded
	Angular
	Sub-angular

Origin of Soil

Fill	Formed by humans
Aeolian	Formed by wind
Alluvial	Formed by streams and rivers
Colluvial	Formed on slopes (talus)
Estuarine	Formed in marine environments
Lacustrine	Formed in lakes
Residual	Formed by weathering insitu

Soil Moisture

	Term	Code	Description
Coarse Grained	Dry	D	Looks and feels dry and free running
	Moist	M	Soil feels cool, darkened in colour, soils tend to stick together, soil grains do not run freely through fingers and no visible free water
	Wet	W	Soil feels cool, darkened in colour, soils tend to stick together, free water on remoulding
Fine Grained	Moist, Less than Plastic Limit	W < PL	Hard and friable or powdery, moisture content well below Plastic Limit
	Moist, Near Plastic Limit	W ≈ PL	Soil feels cool, darkened in colour, can be moulded, near Plastic Limit
	Moist, Wet of Plastic Limit	W > PL	Soil feels cool, dark, usually weakened, free water, moisture content well above Plastic Limit
	Wet, Near Liquid Limit	W ≈ LL	Soil exudes easily
	Wet, Wet of Liquid Limit	W > LL	Soil behaves as a liquid

Boundary Classifications

Soils possessing characteristics of two groups are designated by combinations of group symbols. For example, GW-GC, well graded gravel-sand mixture with clay binder.

Graphic Symbols

	Asphalt		MH
	CH		ML
	CI		OH
	CL		OL
	Concrete		PT
	Fill		SC
	GC		SM
	GM		SP
	GP		SW
	GW		

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Soil Classification

Soils are described in general accordance with AS1726-2017 as shown below.

FIELD IDENTIFICATION PROCEDURES (Excluding particles larger than 63 mm and basing fractions on estimated mass)						GROUP SYMBOL	PRIMARY NAME
COARSE GRAINED SOILS More than 65% of the material is less than 63 mm and is larger than 0.075 mm	A particle size of 0.075 is about the smallest size distinguishable to the naked eye	GRAVELS More than half of coarse fraction is larger than 2.36 mm	CLEAN GRAVELS (Little or no fines)	Wide range in grain size and substantial amounts of all intermediate particle sizes, not enough fines to bind coarse grains, no dry strength; ≤ 5% fines		GW	GRAVEL
				Predominantly one size or a range of sizes with more intermediate sizes missing, not enough fines to bind coarse grains, no dry strength; ≤ 5% fines		GP	GRAVEL
			GRAVELS w/ FINES (Appreciable amount of fines)	'Dirty' materials with excess of non-plastic fines, none to medium dry strength; ≥ 12% silty fines		GM	SILTY GRAVEL
				'Dirty' materials with excess of plastic fines, medium to high dry strength; ≥ 12% clayey fines		GC	CLAYEY GRAVEL
		SANDS More than half of coarse fraction is smaller than 2.36 mm	CLEAN SANDS (Little or no fines)	Wide range in grain size and substantial amounts of all intermediate particle sizes, not enough fines to bind coarse grains, no dry strength; ≤ 5% fines		SW	SAND
				Predominantly one size or a range of sizes with more intermediate sizes missing, not enough fines to bind coarse grains, no dry strength; ≤ 5% fines		SP	SAND
			SANDS w/ FINES (Appreciable amount of fines)	'Dirty' materials with excess of non-plastic fines, none to medium dry strength; ≥ 12% silty fines		SM	SILTY SAND
				'Dirty' materials with excess of plastic fines, medium to high dry strength; ≥ 12% clayey fines		SC	CLAYEY SAND
FINE GRAINED SOILS More than 35% of the material less than 63 mm is less than 0.075 mm		IDENTIFICATION PROCEDURES ON FRACTIONS < 0.075 mm					
		SILTS AND CLAYS Liquid Limit < 50%	DRY STRENGTH	DILATANCY	TOUGHNESS	GROUP SYMBOL	PRIMARY NAME
			None to low	Slow to rapid	Low	ML	SILT
			Medium to high	≥ 12% clayey fines	Medium	CL, CI	CLAY
			Low to medium	Slow	Low	OL	ORGANIC SILT
		SILTS AND CLAYS Liquid Limit > 50%	Low to medium	None to slow	Low to medium	MH	SILT
			High to very high	None	High	CH	CLAY
			Medium to high	None to very slow	Low to medium	OH	ORGANIC CLAY
HIGHLY ORGANIC SOILS: readily identified by colour, odour, spongy feel and frequently fibrous texture						PT	PEAT

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Description of Rock

i. Rock name (BLOCK LETTERS)

ii. Grain size and mineralogy

iii. Colour

iv. Fabric and texture

v. Features, inclusions, minor components, moisture content and durability

vi. Strength

vii. Weathering and/or alteration

viii. Rock mass properties – discontinuities and structure of rock

ix. Interpreted stratigraphic unit

x. Additional observations including geological structure

Simple rock names are used to provide a reasonable engineering description, rather than a precise geological classification. The rock name is chosen by considering the nature and shape of the grains or crystals, the texture and fabric of the rock material, the geological structure and setting, and information from the geological map of the area. Further guidance on the naming of rocks can be found in AS1726-2017, Tables 15, 16, 17 and 18. Typical rock types are described below, though subject to site specific variations.

Rock Type	Description	Example of Rock Name
Sedimentary	Formed by deposited beds of sediments, have grains that are cemented together and often rounded. Significant porosity	COMMON: Conglomerate, Breccia, Sandstone, Mudstone, Siltstone, Claystone ≥90% CARBONATE: Limestone, Dolomite, Calcirudite, Calcarenite, Calcisiltite, Calcilutite PYROCLASTIC: Agglomerate, Volcanic Breccia, Tuff
Igneous	Formed from molten rock and have a crystalline texture. Typically massive and low porosity. Rock types are from coarse to fine grained.	HIGH QUARTZ CONTENT: Granite, Microgranite, Rhyolite MODERATE QUARTZ CONTENT: Diorite, Microdiorite, Andesite LOW QUARTZ CONTENT: Gabbro, Dolerite, Basalt
Metamorphic	Formed when rocks are subject to heat and/or pressure and have typically have directional fabric. Typically have low porosity and crystalline structure. Rock types are from coarse to fine grained	FOLIATED: Gneiss, Schist, Phyllite, Slate NON-FOLIATED: Marble, Quartzite, Serpentinite, Hornfels
Duricrust	Formed as part of a weathering profile and show evidence of being cemented in situ. Cementation is typically irregular and exhibits replacement textures.	Ferricrete (Iron oxides and hydroxides) Silicrete (Silica) Calcrete (Calcium carbonate) Gypcrete (Gypsum)

Note: ( ) denotes dominant cementing mineralogy

Grain Size

Terms describing dominate grain size in sedimentary rocks.

Term	Grain size
Coarse	Mainly 0.6 mm to 2 mm
Medium	Mainly 0.2 mm to 0.6 mm
Fine	Mainly 0.06mm (just visible) to 0.2 mm

Terms describing dominate grain size in igneous and metamorphic rocks

Term	Grain size
Coarse	Mainly greater than 2 mm
Medium	0.06 mm to 2 mm
Fine	Mainly less than 0.06 mm (just visible) to 0.2mm

Texture and Fabric

Sedimentary rocks

Thickness	Bedding Term
< 6 mm	Thinly laminated
6 – 20 mm	Laminated
20 – 60 mm	Very thinly bedded
60 – 200 mm	Thinly bedded
0.2 – 0.6 m	Medium bedding
0.6 – 2 m	Thickly bedded
> 2 m	Very thickly bedded

Igneous rocks

Term	Definition
Amorphous	Indicates that the rock has no obvious crystalline structure
Crystalline	A regular molecular structure, showing crystal structure and symmetry.
Cryptocrystalline	The texture comprises crystals that are too small to recognise under an ordinary microscope. Indistinctly crystalline.
Porphyritic	Indicates the presence of phenocrysts (relatively large crystals in a fine grained ground mass) in igneous rocks.
Flow banded	Indicates visible flow lines in volcanic rocks and some intrusive rocks
Glassy	Entirely glass like. No crystalline units and without crystalline structure.
Vesicular	A texture of volcanic rocks that indicates the presence of vesicles (small gas bubbles). Where the vesicles are filled with a mineral substance they are termed Amygdales and the texture is Amygdaloidal.

Metamorphic

Term	Definition
Foliation	The parallel arrangement of minerals due to metamorphic process, which shall be defined by the terms in weak, moderate and strongly foliated.
Porphyroblastic	A texture indicating the presence of porphyroblasts (larger crystals formed by recrystallization during metamorphism, such as garnet or staurolite in a mica schist).
Cleavage	A type of foliation developed in fine grained metamorphic rocks such as slates.

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Bedding and Fabric Development

Type	Definition
Massive	No obvious development of bedding – rock appears homogeneous
Poorly Developed	Bedding is barely obvious as faint mineralogical layering or grain size banding, but bedding planes are poorly defined.
Well Developed	Bedding is apparent in outcrops or drill core as distinct layers or lines marked by mineralogical or grain size layering.
Very Well Developed	Bedding is often marked by a distinct colour banding as well as by mineralogical or grain size layering.
Indistinct fabric	There is little effect on strength properties
Distinct Fabric	The rock may break more easily parallel to the fabric

Rock Strength

Term (Code)	UCS (MPa)	$Is_{(50)}$ (MPa)	Field Guide to Strength
Very Low (VL)	0.6 – 2	> 0.03 to ≤0.1	Material crumbles under firm blows with sharp end of pick; can be peeled with knife; too hard to cut a triaxial sample by hand. Pieces up to 3 cm thick can be broken by finger pressure.
Low (L)	2 - 6	> 0.1 to ≤ 0.3	Easily scored with a knife; indentations 1 mm to 3 mm show in the specimen with firm blow of the pick point; has dull sound under hammer. A piece of core 150 mm long 50 mm in diameter may be broken by hand. Sharp edges of core may be friable and break during handling.
Medium (M)	6 - 20	> 0.3 to ≤ 1.0	Readily scored with a knife; a piece of core 150 mm long by 50 mm in diameter can be broken by hand with difficulty.
High (H)	20 - 60	> 1 to ≤ 3	A piece of core 150 mm long by 50 mm in diameter cannot be broken by hand but can be broken by a pick with a single firm blow; rock rings under hammer.
Very High (VH)	60 -200	> 3 to ≤ 10	Hand specimen breaks with pick after more than one blow; rock rings under hammer.
Extremely High (EH)	>200	> 10	Specimen requires many blows with geological pick to break through intact material; rock rings under hammer.

Rock strength is assessed by laboratory Uniaxial Compressive Strength (UCS) testing and/or Point Load Strength Index (PLT) testing to obtain the $Is_{(50)}$ the strength table implies a 20 times correlation between $Is_{(50)}$ and UCS used for classification. Note however, multiplier may range from 4 (e.g. some carbonated and low strength rocks) to 40 (e.g. some igneous rocks and/or some high strength rocks). A site specific correlation based on testing, previous investigation or literature may be used where available. These terms refer to the strength of the rock material and not to the strength of the rock mass which may be considered weaker due to the effect of rock defects.

Visual Log

A diagrammatic plot of defects showing type, spacing and orientation in relation to the core axis.

- Defects open in situ or clay sealed
- Defects closed in-situ
- Drill induced fractures or handling breaks
- Infilled seam

Rock Weathering and or Alteration Classification

Term (Code)		Definition	
Residual soil (RS)		Soil developed on extremely weathered rock. The rock mass structure and substance fabric are no longer evident but the soil has not been significantly transported.	
Extremely weathered (EW) Extremely altered (XA)		Rock is weathered to such an extent that it has 'soil' properties, i.e, it either disintegrates or can be remoulded in water, but the texture of original rock is still evident.	
Highly weathered (HW) Highly Altered (HA)	Distinctly weathered (DW)* Distinctly Altered (DA)	Whole rock material is discoloured usually by extent that iron staining or bleaching and other signs of chemical or physical decomposition are evident. Porosity and strength may be increased or decreased compared to the fresh rock usually as a result of iron leaching or deposition. The colour and strength of the original rock substance is no longer recognisable	*Where is it not practical to distinguish between 'HW' and MW'. Rock strength usually changed by weathering. The rock may be highly discoloured, usually by iron staining. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores
Moderately weathered (MW) Moderately Altered (MA)		Whole rock material is discoloured usually by staining that original colour of the fresh rock is no longer recognisable	
Slightly weathered (SW) Slightly altered (SA)		Rock is slightly discoloured but shows little or no change of strength from fresh rock	
Fresh rock (F)		Rock shows no sign of decomposition or staining.	

Rock Core Recovery

TCR = Total Core Recovery (%)

$$\frac{\text{Length of Core Recovered}}{\text{Length of Core run}} \times 100$$

SCR = Solid Core Recovery (%)

$$\frac{\text{Sum Length of Cylindrical Core Recovered}}{\text{Length of Core run}} \times 100$$

RQD = Rock Quality Designation (%)

$$\frac{\text{Sum Length of Sound Core Pieces > 100mm in length}}{\text{Length of Core run}} \times 100$$

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Types of Discontinuities

Term	Code	Description
Parting	Pt	A defect parallel or sub-parallel to a layered arrangement of mineral grains or micro-fractures, which has caused planar anisotropy in the rock substance.
Joint	Jt	A defect across which the rock substance has little tensile strength, but that is not related to textural or depositional features within the rock substance.
Sheared Zone	SZ	A zone with roughly parallel planar boundaries of rock substance consisting of closely spaced joints with smooth slickensided surfaces often curved. The joints divide the rock mass into unit blocks usually of lenticular or wedge shape.
Crushed Zone	CZ	A zone or seam with roughly parallel planar boundaries of rock substance composed of disoriented, usually angular, fragments of the host rock substance
Seam	Se	A zone or seam with roughly parallel boundaries, infilled by soil (IS) or decomposed rock (DS)
Fault	F	A fracture (defect) in rock along which there has been an observable amount of displacement.
Vein	Ve	A zone of minerals intruded into a joint or fissures.

Type of Structures

Term	Code	Description
Bedding	Bg	A layered arrangement of minerals parallel to the surface of deposition which has caused planar anisotropy in the rock substance.
Cleavage	C	An alignment of fine grained minerals caused by deformation.
Schistosity	SH	A layered arrangement of minerals to each other
Foliation	Fo	A planar alignment of minerals caused by deformation.
Void	Vo	A completely empty space
Dyke	DK	Sheet-like bodies of igneous rock that cut across sedimentary bedding or foliations in rocks. They may be single or multiple in nature
Sill	Sl	A sill is an intrusion of magma that spreads underground between the layers of another kind of rock
Contact	Cn	A contact between intrusive and stratigraphic units.
Boundary	Bd	A distinct boundary between two stratigraphic units

Note: Drill breaks (DB) and handling breaks (HB) are not included as natural discontinuity.

Discontinuity Spacing

Spacing (mm)	Description
>6000	Extremely Widely Spaced
2000 - 6000	Very Widely Spaced
600 - 2000	Widely Spaced
200 - 600	Medium Spaced
60 - 200	Closely Spaced
20 - 60	Very Closely Spaced
<20	Extremely Closely Spaced

Discontinuity Planarity

Code	Description
Cu	Curved – A defect with a gradual change in orientation
Ir	Irregular – A defect with many sharp changes in orientation
Pl	Planar – Defect forms a continuous plane without variation in orientation
St	Stepped – A defect with distinct sharp steps or step
Un	Undulose – A defect with undulations
Vu	Vuggy – An open void with crystallisation
Wv	Wavy – A wavy defect surface

Discontinuity Roughness

Abbreviation	Description
Ro	Rough – Many small surface irregularities generally related to the grain size of the parent rock
Sm	Smooth – Few or no surface irregularities related to the grain size of the parent rock
Po	Polished – Planes have a distinct sheen or a smoothness
Sl	Slickensided – Planes have a polished, grooved or striated surface consistent with differential movement of the parent rocs along the plane
VR	Very rough – many large surface irregularities, amplitude generally more than 1mm

Infill Material

Code	Name	Code	Name
Ca	Calcite	Gp	Gypsum
Ch	Chlorite	Mn	Manganese
Cl	Clay	MS	Secondary mineral
Co	Coal	Py	Pyrite
Fe	Limonite / Ironstone	Um	Unidentified mineral
Fe Cl	Iron oxide clay	Qz	Quartz
Fl	Feldspar	X	Carbonaceous

Discontinuity Observation

Term	Code	Description
Clean	CN	No visible coating or infill
Stain	SN	No visible coating or infill but surfaces are discoloured by mineral staining
Veneer <1 mm	VNR	A visible coating or soil or mineral substance but usually unable to be measured. If discontinuous over the plane, patchy veneer.
Coating >1 mm to <10 mm	CT	A visible coating or infilling of soil or mineral substance. Describe composition and thickness.
Filling (Filled) >10 mm	FLD	A visible filling of soil or mineral substance. Describe composition and thickness.

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Samples and Field Tests

Code	Description
B	Bulk disturbed sample
BLK	Block sample
C	Core sample
DS	Small disturbed sample
ES	Soil sample for environmental testing
EW	Water sample for environmental testing
FP	Pressuremeter
G	Gas sample
H	Hydraulic fracturing
HP	Hand penetrometer test
I	Impression device
$Is_{(50)}$	Point Load Index
K	Permeability
LB	Large bulk disturbed sample
N	Standard penetration test result (N* denotes SPT sample recovery)
O	Core orientation
P	Piston sample
PID	Photoionisation detector reading in ppm
R	Hammer bouncing / refusal
SPT	Standard Penetration Test
U	Undisturbed push in sample
UCS	Uniaxial Compressive Strength
U50	Undisturbed tube sample (50 mm diameter)
U75	Undisturbed tube sample (75 mm diameter)
VS	Vane shear test
● (A)	Axial Test
○ (D)	Diametral Test
□	Irregular Lump test

Laboratory Tests

Code	Description
ACM	Asbestos Containing Material
CD	Consolidated Drained
CU	Consolidated Undrained
LL	Liquid Limit
LS	Linear Shrinkage
MC	Moisture Content
MDD	Maximum Dry Density
OMC	Optimum Moisture Content
PBT	Plate Bearing Test
PI	Plasticity Index
PL	Plastic Limit
PSD	Particle Size Distribution
ρ_b	Bulk Density
ρ_p	Particle Density
ρ_d	Dry Density
UU	Undrained Unconsolidated

Backfill / Standpipe Detail

Symbol	Description	Symbol	Description
	Cement seal		Filter pack: sand filter
	Grout backfill		Filter pack: gravel filter
	Blank pipe		Bentonite seal
	Slotted pipe		Cutting – excavated material backfill
	Surface Completion: Monument Above Ground		Surface Completion: Gatic Ground Monument

Completion Details

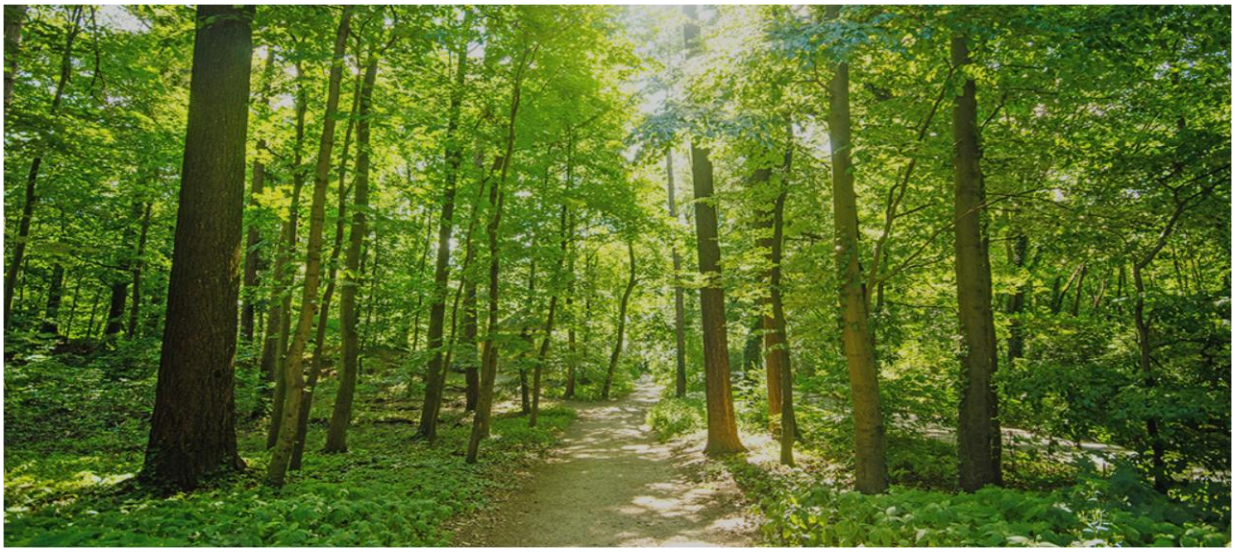
Type	Description
Collapse	Exploratory hole collapsed before reaching planned depth
Equipment Failure	Boring or excavator equipment operational failure
Flooding	Flooding of excavation
Machine Limit	Limit of machine capability reached
Obstruction	Obstruction preventing further advancement
Possible services	Indication of possible services below
Services present	Services encountered during exploratory hole
Squeezing	Hole squeezing boring equipment
Target Depth	Depth reached as planned
Target Depth Instrumentation Installed	Depth reached as planned instrumentation installed
Target Depth Standpipe Installed	Depth reached as planned open standpipe constructed
Material Refusal	Material preventing further advancement

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Bushfire Hazard Assessment

Bushfire Report



Project No:	B6130
Address:	621-623 Montgomerie Street Lakes Creek QLD 4701
Lot Plan:	Lot 1 and Lot 3 RP 603374
Local Government Area:	Rockhampton Regional Council
Proposed Development:	Class 1a dwelling and Class 10a shed
BAL Rating:	Class 1a dwelling: BAL-29 Class 10a shed: No requirement

Max Bushfire Protection Consulting / ABN 81 671 088 887
Suite 1605 17 Gould Rd Herston QLD 4006 / PO BOX 186 Toowong DC QLD 4066
Mobile: 0432 89 82 82 / Email: service@maxbp.com.au
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Document History				
Version	**Description**	**Date**	**Author**	**Approved by**
1.0	Report - Draft	24/02/2026	AL, HL	HL
2.1	Report - Final	14/03/2026	AL, HL	HL

Report Expiry

Please be aware that the bushfire hazard assessment and BAL rating provided in this report are valid for 12 months from the date of issuance. It is advisable to consult with a qualified professional to confirm the accuracy of the assessment if this report is more than 12 months old. If any discrepancies are identified or if an update is necessary, a new report should be obtained.

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Legislation may impact vegetation clearing activities. It is strongly recommended that clients contact the relevant agencies to determine if their proposed vegetation clearing activity complies with local, state, and federal laws.

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Practitioner Declaration

Name: **Position:**	**Henry (Hongxi) Liang** **Senior Bushfire Consultant**
I hereby certify that I have undertaken the assessment of the above-mentioned site and determined the Bushfire Attack Level stated above in accordance with the requirements of AS 3959:2018 and/or the Bushfire Resilient Communities - Technical Reference Guide published by Queensland Fire and Emergency Services. I hereby declare that I am a suitably qualified bushfire consultant, holding AQF Level 8 qualifications and tertiary degrees below: ▪ Graduate Diploma in Bushfire Protection ▪ Graduate Certificate in Bushfire Protection ▪ Master of Business Administration ▪ Bachelor in Engineering	
Signature:	
Email: service@maxbp.com.au Mobile: 0432898282	**Max Bushfire Protection Consulting** ABN: 81 671 088 887

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Acronyms and Abbreviations

APZ	Asset Protection Zone
AEP	Annual Exceedance Probability
AS 3959:2018	Australian Standard 3959:2018 Construction of Buildings in Bushfire prone Areas (This Standard incorporates Amendment No. 1 (June 2019) and Amendment No. 2 (December 2020))
BCA	Building Code of Australia
BPA	Bushfire Prone Area
BMP	Bushfire Management Plan
BVG	Broad Vegetation Group
FDI	Fire Danger Index
FFDI	Forest Fire Danger Index
FWS	Fire Weather Severity
IMS	Interactive Mapping System
LMP	Landscape Management Plan
MCU	Material Change of Use
NCC	National Construction Code
QFES	Queensland Fire and Emergency Services
RH	Relative Humidity
RAL/ROL	Reconfigure A Lot/Reconfiguration of Lot
SPP	State Planning Policy 2017
SPP map input data	Statewide Map of Bushfire Prone Areas Input Data E.G. FFDI (5% AEP), Maximum Landscape and Vegetation Hazard Class
VHC	Vegetation Hazard Class
VMP	Vegetation Management Plan

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Executive Summary

Project No:	**B6130**
Type of bushfire assessment:	Site-specific bushfire hazard assessment Bushfire attack level assessment Bushfire management plan
Location:	621-623 Montgomerie Street Lakes Creek QLD 4701 Lot 1 and Lot 3 RP 603374
Site area:	7,386 sqm
Local Government Area:	Rockhampton Regional Council
Client(s):	Annette Sos
Proposed Development:	Class 1a dwelling and Class 10a shed
Site plan by:	The Client(s)
Asset Protection Zone:	Designed APZ with IPA and OPA
Bushfire Attack Level:	Class 1a dwelling: BAL-29 Class 10a shed: No requirement

Note: For the Class10a shed located more than 6 metres from the residential dwelling, no additional bushfire protect treatment is required.

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1. Introduction

1.1 Purpose

Max Bushfire Protection Consulting was engaged by the client(s) to conduct a site-specific bushfire hazard assessment for the proposed development on the subject site.

The objective of this report is to assess the potential bushfire hazard and related risks concerning the proposed development, aligning with several regulatory frameworks such as the Queensland State Government State Planning Policy - Part E (SPP 2017), the Bushfire Resilient Communities Technical Reference Guide (QFES, 2019), the local council planning scheme - bushfire hazard overlay code, and the Australian Standard – Construction in Bushfire Prone Areas (AS 3959:2018). These guidelines delineate the State and Council's concerns regarding bushfire hazard within the context of evaluating development applications.

The development shall be carried out on the lot referred to as the ‘Subject Site,’ and the dwelling shall be situated within the proposed building location envelope.

1.2 Subject site

- Site Address: 621-623 Montgomerie Street Lakes Creek QLD 4701
- Lot Plan: Lot 1 and Lot 3 RP 603374
- Site Area: 7,386 sqm

1.3 The proposed development

The proposed development is to construct a Class 1a dwelling and a class 10a shed.

1.4 Bushfire Prone Land

The Council's designation of land as "bushfire prone" carries two primary consequences:

- It mandates the formulation of a Bushfire Management Plan that conforms to the specifications delineated in the Planning Scheme. This includes strict adherence to the Bushfire Overlay Code stipulated within the planning scheme.
- It activates the application of the Building Code of Australia (BCA) and the National Construction Code (NCC), necessitating compliance with their performance objectives pertaining to bushfire mitigation. Furthermore, adherence to AS 3959:2018, which governs the construction of buildings in bushfire prone regions, is imperative.

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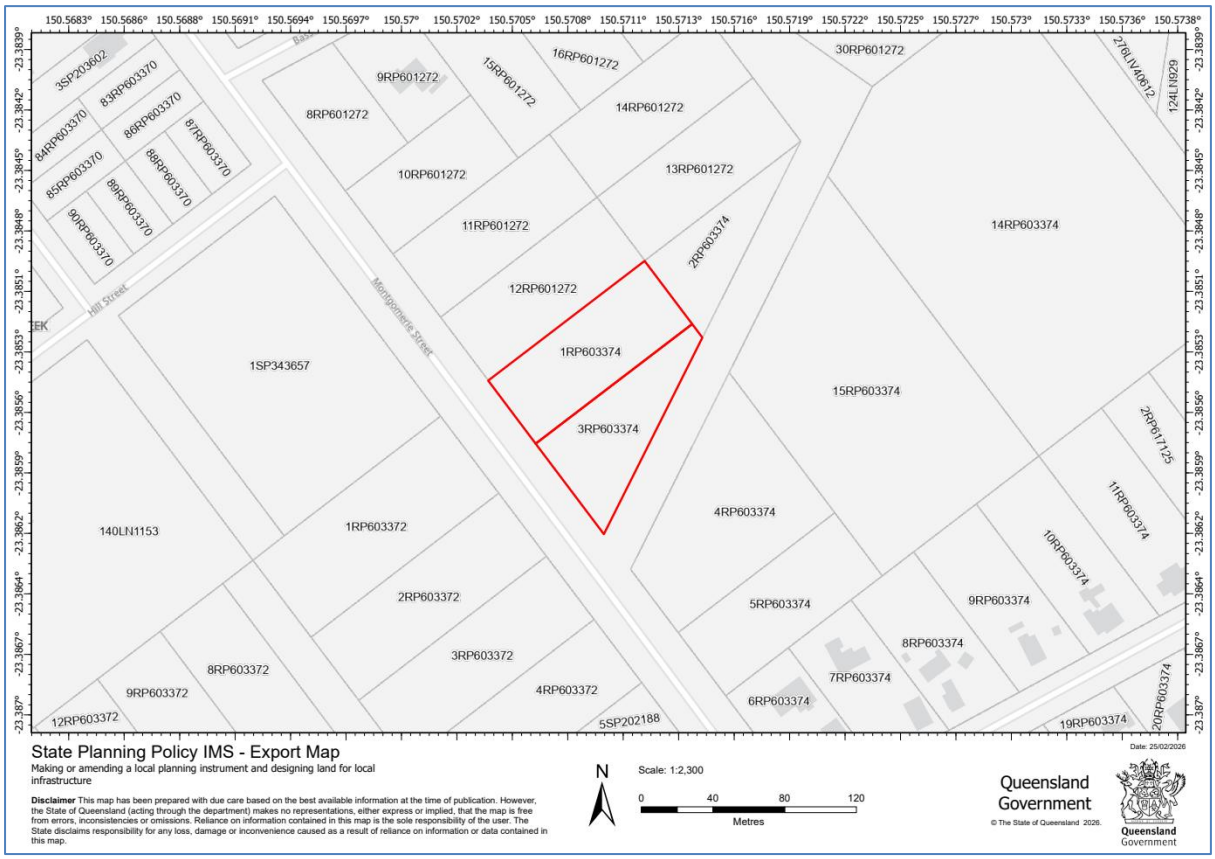


Figure 1-1: Subject Site

1.5 Scope and objectives

The scope and objectives of this assessment are to:

- Identify bushfire-related risk factors linked to the positioning of the development footprint. This includes the probable direction of bushfire attack, hazard ratings associated with existing and proposed vegetation on and around the subject site, and planning separation from potential hazards.
- Recommend suitable protective measures to alleviate the risk posed by the assessed BAL in alignment with the State Planning Policy (SPP 2017), AS 3959:2018, and the Bushfire Hazard Overlay Code of the Council Planning Scheme.
- Prepare a comprehensive site-specific bushfire management plan and conduct an assessment of compliance with the Bushfire Hazard Overlay Code to illustrate how adherence can be attained.

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2. Assessment Methodology

2.1 Assessment and Legislative

Assessment and legislative review were conducted to identify overlay mapping and requirements under the SPP 2017 and Rockhampton Regional Council planning scheme. The review included:

- Planning Act 2016 (Planning Act)
  - Planning Regulation 2017 (Planning Regulation)
  - State Planning Policy (SPP 2017) mapping
  - State Assessment and Referral Agency (SARA) mapping (Department of Infrastructure, Local Government and Planning)
- Rockhampton Regional Council Planning Scheme
  - Bushfire Hazard Overlay Code
  - Planning Scheme interactive mapping
- Queensland Fire and Emergency Services
  - Catalyst/BRC interactive mapping
- Building Act 1975 (Building Act)
- National Construction Code 2022: Building Code of Australia (NCC 2022)
- AS 3959:2018 Construction of Buildings in Bushfire-prone Areas

2.2 Bushfire Hazard Assessment

A site-specific bushfire hazard assessment aims to identify and understand the bushfire hazards on the site. The site's vegetation and terrain characteristics were surveyed using a complete site examination, aerial photography, accessible databases, and relevant mapping. The site-specific assessment included:

- Recording the structure, composition, and condition of vegetation communities located in the development footprint and all land within 100m of the development footprint, extending to 150m-300m where necessary.
- Assessing site slope and effective slope.
- Determining the aspect of the site.
- Identifying waterway and wetland features within the assessment area.
- Calculating potential fire line intensity and Radiant Heat Flux.

Bushfire Hazard Assessment and subsequent BAL review were conducted in accordance with the Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest ‘Natural Hazards, Risk and Resilience – Bushfire’ (QFES 2019), which was prepared by the Queensland Fire and Emergency Services to provide technical guidance for the SPP 2017 guidance material. The method involves a quantitative assessment of the vegetation communities, fuel loads, slope, and other relevant factors.

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2.3 Bushfire Attack Level Assessment

The determination of the site-specific Bushfire Attack Level (BAL) for the development footprint and classified vegetation was undertaken in accordance with the Bushfire Resilient Communities – SPP Technical Reference Guide and AS 3959:2018. This includes the identification of the following input values:

- FFDI (5% AEP fire weather event)
- Vegetation hazard class, surface and overall fuel load
- Site slope, effective slope, and whether the effective slope is upslope or downslope of the development
- Distance of the development footprint from classified vegetation

Radiant heat exposure was calculated using the Bushfire Asset Protection Zone calculator provided by the Sustainable Development Unit of Queensland Fire and Emergency Services and/or the AS 3959:2018 Method 2 Calculator.

AS 3959:2018 defines the Bushfire Attack Level as a method for measuring the severity of a building's potential exposure to ember attack, radiant heat, and direct flame contact, using increments of radiant heat expressed in kilowatts per square metre. This method serves as the basis for establishing construction requirements to improve the protection of building elements from bushfire attack. Consequently, the assessment results and accompanying BAL construction requirements only apply to proposed buildings or structures, not the entire development area.

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3. Legislative Context

The following key legislation, policies and guidelines are relevant to the preparation of bushfire assessment:

- State Planning Policy (July 2017, QLD)
- National Construction Code 2022
- AS 3959:2018 Construction of Buildings in Bushfire-prone Areas
- Local Council Planning Scheme
- Planning Act 2016 (Planning Act) and Building Act 1975 (Building Act)

3.1 State Planning Policy (July 2017)

Supporting the Planning Act 2016 (Planning Act) (Qld), the purpose of the SPP is to guide State and Local government in land-use planning and development by defining the Queensland Government's polices about matters of state interest, to which there are 17 state interests arranged under five broad themes:

- liveable communities and housing
- Economic growth
- Environment and heritage
- Safety and resilience to hazards
- Infrastructure

The SPP Interactive Mapping System includes bushfire hazard area (bushfire prone area) mapping based on the methodologies outlined in Leonard et al. (2014). Under the safety and resilience to hazards theme, the state's interest is to ensure that natural hazards are properly considered in all levels of the planning system. This includes the avoidance of natural hazard areas or the mitigation of risks to an acceptable or tolerable level. The SPP is supported by the SPP – State Interest Guideline – Natural Hazards, Risk and Resilience (April 2016), Technical Manual – Evaluation Report: Bushfire Hazards (April 2016), and Technical Manual – A 'Fit for Purpose' Approach in Undertaking Natural Hazard Studies and Risk Assessments (April 2016) by the Department of Infrastructure, Local Government and Planning. These documents identify the outcomes sought by the state and their application when planning development within a bushfire hazard area (bushfire prone area).

3.2 National Construction Code 2022: Building Code of Australia

The National Construction Code 2022: Building Code of Australia (NCC 2022) sets out technical requirements for the design and construction of buildings and other structures in Australia (The Australian Building Codes Board). NCC 2022 defines ten core building classes, along with various subclasses. It mandates that buildings constructed within designated bushfire prone areas must be designed and constructed to minimise the risk of ignition from bushfires.

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3.3 AS 3959 Construction of Buildings in Bushfire-prone Areas

Where development is proposed in designated bushfire prone areas, AS 3959:2018 provides construction requirements designed to enhance resistance against bushfire attack. These construction specifications are determined by specific heat flux exposure thresholds and are categorized into six Bushfire Attack Levels (BAL):

Bushfire Attack Level (BAL)	Radiant Heat Exposure (AS3959:2018)	Description of Predicted Bushfire Attack and Levels of Exposure
BAL – Low	Insignificant	Minimal attack from radiant heat and flame due to the distance of the building from the vegetation, although some attack by burning debris is possible. There is insufficient threat to warrant specific construction requirements
BAL - 12.5	0 to 12.5kW/m^2	Attack by burning debris is significant with radiant heat (not greater than 12.5kW/m^2). Radiant heat is unlikely to threaten building elements (such as unscreened glass). Specific construction requirements for ember protection and accumulation of debris are warranted.
BAL - 19	12.5 to 19kW/m^2	Attack by burning debris is significant with radiant heat flux (not greater than 19kW/m^2) threatening some building elements (such as screened glass). Specific construction requirements for embers and radiant heat are warranted.
BAL – 29	19 to 29kW/m^2	Attack by burning debris is significant and radiant heat flux (not greater than 29kW/m^2) threatens building integrity. Specific construction requirements for ember and higher levels of radiant heat are warranted. Some flame contact is possible.
BAL – 40	29 to 40kW/m^2	Radiant heat flux and potential flame contact could threaten building integrity.
BAL - FZ	40kW/m^2 plus (Flame Contact)	Significant radiant heat and significantly higher likelihood of flame contact from the fire front will threaten building integrity and result in significant risk to residents.

Table 1: AS3959:2018 Using BAL to determine construction requirements

3.4 Rockhampton Regional Council Planning Scheme

Relevant bushfire provisions of the Council's Planning Scheme reflect SPP State and Local level interests by identifying designated bushfire prone areas. Where assessable development is proposed on land mapped as containing bushfire hazard areas, a site-specific bushfire hazard assessment prepared in accordance with the planning scheme is required.

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4. Bushfire Hazard Assessment

Several factors determine the likelihood and severity of bushfires in a landscape. Key factors include the type of vegetation and the amount of available fuel. Other considerations are topography and land use patterns around potentially hazardous vegetation. Additionally, connectivity between vegetation communities can influence the development and persistence of bushfires.

4.1 Current Bushfire Hazard Mapping

A review of the Bushfire Hazard Overlay Mapping indicates that the site contains bushfire hazard areas, as shown in Figure 4-1.

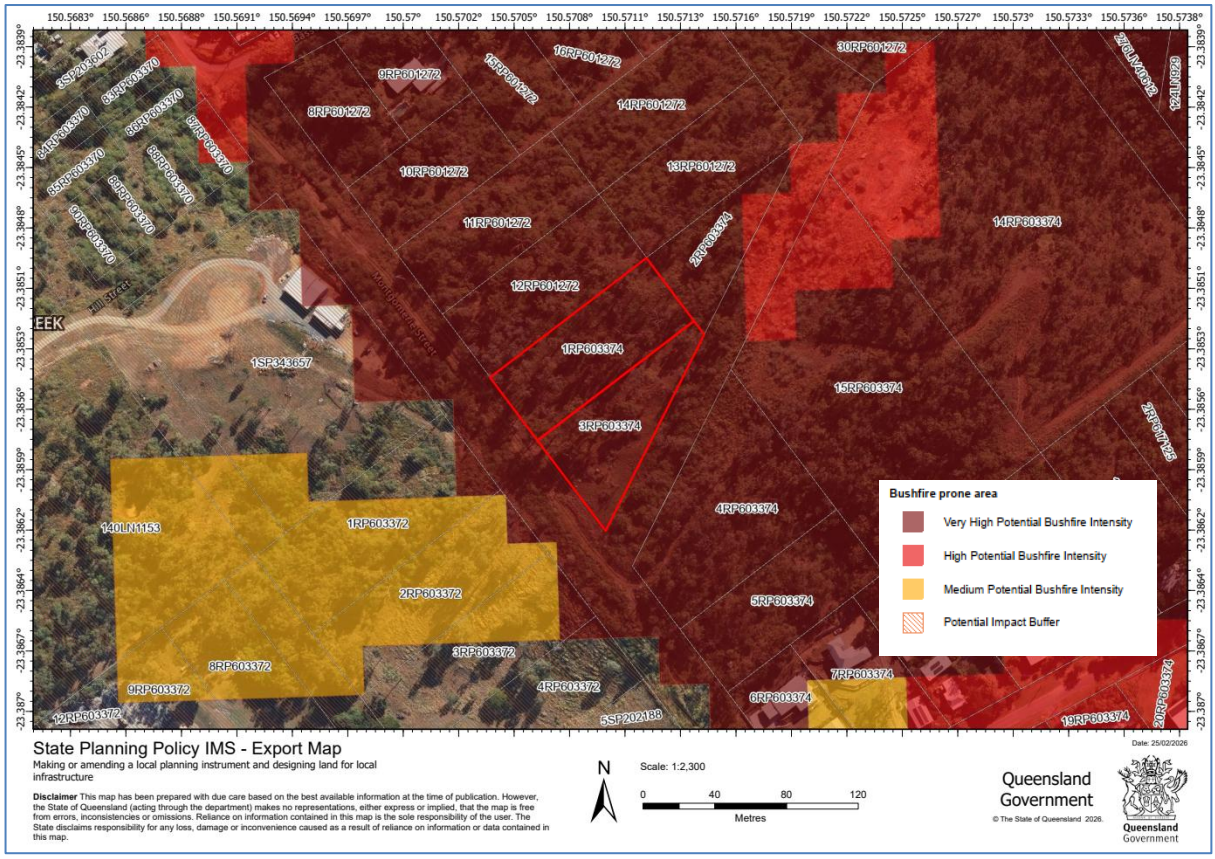


Figure 4-1: Bushfire Hazard Overlay Mapping

4.2 Local FFDI

The fire season in Queensland typically begins in the far north in July, advancing southward by spring and occasionally lasting until February in southern and far south-western regions. These timeframes vary annually due to fuel loads, long-term climate patterns, and short-term weather conditions, differing from other Australian states. In the far north and the northwest, warm, dry winters and springs, with dead grasses and dry fuels, heighten bushfire risks. In the south, the greatest danger follows dry winters and springs, with severe conditions arising when low-pressure

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systems bring strong, hot, dry westerly winds to coastal areas. The season ends with the arrival of moist conditions, often influenced by tropical cyclones near the coast.

The Forest Fire Danger Index (FFDI) evaluates the likelihood of fire ignition, its propagation rate, intensity, and the difficulties encountered during suppression, amalgamating factors like air temperature, relative humidity, wind speed, and drought effects. This assessment is accessible through state mappings, revealing an annual exceedance probability FFDI of 69 at a 5% probability level for the subject site. Fire Danger Ratings (FDR) are determined by forecasted weather conditions, particularly the FFDI, offering insight into the level of bushfire threat on a given day. This FFDI corresponds to a high FDR, indicating hot, dry, and windy conditions. Under such circumstances, the ignition and spread of fires may present significant challenges for containment, especially in areas with extensive bushland vegetation.

4.3 Site-Specific Hazard Assessment

This Site-Specific Bushfire Hazard Assessment draws upon several key references and sources, including:

- Vegetation Hazard Classification and Potential Fire-line Intensity for Queensland, as outlined in "A new methodology for state-wide mapping of bushfire prone areas in Queensland" by CSIRO, Australia (2014).
- The Bushfire Resilient Communities Technical Reference Guide (QFES, 2019).
- The Bushfire Attack Level (BAL), Building setback requirements, and Construction Standards as specified in the Australian Standard AS3959:2018 Construction of buildings in bushfire prone areas.
- Bushfire Risk Mitigation Measures aligned with current industry best-practice assessment methodologies and compliance with Council's Planning Scheme.

This assessment will utilize factors such as vegetation composition and extent, slope, and industry-standard fuel load calculations to determine the potential bushfire hazard affecting the proposed development. Furthermore, this Bushfire Management Plan (BMP) will ensure compliance with the Council's Bushfire Overlay Code in relation to the proposed development.

The assessment involved an analysis of the site and its immediate 100 m radius surroundings to determine the typical bushfire risk characteristics. It included the application of Vegetation Hazard Classifications to vegetation located within 100 m of the site. Where necessary, it was expanded to cover an additional area ranging from 150 to 300 m.

According to AS3959:2018, the following vegetation shall be excluded from a BAL assessment, which is considered as low threat vegetation and/or non-vegetation areas:

- Vegetation of any type that is more than 100m from the site.

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- Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation being classified vegetation.
- Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified vegetation.
- Strips of vegetation less than 20 m in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20 m of the site or each other, or other areas of vegetation being classified vegetation.
- Non-vegetated areas, that is, areas permanently cleared of vegetation, including waterways, exposed beaches, roads, footpaths, buildings and rocky outcrops.
- Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load. This includes grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantations, market gardens (and other non-curing crops), cultivated gardens, commercial nurseries, nature strips and windbreaks.

The assessment also takes into account the small and or isolated patches and corridor filtering process of Bushfire Resilient Communities:

- Sub-hectare areas of continuous fuel (i.e. surrounded by either no fuel or non-continuous fuel) those are further than 100 m from any other continuous fuel greater than two hectares.
- Downgrade the effective fuel load of continuous vegetation patches measuring (a) 1 to 2 hectares (by 66 per cent), and (b) 2-3 hectares patches (by 50 per cent) if the patch is surrounded by either non-continuous fuel or a low-hazard vegetation or land use type, and if the patch is further than 100 m from any other continuous-fuel vegetation patch greater than two hectares.
- Remove narrow corridors and areas of continuous fuel < 50 m in width that are not sufficiently wide to support a fully developed flame front.
- Small fragments are removed because of the varied quality of the vegetation mapping inputs.

It is noted that the client is actively undertaking vegetation management activities on the site, including the removal of invasive weeds, thinning of overgrown vegetation, and general landscape and property maintenance.

4.3.1 Ground-Truthed VHC

The locations of site assessment plots are shown on Figure 4-2. Table 2 presents a summary of observations and the features of site assessment points.

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Aspect	Assessment Plot	Mapped VHC	Ground-Truthed VHC
North	A	VHC 10.2 Spotted gum dominated woodlands	VHC 10.2 Spotted gum dominated woodlands
East	B	VHC 10.2 Spotted gum dominated woodlands	VHC 10.2 Spotted gum dominated woodlands
South	C	VHC 10.2 Spotted gum dominated woodlands	VHC 10.2 Spotted gum dominated woodlands
West	D	VHC 10.2 Spotted gum dominated woodlands	VHC 10.2 Spotted gum dominated woodlands

Table 2: Ground-Truthed VHC

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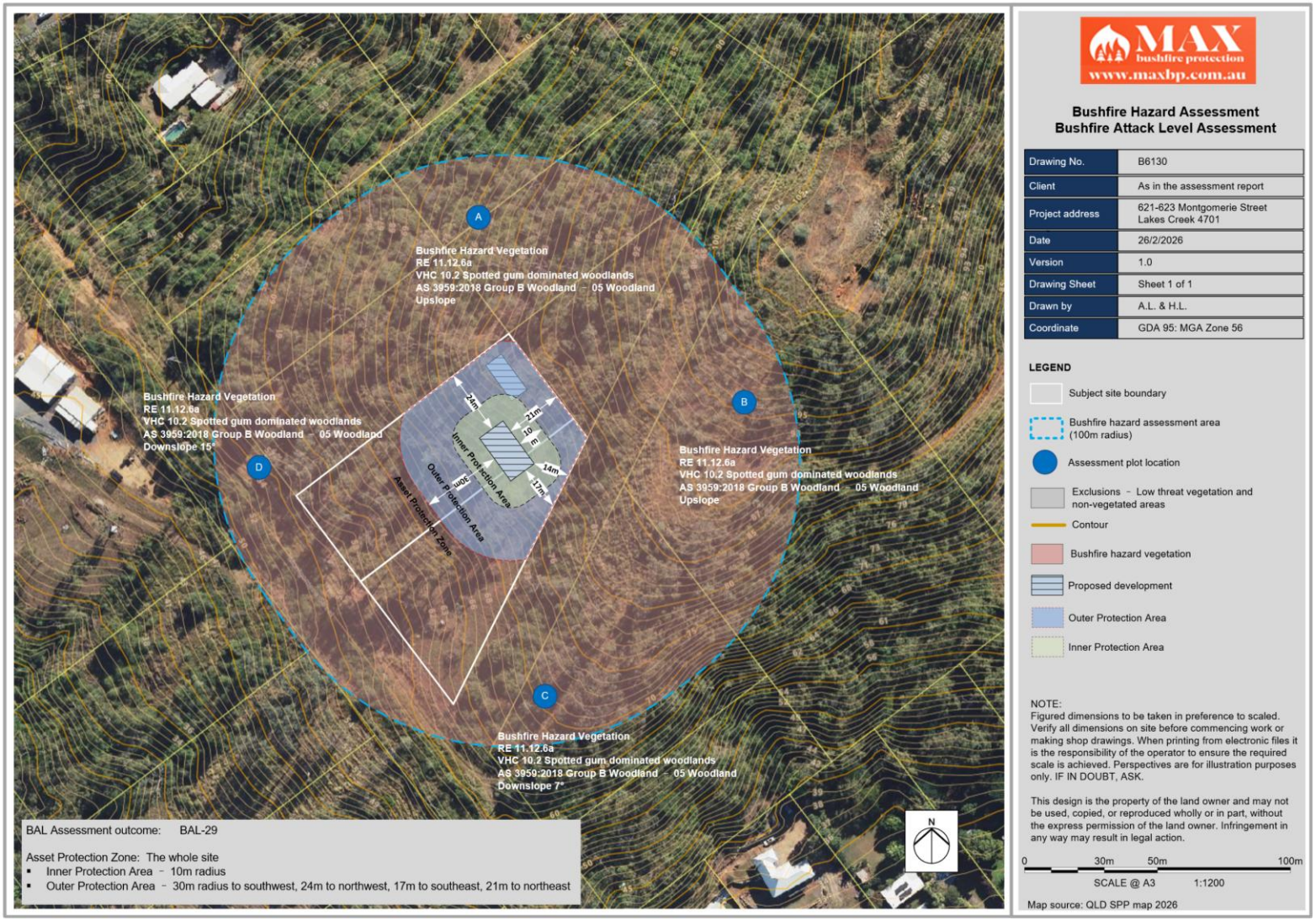


Figure 4-2: Ground-Truthed VHC and local Bushfire Prone Area map

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- **Classified vegetation conditions to North, East, South and West**

The vegetation surrounding the entire development envelope is consistently similar in nature. Land at assessment plot A, B, C and D, a large continuous hazardous vegetation patch VHC 10.2 Spotted gum dominated woodlands was found approximately 30m from the proposed development area to the southwest, 27m to the northwest, 15m to the southeast and 21m to the northeast, where the designed Asset Protection Zone is applied. This vegetation patch may contain RE 11.12.6a Corymbia citriodora open forest on igneous rocks (granite). Limited regular maintenance activities have been carried out in this area.

Trees ranging from 10m to 30m in height, characterized by foliage cover 20% to 40%, are typically dominated by eucalypts. The understorey is sclerophyllous, comprising small trees, tall scrubs, or tall shrubs with hard leaves and short internodes. A diverse range of weeds and invasive plant species, including weedy grasses and Lantana, is widespread across the area, occurring under conditions varying from sparse to moderately dense. The predominant tree canopy reaches a height of approximately 20m.

The potential fuel load of the bushfire hazard vegetation patch is determined as following:

Vegetation context	VHC 10.2 with RE 11.12.6a
Vegetation structure	Woodland
AS3959:2018 Classification of vegetation	Group B Woodland – Woodland 05
Effective slope under the hazardous vegetation	Downslope 15° Southwest Downslope 7° Southeast Upslope. North, East
Slope Between Site and hazardous vegetation	Downslope 15° Southwest Downslope 7° Southeast Upslope. North, East
Understorey fuel load	17.0 t/ha
Total fuel load	18.0 t/ha

Table 3: Potential fuel load

- **Surrounding unmanaged vegetation**

Unmanaged vegetation such as grassland, grassy woodland, shrubland and scrub that is characterised by overgrowth typically exceeding 100 mm in height, dense ground cover, and the accumulation of dry or dead vegetation due to a lack of mowing, slashing or grazing can result in a build-up of fine fuels. Fine fuels are readily ignitable and can promote rapid fire spread under dry and windy conditions,

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thereby increasing bushfire risk to the site. Surrounding vegetation is to be maintained in a low fuel condition at all times.

- **Vegetation Conditions within the proposed development**

Within the proposed development area and the designed Asset Protection Zone, vegetation conditions will be consistently maintained in a low-fuel state, aligning with the characteristics of VHC 40.4 Continuous low grass or tree cover.

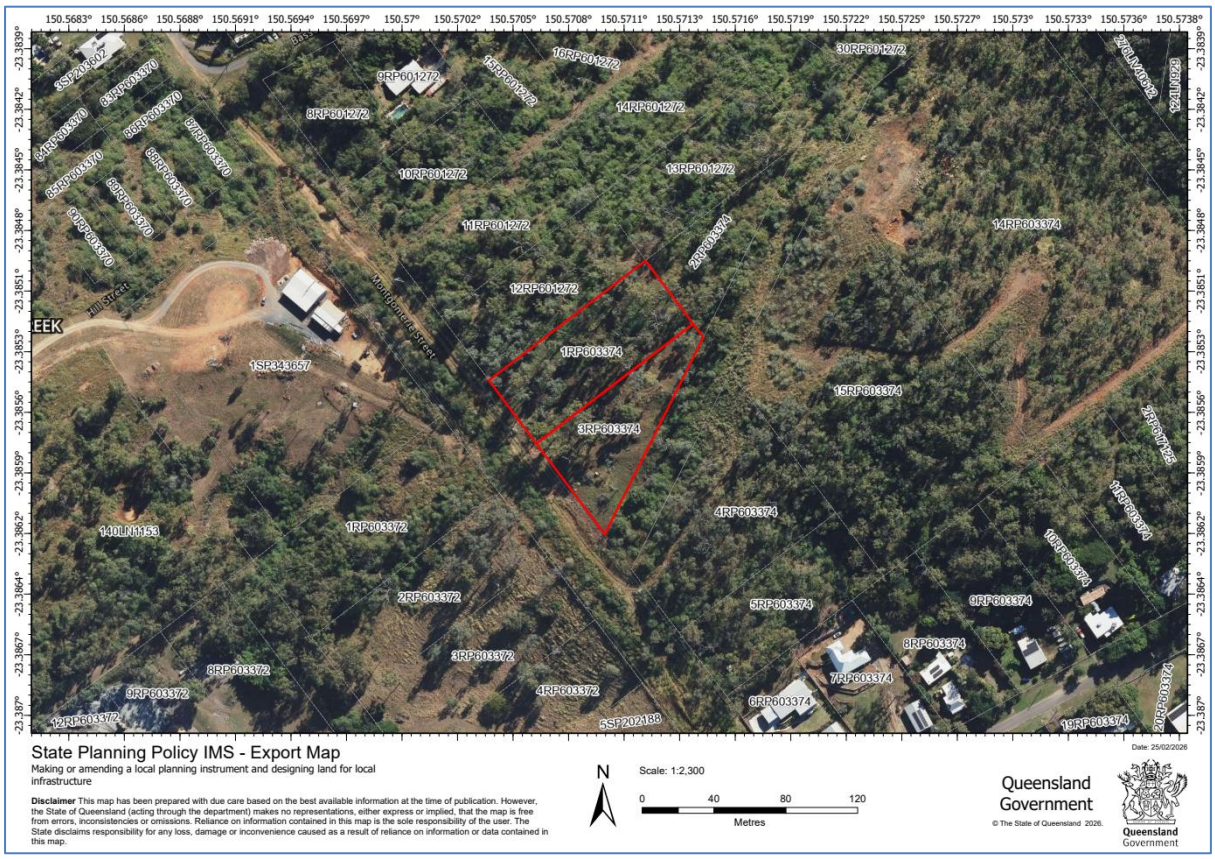


Figure 4-3: Aerial view providing landscape context for the site (Sourced from QLD SPP mapping, captured 02/2026)

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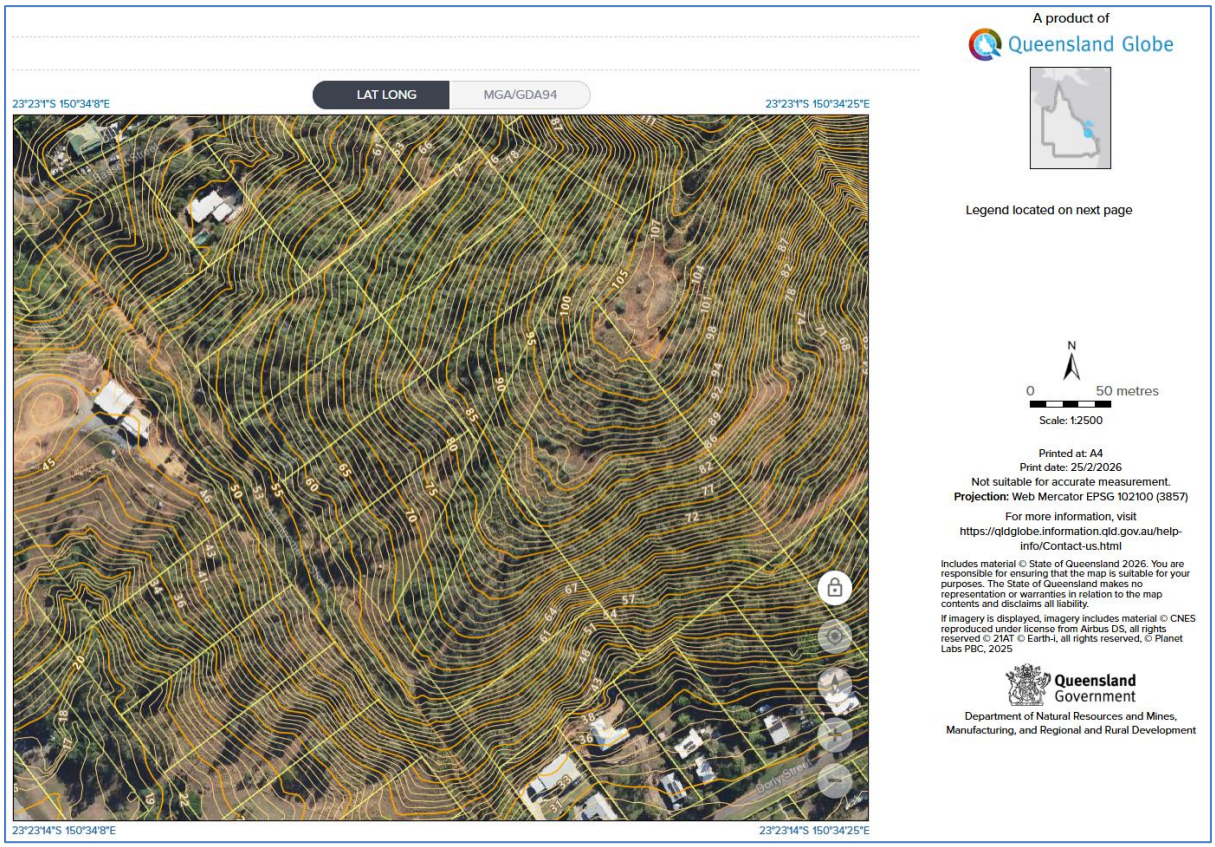


Figure 4-3: 1m interval contour map (Sourced from Queensland Globe mapping, captured 02/2026)

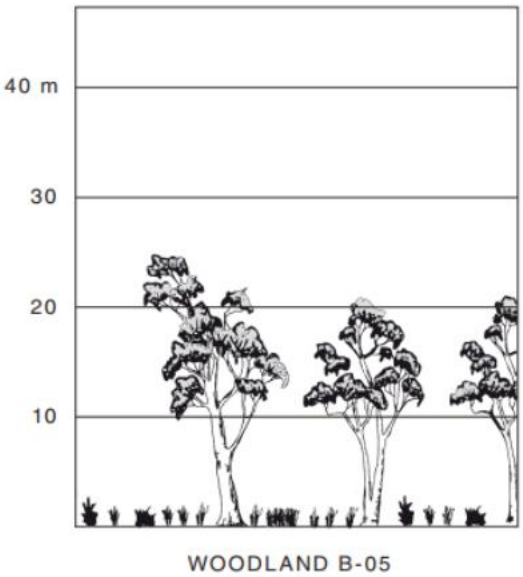


Figure 4-5: AS 3959:2018 Classification of vegetation – Woodland B-05

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Regional ecosystem details for 11.12.6

Regional ecosystem	11.12.6
Vegetation Management Act class	Least concern
Wetlands	Not a Wetland
Biodiversity status	No concern at present
Subregion	12, 22, 18, 14, 2, (27), (17), (12.10), (12.6), (19), (8.3), (6)
Estimated extent[1]	Pre-clearing 230000 ha; Remnant 2021 153000 ha
Short description	Corymbia citriodora open forest on igneous rocks (granite)
Structure code	Open Forest
Description	Corymbia citriodora, Eucalyptus crebra, E. microcarpa/E. moluccana, Angophora leiocarpa and E. melanophloia open forest to woodland. Other tree species that may be present include E. tereticornis +/- C. tessellaris +/- C. clarksoniana and E. fibrosa. Can include areas of E. suffulgens in the east of the bioregion. There is generally a sparse to moderately dense mid layer dominated by species such as Alphitonia excelsa, Petalostigma pubescens, Acacia spp. and occasionally Callitris glaucophylla or E. exserta. Occurs on gently undulating lower slopes of hills formed from Mesozoic to Proterozoic igneous rocks (granite). Associated soils are often deep texture contrast with thin sandy or loamy surface horizon over acid mottled subsoil's to shallow sandy or loamy skeletal soils. May include areas that occur on deeply weathered granite (land zone 5 or 7). Not a Wetland. (BVG1M: 10a).
	Vegetation communities in this regional ecosystem include: 11.12.6a: Eucalyptus crebra +/- Corymbia citriodora and/or E. acmenoides +/- Lophostemon suaveolens woodland to open forest. Occurs on gently undulating lower slopes of hills formed from Mesozoic to Proterozoic igneous rocks (granite). Associated soils are often deep texture contrast with thin sandy or loamy surface horizon over acid mottled subsoil's to shallow sandy or loamy skeletal soils. May include areas that occur on deeply weathered granite (land zone 5 or 7). Not a Wetland. (BVG1M: 10a). 11.12.6b: Callitris glaucophylla +/- Eucalyptus spp. woodland. Occurs on acid-volcanic and granitic hills on often shallow soils. Not a Wetland. (BVG1M: 20a).
Supplementary description	Taylor and Grimshaw (1994-95), Chinchilla MU9B; Gunn and Nix (1977), LU 32, 33
Protected areas	Homevale NP, Beeron NP, Mount Archer NP, Flat Top Range RR, Eungella NP, Crediton FR, MacKenzie Island CP, Auburn River NP, Bukkulla CP, Kroombit Tops NP, Cania Gorge NP
Special values	11.12.6: Potential habitat for NCA listed species: Acacia tingoorensis, Callicarpa thozetii, Capparis humistrata, Cycas megacarpa, Cycas ophiolitica, Zieria actites.
Fire management guidelines	SEASON: Late wet to early dry season when there is good soil moisture. Early storm season or after good spring rains. INTENSITY: Various. INTERVAL: 6-15 years. INTERVAL_MIN: 6. INTERVAL_MAX: 15. STRATEGY: Burn less than 30% in any year. Burn under conditions of good soil moisture and when plants are actively growing. All shrubby areas will carry fire after a good season. ISSUES: Management of this fire tolerant vegetation type should be based on maintaining vegetation composition, structural diversity, animal habitats and preventing extensive wildfire. Maintaining a fire mosaic will ensure protection of habitat and mitigate against wildfires. Requires a fire regime that maintains a diverse understorey. Planned burns have traditionally been carried out in the winter dry season; further research required.
Comments	11.12.6: Occurs on lower slopes below RE 11.12.21. 11.12.6a: Mainly occurs mainly in subregions 14 and 18.

Figure 4-6: Ecological Condition Profile of RE 11.12.6

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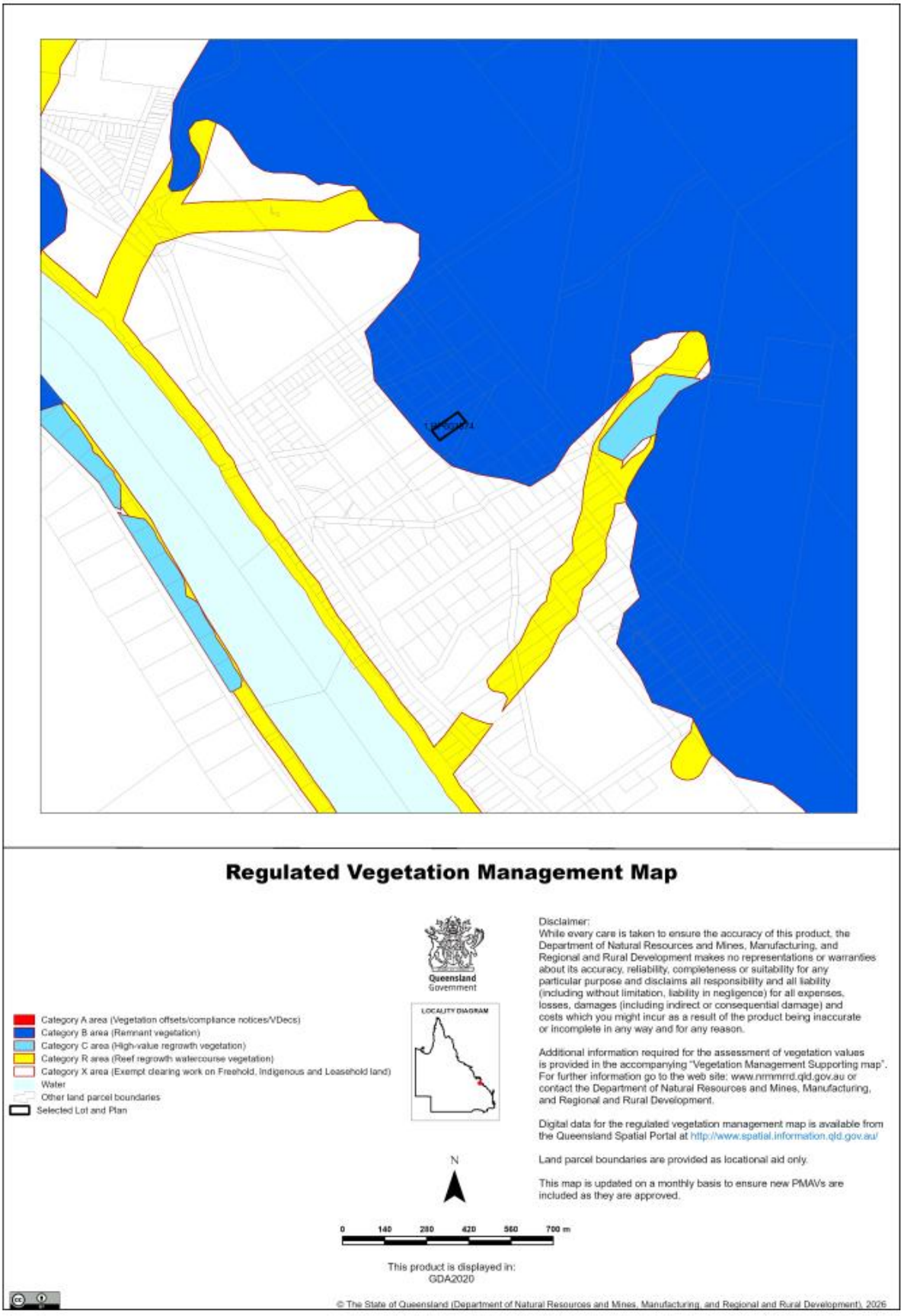


Figure 4-7 Regulated vegetation management map (sourced from Vegetation management report, Department of Resources, 2026)

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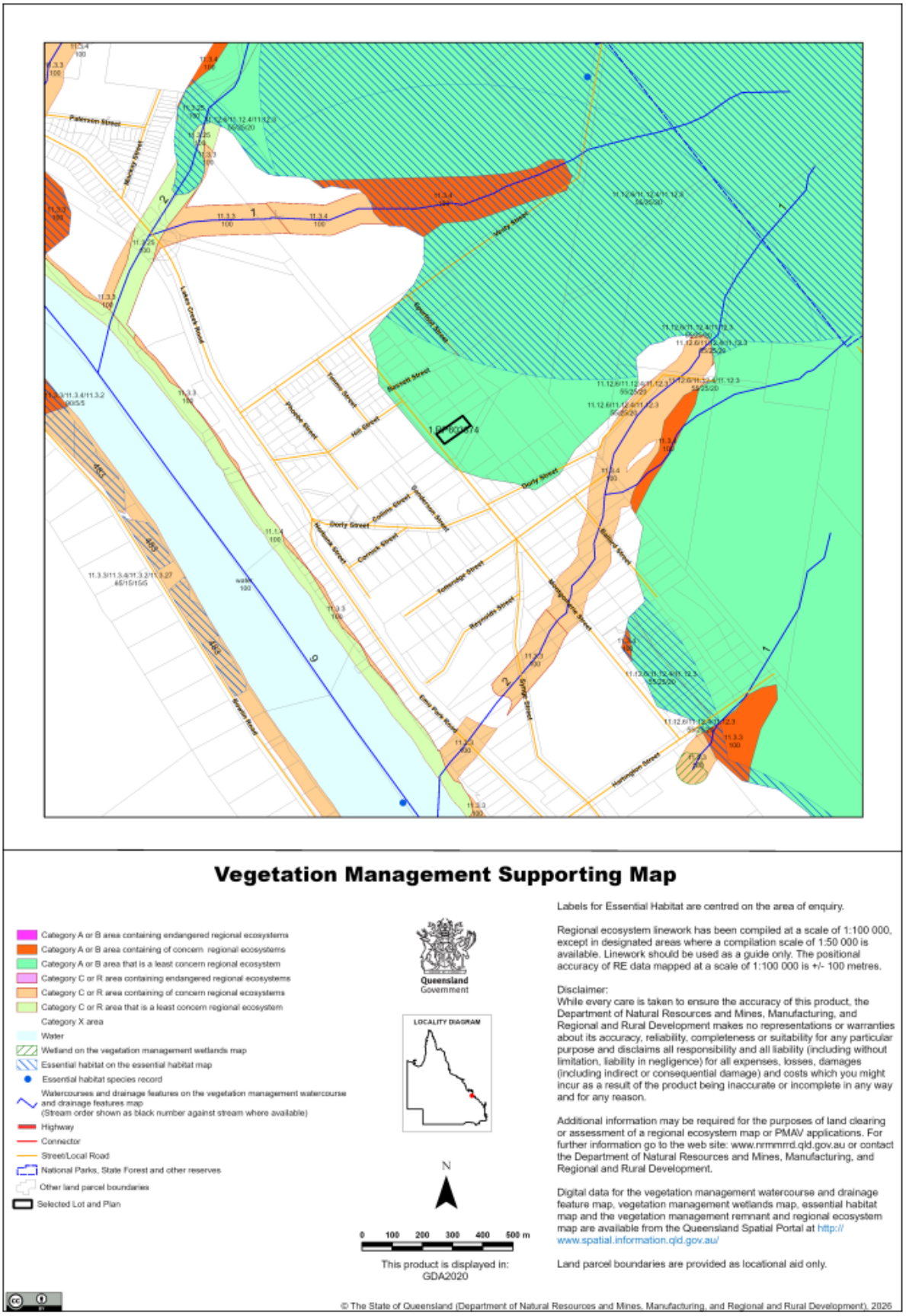


Figure 4-8: Vegetation Management Support Map providing RE context on the site (sourced from Vegetation management report, Department of Resources, 2026)

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Photo 1: The proposed development area



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Photo 2: Site entrance from Parker Rd



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Photo 3: Bushfire hazard vegetation VHC 10.2 nearby

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4.4 Probable Direction of Bushfire Attack

The anticipated directions of bushfire threat to the proposed development are expected to originate from any direction, primarily in areas classified as having medium, high and very high bushfire hazard levels from the south.

4.5 Fire History

Fire history information from QFES reveals that between 2010 and 2025, there were no recorded fires within a 1-kilometre radius of the location. Both the historical fire data and observations of fire scars suggest that it has been a substantial amount of time since the site was last exposed to a large-scale fire event. However, it is important to note that while this information does not guarantee the site will remain free from future fires, the likelihood of such events occurring appears to be decreasing due to the surrounding residential and commercial land development patterns.

4.6 Building Envelope and Asset Protection Zone

An Asset Protection Zone (APZ) will need to be established and maintained on the subject site to ensure adequate separation from hazardous vegetation. This designed APZ will have a radius of 30 m around the proposed building(s) as minimum, consisting of a 10 m for the Inner Protection Area and a further distance as following for the Outer Protection Area.

- 20m radius to southwest
- 15m to northwest
- 5m to southeast
- 11m to northeast

Figure 4-2 the minimum APZ requirements. The APZ will be fully contained within the subject lots. All distance measurements for the APZ should be taken as horizontal distances. Management strategies within the APZ will ensure that vegetation or other structures proposed do not increase the overall potential fuel load. The Bushfire Management Plan will detail these requirements comprehensively.

In the remaining areas on the subject site, the client should continue to maintain the current vegetation management practices. Unmanaged vegetation will increase the bushfire risk.

It is critically important to note that failure to maintain the Asset Protection Zone (APZ) will compromise its effectiveness, leading to an elevated bushfire risk to the proposed development.

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4.7 Bushfire Attack Level and Construction Requirements

Where considering the application of the designed Asset Protection Zone, the overall Bushfire Attack Level (BAL) for the proposed development has been assessed as being BAL-29.

BAL-29 is primarily concerned with protection from ember attack and radiant heat greater than 19 kW/m² up to and including 29 kW/m².

To meet the construction standards outlined in AS3959:2018, both Section 3 "Construction General" and Section 7 "Construction Requirements for BAL-29" should be adhered to.

To assist in managing the impacts of bushfires in Queensland, the Queensland Government has developed guidelines aimed at enhancing the resilience of both new and existing homes. These guidelines provide practical, site-specific recommendations on building design and landscaping measures to improve bushfire resilience.

It is recommended that the client refer to and apply these guidelines to strengthen the bushfire resilience of the dwelling.

- Queensland Reconstruction Authority (2024). Bushfire Resilient Building Guidance for Queensland Homes. https://www.qra.qld.gov.au/sites/default/files/2024-02/0873_QRA%20CSIRO%20Bushfire%20Guideline%20(updated%20February%202024).pdf

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Minimum Distance Calculator - AS3959-2018 (Method 2)			
Inputs		Outputs	
Fire Danger Index	69	Rate of spread	3.96 km/h
Vegetation Classification	Woodland	Flame length	27.91 m
Understorey fuel load	17 t/ha	Flame angle	61 °, 71 °, 79 °, 83 °, 85 ° & 94 °
Total fuel load	18 t/ha	Elevation of receiver	6.87 m, 6.07 m, 3.57 m, 0.13 m, 0 m & 0 m
Vegetation height	n/a	Fire intensity	36,851 kW/m
Effective slope	15 °	Transmissivity	0.852, 0.825, 0.793, 0.768, 0.757 & 0.703
Site slope	15 °	Viewfactor	0.6151, 0.4616, 0.3138, 0.2136, 0.1736 & 0.0467
Flame width	100 m	Minimum distance to < 40 kW/m²	19.9 m
Windspeed	n/a	Minimum distance to < 29 kW/m²	26.6 m
Heat of combustion	18,600 kJ/kg	Minimum distance to < 19 kW/m²	37.8 m
Flame temperature	1,090 K	Minimum distance to < 12.5 kW/m²	51.2 m
		Minimum distance to < 10 kW/m²	59.3 m

Rate of Spread - Mcarthur, 1973 & Noble et al., 1980

Flame length - NSW Rural Fire Service, 2001 & Noble et al., 1980

Elevation of receiver - Douglas & Tan, 2005

Flame angle - Douglas & Tan, 2005

Figure 4-9: Radiant Heat Flux Modelling and BAL Rating

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5. Bushfire Management Plan

This Bushfire Management Plan (BMP) identifies the bushfire protection measures that should be implemented as part of the proposed development to manage and to reduce the risk from bushfire to an acceptable level. It is important to understand the processes that influence bushfire behaviour and the sources of damage that threaten people and property.

5.1 Bushfire Behaviours

Understanding bushfire behaviour is crucial when planning development on bushfire prone land to effectively mitigate the risks associated with bushfires. Three primary elements significantly influence bushfire behaviour, as follows:

5.1.1 Topography

The physical characteristics of the landscape significantly influence bushfire behaviour. It is well-established that fires tend to spread more rapidly when they move uphill. This is because flames can easily access unburnt fuel ahead of the fire, which is pre-heated by radiant heat, making it more combustible. Studies indicate that for every 10-degree increase in slope, the fire's speed can double. For example, if a fire is moving at a rate of 5 km per hour on flat ground, and it encounters a 10-degree slope, its speed can double to 10 km per hour uphill. As the fire gains momentum, it also increases in intensity, becoming even hotter.

Conversely, when a fire moves downhill, its speed decreases because the flames have less fuel to consume, and radiant heat pre-heats less fuel in front of the fire. For every 10-degree decrease in slope, the fire's speed is halved. It is important to note that fires typically move more slowly as the slope declines.

5.1.2 Weather Conditions

Weather conditions are a major factor in the behaviour and spread of bushfires. Hot, dry, and windy conditions can make fires more intense and difficult to control, while cooler and more humid conditions can slow their spread. Wind can also influence the direction and speed of the fire, and changes in wind direction can make it more difficult for firefighters to predict the fire's behaviour. Weather forecasting is a critical component of bushfire management, as it allows firefighters and other responders to anticipate changes in fire behaviour and take action to mitigate the risks. In addition, many communities now use tools like automated alert systems to warn residents of potential fire danger based on weather conditions.

The new Australian Fire Danger Rating System (AFDRS) improves and simplifies the reporting of fire danger. Fire danger ratings describe the potential level of danger should a bushfire starts. It is a valuable information for taking actions to protect people and property. The AFDRS has four levels, each with a distinct title, colour and key message.

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5.1.3 Vegetation

The amount and type of fuel available can greatly influence the behaviour of a bushfire. Vegetation is the source of fuel of a bushfire. Vegetation that is dry and dead, or that is densely packed, can create more intense and long-lasting fires. In contrast, areas with little fuel or sparse vegetation may not support a fire at all. The arrangement of fuel can also play a role, as fires that encounter a continuous "fuel ladder" from the ground up into the canopy can become more severe. The amount of fuel surrounding a building can directly impact a buildings survival. Vegetation management, landscaping for bushfire and breaking the continuity of vegetation can limit the spread of fire.

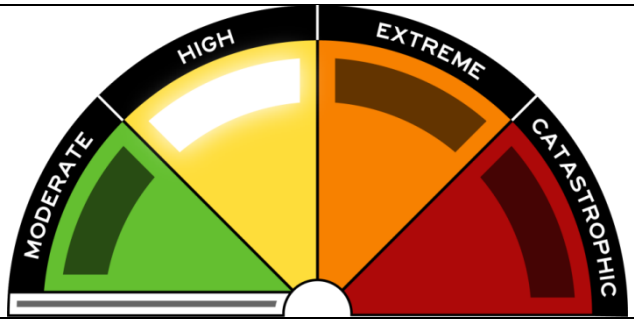

Moderate: Plan and Prepare. Most fires can be controlled ▪ Stay up to date and be ready to act if there is a fire.
High: Be Ready to Act Fires can be dangerous ▪ Decide what you will do if a fire starts. ▪ There's a heightened risk. Be alert for fires in your area. ▪ If a fire starts, your life and property may be at risk. The safest option is to avoid bushfire risk areas.
Extreme: Take Action Now to protect your life and property Fires will spread quickly and be extremely dangerous ▪ These are dangerous fire conditions. ▪ Check your bushfire plan and make sure your property is fire ready. ▪ If a fire starts, take immediate action. ▪ If you and your property are not prepared to the highest level, go to a safer location well before the fire impacts. ▪ Reconsider travel through bushfire risk areas.
Catastrophic: For your survival, leave bushfire risk areas If a fire starts to take hold, lives are likely to be lost ▪ These are the most dangerous conditions for a fire. ▪ Your life may depend on the decisions you make, even before there is a fire. ▪ For your survival, do not be in bushfire risk areas. ▪ Stay safe by going to a safer location early in the morning or the night before. ▪ If a fire starts and takes hold, lives and properties are likely to be lost. ▪ Homes cannot withstand fires in these conditions. You may not be able to leave and help may not be available.

Table 4: Australian Fire Danger Rating

5.2 Potential Bushfire Impacts and Attack Mechanisms

Bushfire attack mechanisms are typically interconnected, rarely occurring in isolation. Both people and property often face a combination of bushfire attack

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factors, each operating across different spatial scales. Nevertheless, strategies aimed at mitigating the impacts of direct flame contact, radiant heat exposure, and ember attack can be effectively addressed within the framework of land use planning and development assessments, conducted at manageable scales.

The main sources of direct bushfire attack that give rise to loss of life, and damage to property and infrastructure are as follows:

5.2.1 Direct Flame Contact

Direct flame contact occurs when flames from a bushfire come into direct contact with a building, structure, or individuals. When this happens, the flames can ignite any flammable material present and cause fires to spread rapidly. Direct flame contact can also cause burns and other heat-related injuries to people who are in the path of the flames.

Direct flame contact is a significant concern during a bushfire, especially for buildings and structures that are located in close proximity to the fire. The intensity of the flames and the duration of the exposure can have a significant impact on the severity of the damage.

To reduce the risk of direct flame contact during a bushfire, it's essential to create a defensible space around buildings and structures, clear flammable materials from the area, and use fire-resistant building materials when constructing or renovating buildings. Additionally, it's crucial to follow evacuation orders and stay informed about the fire's behaviour and movement to ensure personal safety.

5.2.2 Radiant Heat Exposure

Radiant heat exposure is a significant danger during a bushfire. When a bushfire occurs, the heat generated by the flames causes the air surrounding the fire to heat up, and this heat energy is then radiated out in the form of electromagnetic waves. These waves can travel a considerable distance from the fire and can cause surfaces that are not in direct contact with the flames to heat up.

During a bushfire, radiant heat exposure can be intense, and the effects can be severe. Radiant heat can ignite flammable materials, such as dry vegetation or wooden structures, and cause them to catch fire. It can also cause buildings and structures to overheat, leading to structural damage or collapse. Additionally, people who are too close to the flames can suffer from heat stress, dehydration, and serious burns.

The risk of radiant heat exposure during a bushfire can be mitigated by creating a defensible space around buildings and structures, clearing flammable materials from the area, and using fire-resistant building materials when constructing or renovating buildings. It's also important to follow evacuation orders and stay informed about the fire's behaviour and movement to ensure personal safety.

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5.2.3 Ember Attack

Ember attack, often referred to as spot fires, represents a prominent hazard during bushfires. This phenomenon occurs when burning embers, also known as firebrands or spot fires, are carried by the wind and land in different locations, potentially igniting new fires.

In the midst of a bushfire, the combination of hot air and flames generates updrafts capable of lifting burning embers over considerable distances. These embers can alight on rooftops, in gutters, or on flammable materials near buildings and structures, leading to ignition and the potential initiation of new fires.

Ember attack poses a unique danger because it can manifest hours or even days after the primary fire front has passed, and it has the capacity to ignite fires in areas previously unaffected by the bushfire. Consequently, it is imperative to prepare for ember attack through measures such as establishing a defensible space around buildings and structures, removing flammable materials from the vicinity, and sealing gaps and openings in buildings to prevent ember ingress.

5.2.4 Wind and Smoke Attack

Strong winds can cause a bushfire to spread more rapidly and can also increase the likelihood of ember attack, as burning embers can be carried by the wind over long distances. Wind can also push flames and radiant heat towards buildings and structures, increasing the risk of direct flame contact and radiant heat exposure.

Smoke from a bushfire can also pose a danger to people's health, particularly for those with respiratory problems. Smoke can contain particulate matter, carbon monoxide, and other harmful pollutants that can irritate the lungs and worsen respiratory conditions. In addition to health effects, smoke can reduce visibility, making it more difficult for firefighters to contain the fire and for people to evacuate safely.

5.2.5 Convection and Conduction

Both convection and conduction can play a significant role in the spread and intensity of a bushfire. To reduce the risk of a bushfire spreading through convection and conduction, it's important to create a defensible space around buildings and structures, clear flammable materials from the area, and use fire-resistant building materials when constructing or renovating buildings. It's also crucial to follow evacuation orders and stay informed about the fire's behaviour and movement to ensure personal safety.

5.3 Bushfire Protection Measures

This section identifies the bushfire protection measures that will be implemented as part of the proposed development to comply with the requirements of both the State

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and local council's Bushfire Prone Area code and to minimise the impact of potential bushfires on people and property.

The proposed measures are prepared in accordance with Queensland State Government State Planning Policy - Part E (SPP 2017), the Bushfire Resilient Communities Technical Reference Guide (QFES, 2019), the local council's Bushfire Overlay Code, and the Australian Standard (AS 3959:2018) for Construction of buildings in bushfire prone areas.

The legislation mentioned above aims to protect individuals and buildings from bushfires by ensuring that new developments meet specific Performance Outcomes that are appropriate for the identified bushfire hazard. These Performance Outcomes are typically achieved by properly separating the development from the bushfire hazard, providing adequate access for firefighting vehicles, and constructing buildings to the appropriate standards. Additionally, the legislation includes other relevant factors that are deemed necessary for ensuring the safety of individuals and buildings during a bushfire emergency.

5.3.1 Asset Protection Zone (APZ)

An Asset Protection Zone (APZ) is the most important bushfire protection measure. An APZ is a designed area surrounding a building or structure that has been well managed to reduce the risk of a bushfire impacting the building or structure. An APZ provides:

- A buffer zone between a bushfire hazard and an asset
- An area of reduced bushfire fuel that allows suppression of fire
- An area from which backburning may be conducted
- An area which allows emergency services access and provides a relatively safe area for firefighters and homeowners to defend their property.

A correctly designed and regularly maintained APZ will reduce the risk of:

- Direct flame contact on the asset
- Damage to the build asset from intense radiant heat
- Ember attack on the asset

An APZ is typically designed and created by removing vegetation and other combustible materials from around the building or structure, reducing the fuel available for a bushfire. The width of the APZ and the level of vegetation removal required depend on a number of site-specific factors, including the slope of the land, the hazardous vegetation type, and the intensity of the bushfire hazard. The property owner is responsible for creating and maintaining regularly the designed APZ.

(1) Creating APZ by reducing bushfire fuel

The intensity of bush fires can be greatly reduced where there is little to no available fuel for burning. To effectively manage bushfire fuels, there are several approaches to reduce, remove, or change the condition of the fuel.

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- Raking or manual removal of fine fuels
- Mowing or grazing of grass
- Removal or pruning of trees, shrubs and understorey
- Slashing and trittering

It is important to note that reducing fuel does not always require removal of all vegetation, which would cause environmental damage. Trees and plants also provide protection against bushfires by mitigating the impact of strong winds, intense heat and flying embers (by filtering embers) and changing wind patterns. Some ground cover vegetation is also needed to prevent soil erosion.

(2) Ongoing management for APZ

The creation of an Asset Protection Zone (APZ) establishes a controlled fuel-managed area that serves to reduce the potential impact of direct flame contact and radiant heat on property development, effectively acting as a defensible space. It is crucial to emphasize that the management of vegetation and landscaping within the APZ is of paramount importance and should maintain a minimal fuel load.

An APZ should be maintained in perpetuity to ensure ongoing protection from the impact of bushfires, and maintenance of the APZ should be regularly undertaken, especially in advance of the bushfire season. The requirements are set out as follows.

(i) Inner Protection Area

The Inner Protection Area is the area closest to the building and creates a fuel-managed area which can minimise the impact of direct flame contact and radiant heat on the proposed development and act as an important space. Vegetation within this area should be kept below 100 mm in height and be discontinuous.

In practical terms the Inner Protection Area is typically the curtilage around the building, consisting of a mown lawn and well-maintained gardens.

When establishing and maintaining the inner protection zone, the following requirements apply:

- General
  - Recommend a 1m wide area, suitable for pedestrian traffic, to be provided around the immediate curtilage of the building
  - Planting is limited in the immediate vicinity of the building
  - All leaves and vegetation debris must be removed at regular intervals during the declared fire danger period
  - Planting should not provide continuous connection to the building
  - Plants greater than 10 cm in height are not recommended to be located within 3 m of glazed element of the building
  - Low flammability vegetation species are used

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- Trees
  - Tree canopy cover should be less than 15% at maturity
  - Trees at maturity should not touch or overhang the building
  - Lower limbs should be removed up to a height of 2 m above the ground
  - Tree canopies should be separated by 2 to 5 m
  - Preference should be given to smooth barked and evergreen trees
- Shrubs
  - Create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided
  - Shrubs should not be located under trees
  - Shrubs should not form more than 10% ground cover
  - Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation
- Grass
  - Grass should be kept mown regularly (as a guide grass, should be kept to no more than 100 mm in height)
  - Leaves and vegetation debris should be removed regularly

(ii) Outer Protection Area

The Outer Protection Area is located between the Inner Protection Area and unmanaged vegetation. It is an area where there is maintenance of the understorey and some separation in the canopy. The reduction of fuel in this area aims to decrease the intensity of an approaching fire and restricts the potential for fire spread from crowns, reducing the level of direct flame, radiant heat and ember attack on the inner protection zone.

- Trees
  - Tree canopy cover should be less than 30% at maturity
  - Tree canopies should be separated by 2 to 5 m
- Shrubs
  - Shrubs should not form a continuous canopy, and
  - Shrubs should not form more than 20% ground cover
- Grass
  - Grass should be kept mown regularly to height of less than 100 mm
  - Leaves and other debris should be removed regularly.

It is noted that, due to topographical and other site constraints, establishing and maintaining the Outer Protection Zone (OPZ) or fire management lines in certain areas may be difficult to implement. Accordingly, the client shall implement appropriate alternative measures suited to local site conditions — such as locating fire management lines or firebreaks in practicable areas — to achieve an equivalent level of bushfire risk mitigation.

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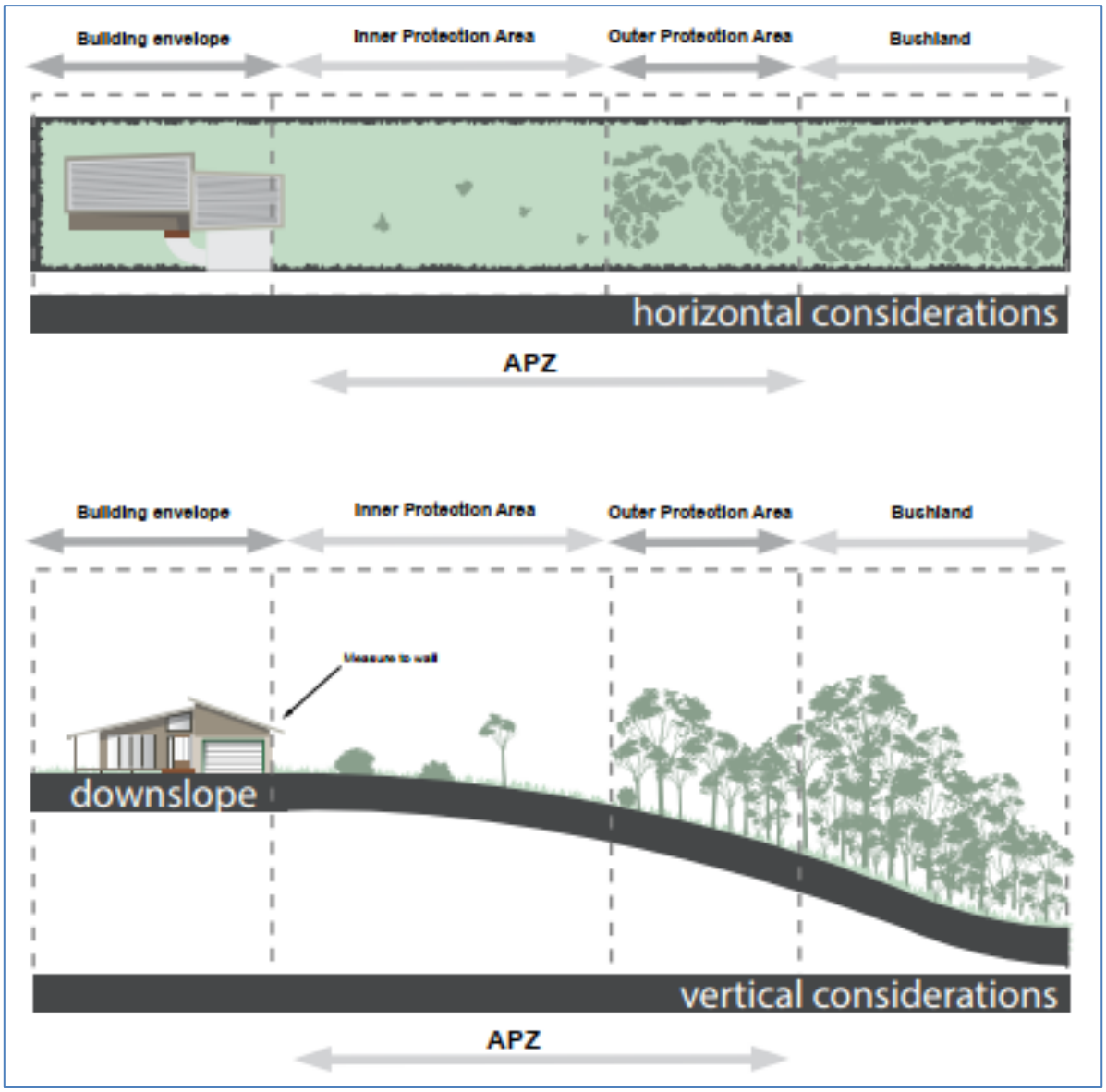


Figure 5-1: Inner protection area and Outer protection area

5.3.2 Building Construction, Siting and Design

The appropriate design and construction of buildings enhance their survivability from bushfires. Construction measures should not be applied as a stand-alone mitigation solution but should form part of a suite of measures. This should also include APZ, appropriate access, water supply and landscaping. Building design needs to ensure adequate protection of vulnerable building elements. Construction standards are outlined in AS 3959:2018 and the NASH Standard to provide various levels of protection for different building elements.

The outcome of the BAL assessment is BAL-29 in accordance with AS 3959:2018 and the Bushfire Resilient Communities.

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It should be noted the Building Code of Australia only requires Classes 1, 2 and 3 and certain Class 9 buildings and Class 10a building associated with those buildings to comply with the bushfire provisions of the NCC 2022.

5.3.3 Access and Evacuation Arrangement

Developments in bushfire prone areas should be serviced by safe access/exit points for both site personnel and emergency services personnel in the event of an emergency. The local council's Bushfire Hazard Overlay Code prescribes appropriate access for fire management an evacuation to be provided as below:

- Do not exceed an average gradient of 18%
- Have a minimum width of 4 m and 6 m of vegetation clearing, can be up to 10 m.
- Have a minimum of 4.8 m vertical clearance
- Accommodate turning areas for fire-fighting appliances in accordance with Qld Fire and Emergency Services' Fire Hydrant and Vehicle Access Guidelines
- Passing bays for firefighting appliances are 20 m long by 3 m wide, with a minimum trafficable width of 7m at the passing bay
- Reversing bays for firefighting appliances are 6 m wide and 8.5 m deep to any gates, meeting above turning requirements
- Passing bays or turning intervals located every 200 m with a maximum grade of 5%
- Compacted driveway to ensure all weather surfaces

It is noted that, due to topographical constraints, the total distance from the site boundary to the proposed building area is approximately 104 m. Ground levels increase from approximately 59 m AHD at the site boundary to 77 m AHD at the proposed building location, resulting in an average driveway gradient of approximately 17.5% (about 10 degrees). This gradient reflects the natural sloping terrain of the site, which is characteristic of hillside developments within bushfire prone areas and cannot be reasonably reduced without substantial earthworks.

The proposed access driveway will be constructed as an all-weather access, such as using compacted road base, capable of supporting fire appliances and other emergency vehicles. Adequate trafficable width, vertical clearance, passing opportunities and a compliant turning area adjacent to the proposed building will be provided to facilitate safe vehicle access and manoeuvring.

Subject to implementation of these design measures and ongoing maintenance of the driveway surface and vegetation clearance, the access arrangement is considered capable of accommodating emergency service vehicles and providing suitable access to the site during bushfire emergency conditions. Consequently, the proposed development is considered in compliance with the Council Bushfire Hazard Overlay.

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5.3.4 Water Supply

It is noted that AS 3959:2018 – Construction of buildings in bushfire prone areas does not include requirements for water supply for firefighting purposes; nor is water supply a factor in determining a building's Bushfire Attack Level (BAL) rating. Accordingly, the building certifier should not impose conditions on the building approval relating to water supply for firefighting purposes, unless such conditions are required under a development permit issued by the local council or are specified in the applicable local planning scheme.

An adequate supply of water is essential for firefighting purposes and suitable water supply arrangements shall be provided. The proposed development should provide an appropriate water supply to support effective emergency services response includes reticulated water and/or appropriate static water supply.

(1) If the development is serviced by public fire hydrant, this is considered an accepted solution, as the infrastructure is maintained by the local authority and no further assessment or testing, such as pressure test, by the client is required.
(2) Where a private fire hydrant system is proposed, the reticulated hydrant network must be designed, installed, and certified in accordance with the Queensland Fire and Emergency Services (QFES) Fire Hydrant and Vehicle Access Guidelines.
(3) Where reticulated water is unavailable, an appropriate static water supply should consist of a dedicated water tank specifically for firefighting purposes, with suitable access for firefighting appliances.

    It is recommended that the tank be located within 10 m of the building. To ensure durability and compliance with safety standards, it is strongly recommended that the tank be constructed underground or from non-combustible materials, such as steel or concrete. The tank must include a take-off connection providing a minimum of 10,000 litres of static water exclusively for firefighting access.

    The site must permit clear access for a medium rigid fire appliance (15 tonnes) to within 6 m of the tank. Tanks and associated pumps must be protected from bushfire impact in accordance with AS 2304:2011 – Water storage tanks for fire protection systems. Where the site is serviced by a rural fire brigade, the tank shall be fitted with brigade-compatible fittings, including a 50-millimetre ball valve and a male camlock coupling. If the tank is underground, a minimum 200-millimetre access hole must be provided to allow suction line access. Directional signage must clearly indicate the tank's location at the street frontage.

    The water tank and associated pump infrastructure are to be protected from bushfire attack, including appropriate shielding, in accordance with AS 2304:2011 – Water storage tanks for fire protection systems.

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5.3.5 Landscaping Management Plan

The type, location and ongoing maintenance of landscaping are considered a necessary bushfire protection measure. Landscaping management for bushfire is the process of designing, constructing, and maintaining a landscape in a way that reduces the risk of bushfire. The management strategies typically involve creating fire breaks, reducing fuel loads, and selecting vegetation that is less flammable.

Appendix A provides a list of less flammable plants.

The landscaping management shall be carried out as the requirements set out for Asset Protection Zone in Section 5.3.1.

5.3.6 Reducing Fuel Load and Weed Management

Removing excess ground fuels and combustible material is a crucial aspect of effective fire prevention and management. This process involves the careful clearance of various flammable materials, including long dry grass, accumulated dead leaves, and fallen branches. By systematically reducing these fuel sources, the risk of fire ignition and spread is significantly mitigated. Regular maintenance of such clearance efforts is essential to ensure ongoing fire safety and resilience within the environment.

Unmanaged invasive pest plants can swiftly amplify fuel loads, comprising fast-growing introduced grasses, dense woody weeds, and invasive climbing vines. These factors collectively escalate fuel loads, fostering a "laddering" effect, intensifying fire spread and allowing it to transition from ground to canopy. Effective weed management markedly diminishes bushfire risk to the site and surrounding properties.

5.3.7 Importance of Ongoing Vegetation Management

Ongoing vegetation management is essential to maintain the effectiveness of bushfire protection measures and ensure the site continues to meet relevant performance requirements. Without regular maintenance, vegetation can quickly regenerate, resulting in increased fuel loads, higher flame heights, and elevated radiant heat exposure to buildings and access routes.

Routine activities such as mowing, slashing, mulching, weed control, and the removal of fallen branches or debris should be undertaken on a regular basis. The maintenance program should be implemented on an ongoing and scheduled cycle, taking into account seasonal growth patterns, rainfall, and local climatic conditions. Regular monitoring and prompt intervention are critical to ensure that vegetation conditions remain consistent with the prescribed bushfire protection objectives.

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6. Conclusion

The following recommendations are provided in relation to the requirements of Council's Bushfire Hazard Overlay Code.

- An asset protection zone has been designed and shall be established and managed.
- Construction of building to meet BAL-29 construction requirements of AS 3959:2018.
- The development is designed to minimise the potential for occupant entrapment during a bushfire, facilitate safe and efficient emergency service access and egress, and provide for the safe evacuation of occupants under bushfire conditions.
- Provision of water and service to be in accordance with the requirements.
- The location of the proposed dwelling maximises the use of existing cleared and open space while minimising the clearing of native vegetation and its impact on the environment.

In conclusion, the proposed development has been designed and managed to ensure that the exposure of people and property to unacceptable bushfire hazard risks has not increased. The development will mitigate bushfire risk through appropriate siting, design, and management measures. It provides suitable access and evacuation routes for both private and emergency service vehicles, in line with the nature of the development and the level of bushfire risk. An adequate water supply for firefighting purposes will be provided, and no hazardous goods will be stored on-site. Overall, the development meets all necessary requirements to minimise the risk of bushfires to people, property, public health, and the environment.

This assessment assumes that vegetation on the site will be maintained according to the client's outlined plans. Should the proposed development require the removal of site vegetation to meet specific BAL requirements set by either the developer or the client, it is the client's responsibility to comply with relevant regulations regarding native vegetation clearing.

Although emergency management arrangements are not a mandatory measure for the proposed development, it is recommended that residents in bushfire prone areas prepare a bushfire survival plan.



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8. Appendix

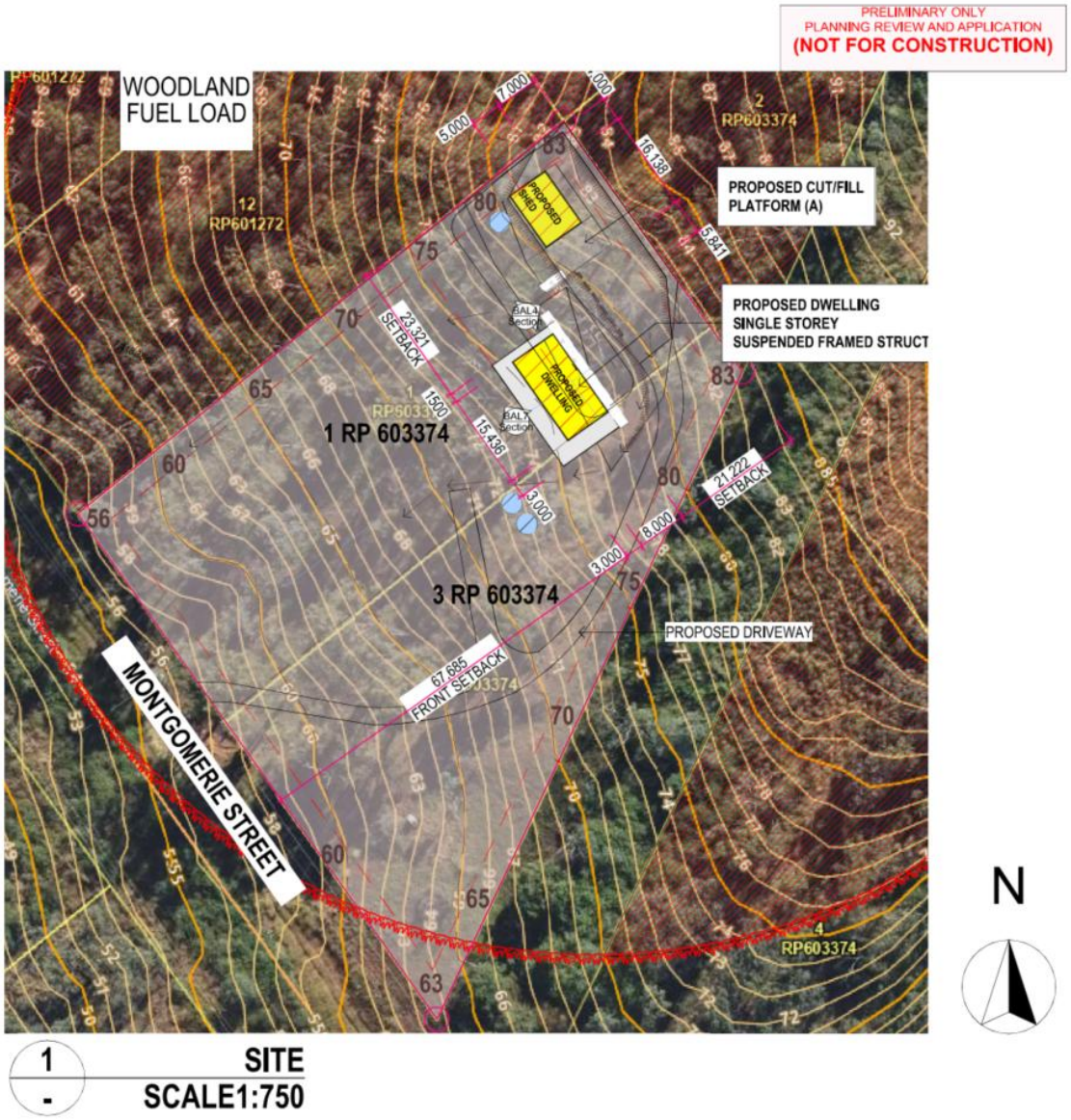
Appendix A Site Plan

Appendix B Low Flammability Plant Species List

Appendix C Summary of AS3959-2018 Construction Requirements for Bushfire Attack Level

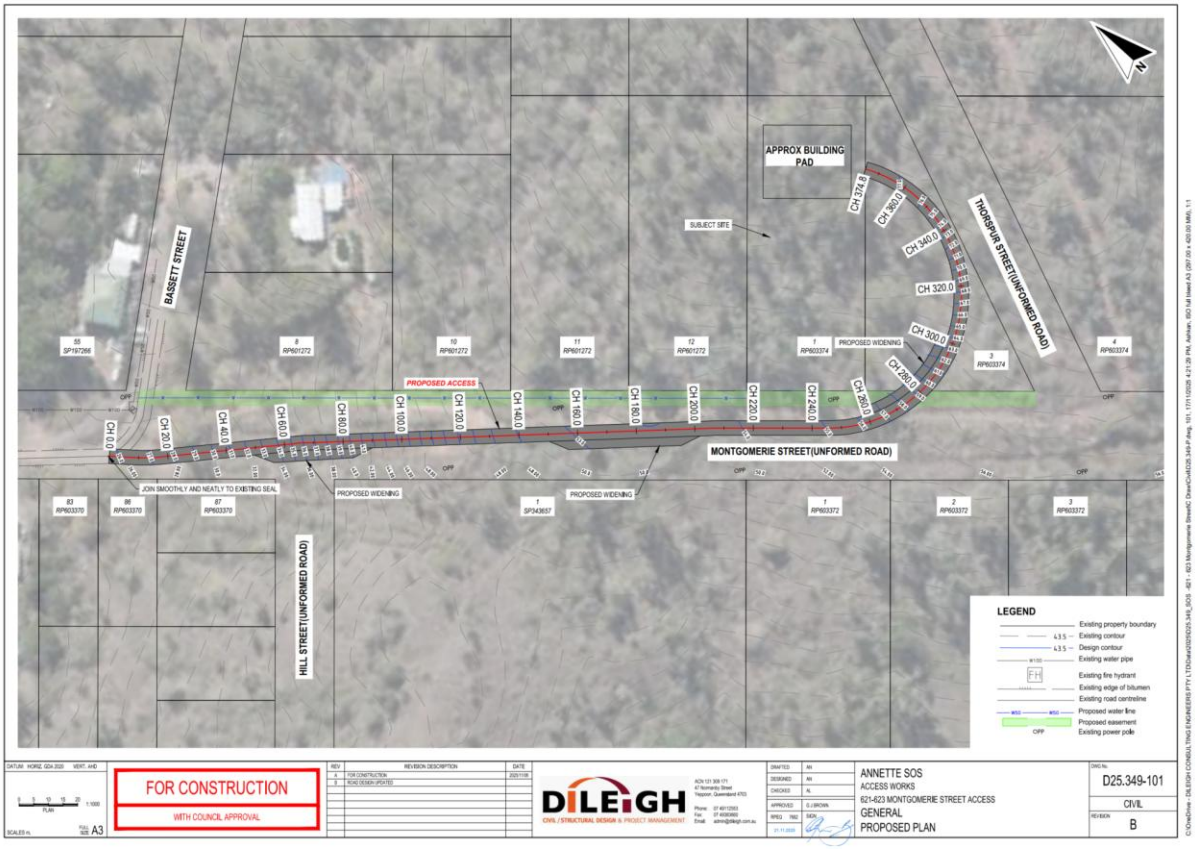
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Appendix A Site Plan



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Appendix B Low Flammability Plant Species List

This list is intended as a general guide. It is essential to conduct independent research to identify fire-resistant species specific to the region of the subject site, as suitability varies across Queensland. Notably, all plants, whether native or exotic, will combust when exposed to extreme heat or flame; therefore, additional precautions may be required.

Ground covers and creeping plants
• Casuarina glauca prostrate, commonly known as grey she oak or marsh she oak
• Anigozanthos, commonly known as kangaroo paw
• Carpobrotus glaucescens, commonly known as pigface
• Hardenbergia violacea, commonly known as sarsparilla or purple coral pea
• Liriope muscari, commonly known as lilyturf
• Lomandra longifolia, commonly known as spiny-headed mat-rush
• Lomandra hystrix, commonly known as mat-rush
• Varieties of Brachyscome
• Varieties of Dampiera
• Dianella caerulea, commonly known as blue berry lily
• Varieties of Dianella prunina
• Dianella revoluta, commonly known as blue berry lily or spreading flax lily
• Dichondra repens, commonly known as kidney weed
• Einadia nutans, commonly known as climbing saltbush
• Hardenbergia violacea, commonly known as false sarsaparilla, purple coral pea, happy wanderer, native lilac or waraburra
• Scaevola aemula, commonly known as fairy fan flower
• Scaevola humilis, commonly known as sandplain fan flower
• Varieties of Cotyledon
• Myoporum insulare, commonly known as boobialla, native juniper or blueberry tree
• Eremophila glabra, commonly known as kalbarri carpet
• Eremophila debilis, commonly known as winter apple
• Elaeocarpus eumundi, commonly known as eumundi quandong
• Elaeocarpus prima donna, commonly known as blueberry ash
• Kennedia rubicunda, commonly known as Dusky coral pea or red kennedy pea
• Rhododendron hybrid, commonly known as azalea
• Varieties of Arctotis
• Varieties of Photinia
• Westringia fruticosa, commonly known as native rosemary

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Shrubs
• All varieties of Aloe
• Correa reflexa, commonly known as nativefuchsia
• Varieties of Acacia
• Nerium oleander, commonly known as oleander
• Varieties of Atriplex, commonly known as saltbushes
• Varieties of Escallonia
• Varieties of Maireana, commonly known as cottonbush
• Varieties of Eremophila, commonly known as emu bushes or fuchsia bushes
• Varieties of Grevillea
• Melaleuca nodosa, commonly known as prickly leaf paperbark
• Varieties of Syzygium
• Varieties of Photinia
• Varieties of Rhagodia
• Rhaphiolepis indica, commonly known as india hawthorn
• Strelitziacae hutch
• Strelitzia banks
• Strelitzia nicolai
• Sambucus australasica, commonly known as yellow elderberry or native elderberry
• Varieties of Coprosma
• Varieties of Plectranthus
• Senna artemisioides, commonly known as silver cassia

Deciduous trees
• Brachychiton acerifolius, commonly known as the flame kurrajong
• Ulmus parvifolia, commonly known as chinese elm
• Morus alba, commonly known as the mullberry tree
• Eriobotrya japonica, commonly known as loquot
• Gleditsia triacanthos, commonly known as honey locust
• Trees from the genus Prunus, including ornamental cherries, plums and peaches
• Trees from the genus Malus, including apples and crab apples

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Evergreen trees
• Grevillea robusta, commonly known as silky oak
• Melia azedarach, commonly known as cape lilac, white cedar, persian lilac or chinaberry
• Lophostemon confertus, commonly known as brush box, queensland box, brisbane box or pink box
• Tristaniopsis laurina, commonly known as water gum, kanooka or kanuka
• Rapanea variabilis, commonly known as muttonwood
• Varieties of Acacia
• Varieties of Acmena
• Varieties of Magnolia
• Cupaniopsis anacardioides, commonly known as tuckeroo or beach tamarind
• Elaeocarpus reticulatus, commonly known as blueberry ash
• Alectryon subcinereus, commonly known as native quince
• Callicoma serratifolia, commonly known as black wattle
• Canthium coprosmoides, commonly known as supple jack or sweet susie
• Cassine australis, commonly known as red olive berry or red olive plum
• Croton insularis, commonly known as Queensland cascarilla, native cascarilla bark or silver croton
• Cuttsia viburnea, commonly known as native elderberry
• Varieties of Citrus
• Denhamia celastroides, commonly known as denhamia or orange boxwood
• Diospyros australis, commonly known as black plum or yellow persimmon
• Eupomatia laurina, commonly known as bolwarra, grey beech or native guava
• Glochidion ferdinandi, commonly known as the cheese tree or buttonwood
• Guioa semiglauca, commonly known as guioa or wild quince
• Hodgkinsonia ovatiflora, commonly known as golden ash
• Hymenosporum flavum, commonly known as native frangipani or Queensland frangipani
• Petalostigma triloculare, commonly known as quinine berry, forest quinine or bitter bark
• Podocarpus elatus, commonly known as she pine
• Rhodosphaera rhodanthema, commonly known as yellow cedar, tulip satinwood or deep yellow wood
• Sarcopteryx stipata, commonly known as corduroy
• Scolopia braunii, commonly known as scolopia or brown birch
• Stenocarpus sinuatus, commonly known as white silky oak, tulip flower, white beefwood Or wheel of flower tree
• Streblus brunonianus, commonly known as the whalebone tree, axehandle wood or white handlewood
• Symplocos stawellii, commonly known as white hazelwood
• Symplocos thwaitesii, commonly known as buff hazelwood
• Varieties of Ficus (fig trees)

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Appendix C: Summary of AS3959-2018 BAL-29 construction requirements

Note: this is a summary of some portions of the standard - the building designer, builder and subcontractors should refer to AS3959-2018 in full prior to construction.

- **Subfloor supports**

The Standard does not provide construction requirements for sub-floor supports where the sub-floor is enclosed in accordance with wall that conforms to the requirements for walls listed below or is enclosed with corrosion resistant steel, bronze or aluminium mesh with a maximum aperture of 2 mm.

Where the subfloor space is unenclosed, the support posts, columns, stumps, piers and poles are to be of non-combustible material or bushfire resisting timber.

- **Floors**

The Standard does not provide construction requirements for concrete slabs on the ground.

Unenclosed subfloor space

The standard does not provide construction requirements for bearers, joists and floors if the underside element is greater than 400mm above finished ground level

- **External walls**

The exposed components of external walls shall be as follows:

(a) made of non-combustible materials (e.g. full masonry, brick veneer etc.) with a minimum thickness of 90 mm, or

(b) timber logs with a density of 680 kg/m3 and a minimum nominal thickness of 90mm; or

(c) cladding that is fixed externally to a timber or metal frame and is:

(i) non-combustible; or

(ii) fibre cement a minimum of 6mm thick; or

(iii) bushfire-resisting timber.

- **Joints**

All joints in the external surface material of walls shall be covered, sealed, overlapped, backed or butt-jointed.

Vents and weepholes

Vents and weepholes in external walls are to be screened with corrosion-resistant steel, bronze or aluminium mesh with a maximum aperture of 2 mm.

External glazed elements, assemblies and doors

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- **Screens for windows and doors**

Where fitted, screens for windows and doors shall have mesh or perforated sheet made of corrosion-resistant steel, bronze or aluminium with a maximum aperture of 2 mm, with framing made from metal or bushfire resisting timber.

- **Windows**

Frame material for windows are to be made from bushfire-resisting timber, metal or metal-reinforced uPVC.

Glazing is to be toughened glass with a minimum thickness of 5 mm.

The openable portions of windows shall be screened with a mesh with a max aperture of 2 mm made of corrosion resistant steel, bronze or aluminium.

- **Doors - side hung external doors, panel fold & sliding doors**

Doors- shall be completely protected externally by a screen with a mesh with a max aperture of 2mm made of corrosion resistant steel, bronze or aluminium, OR

Door panel material shall be:

(a) non-combustible; or

(b) solid timber, laminated timber or reconstituted timber, having a minimum thickness of 35 mm for the first 400 mm above the threshold; or

(c) fully framed glazed door panels with framing made from metal, bushfire resisting timber or uPVC.

Door frames shall be made from metal bushfire resisting timber, metal or metal reinforced uPVC.

Where doors incorporate glazing, the glazing shall be toughened glass with a minimum thickness of 6mm.

Doors shall be tight fitting to the door frame and to an abutting door, if applicable.

Weather strips, draught excluders or draught seals shall be installed.

There is no requirement to screen the openable part of a door at this level.

- **Garage doors**

Vehicle access doors shall be made from:

(i) non-combustible material; or

(ii) bushfire-resisting timber; or

(iii) fibre-cement sheet, a minimum of 6 mm in thickness; or

(iv) a combination of any of items (i), (ii) or (iii) above.

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All vehicle access doors to be protected with suitable weather strips, draught excluders, draught seals or brushes.

- **Roofs**

The following apply to all types of roofs and roofing systems:

(a) roof tiles, roof sheets and roof covering accessories shall be non-combustible,

(b) the roof/wall and roof/roof junction shall be sealed, or otherwise protected to prevent openings greater than 2mm,

(c) roof ventilation openings, such as gable and roof vents, shall be fitted with ember guards made of non-combustible material or a mesh or perforated sheet with a max aperture of 2mm made of corrosion resistant steel, bronze or aluminium.

(d) A pipe or conduit that penetrates the roof covering shall be non-combustible

Tiled roofs shall be fully sarked with the sarking covering the entire roof area including ridges and hips and extend into gutters and fascias.

Sheet roofs shall:

(a) be fully sarked with sarking, except that foil backed insulation blankets may be installed over battens; OR

(b) have any gaps sealed at the fascia, or wall line, hips and ridges by:

(i) a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium, or

(ii) mineral wool, or

(iii) other non-combustible material, or

(iv) -a combination of any of the above.

- **Roof penetrations**

The following apply to roof penetrations:

(a) roof penetrations, including roof lights, roof ventilators, roof-mounted evaporative cooling units, aerials, vent pipes and supports for solar collectors, shall be sealed. Sealing material is to be non-combustible.

(b) openings in vented roof lights, roof ventilators or vent pipes shall be fitted with ember guards made from a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

(c) all overhead glazing shall be Grade A safety glass complying with AS 1288.

(d) flashing elements shall be non-combustible.

- **Eaves linings, fascias and gables**

The following apply to eaves linings, fascias and gables:

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(a) gables shall comply with requirements for walls.

(b) fascias and bargeboards shall be made from bushfire-resisting timber or metal.

(c) eave linings shall be fibre-cement sheet with a minimum thickness of 4.5mm or bushfire resisting timber.

(d) eave penetrations shall be protected as for roof penetrations.

(e) eaves ventilation openings are to be fitted with ember guards and be made of corrosion resistant steel, bronze or aluminium.

(f) joints in eave linings, fascias and gables may be sealed with plastic joining strips or timber storm moulds.

- **Gutters and downpipes**

The Standard does not provide material requirements for gutters and downpipes, with the exception of box gutters.

Box gutters are to be non-combustible and flashed at the roof junction with non-combustible material.

If installed, gutter and valley leaf guards are to be non-combustible.

- **Verandas, decks, steps, ramps and landings**

Decking may be spaced. There is no requirement to enclose the subfloor spaces of verandas, decks, steps, ramps or landings.

Decking, stair treads, trafficable surfaces of ramps and landings, balustrades and handrails are to be made from:

(a) of non-combustible material; or

(b) of bushfire-resisting timber; or

(c) a combination of items (a) and (b) above.

Veranda posts shall be made from non-combustible material or bushfire-resisting timber.

- **Water and gas supply pipes**

Above ground, exposed water and gas supply pipes shall be metal. The metal pipe shall extend a minimum of 400mm within the building and 100 mm below the ground.

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APPENDIX F

BUSHFIRE-RESISTING TIMBER

(Normative)

F1 GENERAL

Bushfire-resisting timber is timber that is in solid, laminated or reconstituted form and has been tested and is deemed to be acceptable to withstand exposure up to a BAL—29 condition.

Timber may be 'bushfire-resisting' by means of one or more of—

(a) the inherent properties of the material itself;

(b) being impregnated with fire-retardant chemicals; or

(c) the application of fire-retardant coatings or substrates.

F2 TESTING

The following applies:

(a) To satisfy the requirements for bushfire-resisting timber, timber shall be tested in accordance with AS/NZS 3837 and shall meet the following criteria:

(i) The maximum heat release rate shall be not greater than 100 kW/m^2.

(ii) The average heat release rate for 10 minutes following ignition shall be not greater than 60 kW/m^2 when the material is exposed to an irradiance level of 25 kW/m^2.

(b) Where the timber has been altered by chemicals, the test samples shall be subjected to the regime of accelerated weathering described in Paragraph F3 except that where the timber is protected from the weather, as described in the AS 1684 series (for example, cladding protected by a veranda), accelerated weathering of the test samples is not required before being tested to AS/NZS 3837.

External timbers are deemed to be protected if they are covered by a roof projection (or similar) at 30 degrees or greater to the vertical and they are well detailed and maintained (painted or stained and kept well ventilated).

NOTE: The purpose of testing is to assess timber performance rather than to simulate a bushfire. The irradiance set for the test is not to be considered to be correlated to the BAL.

F3 ACCELERATED WEATHERING

Where accelerated weathering is required before testing to AS/NZS 3837, external fire-retardant-coated substrates shall be subjected to the ASTM D2898 Method B weathering regime, with the water flow rate modified to be the same as that within ASTM D2898 Method A.

NOTE: Accelerated weathering does not account for mechanical wear and tear within trafficable areas and care should be exercised when using coating materials.

F4 BUSHFIRE-RESISTING SPECIES

The species listed in Table F1 have been tested and have met the requirements of Paragraph F2.

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TABLE F1

BUSHFIRE-RESISTANT SPECIES

Standard trade name	Botanical name
Ash, silvertop	*Eucalyptus sieberi*
Blackbutt	*Eucalyptus pilularis*
Gum, red, river	*Eucalyptus camaldulensis*
Gum, spotted	*Corymbia maculata*
Ironbark, red	*Eucalyptus sideroxylon*
Kwila (Merbau)	*Intsia bijuga*
Turpentine	*Syncarpia glomulifera*

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