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Your Reference:
Our Reference: RR: mw: 22-03 (FID88352, MCU003-21/22, 15261-80000-000, ID1676598, ID1718708)
Contact: enquiries@banana.qld.gov.au

31 May 2022

SETH D FULTHORP & GEORGIA L BILLENS
29-31B ALEXANDRA AVENUE
BILOELA QLD 4715

Dear Sir/Madam

NEGOTIATED Decision Notice – Approval
(Given under section 63 of the Planning Act 2016)

Application Number: *MCU003-21/22*
Description: *Dwelling*
Level of Assessment: *Code Assessable*
Site Address: *TOGNOLINI BALDWIN ROAD, DAKENBA*
Lot & Plan Details: *Lot 1 on SP272400*

On 31 May 2022, under delegated authority, your request for a Negotiated Decision Notice, received by Council on 18 May 2022, was approved to the extent detailed in this Notice. This Negotiated Decision Notice replaces the Decision Notice previously issued and dated 31 March 2022, approved 30 March 2022 under delegated authority.

The nature of the changes are listed below and clearly shown in the Negotiated Decision Notice and Attachment 1 (as strikethrough bold text):-

- Condition 1 - Amended
- Condition 7 - Amended
- Condition 12 - Amended

1. Details of Approval

The following approvals are given:

	Planning Regulation 2017 reference	Development Permit	Preliminary Approval
Making a Material Change of Use assessable under the planning scheme	s20	☑	☐
Building Work	s20	☐	☑

2. Approved Plans

The approved plans and documents for this development approval are listed in the following table:

Plan/Document number	Plan/Document name	Date
~~A02~~ **A2 Rev 4**	Site Plan	~~9/8/21~~ **01/05/2022**
~~A03~~ **A3 Rev 3**	Floor Plan ~~– Stage 1~~	~~11/8/21~~ **01/05/202**
~~A04~~ **A4 Rev 3**	~~Floor Plan – Stage 2~~ **Floor Plan – Details 1**	~~11/8/21~~ **01/05/2022**
~~A05~~ **A5 Rev 1**	~~Floor Plan Stage2 Details~~ **Floor Plan – Details 2**	~~11/8/21~~ **01/05/2022**
~~A06~~ **A6 Rev 2**	South Elevation	~~9/8/21~~ **01/05/2022**
~~A07~~ **A7 Rev 2**	West Elevation	~~9/8/21~~ **01/05/2022**
~~A08~~ **A8 Rev 2**	East Elevation	~~9/8/21~~ **01/05/2022**
~~A09~~ **A9 Rev 2**	North Elevation	~~9/8/21~~ **01/05/2022**
A10 **Rev 2**	Roof Plan	~~9/8/21~~ **01/05/2022**
A14 **Rev 2**	Footing Plan	~~9/8/21~~ **01/05/2022**
~~A18~~	~~General Section Details~~	~~9/8/21~~
~~A22~~	~~Stage 1 North Elevation~~	~~11/8/21~~
A19	**Section Details 1**	**01/05/2022**
A20	**Section Details 2**	**01/05/2022**
CQ19911**B**	CQ Soil Testing – Waste Water Design	~~7/10/2021~~ **26/04/2022**
BAL Assessment Lot 1/SP272400	Ecosure - Bushfire Attack Level Assessment (BAL)	7/10/2021

3. Further Development Permits

Please be advised that the following development permits are required to be obtained before the development can be carried out:

- Building Works
- Plumbing & Drainage

4. Conflict with relevant instrument and reasons for the decision despite the conflict.

The assessment manager does not consider that the assessment manager's decision conflicts with a relevant instrument.

5. Submissions

Not applicable (Public Notification not required)

6. Currency Period for the Approval

This development approval will lapse at the end of the period set out in section 85 of the *Planning Act 2016.*

7. Statement of Reasons

Description of the development	Material Change of Use for a Dwelling and Preliminary approval for Building Work.
Assessment Benchmarks	Rural Zone Code The development is located on land that is mapped for the following overlays: - Agricultural land - Biodiversity - Bushfire Hazard - Flood Hazard
	and accordingly, the developent has been conditoned to comply with the performance outcomes. Development Design Code The development complies or has been conditioned to comply with all applicable Performance Outcomes.
Reasons for Decision	The dwelling house is of scale and height appropriate for a low-density residence in the Rural zone. Assessment of the development against the relevant zone code and planning scheme codes, specifically the overlays affecting the land, demonstrates that the proposed development will not cause significant adverse impacts on the surrounding natural environment, built environment and infrastructure, community facilities, or local character and amenity. Conditions have been imposed to ensure the proposed development for a dwelling meets the performance outcome of the codes.

8. Appeal rights

The rights of an applicant to appeal to a tribunal or the Planning and Environment Court against a decision about a development application are set out in chapter 6, part 1 of the Planning Act 2016. For particular applications, there may also be a right to make an application for a declaration by a tribunal (see chapter 6, part 2 of the Planning Act 2016).

Appeal by an applicant

An applicant for a development application may appeal to the Planning and Environment Court against the following:

- the refusal of all or part of the development application
- a provision of the development approval
- the decision to give a preliminary approval when a development permit was applied for
- a deemed refusal of the development application.

An applicant may also have a right to appeal to the Development tribunal. For more information, see schedule 1 of the Planning Act 2016.

The timeframes for starting an appeal in the Planning and Environment Court are set out in section 229 of the Planning Act 2016.

Attachment 2 is an extract from the Planning Act 2016 that sets down the applicant's appeal rights and the appeal rights of a submitter.

The Planning and Environment Court appeals database lists all the appeals lodged in the Planning and Environment Court since 15 March 2008, which the department has been notified of. It contains information about the appeal, including the appeal number, site address, local government area, and a copy of the appeal notice, including grounds for the appeal. The appeal database is an easy way for anyone to obtain information about an appeal or check if an appeal has been lodged for a specific development application or approval.

The appeal database is available at https://planning.dsdmip.qld.gov.au/planning/our-planning-system/dispute-resolution.

Should you require further assistance in relation to this matter, please do not hesitate to contact Council's Development Services section on (07) 4992 9500, quoting you application number of MCU003-21/22.

Yours Sincerely

Chris Welch
DIRECTOR COUNCIL SERVICES

Enc Attachment 1 – Part A Conditions imposed by the Assessment Manager
Attachment 1 – Part B Assessment Manager Notes
Attachment 2 – Appeal Rights
Attachment 3 – Approved Drawings

MCU003-21/22 Attachment 1

Part A - Conditions imposed by the Assessment Manager

General

1 **(Amended 31 May 2022)** The proposed Material Change of Use is to be completed and carried out generally in accordance with the following approved plans and reports submitted with the Development Application, except where modified by the conditions of this Development Approval –

Plan/Document number	Plan/Document name	Date
~~A02~~ **A2 Rev 4**	Site Plan	~~9/8/21~~ **01/05/2022**
~~A03~~ **A3 Rev 3**	Floor Plan ~~– Stage 1~~	~~11/8/21~~ **01/05/202**
~~A04~~ **A4 Rev 3**	~~Floor Plan – Stage 2~~ **Floor Plan – Details 1**	~~11/8/21~~ **01/05/2022**
~~A05~~ **A5 Rev 1**	~~Floor Plan Stage2 Details~~ **Floor Plan – Details 2**	~~11/8/21~~ **01/05/2022**
~~A06~~ **A6 Rev 2**	South Elevation	~~9/8/21~~ **01/05/2022**
~~A07~~ **A7 Rev 2**	West Elevation	~~9/8/21~~ **01/05/2022**
~~A08~~ **A8 Rev 2**	East Elevation	~~9/8/21~~ **01/05/2022**
~~A09~~ **A9 Rev 2**	North Elevation	~~9/8/21~~ **01/05/2022**
A10 **Rev 2**	Roof Plan	~~9/8/21~~ **01/05/2022**
A14 **Rev 2**	Footing Plan	~~9/8/21~~ **01/05/2022**
~~A18~~	~~General Section Details~~	~~9/8/21~~
~~A22~~	~~Stage 1 North Elevation~~	~~11/8/21~~
A19	**Section Details 1**	**01/05/2022**
A20	**Section Details 2**	**01/05/2022**
CQ19911**B**	CQ Soil Testing – Waste Water Design	~~7/10/2021~~ **26/04/2022**
BAL Assessment Lot 1/SP272400	Ecosure - Bushfire Attack Level Assessment (BAL)	7/10/2021

2 Comply with all of the conditions of this Development Approval prior to the commencement of the use, unless otherwise stated within this Decision Notice, and maintain compliance for the duration of the approved use.

3 Exercise the approval and complete all associated works, including any relocation or installation of services, at no cost to Council.

4 Alterations to public utilities, mains and services made necessary in connection with any of the works arising from this approval including works to restore and reinstate all roads are to be completed at no cost to Council.

Approved Use

5 The approved use of the premises is for dwelling.

6 Dwelling is to be constructed in accordance with the Bushfire Attack Level Assessment (BAL) as prepared by Ecocsure dated 7/10/2021.

Building Setbacks

7 **(Amended 31 May 2022)** Setbacks must be in accordance with the approved plan, Site Plan, Drawing ~~A02~~ **A2 Revision 4** dated ~~9/8/21~~ **01/05/2022** as prepared by Seth Fulthorp.

Floor Levels

8 The minimum habitable floor level for future buildings development for Lot 1 on SP272400 must be a minimum 173.87AHD. Confirmation of the finished floor level is required in the form of surveyor certified measurement.

Building works

9 The applicant shall obtain a development permit for building work associated with the demolition/new work associated with the approval.

10 The applicant shall obtain a development permit for all plumbing and drainage work including the removal of redundant pipework.

11 Roof water from the building shall be conveyed to the water storage tanks with any overflow directed to a suitable discharge point.

Effluent Disposal

12 **(Amended 31 May 2022)** Prior to the commencement of use, an effluent disposal system, appropriate for the proposed development, is to be installed after obtaining all relevant approvals for the aforementioned in accordance with the requirements of the *Plumbing and Drainage Act 2002* and the *Queensland Plumbing and Wastewater Code*.

Design and implementation of waste water treatment is to be in accordance with the recommendations, findings and certification process contained in the CQ Soil Testing Wastewater Design Report dated ~~7/10/2021~~ **26/04/2022.**

Biodiversity

13 The storing of any materials with the potential to regularly impact on the values of the watercourse or water quality objectives must either

a Located outside the mapped biodiversity area of the site or

b Stored in such a way as to prevent any discharge to the watercourse.

Sediment and Erosion Control Plan

14 Detailed Erosion and Sediment Management Plan is to be prepared and implemented during construction. This Plan must comply with the Capricorn Municipal Development Guidelines.

15 Erosion and sediment control measures are to be maintained post-construction until disturbed areas are permanently stabilised through vegetation and/or landscaping.

Biosecurity

16 Invasive biosecurity matters must be managed to prevent or minimise the harmful effects a biosecurity risk could have on adjacent agricultural land uses and environmental qualities. A biosecurity plan is to be prepared and implemented which identifies pertinent biosecurity risks and details reasonable and practical measures to prevent or minimise the biosecurity risks.

17 Imported soil/fill used for construction of the dwelling and effluent irrigation area must be certified as weed free. A Weed Hygiene Declaration for the soil is to be provided to Council on request.

Hazardous material

18 The manufacture or bulk storage of hazardous materials are not permitted onsite.

Vegetated Buffers

19 The applicant must provide landscaping that:

a Incorporate vegetated buffers where a minimum distance between the dwelling and agricultural use of land is less than 300m.
The vegetated buffer is to be situated on the western and northern boundary where it adjoins the agricultural land, and is to be of a minimum width of 10 metres. The vegetated buffer may include existing vegetation on the site.

b The planted buffer area shall comprise a mixture of trees and shrubs spaced at a minimum of 4 metres, with a minimum porosity of 50% and

with a mature height exceeding 1.5 times the height of the sensitive land use providing an effective buffer and screening to protect the dwelling on the lot from agricultural spray drift, light and dust emissions from surrounding rural land and uses;

c Incorporate species with long, thin and rough foliage from the base to the crown (form) and species that are fast growing, hardy and tolerant to the micro-climate conditions of the site;

d incorporate endemic fire retardant plant species that:

- **i** are less likely to catch alight and burn in a bushfire
- **ii** resist intense burning
- **iii** have less chance of contributing to ember attacks.

e Show the type and location of plant species, nominal height attained in two years and at maturity and details of soil improvement requirements, irrigation systems and maintenance schedules;

f Show details of vegetation retained and proposed to be removed;

Note: Council's Landscaping Planning Scheme Policy provides details of appropriate species to meet the above requirements.

Waste Management

20 Waste must not be burned at the premises.

END OF CONDITIONS

MCU003-21/22 Attachment 1

Part B – Assessment Manager Notes

A The approved development must also comply with Council's current Local Laws under the *Local Government Act 2009.*

B Failure to ensure ongoing compliance with the conditions of this Development Approval including conditions relating to the ongoing use of the premise, and the design and layout of the development may constitute an offence under the *Planning Act 2016.*

C The applicant is responsible for ensuring Queensland Fire Services requirements are met with respect to this development which may include but not be limited to the installation/upgrade of holding tanks or pumps as necessary to meet flow and pressure requirements.

D Where further development is proposed it is the applicant's / developer's responsibility to ensure further approvals are sought as required by the Banana Planning Scheme.

E In carrying out the activity or works associated with the development, all reasonable and practical measures are to be taken to minimise releases and the likelihood of releases of contaminants to the environment, except as otherwise provided by the conditions of this development approval.

F The applicant and or owner/s of the land and the person/s responsible for the management of the premise is/are to ensure ongoing compliance with conditions of this Development Permit including Conditions relating to the ongoing use of the premise, and the design and layout of the development.

G Pursuant to section 75 of the *Local Government Act 2009*, Council's written approval is required to carry out works on a road, or interfere with a road or its operation. This requirement applies to all Council-controlled roads within its local government area. The process for obtaining approval is set out in Council's *Local Law No. 1 (Administration) 2011.* Approval must be obtained prior to the commencement of the works.

H Applicant may apply for a garbage bin/service should they require so, fees apply for this service.

Engineering

A A Minor Works on Road application is required for approval prior to the installation of any new access points.

B A vehicle access is to be provided in accordance Capricorn Municipal Development Guidelines and Standard Drawing (CMDG-R-040). Please note that the dimensions listed on this standard drawing are considered the

minimum required for compliance.

C All frontage works must match neatly with the existing street and verge/footpath features. Additional works beyond the frontage may be required to provide an acceptable transition to the existing street and verge/footpath profiles.

D Any damage caused to the pedestrian way due to construction of the access to the property shall be reinstated to the prior condition or better at no cost to the Council.

E This access is to be maintained to a standard which will allow access to the new residence for emergency vehicles.

F The existing vehicle access must be in accordance with CMDG Standard Drawing CMDG-R-040. The driveway must be maintained at no expense to Council.

G All damage incurred to existing roads, services or street furniture as a result of the proposed development shall be repaired within a reasonable period at the developer's expense.

H All works required pursuant to these conditions shall be undertaken and completed in accordance with Council's Standards - Capricorn Municipal Development Guidelines (www.cmdg.com.au) at the Applicant's expense.

I Prior to commencing any of the following construction activities the applicant/developer will be required to obtain a development permit for operational work:

- **i** earthworks;
- **ii** stormwater drainage;
- **iii** erosion and sediment control;
- **iv** landscaping

J The location of the access to be provided to Lot 1 on SP272400 is to provide an adequate sight distance so as to accommodate an 80kph speed environment.

K Any works on roads shall be conducted in accordance with the Queensland Department of Transport and Main Roads, "Manual of Uniform Traffic Control Devices – Part 3".

Building and Plumbing

A Pre and post installation inspections shall be arranged with Council's Plumbing Inspector.

B Subsequent applications will be required for Building, Plumbing/Drainage Works. Building works are to comply with the *Building Act 1975*, the Building Code of Australia and other relevant authorities.

General Environmental Duty

A The *Environmental Protection Act 1994* lists obligations and duties to prevent environmental harm, nuisances and contamination. The two primary duties that apply to everyone in Queensland are:

general environmental duty – which means a person must not carry out any activity that causes or is likely to cause environmental harm, unless measures to prevent or minimise the harm have been taken; and

duty to notify of environmental harm – to inform the administering authority and landowner or occupier when an incident has occurred that may have caused or threatens serious or material environmental harm.

Environmental Nuisance

A It is an offence under section 440 of the *Environmental Protection Act 1994* to cause environmental nuisance to adjacent premises or other property during construction work. Environmental nuisance includes unreasonable interference caused by noise, dust, fumes, odour, smoke, aerosols, particles or light.

B It is the developer's responsibility to ensure compliance with the *Environmental Protection Act 1994*, which prohibits any construction, building and earthworks activities likely to cause nuisance noise (including the entry and departure of heavy vehicles) between the hours of 6.30 pm and 6.30 am from Monday to Saturday and at all times on Sundays or Public Holidays.

Water

A During construction, stockpiles and areas of bare soil or earth that are likely to become eroded must be adequately protected – by upslope surface water diversion, downslope sediment fencing and/or temporary surface coverings.

B It is an offence under the *Environmental Protection Act 1994* to discharge or permit sand, silt, mud and other such contaminants to a stormwater drain, roadside gutter or a watercourse.

Air and Light

A Air and light emissions must be appropriately managed to prevent environmental nuisance beyond the boundaries of the property during all stages of the development including earthworks and construction.

B Suitable dust suppression should be used and/or screens or barriers should be erected, where required during excavation and building works, to reduce the emission of dust or other such emissions from the site.

C All artificial illumination is to be designed and installed so as not to cause a nuisance to occupants of nearby premises and any passing traffic. Security and flood lighting is to be directed away from adjacent premises to minimise the protrusion of light outside the site.

D Works and operations must comply with applicable requirements of the Environmental Protection (Air) Policy 2019.

E No incineration or open burning shall be carried out on site.

Waste

A It is an offence under the *Waste Reduction and Recycling Act 2011* to leave litter behind or allow litter to blow from site. All waste must be appropriately contained on site prior to removal.

B All regulated waste should be collected and transported by a licensed transporter and taken to an approved waste disposal facility.

C Trap Gully Landfill is the only approved waste facility within the Banana Shire for the disposal of commercial waste, limited regulated waste, clean fill or low level contaminated soil. Testing of soil for contaminants may be required.

No commercial or regulated waste, clean fill or low level contaminated soil is to be deposited at other Banana Shire landfills or transfer stations without prior written approval from Council.

Storage of Hazardous Chemical and Substances

A The storage of hazardous chemicals and substances must be located in a secure place not affected by flood waters.

Cultural Heritage

A This development approval does not authorise any activity that may harm Aboriginal cultural heritage. Under the *Aboriginal Cultural Heritage Act 2003* you have a duty of care in relation to such heritage. Section 23(1) provides that, "A person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage".

B Council does not warrant that the approved development avoids affecting Aboriginal cultural heritage. It may therefore be prudent for you to carry out searches, consultation, or a cultural heritage assessment to ascertain the presence or otherwise of Aboriginal cultural heritage. The Act and the associated duty of care guidelines explain your obligations in more detail and should be consulted before proceeding.

Biosecurity

A Vehicles movement during construction must be managed to prevent the spread of invasive plants. All vehicles used in weed infested areas must either be contained or cleaned to prevent the spread of invasive plant material. Numerous washdown facilities are available within the Shire to help remove weed seeds, soil and other foreign matter from vehicles and machines, and Council staff are available to conduct vehicle inspections.

B Section 23 of the *Biosecurity Act 2014* outlines the General Biosecurity Obligation. All landowners have a General Biosecurity Obligation (GBO) for managing biosecurity risks that are under their control and that they know about or should reasonably be expected to know about. All individuals and organisations whose activities pose or is likely to pose a biosecurity risk must:

- **i** take all reasonable and practical measures to prevent or minimise the biosecurity risk
- **ii** minimise the likelihood of causing a biosecurity event and limit the consequences if such an event occurs
- **iii** prevent or minimise the harmful effects a biosecurity risk could have
- **iv** not do anything that might make any harmful effects of a biosecurity risk worse

A biosecurity risk exists when you deal with any pest, disease, weed or contaminant. This includes moving an animal, plant, turf, soil, machinery and/or equipment that could carry a pest, disease, weed or contaminant.

Regulated Vegetation

A The *Vegetation Management Act 1999* regulates the clearing of vegetation in Queensland. No interference or clearing of vegetation is to be undertaken (unless the clearing is exempt, a development approval authorising the clearing has been obtained or the clearing is authorised in accordance with a code). Contact the Queensland Department of Resources should you require any further information on these matters.

Local Laws – overgrown allotment and/or accumulated objects

A It is an offence under *Local Law No.3 (Community and Environmental Management) 2011*, to allow an allotment to become overgrown with vegetation and/or accumulate objects to an extent that seriously effects

visual amenity and/or is likely to harbor or attract reptiles.

Nature Conservation

A It is an offence under *section 335 of the Nature Conservation (Animals) Regulation 2020* to remove, or tamper with, an animal breeding place that is being used by a protected animal to incubate or rear the animal's offspring. Animal breeding places include obvious structures such as bird nests and tree hollows, as well as more cryptic places such as amphibian or reptile habitat where breeding takes place. Where activities are likely to impact on an animal breeding place, the applicant should contact the Queensland Department of Environment and Science to discuss if additional actions are required to be undertaken to meet obligations under the *Nature Conservation Act 1992*.

Mosquito breeding

A The site is required to be appropriately drained, and equipment appropriately maintained so that water is not allowed to accumulate or pond in a manner that may allow mosquito breeding, as required under the *Public Health Regulation 2018.*

Property Notes

A A noting will be placed on the Councils rate card for the property: Lot 1 on SP272400 confirming that:

- **i** The property is outside Councils water and sewer area and these services will not be extended to service the property;
- **ii** the owner's should be aware that connections for electricity and telecommunications to any future dwelling or use are the responsibility of the owner of land at the time such connections are required;
- **iii** The property is located adjacent to existing rural farming land and owner's and future purchasers should be aware of the potential impacts and issues (including noise, odour, lights and chemical spray drift) that may arise from the adjoining properties lawful use.
- **iv** Owner's and future purchasers of lot 1 should be aware that the vegetated buffers are required to be maintained under conditions of development permit number MCU003-21/22.

END OF NOTES

Attachment 2
Planning Act 2016 Extract on Appeal Rights

Part 1 Appeal rights

229 Appeals to tribunal or P&E Court

(1) Schedule 1 states–
(a) matters that may be appealed to–
(i) either a tribunal or the P&E Court; or
(ii) only a tribunal; or
(iii) only the P&E Court; and
(b) the person–
(i) who may appeal a matter (the appellant); and
(ii) who is a respondent in an appeal of the matter; and
(iii) who is a co-respondent in an appeal of the matter; and
(iv) who may elect to be a co-respondent in an appeal of the matter.

(2) An appellant may start an appeal within the appeal period.

(3) The appeal period is–
(a) For an appeal by a building advisory agency–10 business days after a decision notice for the decision is given to the agency; or
(b) For an appeal against a deemed refusal–at any time after the deemed refusal happens; or
(c) for an appeal against a decision of the Minister, under chapter 7, part 4, to register premises or to renew the registration of premises–20 business days after a notice is published under section 269(3)(a) or (4); or
(d) for an appeal against an infrastructure charges notice–20 business days after the infrastructure charges notice is given to the person; or
(e) for an appeal about a deemed approval of a development application for which a decision notice has not been given–30 business days after the applicant gives the deemed approval notice to the assessment manager; or
(f) for any other appeal–20 business days after a notice of the decision for the matter, including an enforcement notice, is given to the person. Note– See the P&E Court Act for the court's power to extend the appeal period.

(4) Each respondent and co-respondent for an appeal may be heard in the appeal.

(5) If an appeal is only about a referral agency's response, the assessment manager may apply to the tribunal or P&E Court to withdraw from the appeal.

(6) To remove any doubt, it is declared that an appeal against an infrastructure charges notice must not be about–
(a) the adopted charge itself; or
(b) for a decision about an offset or refund–
(i) the establishment cost of trunk infrastructure identified in a LGIP; or
(ii) The cost of infrastructure decided using the method included in the local government's charges resolution.

Attachment 3
Approved Drawings

CQ SOIL TESTING

AS1547 Wastewater Design

SITE ADDRESS:	Lot 1 (SP272400) Tognolini Baldwain Road, Dakenba
Prepared for:	S Fulthorp
Job Number:	CQ19911B
Issue Date:	26/04/2022

Banana Shire Council
PLANNING APPROVAL

31 MAY 2022

MCU003-21/22

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 Facility –Aerated Water Treatment System (AWTS)
(Capable of producing advanced secondary quality effluent)

Disposal Mechanism
Surface Irrigation (480 sqm)

CQ SOIL TESTING technical excellence

ABN 477 159 434 84
QBCC License 11 17 681

PO Box 9654
Park Avenue QLD 4701

P (07) 4936 1163
F (07) 4936 1162

info@cqsoiltesting.com.au

Client & Document Information

Client:	S Fulthorp
Project:	Lot 1 (SP272400)
	Tognolini Baldwain Road, Dakenba
Investigation Type:	**Wastewater Investigation**
Job Number:	CQ19911B
Date of Issue:	26/04/2022

Contact Information

CQ SOIL TESTING
ABN 47 715 943 484

PO Box 9654
PARK AVENUE QLD 4701

Telephone: (07) 4936 1163
Facsimile: (07) 4936 1162

Email: info@cqsoiltesting.com.au

Document Control

Version	Concept By	Design Drawings	Design Review	Issue Approved By	Date
A	Scott Walton	F Phelan	Scott Walton	Scott Walton	7 Oct 2021
B	Scott Walton	T Warne	Scott Walton	Scott Walton	26 April 2022

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 23rd September 2021. 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 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 residential type allotment located on Tognolini Baldwin Road (a sealed road).
- The slope configuration in relation to surface drainage is linear planar.
- The proposed effluent disposal area is essentially level and is considered to have poor 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 10 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 sparsely grassed area.
- Surface water will drain toward the east.
- 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 - 5 bedrooms.
  (8 equivalent persons – AS 1547:2012 Appendix J)
- The water source is reticulated 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.

3. SOIL PROFILE

The borelogs carried out at the site (refer attached Site Plan for localities) indicate that the soil profile typically consists of clay soils. Soil logs are detailed in this report.

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

Table 1 - Determination of Soil Category

Soil Category BH2	Soil Texture	Structure	Indicative Permeability	Indicative Drainage Class
5 (00-200mm)	Light Clay	strongly Structured	0.12 – 0.5 m/day	Rapidly Drained
6 (200-1500mm)	Medium Clay	Weakly Structured	<0.06 m/day	Very Poorly Drained

Table 2 – Permeability test results and conclusions

Test No.	Soil Permeability	Test hole depth	Recommended Design Irrigation Rate
PT 1	<0.06	500 mm	
Average	**<0.06**		**2.5 (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 design drawings.

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.

Not all the above requirements have been met, therefore it is concluded that the use of a primary-treated effluent septic system is not acceptable.

5. FINDINGS AND RECOMMENDATIONS

- The Design Irrigation Rate of 2.5 mm/day shall be adopted.
- All work must be carried out by a licensed plumber or drainer.
- 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

- The site shall be provided with a ***"Wastewater-Treatment System" capable of producing advanced secondary quality effluent***, or an equivalent system, to Council's approval in lieu of a septic tank.
- A filter is to be installed between the Treatment Plant and the Irrigation System. Regular maintenance of the Filter shall be undertaken, according to manufacturer's recommendations.

5.2. Disposal

- The disposal system shall be by Centred Fixed Turf Valves, with two heavy droplet sprinklers attached to approximately 3 m of purple sullage hose. The supply line to the turf valve is to be purple line and buried.
- The hose, sprinklers and effluent plumage must not at any time extend beyond the approved designated area.
- Adjustable valve to be installed to each irrigation line to ensure plume spray no higher than 0.3 m and no wider than 1.0 m.
- An in-line Filter is to be installed between the Treatment Plant and the Irrigation System. Regular maintenance of the Filter shall be undertaken, according to the manufacturer's requirements.
- The hose and sprinklers are to be moved by the owner within the designated area to ensure even distribution of water over the entire area.
- Non-return valves should be installed on the irrigation line.
- The proposed disposal area will require rotary hoeing/scarified or aeration prior to installation, if no vegetation is present the area is to be seeded with water tolerant vegetation.
- A cut-off trench or diversion bank shall be constructed around/above the proposed disposal area to divert surface and groundwater away.
- The disposal area required is **480 sqm.**
- This area has been calculated on a daily flow rate of 1200 litres/day (5 bedrooms 8 people each using 150 litres per day) and a design irrigation rate of 2.5 mm/day. This flow rate will accommodate the proposed five 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.

5.3. 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."

5.4. 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.

6. CERTIFICATION

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 apply)**.

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

SCOTT WALTON
Laboratory Manager

Soil Logs

BOREHOLE 1		
Depth (m)	**Visual Class'n Symbol**	**Visual Description of Material**
0.0 0.2	CI	Silty CLAY, medium plasticity, trace fine to coarse grained sand, dark brown, D, ST. ***CAT 5 Light Clay – strongly structured***
0.2 1.5	CH	CLAY, high plasticity, trace fine to coarse grained sand, dark brown, D, VST. ***CAT 6 Medium Clay – weakly 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.

Soil Logs

BOREHOLE 2		
Depth (m)	**Visual Class'n Symbol**	**Visual Description of Material**
0.0 0.2	CI	Silty CLAY, medium plasticity, trace fine to coarse grained sand, dark brown, D, ST. ***CAT 5 Light Clay – strongly structured***
0.2 1.5	CH	CLAY, high plasticity, trace fine to coarse grained sand, dark brown, D, VST. ***CAT 6 Medium Clay – weakly 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.

Soil Logs

BOREHOLE 3		
Depth (m)	**Visual Class'n Symbol**	**Visual Description of Material**
0.0 0.2	CI	Silty CLAY, medium plasticity, trace fine to coarse grained sand, dark brown, D, ST. ***CAT 5 Light Clay – strongly structured***
0.2 1.5	CH	CLAY, high plasticity, trace fine to coarse grained sand, dark brown, D, VST. ***CAT 6 Medium Clay – weakly 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.

Photographs

Image 1 Proposed disposal area

Image 2 Proposed disposal area

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.hpw.qld.gov.au/__data/assets/pdf_file/0019/3943/queenslandplumbingandwastewatercode_26march2019.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.

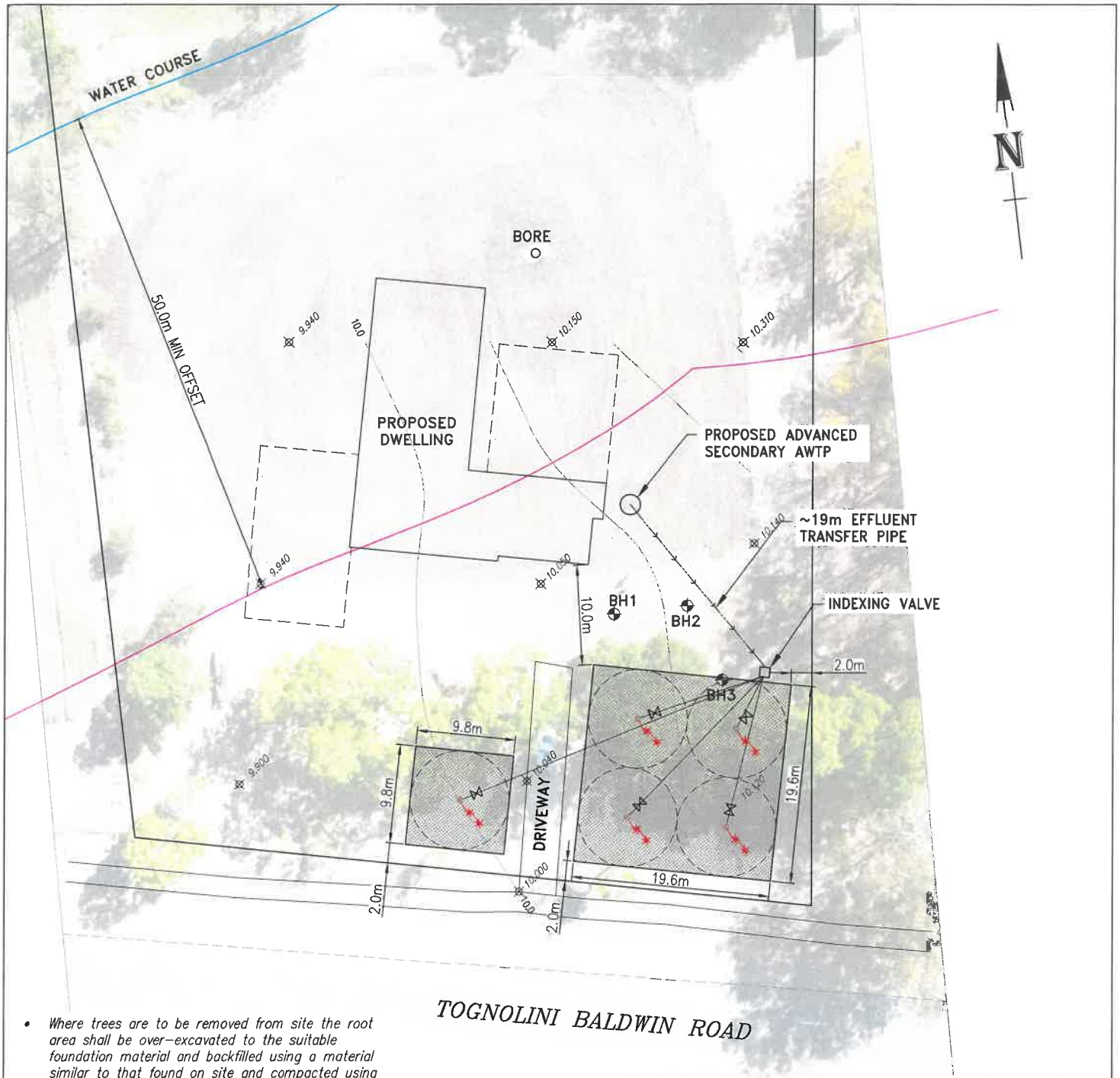
APPENDIX 2 - WASTEWATER TREATMENT SYSTEM "DO'S AND DON'TS"

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.

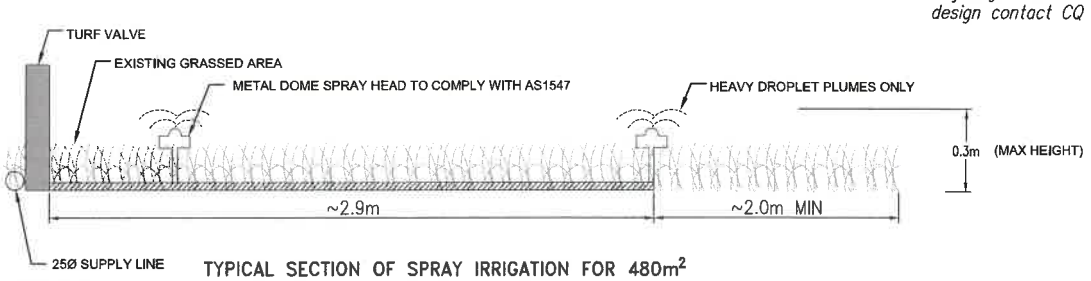
DON'TS

- 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.



- *Where trees are to be removed from site the root area shall be over-excavated to the suitable foundation material and backfilled using a material similar to that found on site and compacted using appropriate construction equipment. If any trees are to remain on site they shall have a root barrier installed to minimise any adverse effect on the application area.*

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



TYPICAL SECTION OF SPRAY IRRIGATION FOR 480m²

SEWERAGE NOTES:

- *ALL WORK TO BE IN ACCORDANCE WITH AS1547*
- *CONSTRUCT DIVERSION BANKS/DRAINS*
- *TURF VALVES TO BE EVENLY SPACED OVER THE IRRIGATION AREA*
- *SHOULD EXCAVATIONS REVEAL SOIL CONDITIONS DIFFERENT FROM THOSE SHOWN IN THE BORELOG SHEET IN THIS REPORT, CQ SOILTESTING SHOULD BE CONTACTED IMMEDIATLEY IN ORDER TO CARRY OUT FURTHER TESTING AND DESIGN (WHERE REQUIRED).*
- *NATURAL SOIL TO BE SCARIFIED AND PLANTED OUT WITH WATER TOLERANT VEGETATION*
- *INDIVIDUAL SPRINKLER VALVES TO BE SET AT <0.3m SPRAY HEIGHT AND <1m SPRAY DIAMETER*

ASSUMED R.L'S

A) INLET TO PROPOSED AWTP = 9.700
B) OUTLET FROM AWTP = NOT APPLICABLE AS THE SYSTEM IS PRESSURISED
C) RL'S OF TURF VALVES NOT APPLICABLE AS THE SYSTEM IS PRESSURISED

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Project: LOT 1 TOGNOLINI BALDWIN ROAD DAKENBA, QLD

For: S FULTHORP

Title: EFFLUENT DISPOSAL DESIGN

Scale:	1:400 (A3)	*Date:*	APR '22
Sheet:	1 of 1	*Drawn:*	T.W.
Job No:	CQ19911	*Rev:*	B

ecosure
improving ecosystems

BUSHFIRE ATTACK LEVEL ASSESSMENT (BAL)

Lot 1/SP272400

October 2021

SETH FULTHORP

1 Introduction

Ecosure Pty Ltd (Ecosure) was engaged by Seth Fulthorp to undertake a Bushfire Attack Level (BAL) assessment for Lot 1/SP272400 for a new proposed dwelling.

A BAL assessment measures the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact, and is the basis for establishing the construction requirements under the *Australian Standard AS 3959-2018 Construction of buildings in bushfire-prone areas.*

A summary of property details is included in Table 1.

Table 1 Property Details

Attribute	Details
Local Government	Banana Shire
Lot/Plan of Subject Land	Lot 1/SP272400
Lot Area	8,715 m^2
Tenure	Freehold
Address	Tognolini Baldwin Road
Land Use	Residential

2 Methods

The BAL assessment was conducted in accordance with *Australian Standard AS 3959-2018 Construction of buildings in bushfire-prone areas*.

2.1 Desktop assessment

A desktop assessment was conducted which included an analysis of the following information and data sets:

- Queensland Government Bushfire Hazard Mapping
- Queensland Government Regional Ecosystem (RE) mapping
- QSpatial topographic data for site
- Queensland Globe – High Resolution Imagery
- QSpatial LANDSAT 8 and SENTINEL 2 Firescar data
- Bureau of Meteorology data
- Fire Danger Index (FDI) of 40 based on Table 5 in the AS 3959-2018.

Vegetation coverage of the site was mapped on a GIS system and plotted based on Queensland Globe imagery as well as information from the landowner.

Vegetation classification was determined from regional ecosystem data and imagery.

2.2 BAL assessment

All fuel hazard ratings are determined as per the Department of Sustainability and Environment Victoria, Overall Fuel Hazard Assessment Guide (DSE 2010).

The BAL rating is assessed on and is derived from methods outlined in the AS 3959-2018. The final rating is derived from:

- relevant Fire Danger Index (FDI) for the locality (determined at desktop assessment)
- vegetation classification
- distance from classified vegetation
- effective slope under classified vegetation
- BAL.

2.2.1 Vegetation classification

Vegetation classification was derived from the RE Description Database and technical descriptions for REs mapped within the area. For example, RE 12.11.3 has a structure

category of "mid-dense". Mid-dense foliage cover equates to the vegetation classification "Forest". Vegetation classification is presented below in Table 2.

Table 2 Classification of vegetation

Vegetation classification	Vegetation type	Description
A Forest	Tall open forest Tall open woodland	Trees over 30 m high; 30% – 70% foliage cover (may include understorey ranging from rainforest species and tree ferns to low trees and tall shrubs). Found in areas of high reliable rainfall. Typically dominated by eucalypts with a sub-dominant tree layer.
	Open forest Low open forest	Trees 30 m high; 30% – 70% foliage cover (may include understorey of sclerophyllous low trees or shrubs). Typically dominated by eucalypts, melaleuca or callistemon (may include riverine and wetland environments) and callitris. Includes eucalypt plantations.
	Pine plantation	Trees 30 m in height at maturity, generally comprising Pinus species or other softwood species, planted as a single species for the production of timber.
B Woodland	Woodland Low woodland	Trees 10 m – 30 m high; 10% – 30% foliage cover dominated by eucalypts and/or callitris with a prominent grassy understorey. May contain isolated shrubs.
C Shrubland	Closed (low) heath Open heath	Found in wet areas and/or areas affected by poor soil fertility or shallow soils. Shrubs 1 m – 2 m high. Wet heaths occur in sands adjoining dunes of the littoral (shore) zone. Montane heaths occur on shallow or water-logged soils.
	Low shrubland	Shrubs <2 m high; greater than 30% foliage cover. Understoreys may contain grasses. Acacia and Casuarina often dominant in the arid and semi-arid zones.
D Scrub	Closed scrub (Tall heaths)	Found in wet areas and/or areas affected by poor soil fertility or shallow soils; >30% foliage cover. Dry heaths occur in rocky or sandy areas. Shrubs >2 m high. Typical of coastal areas and tall heaths up to 6 m in height. May be dominated by Banksia, Melaleuca or Leptospermum with heights of up to 6 metres.
	Open scrub	Shrubs greater than 2 m high; 10%–30% foliage cover with a mixed species composition.
E Mallee/Mulga	Tall shrubland	Vegetation dominated by low trees or tall shrubs (especially eucalypts and acacias) some with a multi-stemmed habit (mallee); usually greater than 2 m in height; <30% foliage cover. Understorey of widespread dense low shrubs or sparse grasses and generally found in the arid and semi-arid zones, but not within the rangelands.

Vegetation classification	Vegetation type	Description
F Rainforest	Tall closed forest Closed forest Low closed forest	Trees >90% foliage cover; understorey may contain a large number of species with a variety of heights. Not dominated by eucalypt species.
G Grassland	Open woodland Low open woodland Open shrubland Low open shrubland Hummock grassland Closed tussock grassland Tussock grassland Open tussock Sparse open tussock Dense sown pasture Sown pasture Open herbfield Sparse open herbfield	All forms (except tussock moorlands), including situations with shrubs and trees, if the overstorey foliage cover is less than 10%. Includes pasture and cropland. NOTE: Grassland managed in a minimal fuel condition and non-curing cropland is regarded as low threat vegetation for the purposes of Clause 2.2.3.2.
H Tussock Moorland	Tussock Moorland	All forms of vegetation where the overstorey is dominated by the species Buttongrass (*Gymnoschoenus sphaerocephalus*). Only occurs as a significant vegetation type in Tasmania.

2.2.2 Vegetation exclusions – Low threat vegetation and non-vegetation areas

Vegetation excluded as per the BAL AS359-2018 includes:

- Vegetation that is more than 100 m from the site.
- Vegetation that is less than 1 ha in area not within 100 m of other classified vegetation.
- Multiple areas of vegetation less than 0.25 ha and not within 20 m of the site or each other.
- Strips of vegetation less than 20 m regardless of within and not within 20 m of the site or of each other.
- Non vegetated areas, including waterways, roads, footpaths, buildings and rock outcrops.
- Low threat vegetation, including managed grassland, maintained lawns, golf courses, maintained public reserves and parklands, botanical gardens, vineyards, orchards, cultivated ornamental gardens, commercial nurseries, nature strips and wind breaks.

2.2.3 Distance from classified vegetation

The distance from classified vegetation is the distance of the proposed structure from the classified vegetation. This is the distance in metres that the proposed structure is to be situated or set back from vegetation classified in accordance with Table 2 above.

2.2.4 Firebreaks

Clearing for firebreaks is allowed as an exemption under most commonwealth, state and local government legislation. The standard firebreak distances in Queensland are derived from clearing exemptions within the *Vegetation Management Act 1999*.

The firebreak exemptions within the *Vegetation Management Act 1999*, allow clearing from built infrastructure of 1.5 x the height of the tallest vegetation or 20 m, whichever is greater.

2.2.4 Effective slope under classified vegetation

Effective slope under classified vegetation is calculated by the rise in height or elevation divided by the run or distance. Effective slope under classified vegetation is measured from the edge of the classified vegetation away from the dwelling, property, or structure.

2.2.5 BAL

BAL is a measure of expected heat flux exposure. Descriptions for BALs, as described in AS 3959-2018, are provided below in Table 3.

Table 3 BAL description

BAL	Risk	Classified vegetation within 100 m of the site and heat flux exposure thresholds	Description of predicted bushfire attack and levels of exposure
BAL – LOW	This risk is considered to be **very low**		There is insufficient risk to warrant any specific construction requirements but there is still some risk
BAL -12.5	The risk is considered to be **low**	≤12.5 kW/m^2	There is risk of ember attack
BAL – 19	The risk is considered to be **moderate**	>12.5 kW/m^2 ≤19 kW/m^2	There is risk of ember attack and burning debris ignited by windborne embers together with heat flux
BAL – 29	The risk is considered to be **high**	>19 kW/m^2 ≤29 kW/m^2	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux

BAL	Risk	Classified vegetation within 100 m of the site and heat flux exposure thresholds	Description of predicted bushfire attack and levels of exposure
BAL – 40	The risk is considered to be **very high**	>29 kW/m^2 ≤40 kW/m^2	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux with some likelihood of direct exposure to flames from the fire front
BAL – FZ	The risk is considered to be **extreme**	>40 kW/m^2	An extremely high risk of ember attack and burning debris ignited by windborne embers together with direct exposure to flames from fire front in addition to heat flux

3 Results

3.1 Desktop assessment

3.1.1 Bushfire prone areas

The proposed dwelling is in an area mapped as being within a potential impact buffer.

3.1.2 Vegetation communities

Queensland Government mapping shows the REs occurring on the subject land within 100 m of the building upgrade as 11.3.4, 11.3.25 and 11.3.6 as shown in Table 4.

Table 4: Details of REs at property

RE	Description	RE structure category *	RE canopy height**
11.3.4	*Eucalyptus tereticornis* woodland to open forest. Other tree species that may be present include *E. camaldulensis, Corymbia tessellaris, C. clarksoniana, E. melanophloia, E. platyphylla* or *Angophora floribunda. E. crebra* and *Lophostemon suaveolens* may be locally common. A shrub layer is usually absent, and a grassy ground layer is prominent, and may include any of *Bothriochloa bladhii subsp. bladhii, Aristida* spp., *Heteropogon contortus, Dichanthium* spp. and *Themeda triandra.* Occurs on Cainozoic alluvial plains and terraces. Occurs on variety of soils, including deep cracking clays, medium to fine textured soils, and deep texture-contrast soils. (BVG1M: 16c)	Sparse	Height avg. = 22 m
11.3.25	*Eucalyptus tereticornis or E. camaldulensis woodland* to open forest. Other tree species, including *Casuarina cunninghamiana, E. coolabah, Melaleuca bracteata, Melaleuca viminalis, Livistona* spp. (in north), *Melaleuca spp.* and *Angophora floribunda*, may occur. A tall shrub layer may occur, including *Acacia salicina, A. stenophylla* and *Lysiphyllum carronii*. Low shrubs are present, but rarely form a conspicuous layer. The ground layer is open to sparse and dominated by perennial grasses, sedges or forbs. Occurs on fringing levees and banks of major rivers and drainage lines of alluvial plains throughout the region. Soils are very deep, alluvial, grey and brown cracking clays with or without some texture contrast. These are usually moderately deep to deep, soft or firm, acid, neutral or alkaline brown sands, loams or black cracking or non-cracking clays, and may be sodic at depth (Burgess 2003). (BVG1M: 16a)	Sparse	Height avg. = 23 m
11.3.6	*Eucalyptus melanophloia woodland* to open woodland, generally with a grassy ground layer. Occasional *E. populnea, E, crebra, Corymbia dallachiana, E. tereticornis* may occur in the canopy. A secondary tree or tall shrub layer, including *Callitris glaucophylla, Alphitonia excelsa, Lysicarpus angustifolius* and *Petalostigma pubescens* may occur. The ground layer is usually dominated by perennial grasses. Occurs on levees and higher Cainozoic alluvial plains. Soils are usually deep massive red and yellow earths with dark brown loamy sand to sandy loam grading to light clay textures or texture contrast soils. In some areas this RE occurs on heavy cracking clay soils. (BVG1M: 17b)	Sparse	Height avg. = 13.3 m, range 7-18 m

*structure category – RE description database, **canopy height – RE technical description database

3.1.3 Vegetation exclusions – Low threat vegetation and non-vegetation areas

Vegetation was excluded as per the BAL AS359-2018 for:

- Vegetation that is less than 1 ha in area not within 100 m of other classified vegetation.
- Multiple areas of vegetation less than 0.25 ha and not within 20 m of the site or each other.
- Strips of vegetation less than 20 m regardless of within and not within 20 m of the site or of each other.
- Non vegetated areas, including waterways and roads.

Vegetation excluded as low threat vegetation is shown on the map in Appendix 1, Figure 2.

3.1.4 Firebreaks

Firebreaks were not deemed as necessary based on vegetation in current imagery.

3.2 BAL assessment

3.2.1 FDI

The relevant FDI was identified during the desktop review. The jurisdictional and regional value for FDI as per AS 3959-2018 is FDI 40 in Queensland for all regions.

3.2.2 Vegetation classification

Vegetation mapping (QSpatial 2021) identified vegetation within proximity to the project area as 11.3.4, 11.3.25 and 11.3.6 (with the tallest potential vegetation height and density) which is most consistent with 'woodland', as the vegetation structure is sparse with trees under 30 m (refer Table 2).

3.2.3 Distance from classified vegetation

Distances from classified vegetation to the new proposed dwellings is currently 58 m. Low threat vegetation was excluded.

3.2.4 Effective slope under classified vegetation

Classified vegetation is located to the south of the proposed dwelling. Topographical data (including from the south) indicate that the effective slope is flat - 0 degrees.

Refer to Figure 1 in Appendix 1 for a map showing topographical data.

3.2.5 BAL Assessment

The BAL as distance from vegetation areas has been calculated for FDI 40, Woodland, Upslope and Flat (at 0 degrees). The relevant BAL for distances from vegetation is shown in Table 5.

The current BAL for the proposed dwelling at 55 m from classified vegetation is BAL 12.5, see Figure 2 in Appendix 1.

Table 5: Determination of BAL in woodland FDI 40 for upslope and flat land (0 degrees)

BAL	BAL – FZ	BAL – 40	BAL – 29	BAL – 19	BAL – 12.5
Distance (m) of site from the vegetation	<6	6-<9	9-<13	13-<19	19-<100

4 BAL Assessment

The BAL assessment for Lot 1/SP272400 concluded that:

- The current BAL rating for the proposed dwelling is BAL 12.5. A map showing the BAL ratings for the lot is shown in Figure 2, Appendix 1.

Appendix 1 BAL Mapping Result

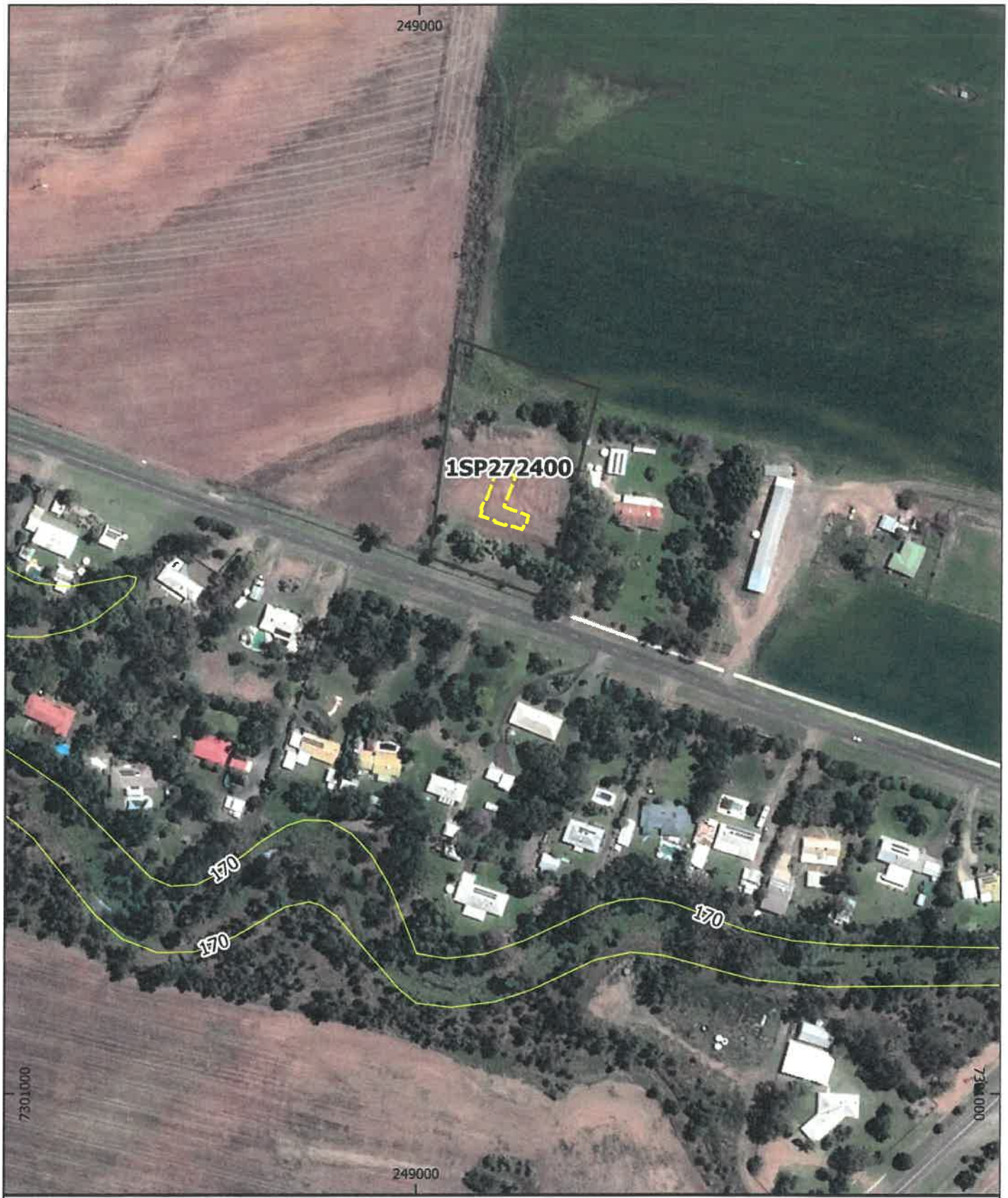

Figure 1: Map of Topography (10 m contours)

Seth Fulthorp

BAL Assessment on Lot 1/SP272400

Property Boundary
Proposed Dwelling
Contour_10m

ecosure

Job number: PR6875
Map Date: 07/10/2021

0 0.06 0.12 km

Projection:
GDA2020 MGA Zone 56

Figure 2: Bushfire Attack Level Assessment

Seth Fulthorp

BAL assessment on Lot 1/SP272400

Property Boundary
Proposed Dwelling
Excluded Vegetation
Classified Vegetation
BAL - 12.5
BAL - 19
BAL - 29
BAL - 40
BAL - FZ

ecosure

Job number: PR6875
Map Date: 07/10/2021

0 0.02 0.04 km

Projection:
GDA2020 MGA Zone 56

Revision History

Revision No.	Revision date	Details	Prepared by	Reviewed by	Approved by
00	07/10/2021	Bushfire Attack Level Assessment on Lot 1/SP272400	Jessie Courtney, Field Operative	Geoffrey Sinclair, Senior Botanist	Heather Richards, Senior Environmental Scientist

Distribution List

Copy #	Date	Type	Issued to	Name
1	07/10/2021	Electronic	Seth Fulthorp	
2	07/10/2021	Electronic	Ecosure	Administration

Citation: Ecosure, 2021, *BAL Assessment on Lot 1/SP272400*, Report to Seth Fulthorp Publication Location – Rockhampton

Report compiled by Ecosure Pty Ltd

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PR6875-RE.Fulthorp BAL

Adelaide
PO Box 145
Pooraka SA 5095
P 1300 112 021
M 0407 295 766

Brisbane
PO Box 675
Fortitude Valley QLD 4006
P 07 3606 1030

Coffs Harbour
PO Box 4370
Coffs Harbour Jetty NSW 2450
P 02 5621 8103

Gladstone
PO Box 5420
Gladstone QLD 4720
P 07 4994 1000

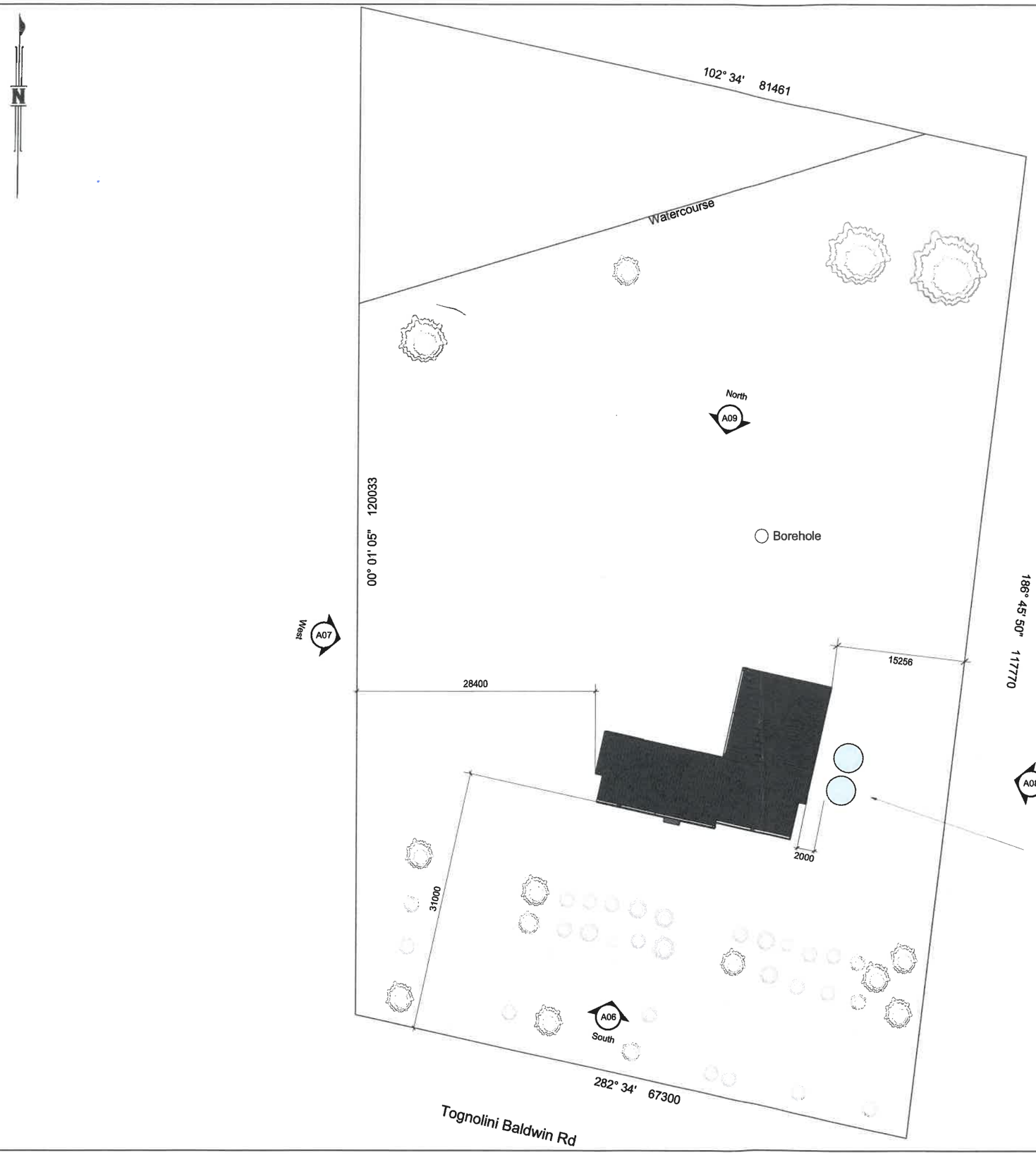
Gold Coast
PO Box 404
West Burleigh QLD 4219
P 07 5508 2046
F 07 5508 2544

Rockhampton
PO Box 235
Rockhampton QLD 4700
P 07 4994 1000

Sunshine Coast
PO Box 1457
Noosaville QLD 4566
P 07 5357 6019

Sydney
PO Box 880
Surry Hills NSW 2010
P 1300 112 021

Townsville
PO Box 2335
Townsville QLD 4810
P 1300 112 021



Proposed Dwelling
Lot 1 on SP272400
Local Authority: Banana Shire Council

Site Area: 8715m²
Building Area: 273m²
Site Coverage: 3.14%

FFL - To be a minimum of 1000mm above ground level

All measurements are in millimeters unless noted otherwise.

Approx. location of 2 x 22.5kl underground water tanks.
MIN 2 meters clear of house footings

Banana Shire Council
PLANNING APPROVAL

31 MAY 2022

MCU003-21/22

REVISIONS

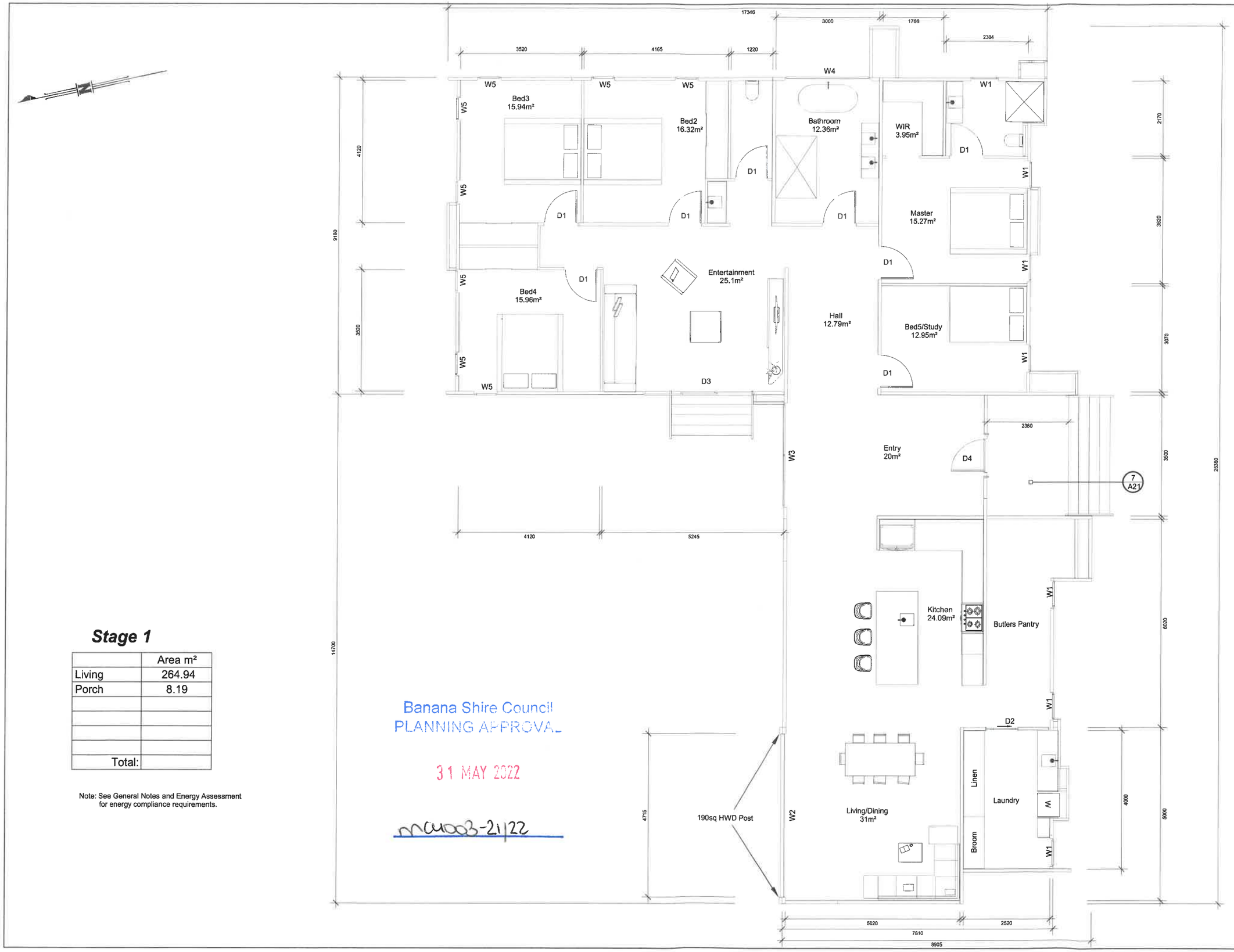
	MM/DD/YY	REMARKS
1	9/8/21	PRELIMINARY
2	4/4/22	PRELIMINARY- Water Tank locations added
3	19/4/22	PRELIMINARY - Shifted Building Position 4m East
4	1/5/22	PRELIMINARY - Removed Stage 2, added bedrooms
5	__/__/__	...

Proposed Dwelling for Seth Fulthorp & Georgia Billens
at Lot 1 SP272400
Tognolini Baldwin Road

Site Plan

Scale at A3 1 : 500

A 2



Stage 1

	Area m²
Living	264.94
Porch	8.19
Total:	

Note: See General Notes and Energy Assessment for energy compliance requirements.

Banana Shire Council
PLANNING APPROVAL

31 MAY 2022

MCU003-21/22

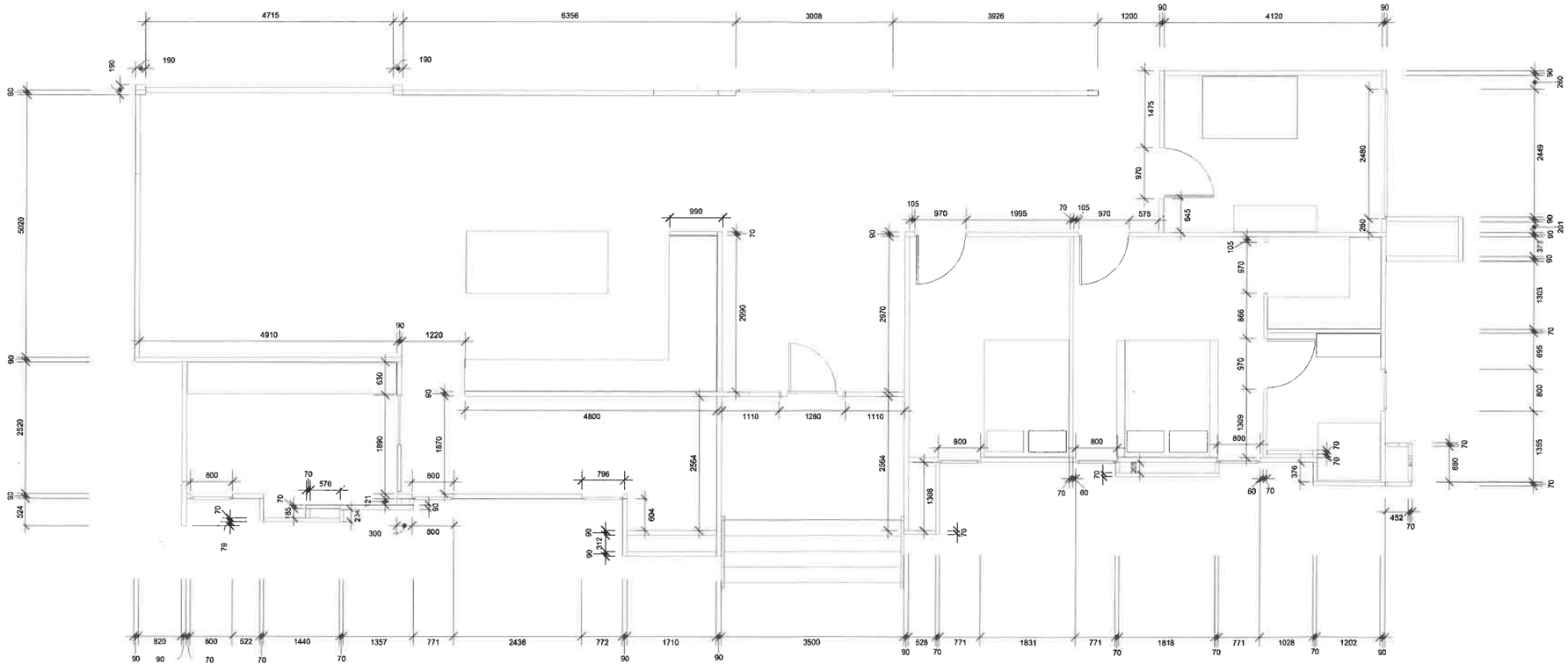
REVISIONS

	MM/DD/YY	REMARKS
1	9/8/21	PRELIMINARY
2	11/8/21	PRELIMINARY
3	1/5/22	PRELIMINARY - Removed Stage 2, added Bedrooms
4	__/__/__	...
5	__/__/__	...

Proposed Dwelling for Seth Fulthorp & Georgia Billens
at Lot 1 SP272400
Tognolini Baldwin Road

Floor Plan
Scale at A3 1 : 100

A 3



Banana Shire Council
PLANNING APPROVAL

31 MAY 2022

mcu003-21/22

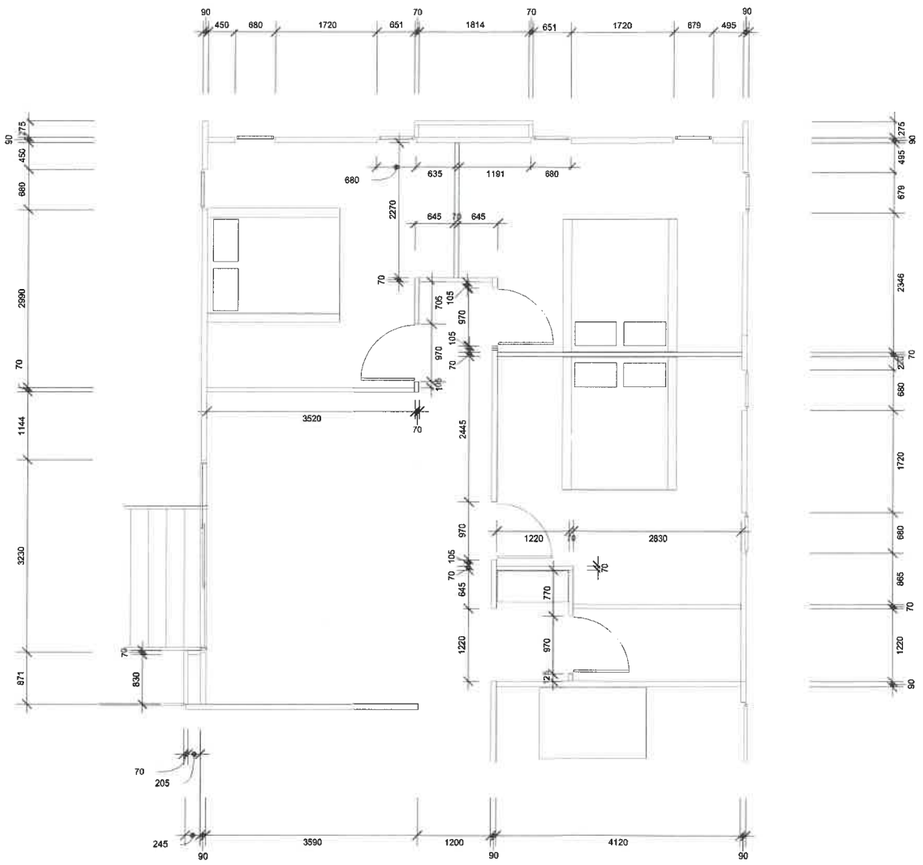
REVISIONS

	MM/DD/YY	REMARKS
1	9/8/21	PRELIMINARY
2	11/8/21	PRELIMINARY
3	5/1/22	PRELIMINARY
4	__/__/__	...
5	__/__/__	...

Proposed Dwelling for Seth Fulthorp & Georgia Billens
at Lot 1 SP272400
Tognolini Baldwin Road

Floor Plan - Details 1
Scale at A3 1 : 100

A 4



Banana Shire Council
PLANNING APPROVAL

31 MAY 2022

mcu003-21/22

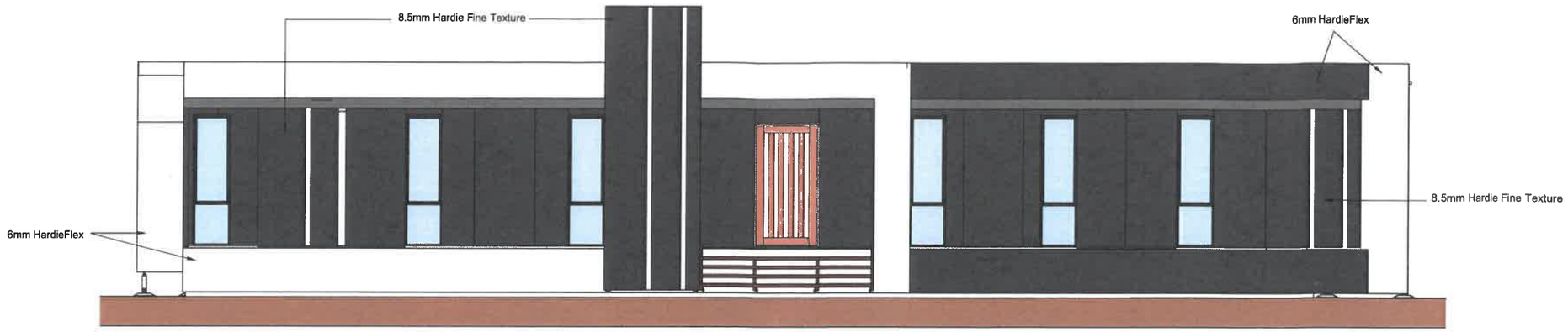
REVISIONS

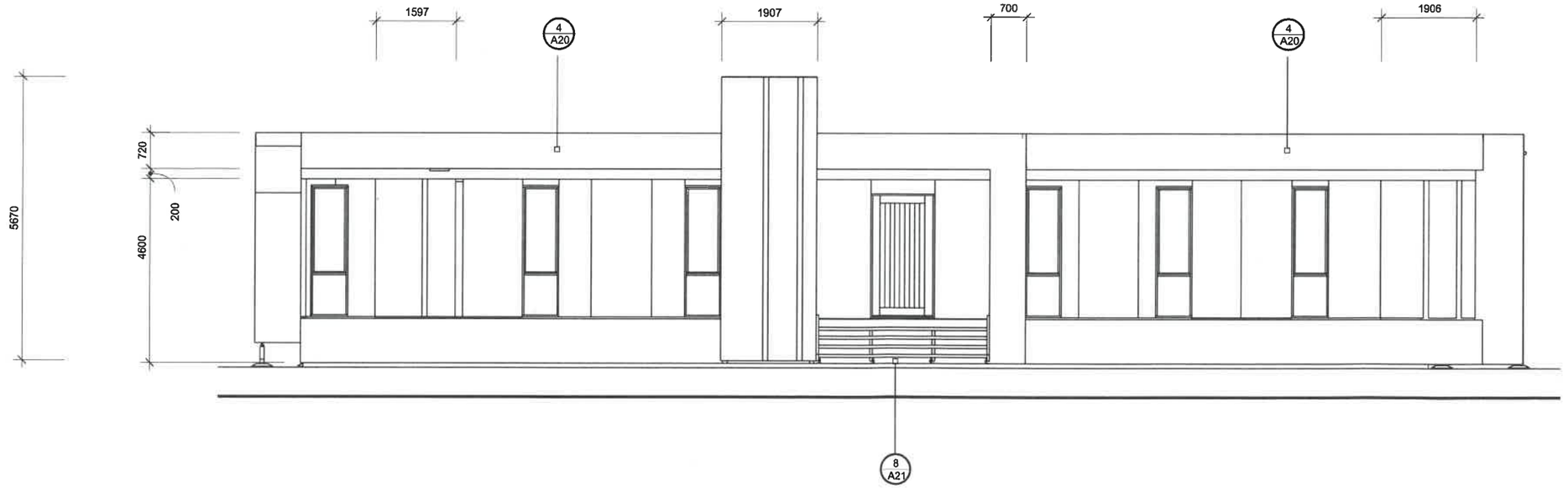
	MM/DD/YY	REMARKS
1	1/5/22	PRELIMINARY
2	__/__/__	
3	__/__/__	
4	__/__/__	...
5	__/__/__	...

Proposed Dwelling for Seth Fulthorp & Georgia Billens
at Lot 1 SP272400
Tognolini Baldwin Road

Floor Plan - Details 2
Scale at A3 1 : 100

A 5





Banana Shire Council
PLANNING APPROVAL

31 MAY 2022

MC4093-21/22

Note - All 6mm HardieFlex to be brace nailed (refer to A15 for bracing details)

South Elevation

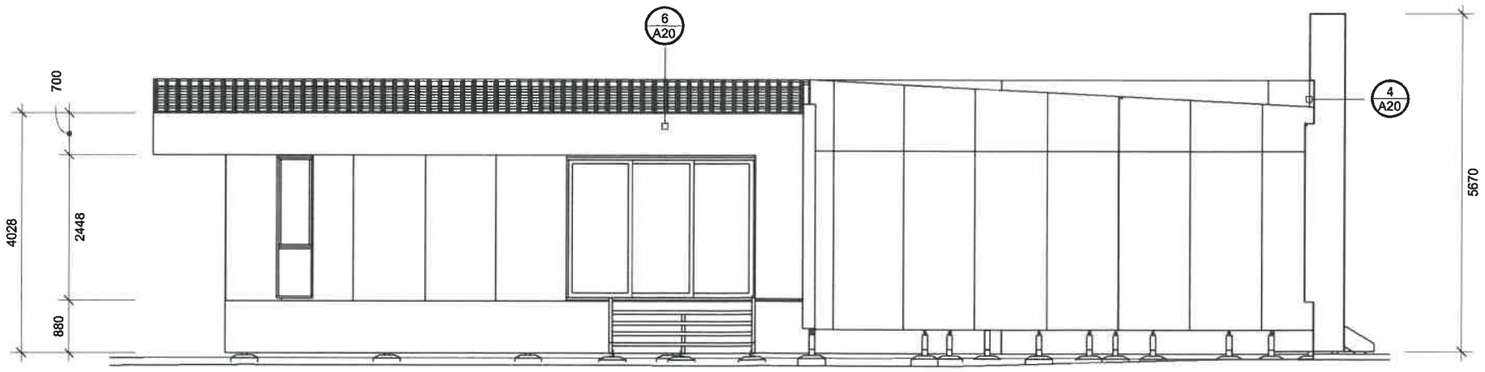
Scale at A3 1 : 100

Proposed Dwelling for Seth Fulthorp & Georgia Billens
at Lot 1 SP272400
Tognolini Baldwin Road

REVISIONS

	MM/DD/YY	REMARKS
1	9/8/21	PRELIMINARY
2	1/5/22	PRELIMINARY
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

A 6



Banana Shire Council
PLANNING APPROVAL

31 MAY 2022

MCU003-21/22

Note - All 6mm HardieFlex to be brace nailed (refer to A15 for bracing details)

West Elevation

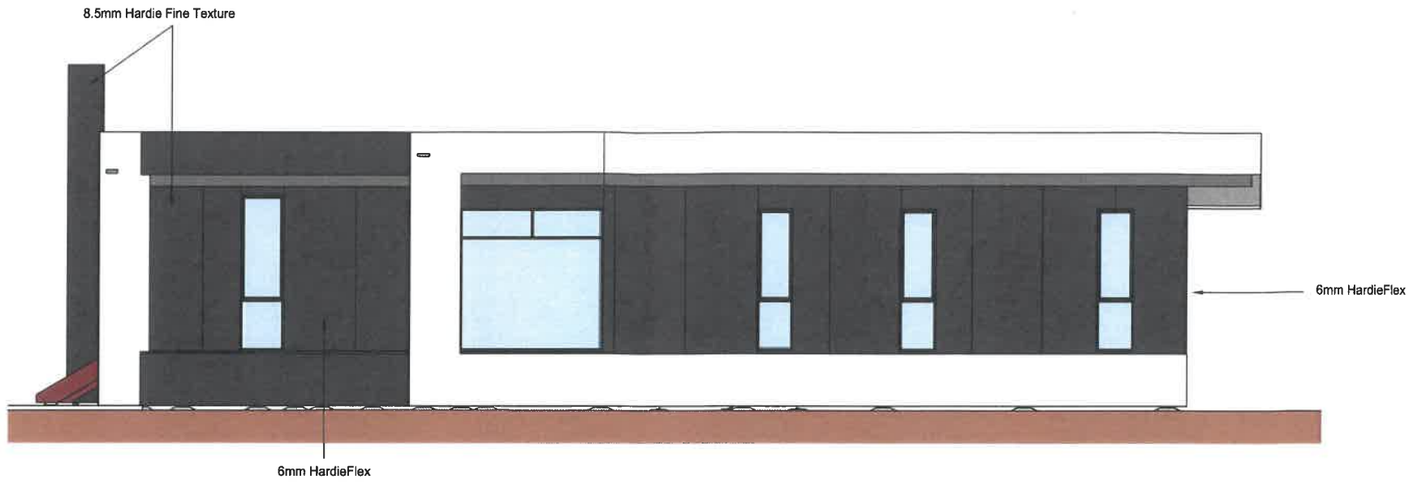
Scale at A3 1 : 100

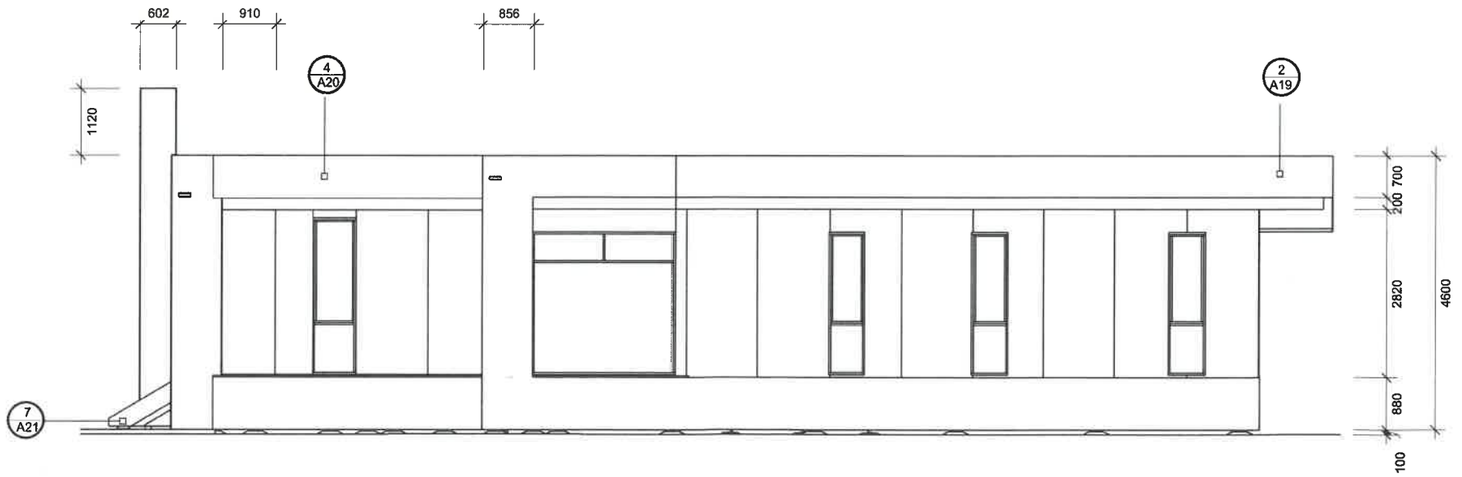
Proposed Dwelling for Seth Fulthorp & Georgia Billens
at Lot 1 SP272400
Tognolini Baldwin Road

REVISIONS

	MM/DD/YY	REMARKS
1	9/8/21	PRELIMINARY
2	1/5/22	PRELIMINARY - Removed Stage 2, added bedrooms
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

A 7





Banana Shire Council
PLANNING APPROVAL

31 MAY 2022

mc4003-21/22

Note - All 6mm HardieFlex to be brace nailed (refer to A15 for bracing details)

East Elevation

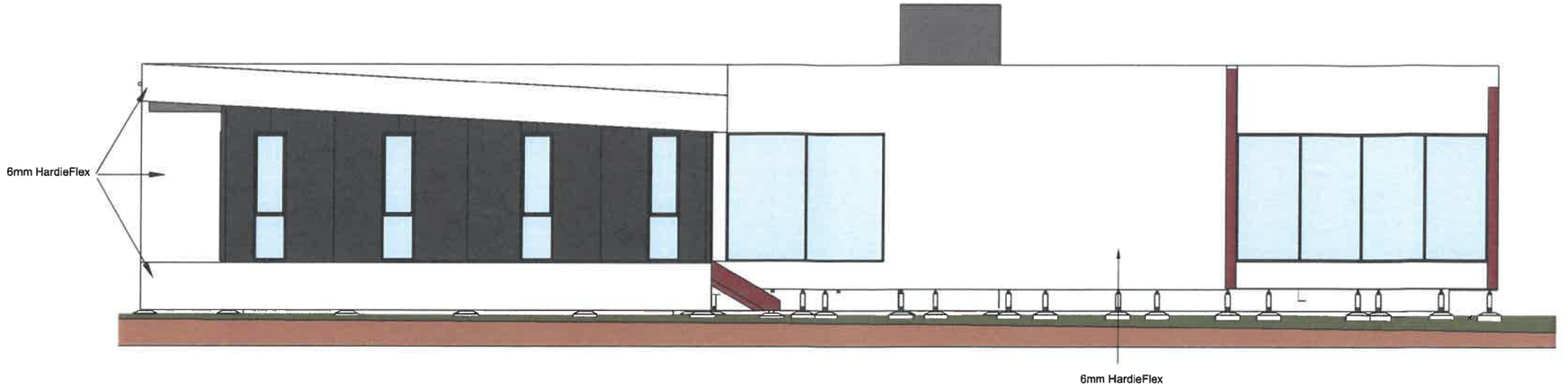
Scale at A3 1 : 100

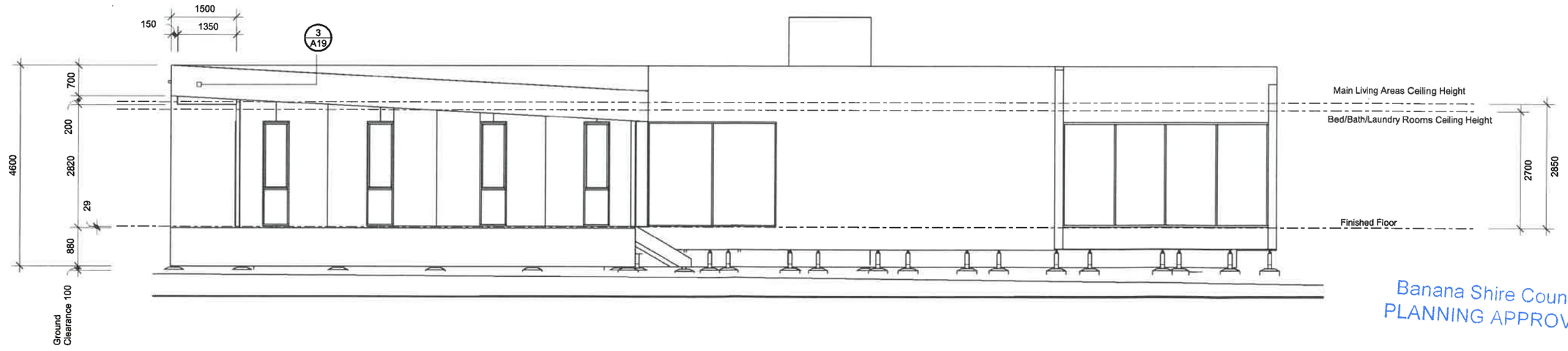
Proposed Dwelling for Seth Fulthorp & Georgia Billens
at Lot 1 SP272400
Tognolini Baldwin Road

REVISIONS

	MM/DD/YY	REMARKS
1	9/8/21	PRELIMINARY
2	1/5/22	PRELIMINARY - Removed Stage 2, added bedrooms
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

A 8





Banana Shire Council
PLANNING APPROVAL

31 MAY 2022

MC4003-21/22

Note - All 6mm HardieFlex to be brace nailed (refer to A15 for bracing details)

North Elevation

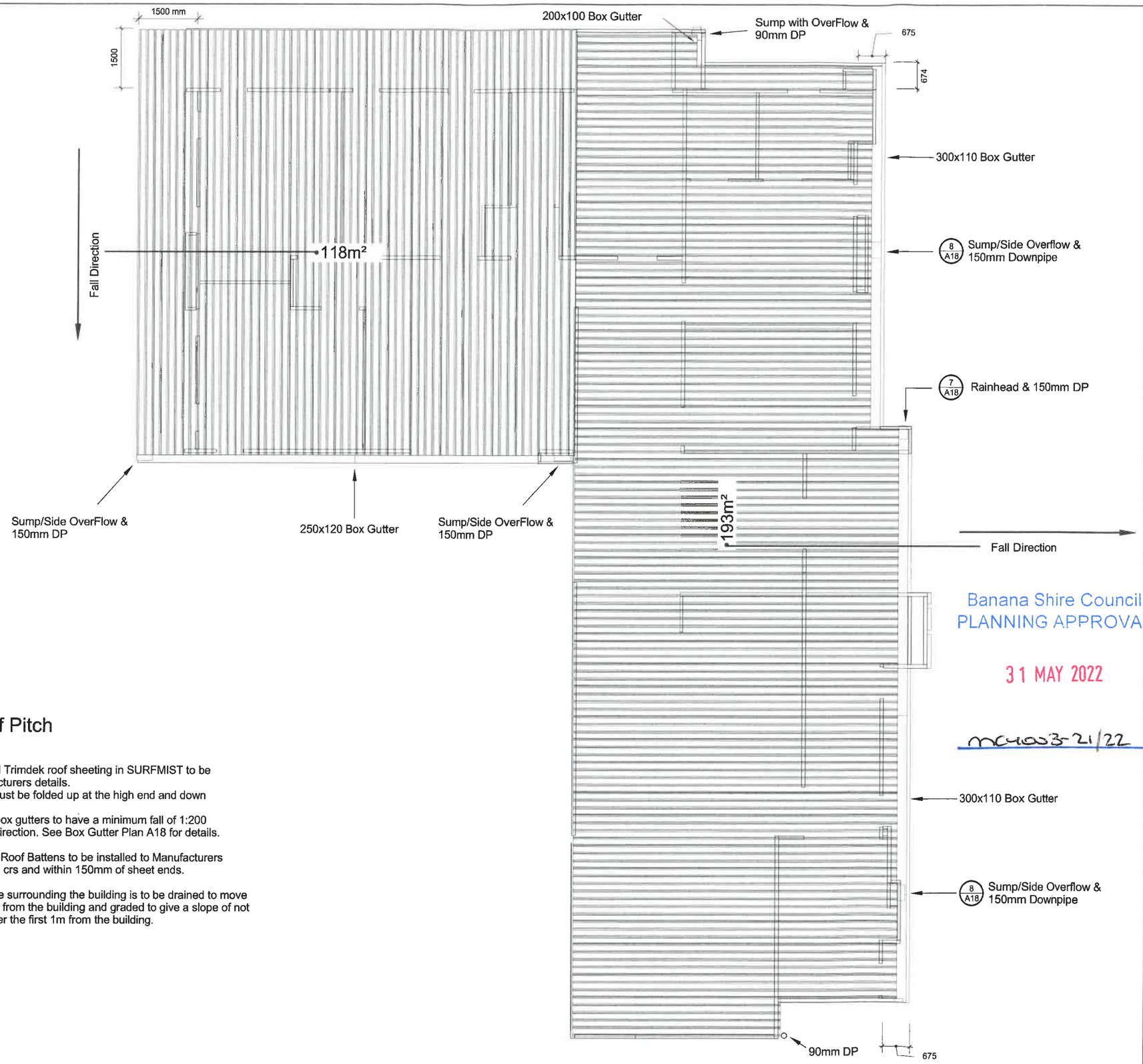
Scale at A3 1 : 100

Proposed Dwelling for Seth Fulthorp & Georgia Billens
at Lot 1 SP272400
Tognolini Baldwin Road

REVISIONS

	MM/DD/YY	REMARKS
1	9/8/21	PRELIMINARY
2	1/5/22	PRELIMINARY - Removed Stage 2, added bedrooms
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

9
A



3° Roof Pitch

Notes:
.48 BMT Colorbond Trimdek roof sheeting in SURFMIST to be installed to Manufacturers details.
Ends of sheeting must be folded up at the high end and down on the low end.
As per AS3500.3, box gutters to have a minimum fall of 1:200 with no change in direction. See Box Gutter Plan A18 for details.

0.75 BMT Cyclonic Roof Battens to be installed to Manufacturers details at MAX. 900 crs and within 150mm of sheet ends.

The finished surface surrounding the building is to be drained to move surface water away from the building and graded to give a slope of not less than 50mm over the first 1m from the building.

REVISIONS

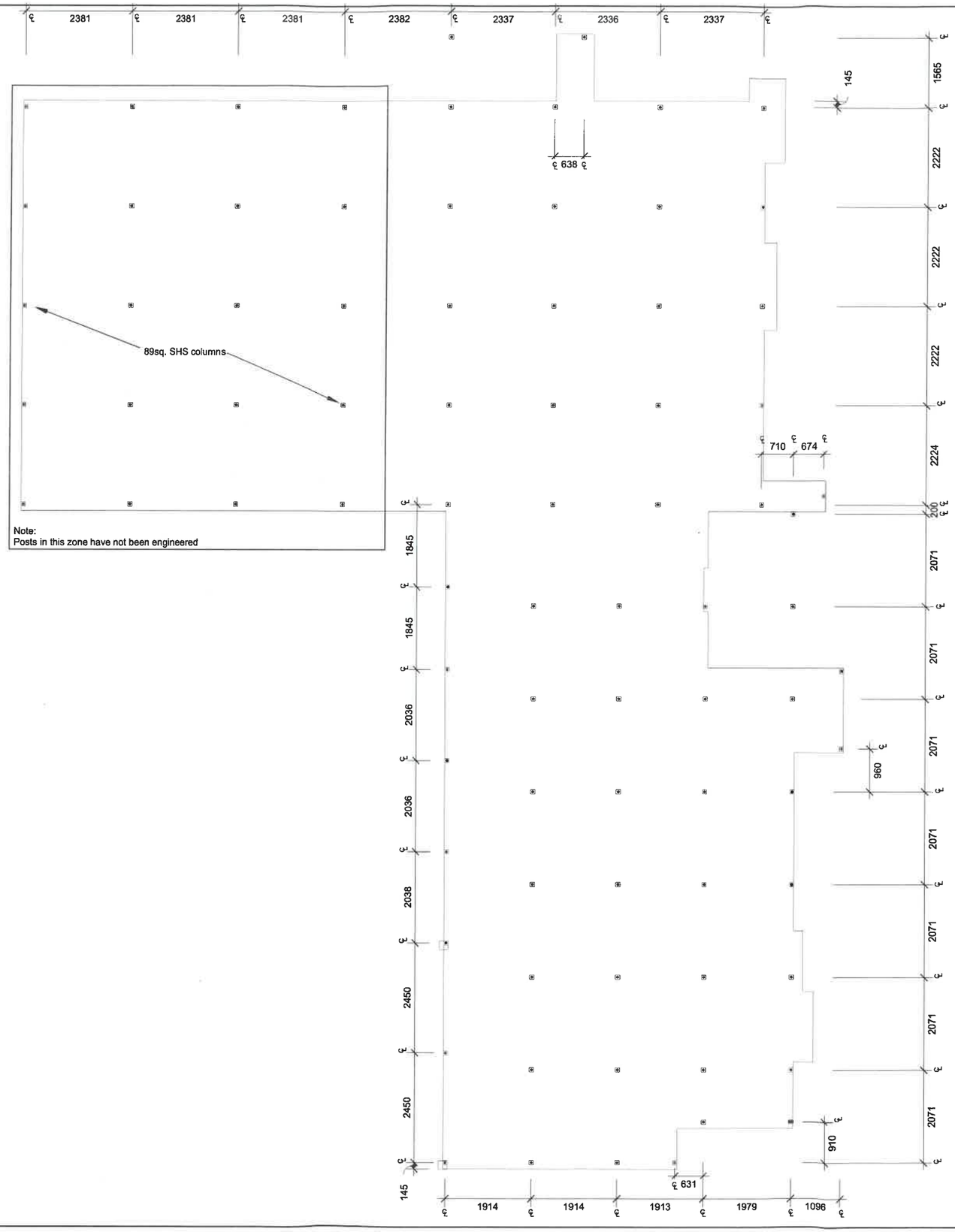
	MM/DD/YY	REMARKS
1	9/8/21	PRELIMINARY
2	1/5/22	PRELIMINARY - Removed Stage 2, added bedrooms
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

Proposed Dwelling for Seth Fulthorp & Georgia Billens
at Lot 1 SP272400
Tognolini Baldwin Road

Roof Plan

Scale at A3 1 : 100

A 10



Banana Shire Council
PLANNING APPROVAL

31 MAY 2022

3M1003-21/22

REVISIONS

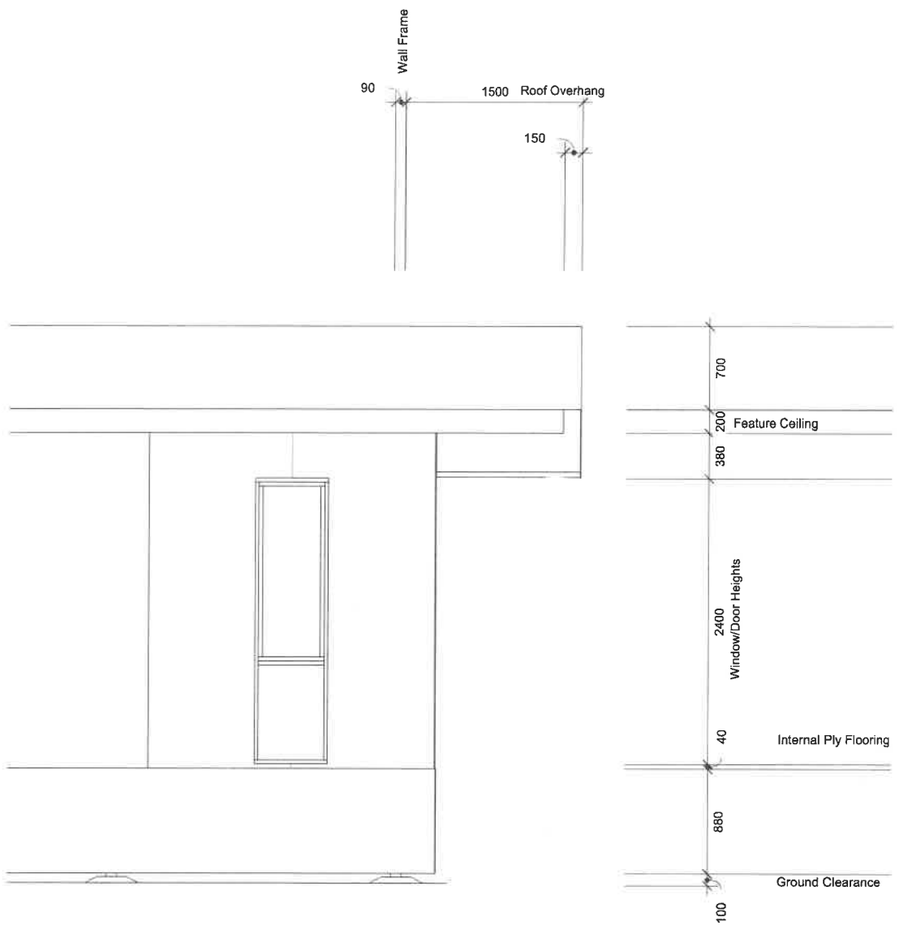
	MM/DD/YY	REMARKS
1	9/8/21	PRELIMINARY
2	1/5/22	PRELIMINARY - Removed Stage 2, added bedrooms
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

Proposed Dwelling for Seth Fulthorp & Georgia Billens
at Lot 1 SP272400
Tognolini Baldwin Road

Footing Plan

Scale at A3 1 : 100

A 14



2 SC2 Detail

East Elevation
1 : 50

3 SC3 Detail

North Elevation
1 : 50

Section Details 1

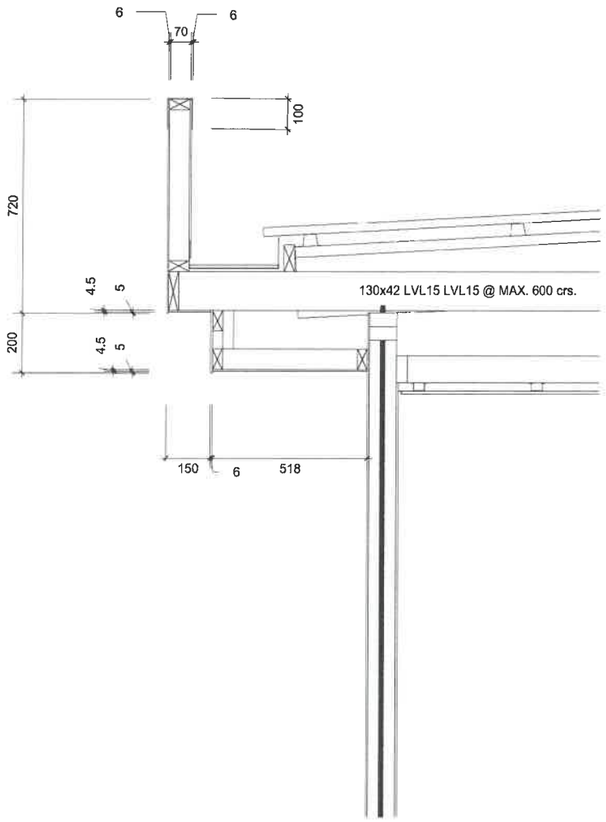
Scale at A3 1 : 50

Proposed Dwelling for Seth Fulthorp & Georgia Billens
at Lot 1 SP272400
Tognolini Baldwin Road

REVISIONS

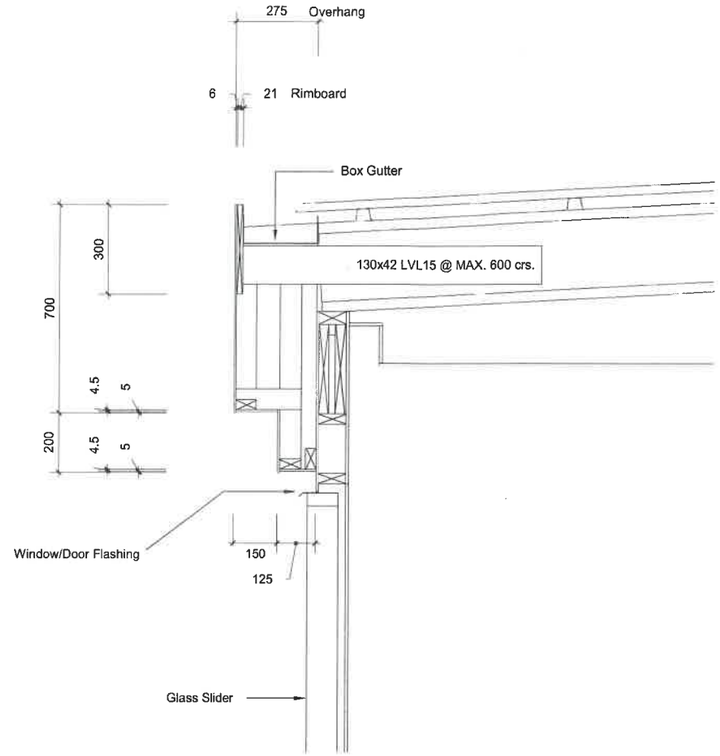
	MM/DD/YY	REMARKS
1	9/8/21	PRELIMINARY
2	1/5/22	PRELIMINARY
3	__/__/__	...
4	__/__/__	...
5	__/__/__	...

19
A



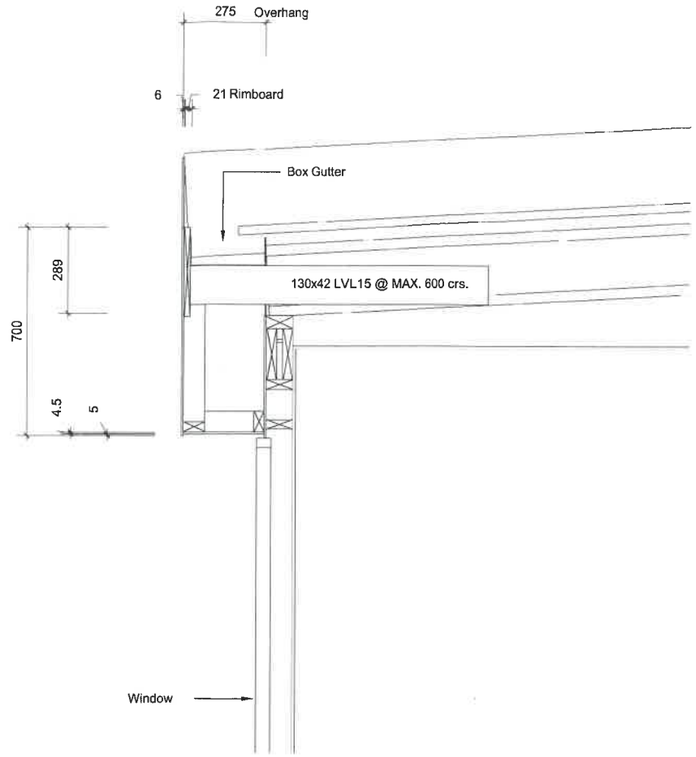
4 SC4 Detail

1 : 20



5 SC5 Detail

1 : 20



6 SC6 Detail

1 : 20

Banana Sh.
PLANNING

31 MAY 2022

Mcross-21/02

Section Details 2 Scale at A3 1 : 20	Proposed Dwelling for Seth Fulthorp & Georgia Billens at Lot 1 SP272400 Tognolini Baldwin Road	REVISIONS MM/DD/YY / REMARKS 1 9/8/21 PRELIMINARY 2 __/__/__ ... 3 __/__/__ ... 4 __/__/__ ... 5 __/__/__ ...

A 20