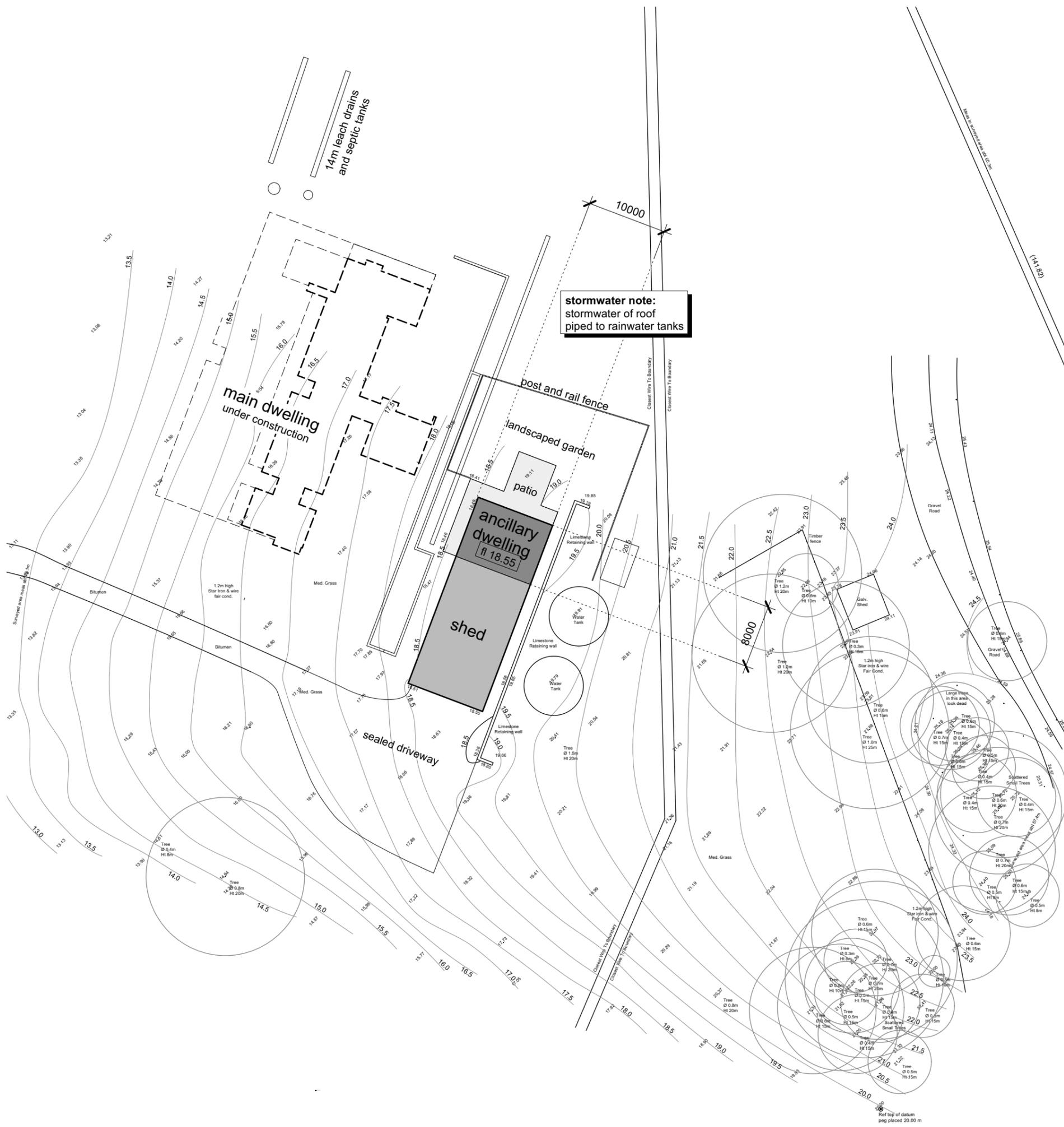


overall site plan
not to scale

Arnold Schiebaan **BUILDING DESIGN AND ILLUSTRATION**
Tel/Fax +61 8 9399 7485 Mobile 0438 399 748 aschiebaan@netspace.net.au 2 Trewarn Place, Bedforddale, Western Australia 6112

PROJECT:	DESCRIPTION:	REVISION:	DRAWN:	CHECKED:
ancillary dwelling proposal	overall site plan		ATS	ATS
lot 12 (#365) Jarrahdale Rd, Jarrahdale WA 6124			SCALE:	DATE:
for mr and mrs C and J Wells			not to scale	april 2021
			ISSUE:	DRAWING NUMBER:
			DA issue	A.01

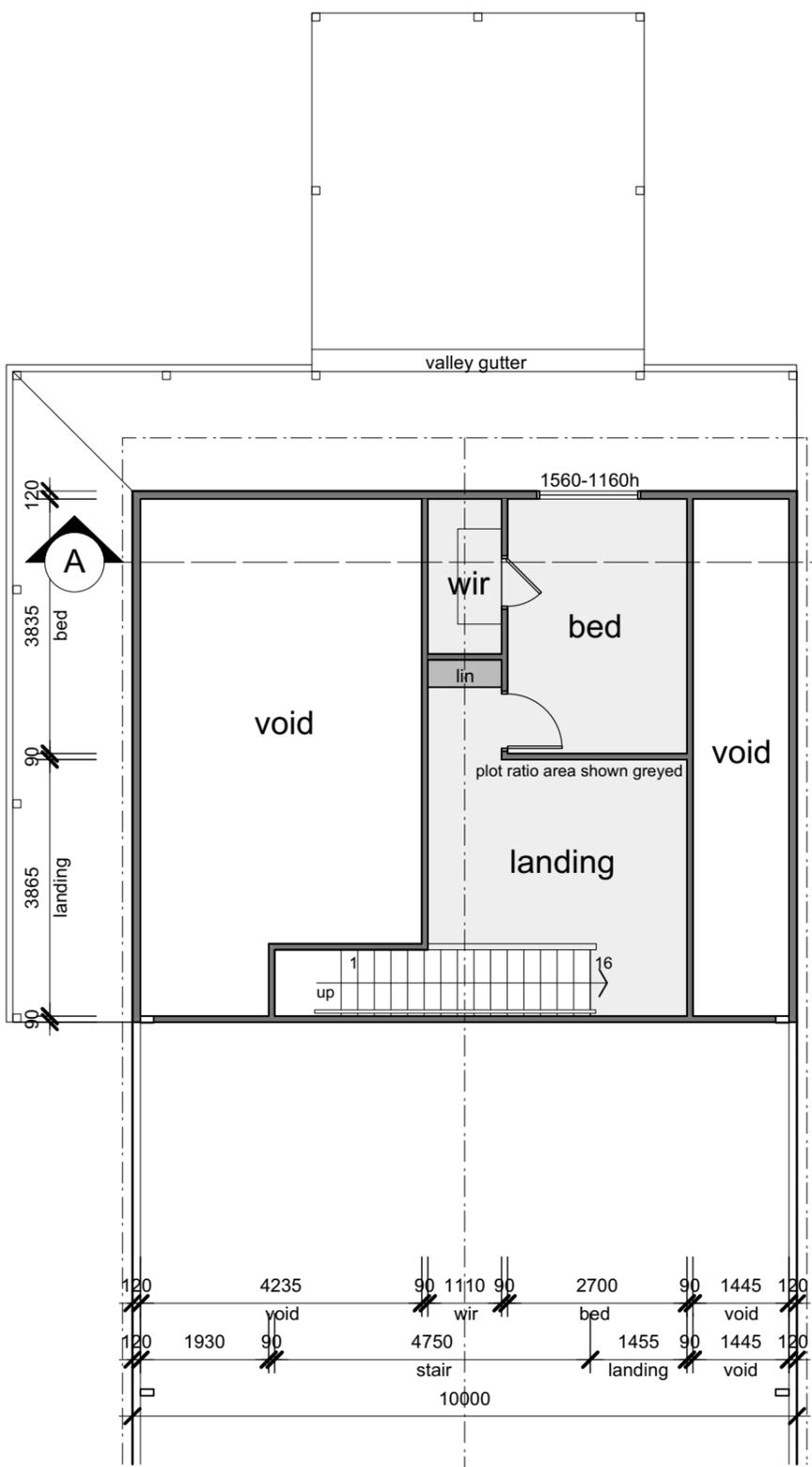


part site plan
scale 1:500 @ A3

Arnold Schiebaan **BUILDING DESIGN AND ILLUSTRATION**

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PROJECT:	DESCRIPTION:	REVISION:	DRAWN:	CHECKED:
ancillary dwelling proposal	part site plan		ATS	ATS
lot 12 (#365) Jarrahdale Rd, Jarrahdale WA 6124			SCALE:	DATE:
for mr and mrs C and J Wells			1:500@A3	april 2021
			ISSUE:	DRAWING NUMBER:
			DA issue	A.02



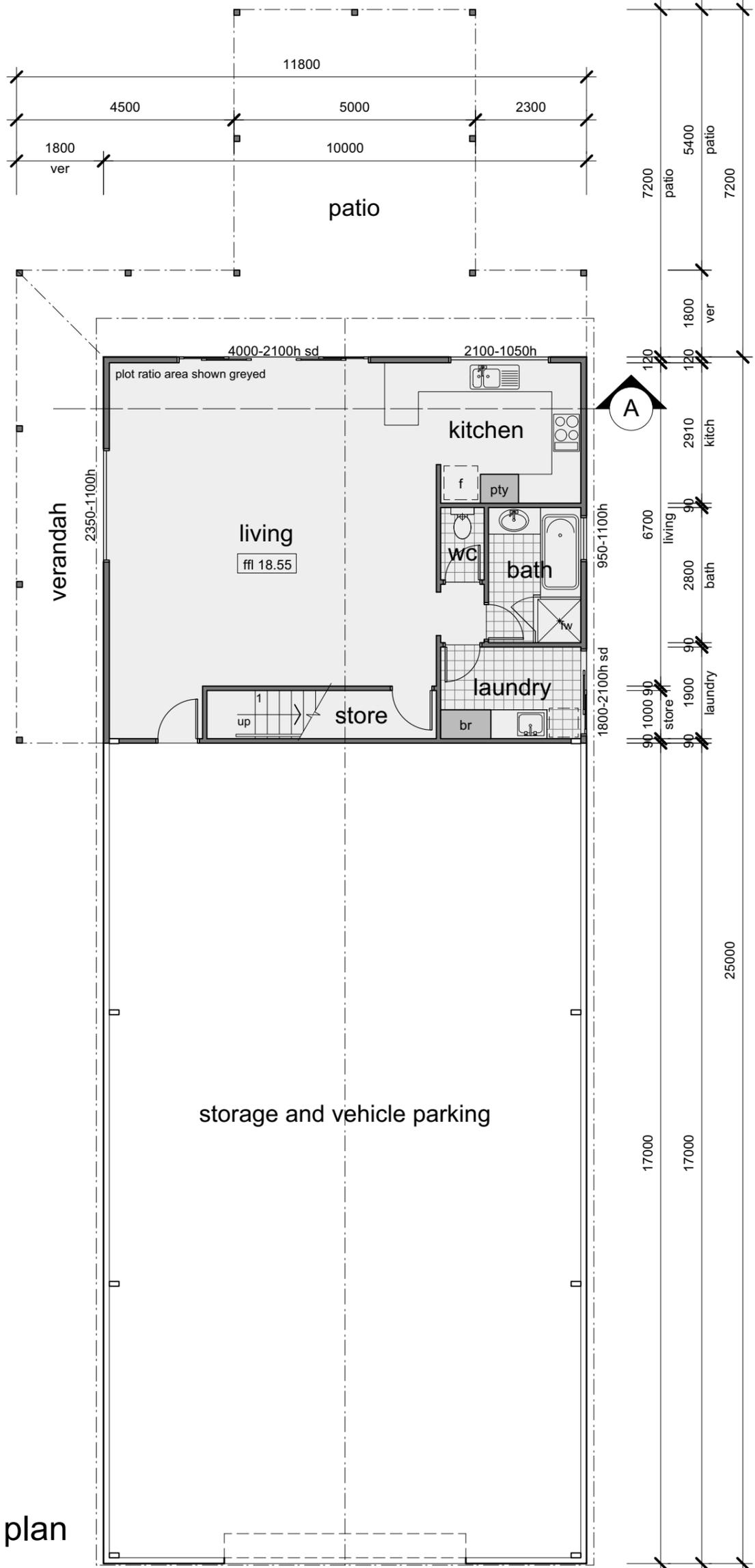
mezzanine plan
scale 1:100 @ A3

bushfire protection notes:
construction to satisfy requirements for BAL-19 as prescribed in AS 3959-2018

plot ratio area

- main floor habitable area - 80 sqm, measured over external and shed dividing walls including stair area
- mezzanine habitable area - 30 sqm, measured over external and shed dividing walls, and excluding stair and void areas
- total plot ratio area - 110 sqm**

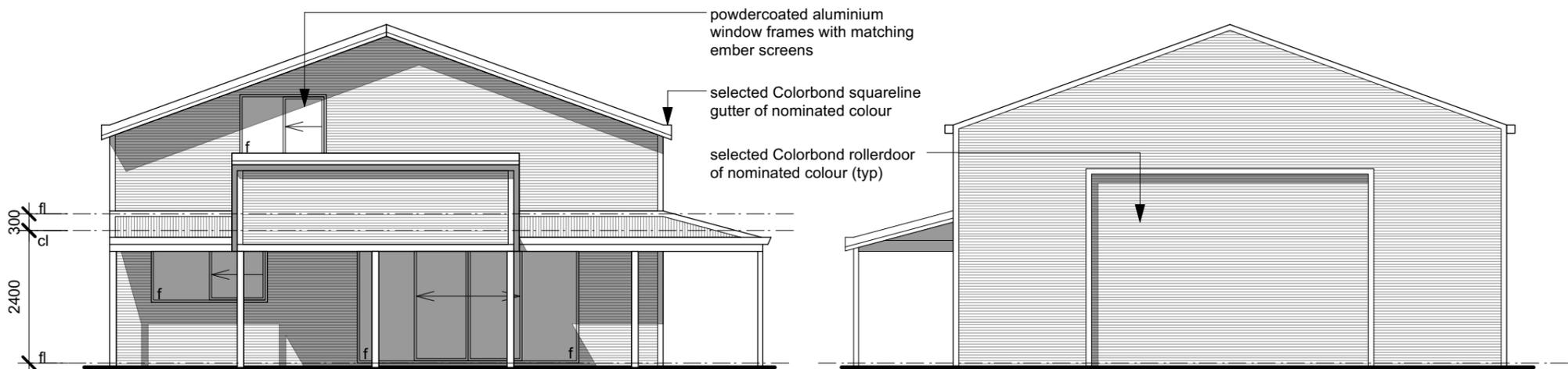
main floor plan
scale 1:100 @ A3



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PROJECT:	DESCRIPTION:	REVISION:	DRAWN:	CHECKED:
ancillary dwelling proposal	floor plans	rev A 19/08/21 - mezzanine floor area reduced	ATS	ATS
lot 12 (#365) Jarrahdale Rd, Jarrahdale WA 6124			SCALE:	DATE:
for mr and mrs C and J Wells			1:100@A3	april 2021
			ISSUE:	DRAWING NUMBER:
			DA issue	A.03A



north elevation

scale 1:100 @ A3

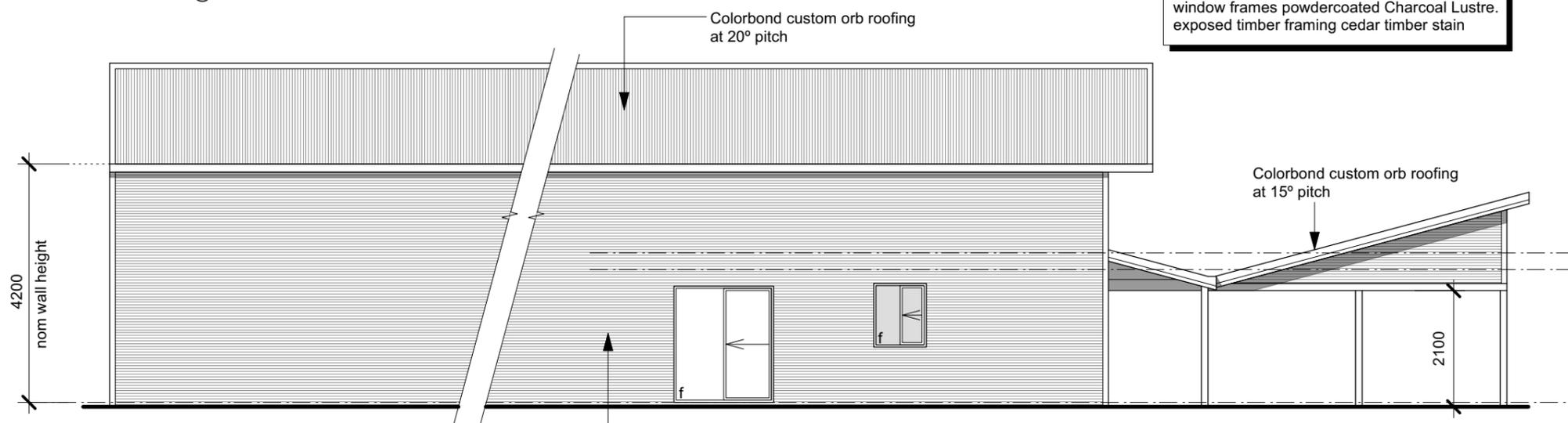
south elevation

scale 1:100 @ A3



west elevation

scale 1:100 @ A3

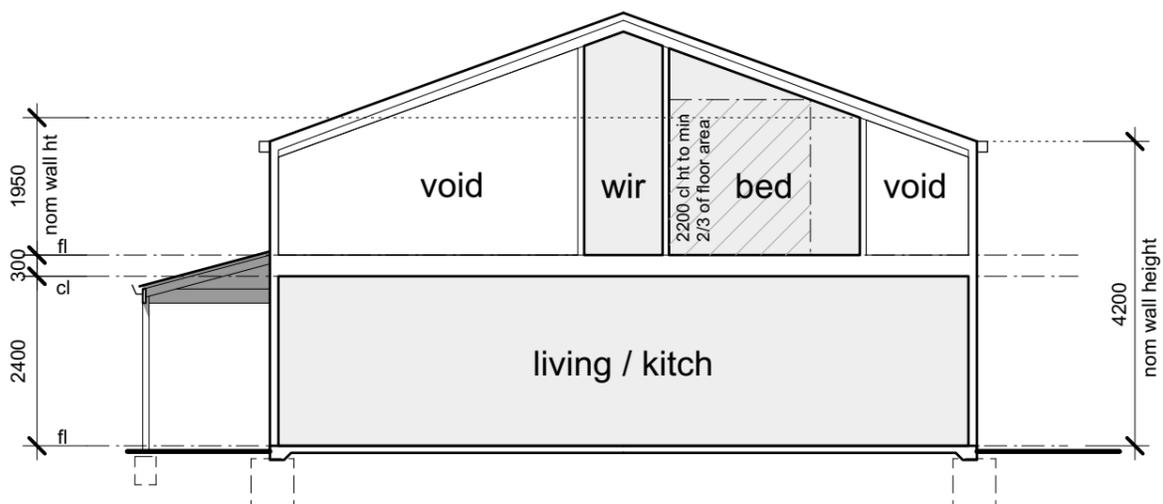


east elevation

scale 1:100 @ A3

finishes note:
 walls, roofs, cappings, gutters and roller door
 Colorbond Mangrove.
 window frames powdercoated Charcoal Lustre.
 exposed timber framing cedar timber stain

general construction notes
 anti termite treatment handsprayed
 biflex (bifenthrin), manufactured by FMC
 and applied in accordance with manufacturer
 written instructions.
 reinforced concrete floor slab on wpm
 and compacted fill.
 120x35mm H2 treated pine stud exterior walls.
 90x45mm H2 treated pine stud interior walls.
 flush plasterboard wall linings .
 horizontally lined Colorbond custom orb
 exterior claddings
 H2 treated pine timber roof trusses.
 Colorbond custom orb roof decking.
 approved waterproofing membrane to shower
 recess in accordance with AS 3740.
 all wall, floor and roof framing
 constructed to comply with BCA and AS 1684



A schematic section

Scale: 1:100

Arnold Schiebaan **BUILDING DESIGN AND ILLUSTRATION**

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PROJECT:	DESCRIPTION:	REVISION:	DRAWN:	CHECKED:
ancillary dwelling proposal	elevations	rev A 19/08/21 - section A amended to indicate reduced mezzanine floor area	ATS	ATS
lot 12 (#365) Jarrahdale Rd, Jarrahdale WA 6124			SCALE:	DATE:
for mr and mrs C and J Wells			1:100@A3	april 2021
			ISSUE:	DRAWING NUMBER:
			DA issue	A.04A



AS3959 Bushfire Attack Level Assessment Report

This report has been prepared using the Simplified Procedure (Method 1) as detailed in Section 2 of AS3959-2018.

Site Details	
Address:	Lot 12 Jarrahdale Road
Suburb:	Jarrahdale
Local Government Area	Shire of Serpentine Jarrahdale
State:	Western Australia
Description of Building Works	Single Class 1 Dwelling

Report Details			
Report / Job Number:	2006-99	Report Version	1.0
Assessment Date:	11/5/2020	Report Date	13/6/2020
Assessor Details			
Name:	Rohan Carboon		
Accredited Practitioner	Rohan Carboon BPAD 23160		

Disclaimer:

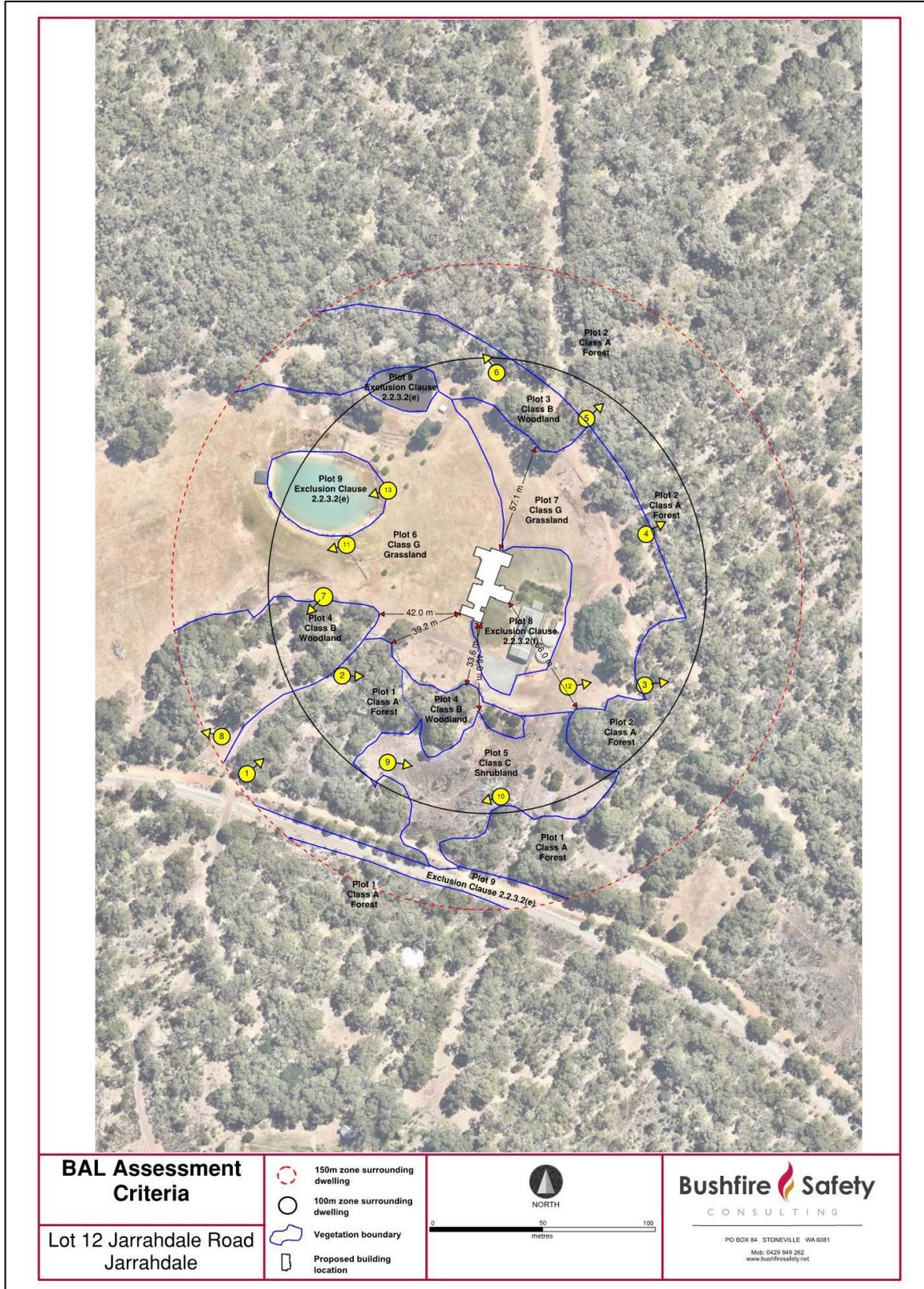
This report has been prepared in good faith and is derived from sources believed to be reliable and accurate at the time of publication. Nevertheless, this publication is distributed on the terms and understanding that the author is not responsible for results of any actions taken based on information in this publication or for any error in or omission from this publication.

Notwithstanding the precautions adopted in this report, it should always be remembered that bushfires burn under a wide range of conditions. An element of risk, no matter how small always remains. The objective of the standard (AS 3959:2018) is 'to prescribe particular construction details for buildings to reduce the risk of ignition from a bushfire while the front passes' (Standards Australia, 2018). Building to the standard (AS 3959:2018) does not guarantee a building will survive a bushfire.

BAL Assessment and Management Statement: Lot 12 Jarrahdale Road, Jarrahdale

Site Assessment and Site Plans

The assessment of this development was undertaken on 15/04/2020 by Bushfire Safety Consulting Pty Ltd for the purposes of determining the Bushfire Attack Level in accordance with AS 3959 – 2018 Simplified Procedure (Method 1).



BAL Assessment and Management Statement: Lot 12 Jarrahdale Road, Jarrahdale

Vegetation Classification

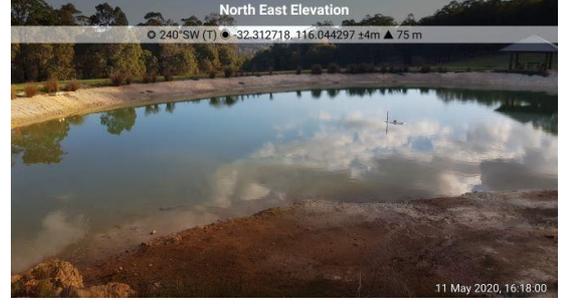
All vegetation within 150m of the proposed dwelling was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below:

<p>Photo ID: 1</p> <p>Plot Number: 1</p> <p>Vegetation classification or exclusion clause: Class A Forest</p> <p>Description/justification of classification: Marri and Jarrah forest with minimal middlestorey, but accumulated litter fuels</p>	 <p>Photo 1 shows a forest with tall, thin trees and a ground covered in dry leaves and litter. The trees have sparse foliage, and the overall appearance is that of a forest with minimal middlestorey vegetation.</p>
<p>Photo ID: 2</p> <p>Plot Number: 1</p> <p>Vegetation classification or exclusion clause: Class A Forest</p> <p>Description/justification of classification: Marri and Jarrah forest with intact middlestorey and understorey</p>	 <p>Photo 2 shows a forest with a dense canopy of trees and a visible understorey of shrubs and smaller trees. The ground is covered in dry leaves and litter.</p>
<p>Photo ID: 3</p> <p>Plot Number: 2</p> <p>Vegetation classification or exclusion clause: Class A Forest</p> <p>Description/justification of classification: Marri and Jarrah forest with intact middlestorey and understorey</p>	 <p>Photo 3 shows a forest with a dense canopy of trees and a visible understorey of shrubs and smaller trees. The ground is covered in dry leaves and litter.</p>
<p>Photo ID: 4</p> <p>Plot Number: 2</p> <p>Vegetation classification or exclusion clause: Class A Forest</p> <p>Description/justification of classification: Marri and Jarrah forest with intact understorey and accumulated leaf litter.</p>	 <p>Photo 4 shows a forest with a dense canopy of trees and a visible understorey of shrubs and smaller trees. The ground is covered in dry leaves and litter.</p>
<p>Photo ID: 5</p> <p>Plot Number: 2</p> <p>Vegetation classification or exclusion clause: Class A Forest</p> <p>Description/justification of classification: Marri and Jarrah forest with intact understorey and accumulated leaf litter.</p>	 <p>Photo 5 shows a forest with a dense canopy of trees and a visible understorey of shrubs and smaller trees. The ground is covered in dry leaves and litter.</p>

BAL Assessment and Management Statement: Lot 12 Jarrahdale Road, Jarrahdale

<p>Photo ID: 6</p> <p>Plot Number: 3</p> <p>Vegetation classification or exclusion clause: Class B Woodland</p> <p>Description/justification of classification: Marri and Jarrah forest with intact middlestorey and understorey</p>	
<p>Photo ID: 7</p> <p>Plot Number: 4</p> <p>Vegetation classification or exclusion clause: Class B Woodland</p> <p>Description/justification of classification: Open canopy of Marri and Jarrah forest no middlestorey but leaf litter fuels</p>	
<p>Photo ID: 8</p> <p>Plot Number: 4</p> <p>Vegetation classification or exclusion clause: Class B Woodland</p> <p>Description/justification of classification: Open canopy of Marri and Jarrah forest no middlestorey but leaf litter fuels</p>	
<p>Photo ID: 9</p> <p>Plot Number: 5</p> <p>Vegetation classification or exclusion clause: Class C Shrubland</p> <p>Description/justification of classification: Low shrubland south of the dwelling with grasses</p>	
<p>Photo ID: 10</p> <p>Plot Number: 5</p> <p>Vegetation classification or exclusion clause: Class C Shrubland</p> <p>Description/justification of classification: Low shrubland south of the dwelling with grasses</p>	

BAL Assessment and Management Statement: Lot 12 Jarrahdale Road, Jarrahdale

<p>Photo ID: 11</p> <p>Plot Number: 6</p> <p>Vegetation classification or exclusion clause: Glass G Grassland</p> <p>Description/justification of classification: Very low grass fuels downslope of the dwelling</p>	
<p>Photo ID: 12</p> <p>Plot Number: 7</p> <p>Vegetation classification or exclusion clause: Glass G Grassland</p> <p>Description/justification of classification: Very low grass fuels upslope of the dwelling</p>	
<p>Photo ID: 13</p> <p>Plot Number: 5</p> <p>Vegetation classification or exclusion clause: Exclusion Clause 23.2.3.2e</p> <p>Description/justification of classification: Dam filled with water</p>	

Relevant Fire Danger Index

The fire danger index for this site has been determined in accordance with Table 2.1 in AS3959–2018.

Fire Danger Index:	Table
FDI : 80	2.4.3

BAL Assessment and Management Statement: Lot 12 Jarrahdale Road, Jarrahdale

Potential Bushfire Impacts

The potential bushfire impact to the dwelling from the assessment is outlined below (Table 1).

Table 1: BAL Analysis

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class A Forest	Downslope 9	39.2	BAL-29
	Class A Forest With compliant APZ as outlined in Management Statement		46	BAL-19
2	Class A Forest	Flat / upslope	66	BAL-21.5
3	Class B Woodland	Flat / upslope	57.1	BAL-12.5
4	Class B Woodland	Downslope 9	42	BAL-19
5	Class c Shrubland	Downslope 11°	46	BAL-12.5
6	Class G Grassland	Downslope 6	0	BAL-FZ
7	Class G Grassland	upslope	0	BAL-FZ

Determined Bushfire Attack Level

The determined Bushfire Attack Level (highest BAL) for the proposed dwelling has been determined in accordance with clause 2.2.6 of AS3959-2018 using the above analysis.

Determined Bushfire Attack Level in existing condition:	BAL-FZ
Determined Bushfire Attack Level with compliant APZ as identified in Bushfire Management Statement	BAL-19

BAL Assessment and Management Statement: Lot 12 Jarrahdale Road, Jarrahdale

Appendix 1: Site Plan

Amel Schibean BUILDING DESIGN AND ILLUSTRATION
Tel/Fax +61 8 9399 7485 Mobile 0438 399 748 aschiebaan@netspace.net.au 2 Trewarn Place, Bedfordale, Western Australia 6112



SK1
Revision D - 30 April 20

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wells residence lot 12 Jarrahdale Rd, Jarrahdale WA 6124

site plan
scale 1:500 of A2
north

BAL Assessment and Management Statement: Lot 12 Jarrahdale Road, Jarrahdale

Appendix 2: Additional Information / Advisory Notes

A Bushfire Attack Level (BAL) Assessment is a means of measuring the severity of a buildings potential exposure to ember attack, radiant heat and direct flame contact from a bushfire event, and thereby determining the construction measures required for the dwelling.

The method used to determination of the BAL rating, and subsequent building construction standards, are directly referenced from Australian Standard *AS3959-2009 Construction of buildings in bushfire prone areas*.

The BAL rating is determined through the identification and assessment of the following parameters:

- Fire danger Index (FDI) rating; assumed to be FDI-80 for Western Australia
- All classified vegetation **within 100m** of the subject building
- Separation distance between the building and the classified vegetation
- Slope of the land under the classified vegetation

AS3959-2009 has six (6) levels of BAL, based on the radiant heat flux exposure to the building, and also identifies the relevant sections for building construction as detailed below;

Bushfire Attack Level (BAL)	Classified Vegetation within 100m of the site and heat flux exposure thresholds	Description of predicted bushfire attack and levels of exposure	Construction Sections (within AS3959)
BAL-LOW	See Clause 2.2.3.2	There is insufficient risk to warrant specific construction requirements	4
BAL-12.5	$\leq 12.5 \text{ kW/m}^2$	Ember attack	3 & 5
BAL-19	$> 12.5 \text{ kW/m}^2$ to $\leq 19 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windbourne embers together with increasing heat flux	3 & 6
BAL-29	$> 19 \text{ kW/m}^2$ to $\leq 29 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windbourne embers together with increasing heat flux	3 & 7
BAL-40	$> 29 \text{ kW/m}^2$ to $\leq 40 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windbourne embers together with increasing heat flux with the increased likelihood of exposure to flames	3 & 8
BAL-FZ	$> 40 \text{ kW/m}^2$	Direct exposure to flames from fire front in addition to heat flux and ember attack	3 & 9

Bushfire Management Statement

prepared in accordance with the Guidelines for Planning in Bushfire Prone Areas V1.3 (December 2017)

BUSHFIRE RISK MITIGATION ELEMENTS

PROPERTY:	Lot 12 Jarrahdale Road, Jarrahdale
LAND OWNER:	Wells
DWELLING:	Class 1a Dwelling

PROPERTY MANAGEMENT PLAN SHOWING MANAGEMENT COMMITMENTS

Asset Protection Zone (APZ) Works

- 1 - Slash / brush cut weeds and grass and regrowth plants down to less than 50mm
- 2 - Maintain < 2 t/ha of fuel load
- 3- Under prune all retained trees 2 m from ground level.

The firebreak is established and currently complies with minimum standards. land to the east is too steep for firebreak

2 X concrete water tanks with 130,000 litre capacity each and a steel outlet fitting and full flow valve will be fitted on sth side for fire appliacne access

Driveway gradient cannot be achieved however it is sealed, 3m wide and trafficable in all weather conditions with room to passing bays as marked. there is room for turn around near the shed

Vertical clearance to 4.5m needs to be maintained with tree branches below this pruned from vegetation.

Jarrahdale Road provides two access ways at the end of the 500m driveway

Passing bays 20m long x 6m wide

Minimum turn-around requirements for 3.4 fire appliances

Responses to the Guidelines for Planning in Bushfire Prone Areas V1.3 (2017)			
Element	Acceptable Solutions	Responsibility to implement	Compliance
Element 1: Location	A1.1. Development Location	Lot owner to establish APZ	dwelling can achieve BAL-19 ✓
Element 2: Siting and Design of Development	A2.1. Asset Protection Zone (APZ) The dwelling will be surrounded by an Asset Protection Zone (APZ), depicted in the diagram, which will meet the following requirements. <ul style="list-style-type: none"> Fences: within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used. Objects: within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors. Fine Fuel load: combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare. Trees (> 5 metres in height): trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy. <p>Figure 18: Tree canopy cover – ranging from 15 to 70 per cent at maturity</p> <ul style="list-style-type: none"> Shrubs (0.5 metres to 5 metres in height): should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m² in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees. Ground covers (<0.5 metres in height): can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs. Grass: should be managed to maintain a height of 100 millimetres or less. 	Lot owner to establish APZ	dwelling can achieve BAL-19 ✓
	A3.1. Two Access Routes - Jarrahdale Road provides two access ways on the public road system	Shire of Serpentine	✓
A3.2. Public Road - Jarrahdale Road complies with minimum standards	Shire of Serpentine	✓	
A3.3. Cul-de-sac - Not applicable	Not Applicable	Not Applicable	
A3.4. Battle-axe - Not applicable	Not Applicable	Not Applicable	
A3.5. Private Driveways longer than 50 metres - Driveway is 500 m long and turn around standards can be achieved as outlined in the diagram.	Lot owner	✓	
A3.6. Emergency access way - Not applicable	Not Applicable	Not Applicable	
A3.7. Fire service access routes (perimeter roads) - Not applicable	Not Applicable	Not Applicable	
A3.8. Firebreak width - A trafficable firebreak is achieved around the most accessible sections of the perimeter	Lot owner	✓	
Element 3: Vehicular Access	A4.1. Reticulated areas - Not applicable	Not Applicable	Not Applicable
Element 4: Water	A4.2. Non-reticulated area - Not applicable	Not Applicable	Not Applicable
	A4.3. Individual lot within non-reticulated area - yes and lot contains a 130KI tank which will have a 50mm male camlock fitting installed that fire trucks can access to within 3m.	Lot owner	✓

BUSHFIRE CONSULTANT:	Rohan Carboon (BPAD Level 3 - 23160)
DATE:	12/6/2020
SIGNATURE:	<i>Rohan Carboon</i>

This Bushfire Management Statement forms part of the terms of the planning approval as stamped and outlines the land owners ongoing land management responsibilities to minimise bushfire risk and ensure compliance with the WA Planning for Bushfire Protection Guidelines and the Shire's Annual Firebreak and Fuel Load Notice

