

WWW.SENICA.COM.AU
INFO@SENICA.COM.AU
(02) 8006 7784



Senica
consultancy group



ENERGY EFFICIENCY REPORT

Thermal Comfort Simulation Assessment

Site Address

156 Ainsworth Road, MONGOGARIE

Lot and DP

9//755625

Client

Metricon Homes

Assessment Date

6/02/2024

File Reference

24020053



Senica
consultancy group

Project Certification Summary - Main Dwelling

Building and Modelling Software Information

Street Address	156 Ainsworth Road	NatHERS Climate Zone	9 - Amberley Aero
Locality	MONGOGARIE	ABCB Climate Zone (Longitude / Latitude)	NCC CZ: 2, Lat: -28.9 , Long: 152.7
Post Code	2470	Site Exposure	Suburban
Lot / Section / DP	9//755625	Building Classification	Class 1a New House
Engaged by	Metricon Homes	NatHERS Regulatory Mode	TRUE
Plan Name	743489	NatHERS Profile	NatHERS (2022)
Conflict of Interest	No Conflict of Interest	Client	A. & J. Bevan and M. Ludlow
Conditioned Area	86.0 m ²	Concrete Slab on Ground	93.1 m ²
Unconditioned Area	7.0 m ²	Suspended Floor (Open)	0.0 m ²
Garage Area	19.3 m ²	Suspended Floor (Enclosed)	0.0 m ²
Total Floor Area	112.4 m ²	Above Garage	0.0 m ²
		Above Habitable Floor	0.0 m ²

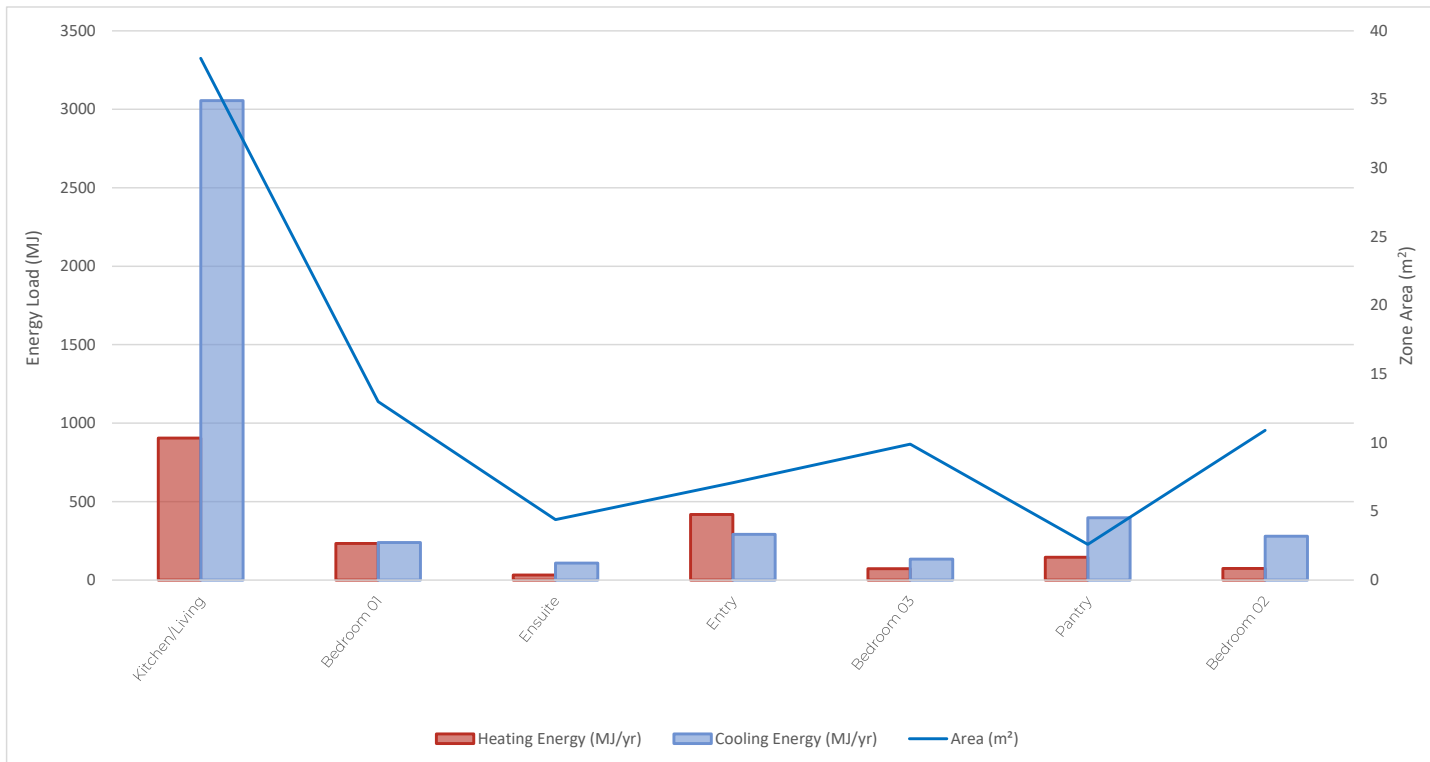
Thermal Comfort Modelling Results

Target	(MJ/yr)	(MJ/m ² /yr)	Result	(MJ/yr)	(MJ/m ² /yr)	Pass/Fail	Improvement over Target
Star Rating		7	Star Rating		6.3	na	Star Rating
Heating	3398	39.5	Heating	1544	17.9	Pass	Heating 54.56%
Cooling	4302	50	Cooling	3847	44.7	Pass	Cooling 10.58%
TOTAL	4560	53	TOTAL	5391	62.7	na	TOTAL na

Building Performance Modelling Results

Building Temperature	Temperature Range	Hours in Range (Annually)	Percentage	Degree-Discomfort Hours	Degree-discomfort hours is a measure of the temperature differential between the actual temperature and the hot or cold threshold temperatures. For example if a room had an actual temperature of 32.5 degrees C, and the Hot Threshold was set to 27 degrees C, then the Degree-Discomfort
Hot	27	836	9.5%	1270	
Comfortable		7409	84.6%		
Cold	18	515	5.9%	662	

	Peak (W)	Peak (W/m ²)	Peak Sensible (W) (W)	Peak Sensible (W) (W/m ²)	Peak Latent (W) (W)	Peak Latent (W) (W/m ²)	Ceiling Fan Electricity (kWh/yr)
Heating	4900	57					
Cooling	10800	126	8000	93	2800	33	51.6



Project Certification Summary - Granny Flat

Building and Modelling Software Information

Street Address	156 Ainsworth Road	NatHERS Climate Zone	9 - Amberley Aero
Locality	MONGOGARIE	ABCB Climate Zone (Longitude / Latitude)	NCC CZ: 2, Lat: -28.9 , Long: 152.7
Post Code	2470	Site Exposure	Suburban
Lot / Section / DP	9//755625	Building Classification	Class 1a New House
Engaged by	Metricon Homes	NatHERS Regulatory Mode	TRUE
Plan Name	743489	NatHERS Profile	NatHERS (2022)
Conflict of Interest	No Conflict of Interest	Client	0
Conditioned Area	45.3 m ²	Concrete Slab on Ground	51.4 m ²
Unconditioned Area	6.1 m ²	Suspended Floor (Open)	0.0 m ²
Garage Area	0.0 m ²	Suspended Floor (Enclosed)	0.0 m ²
Total Floor Area	51.4 m ²	Above Garage	0.0 m ²
		Above Habitable Floor	0.0 m ²

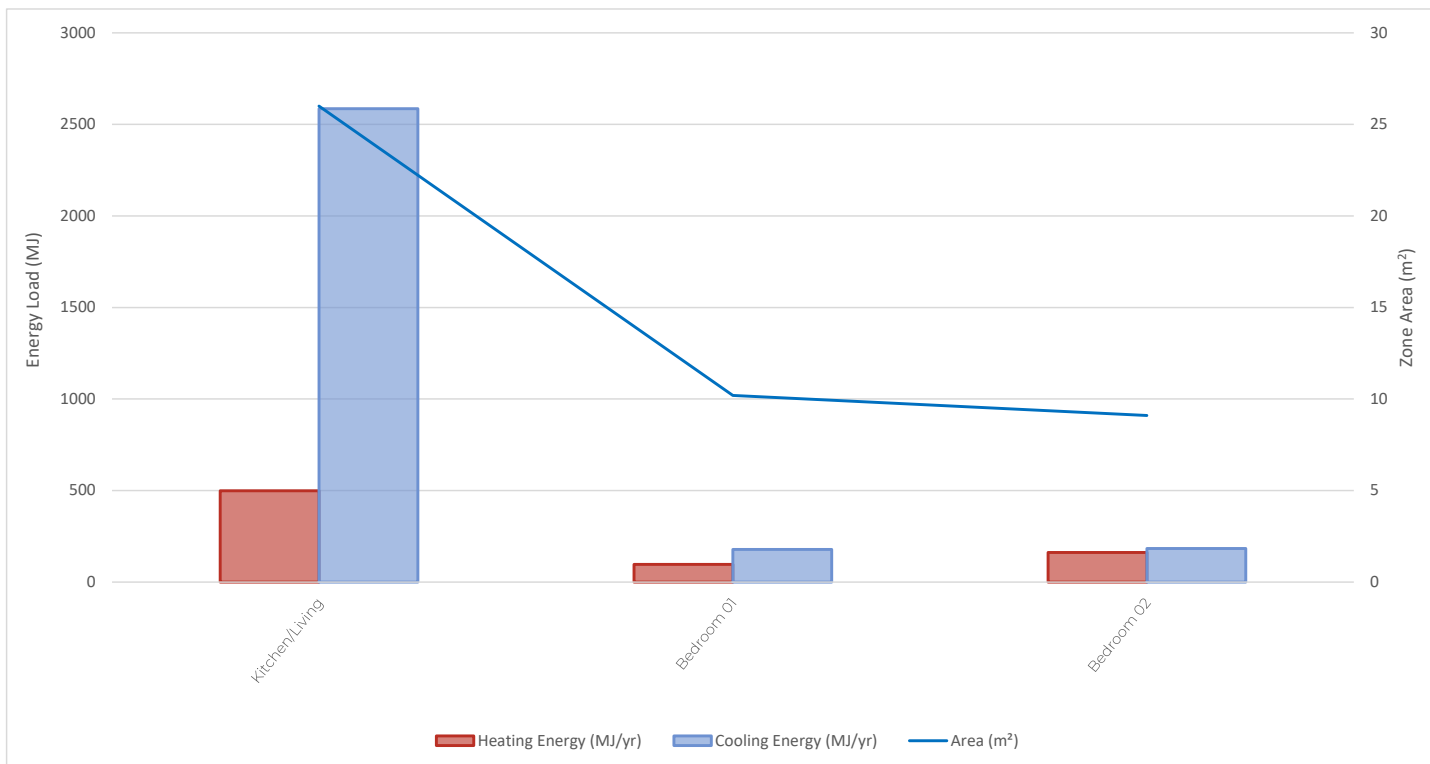
Thermal Comfort Modelling Results

Target	(MJ/yr)	(MJ/m ² /yr)	Result	(MJ/yr)	(MJ/m ² /yr)	Pass/Fail	Improvement over Target
Star Rating		7	Star Rating		6.3	na	Star Rating
Heating	1788	39.5	Heating	559	12.3	Pass	Heating 68.74%
Cooling	2263	50	Cooling	2262	50	Pass	Cooling 0.04%
TOTAL	2399	53	TOTAL	2821	62.3	na	TOTAL na

Building Performance Modelling Results

Building Temperature	Temperature Range	Hours in Range (Annually)	Percentage	Degree-Discomfort Hours	Degree-discomfort hours is a measure of the temperature differential between the actual temperature and the hot or cold threshold temperatures. For example if a room had an actual temperature of 32.5 degrees C, and the Hot Threshold was set to 27 degrees C, then the Degree-Discomfort
Hot	27	939	10.7%	1533	
Comfortable		7188	82.1%		
Cold	18	633	7.2%	970	

	Peak (W)	Peak (W/m ²)	Peak Sensible (W) (W)	Peak Sensible (W) (W/m ²)	Peak Latent (W) (W)	Peak Latent (W) (W/m ²)	Ceiling Fan Electricity (kWh/yr)
Heating	2300	51					
Cooling	6100	135	4400	97	1700	38	33.5



Building Specification - Main Dwelling

These are the specifications upon which the certified NatHERS assessment is based. Any deviation from these specifications will invalidate the NatHERS certificate and therefore voids compliance of the development with the NCC and the NSW BASIX Protocol. In case of any variation from these specifications contact Senica Consultancy Group to obtain updated NatHERS and BASIX certificates and an updated copy of these specifications.

External and Internal Walls

Construction Type	Insulation	Frame	Colour (Solar Absorptance)
Brick Veneer Stud Wall with Reflective Sarking	R1.50 Fibreglass	None	Medium
Fibre-Cement Clad Battened (Refl Cavity) Stud Wall	R1.50 Fibreglass	None	Light
Double Brick - 110mm/110mm Exposed	No Insulation	None	Medium

External and Internal Walls

Construction Type	Insulation	Frame	Adjacency
Internal Plasterboard Stud Wall	90mm Non-Ref Air (ε 0.82)	None	107.9
Internal Plasterboard Stud Wall (exposed 1 side)	R1.50 Fibreglass	None	1.3
0	0	0	0

Windows and Skylights

Glazing Type	Frame and Glazing Description	U-Value	SHGC	Frame Colour
Sliding Door	Aluminium B SG Clear	6.70	0.70	Light
Sliding	Aluminium B SG Clear	6.70	0.70	Light
Awning	Aluminium A SG Clear	6.70	0.57	Light
Fixed	Aluminium B SG Clear	6.70	0.70	Light

Window and skylight U and SHGC values, if specified, are according to NFRC. Alternate products or specifications may be used if their U value is lower, and the SHGC value is less than 10% higher or lower, than the U and SHGC values of the product specified above. Note that the NatHERS Technical Notes 2019 allows only a 5% tolerance for the SHGC value however this is overridden by BASIX Thermal Comfort Protocol 2017 to be 10%.

Floors

Construction Type	Insulation	Structure	Adjacency	Covering
Concrete Waffle Pod Slab on Ground (110mm)	R0.62 - 300 mm Waffle Pod Insulation	None	Ground	

Ceilings and Roof

Description	Ceiling Insulation	Roof Insulation	Framing	Colour (Solar Absorptance)
Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	R2.50 Fibreglass	R1.30 Fibreglass + 90mm Refl Air (ε 0.05)	None	Basalt

Electrical Notes

Description	Diameter (mm)	Location	Sealed	Notes
Downlights	100	As per plans	NA	IC Rated
Ceiling Fans	1200	As per plans	NA	Nil
Exhaust Fans	250	As per plans	Yes	Nil



Building Specification - Granny Flat

These are the specifications upon which the certified NatHERS assessment is based. Any deviation from these specifications will invalidate the NatHERS certificate and therefore voids compliance of the development with the NCC and the NSW BASIX Protocol. In case of any variation from these specifications contact Senica Consultancy Group to obtain updated NatHERS and BASIX certificates and an updated copy of these specifications.

External and Internal Walls

Construction Type	Insulation	Frame	Colour (Solar Absorptance)
Brick Veneer Stud Wall with Reflective Sarking	R1.50 Fibreglass	None	Medium

External and Internal Walls

Construction Type	Insulation	Frame	Adjacency
Internal Plasterboard Stud Wall	90mm Non-Refll Air (ε 0.82)	None	34.6

Windows and Skylights

Glazing Type	Frame and Glazing Description	U-Value	SHGC	Frame Colour
Sliding	Aluminium B SG Clear	6.70	0.70	Light
Sliding Door	Aluminium B SG Clear	6.70	0.70	Light
Awning	Aluminium A SG Clear	6.70	0.57	Light

Window and skylight U and SHGC values, if specified, are according to NFRC. Alternate products or specifications may be used if their U value is lower, and the SHGC value is less than 10% higher or lower, than the U and SHGC values of the product specified above. Note that the NatHERS Technical Notes 2019 allows only a 5% tolerance for the SHGC value however this is overridden by BASIX Thermal Comfort Protocol 2017 to be 10%.

Floors

Construction Type	Insulation	Structure	Adjacency	Covering
Concrete Waffle Pod Slab on Ground (110mm)	R0.62 - 300 mm Waffle Pod Insulation	None	Ground	

Ceilings and Roof

Description	Ceiling Insulation	Roof Insulation	Framing	Colour (Solar Absorptance)
Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	R2.50 Fibreglass	R1.30 Fibreglass + 90mm Refl Air (ε 0.05)	None	Basalt

Electrical Notes

Description	Diameter (mm)	Location	Sealed	Notes
Downlights	100	As per plans	NA	IC Rated
Ceiling Fans	1200	As per plans	NA	Nil
Exhaust Fans	250	As per plans	Yes	Nil



Qualifications and Accreditation

Certificate IV in NatHERS Assessment
Residential Building Thermal Performance Course
Diploma in Building Surveying
Accredited Assessor with Design Matters National

Limitations of Report

This report was prepared for the purposes and exclusive use of the stated client to accompany an application to the relevant Council for the specified development application and is not to be used for any other purpose or by any other person or corporation.

The information contained in this report is based on plans and specifications provided to Senica Consultancy Group. To the best of our knowledge, it does not contain any false, misleading or incomplete information.

Should the plans or specifications be modified in any way, this report and any appurtenant articles are rendered null and void. Modification to the plans and specifications requires an amended report be prepared addressing the relevant changes.

Senica Consultancy Group gives no warranty or assurance and make no representation as to the accuracy of any information or advice contained, or that it is suitable for your intended use.

Senica Consultancy Group and its employees and agents shall have no liability (including but not limited to liability by reason of negligence) to any person using this report, for any loss, damage, cost or expense whether direct, indirect, consequential or special, incurred by, or arising by reason of, any person using or relying on the report and whether caused by reason of any error, omission or misrepresentation in the report or otherwise.

Senica Consultancy Group accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may rely on or use this report in contravention of the terms of this clause.

This report is not to be distributed, copied or modified in any way with the intention to disclose to any

Lighting / Ceiling Penetration Calculations

Artificial Lighting Calculation Allowances

Internal Area of Dwelling House	#N/A	m ²	Area Allowance	5.0 W/m ²
			Total	#N/A Watts
Internal Area of Garage	19.30	m ²	Area Allowance	3.0 W/m ²
			Total	57.9 Watts
External Living Area	#N/A	m ²	Area Allowance	4.0 W/m ²
			Total	#N/A Watts

Ceiling Penetration Allowance

Total Insulated Ceiling Area	#N/A	m ²	0.5% of insulated ceiling area	#N/A	m ²
Total Penetration Area	0.000	m ²			

Clearance required around downlights creates a significant area of uninsulated ceiling, which therefore increases heat loss/gain through the ceiling. Insulation Contact rated downlights help to minimise the area of ceiling penetration and can greatly improve thermal performance of the proposed dwelling house.



Nationwide House Energy Rating Scheme® Class 1 Summary

NatHERS® Certificate No. #HR-5KDGMP-06

Generated on 27 Mar 2024 using Hero 3.1.0.6

Property

Address 156 Ainsworth Road, MONGOGARIE, NSW, 2470
Lot/DP 9//755625
NatHERS climate zone 9 - Amberley Aero



Accredited assessor

Name Duncan Hope
Business name Senica Consultancy Group
Email duncan@senica.com.au
Phone +61 280067784
Accreditation No. DMN/14/1658
Assessor Accrediting Organisation DMN

Verification

To verify this certificate, scan the QR code or visit <http://www.hero-software.com.au/pdf/HR-5KDGMP-06>.
When using either link, ensure you are visiting <http://www.hero-software.com.au>



National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

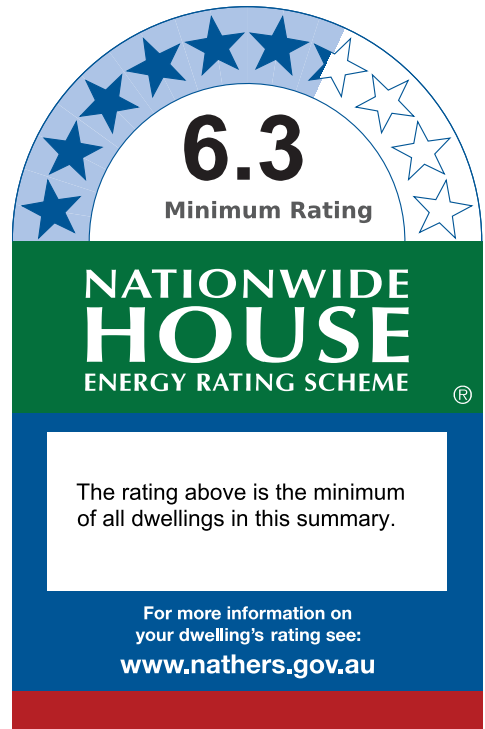
The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) (MJ/m ² .yr)	Cooling load (load limit) (MJ/m ² .yr)	Total load (MJ/m ² .yr)	Star Rating	Whole of Home Rating
HR-50ZMIN-04	Granny Flat	12.3 (40)	50.0 (50)	62.3	6.3	n/a
HR-7XHIAE-03	Main Dwelling	17.9 (40)	44.7 (50)	62.7	6.3	n/a

Thermal performance Star rating



Whole of Home performance rating

No Whole of Home performance rating generated for this certificate or not completed for all dwellings.

Explanatory notes

About the ratings

This is a summary of NCC Class 1 dwellings in a development. For more details of each dwelling refer to the individual dwelling's certificate using the certificate number in summary of all dwellings table.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the energy loads and societal cost. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy production and storage to estimate the homes societal cost.

For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

Accredited Assessors

For high quality NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Licensed assessors in the Australian Capital Territory (ACT) can produce assessments for regulatory purposes only, using endorsed software, as listed on the ACT licensing register.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in certificates is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy use, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

Nationwide House Energy Rating Scheme[®]

NatHERS[®] Certificate No. #HR-7XHIAE-03

Generated on 27 Mar 2024 using Hero 4.0 (Chenath v3.23)

Property

Address	Main Dwelling, 156 Ainsworth Road, MONGOGARIE, NSW, 2470
Lot/DP	9/755625
NCC Class*	1a
Floor/all Floors	1 of 1 floors
Type	New

Plans

Main Plan	743489
Prepared by	Metricon Homes

Construction and environment

Assessed floor area (m ²)*	Exposure Type
Conditioned* 86.0	Suburban
Unconditioned* 7.0	NatHERS climate zone
Total 112.4	9 - Amberley Aero
Garage 19.3	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

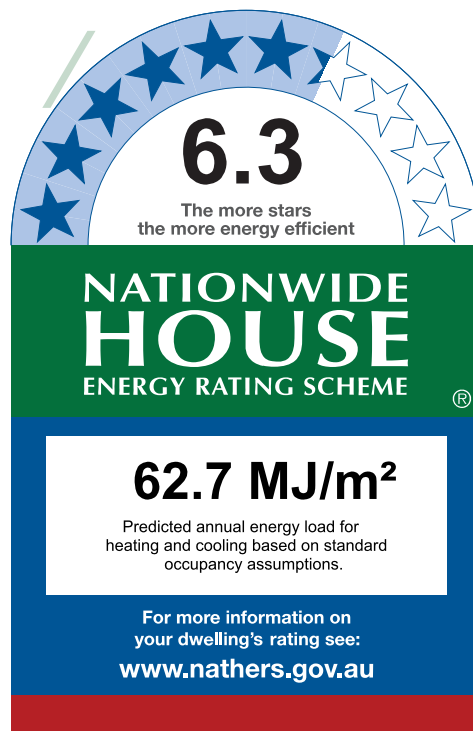
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance (MJ/m²)

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	17.9	44.7
Load limits	40	50

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	Y
Outdoor living area	N
Outdoor living area ceiling fan N	

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit <http://www.hero-software.com.au/pdf/HR-7XHIAE-03>.

When using either link, ensure you are visiting <http://www.hero-software.com.au>



* Refer to glossary.



About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating and Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG - Concrete Slab on Ground
- SF - Suspended Floor (or a mixture of CSOG and SF)
- NA - Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA - Not Applicable

Outdoor living area:

- Yes
- No
- NA - Not Applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA - Not Applicable

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar.

Energy use:

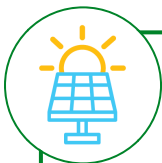
No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.



Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

* Refer to glossary.



Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

Approval stage		Construction stage		
Assessor checked	Consent authority/surveyor checked	Builder checked	Consent authority/surveyor checked	Occupancy/other

Genuine certificate check

Does this Certificate match the one available at the web address or QR code verification link on the front page?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thermal performance check

Windows and glazed doors

Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

External walls

Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'External wall type table' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Floor

Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Ceiling penetrations*

Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Ceiling

Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Roof

Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Apartment entrance doors (NCC Class 2 assessments only)

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--	--------------------------	--------------------------

Exposure*

Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--	--------------------------	--------------------------

Heating and cooling load limits*

Do the load limits settings (shown on page 1) match what is shown on the NatHERS-stamped plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

* Refer to glossary.



Certificate check

Continued

Approval stage		Construction stage		
Assessor checked	Consent authority/surveyor checked	Builder checked	Consent authority/surveyor checked	Occupancy/other

Additional NCC requirements for thermal performance (not included in the NatHERS assessment)

Thermal bridging

Does the dwelling meet the NCC requirement for thermal bridging?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--	--------------------------	--------------------------	--------------------------	--------------------------

Insulation installation method

Has the insulation been installed according to the NCC requirements?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--	--	--------------------------	--------------------------	--------------------------

Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--	--------------------------	--------------------------	--------------------------	--------------------------

Whole of Home performance check (not applicable if a Whole of Home assessment is not conducted)

Appliances

Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional NCC Requirements for Services (not included in the NatHERS assessment)

Does the lighting meet the artificial lighting requirements specified in the NCC?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the hot water system meet the additional requirements specified in the NCC?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Provisional values* check

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	<input type="checkbox"/>	<input type="checkbox"/>			
--	--------------------------	--------------------------	--	--	--

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

* Refer to glossary.

Room schedule

Room	Zone Type	Area (m ²)
Kitchen/Living	Kitchen/Living	38.02
Bedroom 01	Bedroom	13.03
Ensuite	Night Time	4.38
Bathroom	Unconditioned	5.41
WC	Unconditioned	1.61
Garage	Garage	19.31
Entry	Day Time	7.14
Bedroom 03	Bedroom	9.95
Pantry	Day Time	2.64
Bedroom 02	Bedroom	10.88

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	ALM-002-01 A	12.15s	1200	1500	Sliding	45	ESE	None
Bedroom 01	ALM-002-01 A	18.18s	1800	1800	Sliding	45	SSW	None

* Refer to glossary.



Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Shading device*
Bedroom 02	ALM-002-01 A	12.18s	1200	1800	Sliding	45	WNW	None
Bedroom 03	ALM-001-01 A	18.085a	1800	850	Awning	90	NNE	None
Bedroom 03	ALM-001-01 A	18.085a	1800	850	Awning	90	NNE	None
Ensuite	ALM-001-01 A	12.06a	1200	600	Awning	90	ESE	None
Entry	ALM-002-01 A	21.03fd	2100	300	Fixed	0	NNE	None
Kitchen/Living	ALM-002-01 A	21.24sd	2100	2400	Sliding Door	45	SSW	None
Kitchen/Living	ALM-002-01 A	18.18s	1800	1800	Sliding	28	WNW	None
Kitchen/Living	ALM-002-01 A	18.18s	1800	1800	Sliding	28	WNW	None
Pantry	ALM-001-01 A	18.06a	1800	600	Awning	90	WNW	None
WC	ALM-001-01 A	18.06a	1800	600	Awning	60	ESE	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

* Refer to glossary.

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Entry	2040	820	90	NNE
Garage	2040	2660	90	NNE

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BV-REFL-CAV	Brick Veneer Stud Wall with Reflective Sarking	0.50	Medium	1.50	Yes
DBL-BRICK-110-110-EXP	Double Brick - 110mm/110mm Exposed	0.50	Medium	0.00	No
FC-REFL-CAV	Fibre-Cement Clad Battened (Refl Cavity) Stud Wall	0.30	Light	1.50	Yes

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	BV-REFL-CAV	2550	1033	ESE	616	Yes
Bathroom	BV-REFL-CAV	2550	116	ESE	616	Yes
Bathroom	FC-REFL-CAV	430	1551	ESE	740	Yes
Bathroom	BV-REFL-CAV	2120	1551	ESE	616	Yes
Bedroom 01	BV-REFL-CAV	2550	629	SSW	630	No
Bedroom 01	BV-REFL-CAV	2550	2047	WNW	3951	Yes
Bedroom 01	BV-REFL-CAV	2550	3124	ESE	628	Yes
Bedroom 01	FC-REFL-CAV	430	1913	SSW	754	No
Bedroom 01	BV-REFL-CAV	2550	1185	SSW	630	No
Bedroom 01	BV-REFL-CAV	2120	1913	SSW	630	No
Bedroom 02	BV-REFL-CAV	2305	498	WNW	141	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bedroom 02	BV-REFL-CAV	2305	437	NNE	4125	Yes
Bedroom 02	FC-REFL-CAV	430	1884	WNW	265	No
Bedroom 02	BV-REFL-CAV	2305	492	WNW	141	No
Bedroom 02	BV-REFL-CAV	2120	1884	WNW	141	No
Bedroom 03	BV-REFL-CAV	2550	3425	WNW	578	Yes
Bedroom 03	BV-REFL-CAV	2550	2431	NNE	629	Yes
Bedroom 03	BV-REFL-CAV	2550	1096	ESE	2419	Yes
Bedroom 03	BV-REFL-CAV	2550	445	NNE		No
Bedroom 03	BV-REFL-CAV	2550	28	NNE	629	Yes
Ensuite	BV-REFL-CAV	2550	387	ESE	610	Yes
Ensuite	BV-REFL-CAV	2550	1141	ESE	610	Yes
Ensuite	FC-REFL-CAV	430	669	ESE	734	Yes
Ensuite	BV-REFL-CAV	2120	669	ESE	610	Yes
Entry	BV-REFL-CAV	2550	1467	NNE	2570	Yes
Garage	BV-REFL-CAV	2550	718	SSW	10705	Yes
Garage	DBL-BRICK-110-110-EXP	2550	3292	NNE	2550	Yes
Garage	BV-REFL-CAV	2550	5884	ESE		No
Kitchen/Living	BV-REFL-CAV	2550	695	WNW	590	Yes
Kitchen/Living	FC-REFL-CAV	430	2598	SSW	2801	Yes
Kitchen/Living	BV-REFL-CAV	2550	695	SSW	2677	Yes
Kitchen/Living	BV-REFL-CAV	2120	2598	SSW	2676	Yes
Kitchen/Living	FC-REFL-CAV	430	1864	WNW	714	Yes
Kitchen/Living	BV-REFL-CAV	2550	1123	WNW	590	Yes
Kitchen/Living	BV-REFL-CAV	2120	1864	WNW	590	Yes
Kitchen/Living	FC-REFL-CAV	430	1888	WNW	714	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Kitchen/Living	BV-REFL-CAV	2550	452	WNW	590	Yes
Kitchen/Living	BV-REFL-CAV	2120	1888	WNW	590	Yes
Pantry	BV-REFL-CAV	2305	936	WNW	129	No
Pantry	BV-REFL-CAV	2305	461	SSW	8783	Yes
Pantry	FC-REFL-CAV	430	679	WNW	253	No
Pantry	BV-REFL-CAV	2305	833	WNW	129	No
Pantry	BV-REFL-CAV	2120	679	WNW	129	No
WC	BV-REFL-CAV	2550	956	ESE	640	Yes
WC	FC-REFL-CAV	430	750	ESE	764	Yes
WC	BV-REFL-CAV	2120	750	ESE	640	Yes

Internal wall *type*

Wall ID	Wall Type	Area (m ²)	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	92.4	0.00
INT-PB-EXP1	Internal Plasterboard Stud Wall (exposed 1 side)	1.3	1.50

Floor *type*

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	WAFFLE-110: Concrete Waffle Pod Slab on Ground (110mm)	5.4	N/A	0.62	Tile (8mm)
Bedroom 01	WAFFLE-110: Concrete Waffle Pod Slab on Ground (110mm)	13.0	N/A	0.62	Carpet
Bedroom 02	WAFFLE-110: Concrete Waffle Pod Slab on Ground (110mm)	10.9	N/A	0.62	Carpet
Bedroom 03	WAFFLE-110: Concrete Waffle Pod Slab on Ground (110mm)	9.9	N/A	0.62	Carpet
Ensuite	WAFFLE-110: Concrete Waffle Pod Slab on Ground (110mm)	4.4	N/A	0.62	Tile (8mm)
Entry	WAFFLE-110: Concrete Waffle Pod Slab on Ground (110mm)	7.1	N/A	0.62	Tile (8mm)
Garage	WAFFLE-110: Concrete Waffle Pod Slab on Ground (110mm)	19.3	N/A	0.62	Exposed
Kitchen/Living	WAFFLE-110: Concrete Waffle Pod Slab on Ground (110mm)	38.0	N/A	0.62	Tile (8mm)

* Refer to glossary.

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Pantry	WAFFLE-110: Concrete Waffle Pod Slab on Ground (110mm)	2.6	N/A	0.62	Tile (8mm)
WC	WAFFLE-110: Concrete Waffle Pod Slab on Ground (110mm)	1.6	N/A	0.62	Tile (8mm)

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	2.50	Yes
Bedroom 01	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	2.50	Yes
Bedroom 02	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	2.50	Yes
Bedroom 03	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	2.50	Yes
Ensuite	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	2.50	Yes
Entry	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	2.50	Yes
Garage	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	2.50	Yes
Kitchen/Living	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	2.50	Yes
Pantry	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	2.50	Yes
WC	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	2.50	Yes

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	200	Sealed
Bedroom 01	2	Downlight	200	Sealed
Bedroom 02	1	Downlight	200	Sealed
Bedroom 03	1	Downlight	200	Sealed
Ensuite	1	Downlight	200	Sealed
Entry	1	Downlight	200	Sealed
Kitchen/Living	7	Downlight	200	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed

* Refer to glossary.



Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Pantry	1	Downlight	200	Sealed
WC	1	Downlight	200	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
Bedroom 01	1	1200
Bedroom 02	1	1200
Bedroom 03	1	1200
Kitchen/Living	1	1200

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	1.30	0.67	Dark (Basalt)

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
None				

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
------	-----------	--------------------	--------------------------	------------------------------

* Refer to glossary.



Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

* Refer to glossary.



Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au .
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

* Refer to glossary.

Nationwide House Energy Rating Scheme® NatHERS® Certificate No. #HR-50ZMIN-04

Generated on 27 Mar 2024 using Hero 4.0 (Chenath v3.23)

Property

Address	Granny Flat, 156 Ainsworth Road, MONGOGARIE, NSW, 2470
Lot/DP	9/755625
NCC Class*	1a
Floor/all Floors	1 of 1 floors
Type	New

Plans

Main Plan	743489
Prepared by	Metricon Homes

Construction and environment

Assessed floor area (m ²)*	Exposure Type
Conditioned* 45.3	Suburban
Unconditioned* 6.1	NatHERS climate zone
Total 51.4	9 - Amberley Aero
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

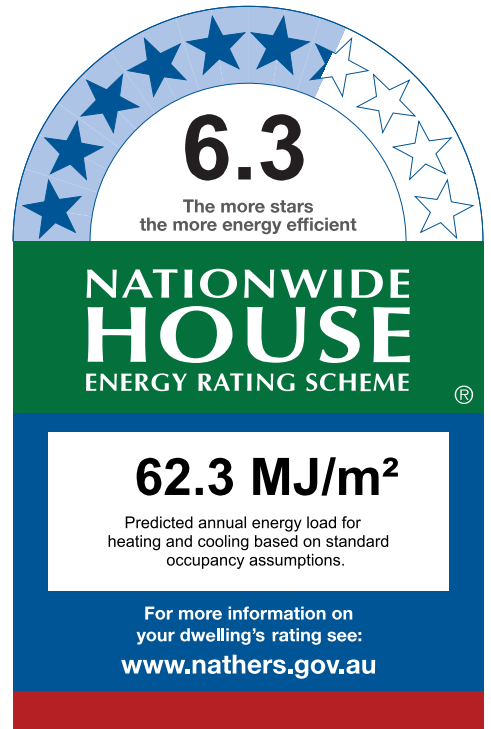
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance (MJ/m²)

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	12.3	50.0
Load limits	40	50

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	Y
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit <http://www.hero-software.com.au/pdf/HR-50ZMIN-04>.

When using either link, ensure you are visiting <http://www.hero-software.com.au>



* Refer to glossary.



About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating and Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG - Concrete Slab on Ground
- SF - Suspended Floor (or a mixture of CSOG and SF)
- NA - Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA - Not Applicable

Outdoor living area:

- Yes
- No
- NA - Not Applicable

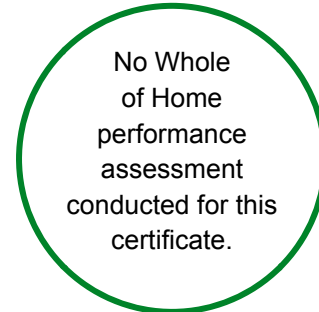
Outdoor living area ceiling fan:

- Yes
- No
- NA - Not Applicable

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar.

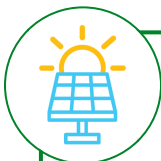
Energy use:



Greenhouse gas emissions:



Cost:



Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

* Refer to glossary.



Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

Approval stage		Construction stage		
Assessor checked	Consent authority/surveyor checked	Builder checked	Consent authority/surveyor checked	Occupancy/other

Genuine certificate check

Does this Certificate match the one available at the web address or QR code verification link on the front page?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thermal performance check

Windows and glazed doors

Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

External walls

Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'External wall type table' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Floor

Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Ceiling penetrations*

Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Ceiling

Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Roof

Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Apartment entrance doors (NCC Class 2 assessments only)

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Exposure*

Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Heating and cooling load limits*

Do the load limits settings (shown on page 1) match what is shown on the NatHERS-stamped plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

* Refer to glossary.



Certificate check

Continued

Approval stage		Construction stage		
Assessor checked	Consent authority/surveyor checked	Builder checked	Consent authority/surveyor checked	Occupancy/other

Additional NCC requirements for thermal performance (not included in the NatHERS assessment)

Thermal bridging

Does the dwelling meet the NCC requirement for thermal bridging?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Insulation installation method

Has the insulation been installed according to the NCC requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Whole of Home performance check (not applicable if a Whole of Home assessment is not conducted)

Appliances

Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional NCC Requirements for Services (not included in the NatHERS assessment)

Does the lighting meet the artificial lighting requirements specified in the NCC?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the hot water system meet the additional requirements specified in the NCC?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Provisional values* check

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

* Refer to glossary.



Room schedule

Room	Zone Type	Area (m ²)
Kitchen/Living	Kitchen/Living	25.96
Bedroom 01	Bedroom	10.24
Bedroom 02	Bedroom	9.07
Bathroom	Unconditioned	6.11

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	ALM-001-01 A	10.06a	1000	600	Awning	90	SSE	None
Bedroom 01	ALM-001-01 A	18.085a	1800	850	Awning	90	ENE	None
Bedroom 01	ALM-001-01 A	18.085a	1800	850	Awning	90	ENE	None
Bedroom 02	ALM-002-01 A	12.18s	1200	1800	Sliding	45	WSW	None
Kitchen/Living	ALM-002-01 A	18.15s	1800	1500	Sliding	28	NNW	None
Kitchen/Living	ALM-002-01 A	21.18sd	2100	1800	Sliding Door	45	NNW	None
Kitchen/Living	ALM-002-01 A	18.06s	1800	600	Sliding	27	NNW	None

* Refer to glossary.



Roof window type and performance value

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
None								

Skylight type and performance

Skylight ID	Skylight description
None	

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2040	820	90	ENE

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BV-REFL-CAV	Brick Veneer Stud Wall with Reflective Sarking	0.50	Medium	1.50	Yes

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	BV-REFL-CAV	2400	2700	SSE	642	No

* Refer to glossary.

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bedroom 01	BV-REFL-CAV	2400	431	ENE		Yes
Bedroom 01	BV-REFL-CAV	2400	3251	SSE	624	No
Bedroom 01	BV-REFL-CAV	2400	1539	NNW	4124	Yes
Bedroom 01	BV-REFL-CAV	2400	2718	ENE	1135	Yes
Bedroom 02	BV-REFL-CAV	2400	2628	SSE	642	No
Bedroom 02	BV-REFL-CAV	2400	3693	WSW	637	No
Kitchen/Living	BV-REFL-CAV	2400	2832	WSW	653	No
Kitchen/Living	BV-REFL-CAV	2400	7207	NNW	646	No
Kitchen/Living	BV-REFL-CAV	2400	3395	ENE	2671	Yes

Internal wall type

Wall ID	Wall Type	Area (m ²)	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	29.6	0.00

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	WAFFLE-110: Concrete Waffle Pod Slab on Ground (110mm)	6.1	N/A	0.62	Tile (8mm)
Bedroom 01	WAFFLE-110: Concrete Waffle Pod Slab on Ground (110mm)	10.2	N/A	0.62	Carpet
Bedroom 02	WAFFLE-110: Concrete Waffle Pod Slab on Ground (110mm)	9.1	N/A	0.62	Carpet
Kitchen/Living	WAFFLE-110: Concrete Waffle Pod Slab on Ground (110mm)	26.0	N/A	0.62	Timber (12mm)

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	2.50	Yes
Bedroom 01	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	2.50	Yes
Bedroom 02	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	2.50	Yes

* Refer to glossary.



Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Kitchen/Living	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	2.50	Yes

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	200	Sealed
Bedroom 01	1	Downlight	200	Sealed
Bedroom 02	1	Downlight	200	Sealed
Kitchen/Living	7	Downlight	200	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
Bedroom 01	1	1200
Bedroom 02	1	1200
Kitchen/Living	1	1200

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	1.30	0.67	Dark (Basalt)

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
None				

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

* Refer to glossary.



Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
------	----------	-----------	----------------------------------	----------------------

No Whole of Home Data

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
------	-----------	--------------------	--------------------------	------------------------------

No Whole of Home Data

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
------	-----------	----------------------------------	----------------------

No Whole of Home Data

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
------	---------------	--------------------------

No Whole of Home Data

Battery *schedule*

Type	Storage Capacity [kWh]
------	------------------------

No Whole of Home Data

* Refer to glossary.



Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au .
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

* Refer to glossary.

GENERAL NOTES

(SITE SPECIFIC)



REFER TO DETAIL SHEETS:

Q-TYP-ASPI-01	FACADE DETAIL - ASPIRE SINGLE STOREY
QS-TYP-MISC-04	FLASHING DETAILS
QS-TYP-GARA-01	BRICK VENEER GARAGE DETAIL
QS-TYP-GARA-03	GARAGE DOOR REBATE
QS-TYP-WIND-05a	SUMMARY - INFILL ABOVE WINDOWS AND DOORS
QS-TYP-WET-11	TILE TRIM
S-TYP-WET-11	WET AREA DOORWAY WATERSTOP
QS-TYP-MISC-05	TIMBER POST CONNECTION TO CONCRETE

NSW BASIX REQUIREMENTS (BUILDING AND SUSTAINABILITY INDEX)

SINGLE WATER SUPPLY AREA:

- INSTALL RAINWATER TANK WHICH COLLECTS ROOF WATER AS NOMINATED ON THE APPLICABLE BASIX CERT.
- PROVIDE MIN. 3 STAR TAPWARE & FIXTURES
- CONNECT RAINWATER TANK TO ALL W/C'S, COLD WASHING MACHINE TAP & MINIMUM (1) EXTERNAL TAP.

OR

DUAL WATER SUPPLY AREA :

DUAL WATER RETICULATION SUPPLY MUST CONNECT TO :

- AT LEAST ONE EXTERNAL TAP
- ALL W/C'S
- COLD WATER WASHING TAP

POTABLE WATER RETICULATION SUPPLY MUST CONNECT TO ONE EXTERNAL TAP, BEING THE CLOSEST TAP TO ANY FUTURE SWIMMING POOL.

THERE IS TO BE NO CONNECTION OF POTABLE SUPPLY TO W/C'S OR COLD WATER WASHING MACHINE TAP.

BUSHFIRE HAZARD REQUIREMENTS BAL 29

AS PER A.S.-3959 CONSTRUCTION OF BUILDINGS IN BUSHFIRE PRONE AREAS

- PROVIDE BAL COMPLIANT SCREENS WITH A MAXIMUM APERTURE SIZE OF 2.0MM TO ALL OPENING WINDOWS AND EXTERNAL HINGED DOORS IN ACCORDANCE WITH A.S. 3959 CLAUSE 7.5.1A
- PROVIDE SARKING UNDER ROOF TILES, ANTICON UNDER SHEET ROOFING.
- PROVIDE SPARK GUARDS WITH A MAXIMUM APERTURE SIZE OF 2.0MM TO ALL WEEP HOLES, ROOF & EAVE VENTS.
- PROVIDE DOOR SEALS TO ALL EXTERNAL DOORS AND GARAGE SECTIONAL OVERHEAD DOOR.
- PROVIDE FIRE RESISTANT CLADDING & TIMBER TO ALL EXPOSED LOCATION (WHERE APPLICABLE).
- PROVIDE TOUGHENED GLASS TO ALL DOORS AND WINDOWS (WHERE APPLICABLE).

REVISION TABLE

REV	DATE	COMMENT	DR	CH
1	08.09.23	DRAFT PLANS	PG8	S3D
2	05.10.23	CTP	JWJ	
3	01.12.23	AMD CTP - SITE PLAN	A0A	
4	08.12.23	AMD CTP - HSTP	M12	
5	12.12.23	AMD - GF ROTATION	8JJ	
6	19.12.23	FC PLANS	3LB	
7	18.01.24	HSTP PLOTTED	8JJ	
8	01.02.24	RFI	8JJ	
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
0				
0				

STANDARD NOTES:

AS PER NCC 2022

GENERAL

- REFER TO ALL ASSOCIATED ENGINEERING DRAWINGS FOR DESIGN AND CONSTRUCTION REQUIREMENTS OF STRUCTURAL, SLAB & HYDRAULIC ELEMENTS (where applicable).
- WRITTEN DIMENSIONS TAKE PRECEDENCE. DO NOT SCALE.
- FLOOR PLAN DIMENSIONS ARE TO FRAME SIZE ONLY.
- INTERNAL ELEVATION DIMENSIONS ARE TO PLASTER.
- ALL DIMENSIONS ARE SUBJECT TO SITE MEASURE.

FRAMING

- ALL STRUCTURAL TIMBER FRAMING SIZES TO BE IN ACCORDANCE WITH AS 1684-2021.2 NATIONAL TIMBER FRAMING CODE & OR ENGINEERS STRUCTURAL COMPUTATIONS.
- PREFABRICATED ROOF TRUSSES TO MANUFACTURERS SPECIFICATIONS & LAYOUTS.
- WALL BRACING, FIXING, TIE DOWNS, DURABILITY NOTES & ANY ADDITIONAL ENGINEERING REQ. TO BE AS PER ENGINEERS DETAIL
- SPECIFIED EAVE WIDTH, MEASURED FROM FACE OF BRICK (UNO).
- PROVIDE 2No. JAMB STUDS TO ALL INTERNAL DOOR OPENINGS AND ALL SLIDING ROBE DOOR OPENINGS AS PER DETAIL S-TYP-DOOR-01.
- ENSURE RETURN AIR GRILLE & AC VOIDS ARE CLEAR OF TRUSS &/OR FRAMING CONSTRUCTION.

CEILING/WALL - GENERAL

- PROVIDE PLASTER LINED CEILINGS TO ALL AREAS (UNO).
- SOFFITS 4.5mm FC SHEET (UNO).
- ALL PARAPET WALLS TO BE PROVIDED WITH COLORBOND METAL CAPPING/FLASHING (50mm MIN' LAP TO ALL JOINS WITH CONTINUOUS SILICON SEAL BETWEEN & 50mm MIN' VERTICAL OVERHANG.)
- PROVIDE CAVITY FLASHING & WEEPHOLES AS PER NCC 2022 H1D5 HOUSING PROVISIONS 5.7.5
- WATERPROOFING FOR EXTERNAL ABOVE GROUND USE TO COMPLY WITH AS 4654.1-2012 & AS 4654.2-2012.

STEPS/STAIRS & BALUSTRADES

- ALL STEPS MUST COMPLY WITH NCC 2022 H5D2 HOUSING PROVISIONS 11.2.2
- BARRIERS & HANDRAILS MUST COMPLY WITH NCC 2022 H5D3 HOUSING PROVISIONS 11.3
- BALUSTRADE IN ACCORDANCE WITH NCC 2022 H5D3 HOUSING PROVISIONS 11.3.3 TO BE INSTALLED WHERE VOIDS, OR INTERNAL & EXTERNAL LANDINGS EXCEED 1000mm ABOVE FINISHED GROUND/FLOOR LEVEL.
- PROVIDE SLIP RESISTANCE IN ACCORDANCE WITH NCC 2022 H5D2 HOUSING PROVISIONS 11.2.4 & AS 4586-2013.
- STAIRS ARE INDICATIVE ONLY. REFER TO DETAILS, SPECIFICATIONS & SELECTION DOCUMENTS.

WET AREAS

- WATERPROOFING OF WET AREAS TO COMPLY WITH NCC 2022 H4D2 HOUSING PROVISIONS 10.2
- WALL LINING TO WET AREAS TO BE APPROVED WET AREA BOARD (UNO).
- ALL INWARD SWING HINGED WATER CLOSET DOORS TO BE REMOVABLE IN ACCORDANCE WITH NCC 2022 H4D5 HOUSING PROVISIONS 10.4.2

WINDOWS & DOORS

- CENTRE ALL WINDOWS & DOORS INTERNALLY TO ROOM (UNO).
- SIZES NOMINATED AS A GENERIC CODE (UNO). FIRST 2 NUMBERS REFER TO HEIGHT & SECOND 2 RELATE TO WIDTH.
- EXTERNAL WINDOWS & DOORS TO COMPLY WITH NCC 2022 H6D1 HOUSING PROVISIONS 13.4.4.
- WINDOWS TO COMPLY WITH NCC 2022 H5D3 HOUSING PROVISIONS 11.3.7 & NCC 2022 H1D8 HOUSING PROVISIONS 8.4.6.
- ALL GLAZING TO COMPLY WITH AS 1288-2021 & AS 2047-2014, & WITH AS 4055-2021 FOR WIND LOADING (UNO).
- WINDOWS SHALL BE PROTECTED IN ACCORDANCE WITH NCC 2022 H5D3 HOUSING PROVISIONS 11.3.7 & 11.3.8
- WINDOW SUPPLIER TO SUPPLY COVER BOARDS TO ALL CORNER WINDOWS (UNO).
- PROVIDE LIGHTWEIGHT CLADDING ABOVE ALL CORNER WINDOWS & CORNER DOORS (UNO).
- SAFETY GLAZING IN HUMAN IMPACT AREAS INCLUDING ADJACENT TO BATHS OR SHOWERS TO BE IN ACCORDANCE WITH NCC 2022 H1D8 HOUSING PROVISIONS 8.4.6

ENERGY EFFICIENCY NOTES

NOTE: DESIGN MODIFICATIONS MAY BE NECESSARY TO ACHIEVE REQUIRED ENERGY RATING, BASED ON SPECIFIC SITING. REFER TO SPECIFICATION & CONTRACT DOCUMENTATION.

- PROVIDE BULK CEILING INSULATION & EXTERNAL WALL INSULATION AS PER STD SPECIFICATIONS (UNO).
- PROVIDE WEATHER STRIPPING TO WINDOWS & ALL EXTERNAL HINGED DOORS.
- PROVIDE DRAFT PREVENTION TO EXHAUST FANS, AS PER RELEVANT BUILDING CODES.
- SEALED GAPS AROUND WINDOWS & EXTERNAL DOORS TO BE INSTALLED IN ACCORDANCE WITH NCC 2022 H1D7 HOUSING PROVISIONS 7.5.6 & AS/NZS 2904-1995.
- INSULATION OF SERVICES AS PER NCC 2022 H6D2 HOUSING PROVISIONS 13.7.2
- HEATING AND COOLING DUCTWORK AS PER NCC 2022 HOUSING PROVISIONS H6D2 13.7.4 & SEALING PER AS 4254-2021.
- ARTIFICIAL LIGHTING AS PER NCC 2022 H6D2 HOUSING PROVISIONS 13.7.6
- WHERE APPLICABLE, PROVIDE SUB-FLOOR VENTILATION IN ACCORDANCE WITH NCC 2022 H2D5 HOUSING PROVISIONS 6.2.1 TO SUSPENDED TIMBER FLOORS.

MISCELLANEOUS

- PROVIDE CAVITY FLASHING & WEEPHOLES AS PER NCC 2022 H1D5 HOUSING PROVISIONS 5.7.5.
- PLIABLE BUILDING MEMBRANES TO COMPLY WITH NCC 2022 H4D9 HOUSING PROVISIONS 10.8.1 & AS 4200.1-2017 & BE INSTALLED IN ACCORDANCE WITH AS 4200.2-2017.
- ALL PLUMBING, DRAINAGE & ASSOCIATED WORKS TO COMPLY WITH THE PLUMBING CODE OF AUSTRALIA, NCC 2022 & AS/NZS 3500.3-2021.
- PROVIDE MINIMUM 115mm SLOTTED GUTTERS WITH APPROVED OVERFLOW PROVISIONS AS REQUIRED.
- ALL EXHAUST FANS TO COMPLY WITH NCC 2022 H4D9 HOUSING PROVISIONS 10.8.2
- WHERE REQUIRED, BATHROOM AND SANITARY COMPARTMENT EXHAUST FANS TO ACHIEVE A MINIMUM FLOW RATE OF 25 L/s, & 40 L/s FOR A KITCHEN OR LAUNDRY.
- PROVIDE TERMITE MGT. SYSTEM AS PER AS 3660.1-2014.
- ALL SMOKE ALARMS TO COMPLY WITH AS 3786-2014, CONNECTED TO MAINS POWER, AND INTERCONNECTED WHERE APPLICABLE. INSTALLATION TO BE IN ACCORDANCE WITH NCC 2022 H3D6 HOUSING PROVISIONS 9.5.4
- LOCATIONS OF ELECTRICAL COMPONENTS & VENTS SHOWN ARE INDICATIVE ONLY, AND MUST BE INSTALLED TO REQUIRED DISTANCES FROM WALL & CEILING JUNCTIONS.
- BUILDINGS IN BUSHFIRE PRONE AREAS TO COMPLY WITH AS 3959-2018.
- DWELLINGS WITHIN 1km OF A BAY/10km OF A SURF COAST MUST HAVE ALL STEEL & MORTAR IN ACCORDANCE WITH SECTION 5 OF AS 3700-2018.
- TEMPORARY DOWNPIPES TO BE INSTALLED DURING CONSTRUCTION TO PREVENT WATER PONDING NEAR THE FOOTINGS.

STEEL FRAMING REQUIREMENTS (WHERE APPLICABLE):

- STEEL FRAME & TRUSSES REQUIRING THE ISSUE OF A SIGNED COMPLIANCE CERTIFICATE FOR THE BUILDING DESIGN - FORM 15 UPON COMPLETION AND PRIOR TO FINAL CERTIFICATION
- STEEL FRAMES AND TRUSSES TO COMPLY WITH:
 - AS/NZS 1170.0-2002 STRUCTURAL DESIGN ACTIONS: PART 0: GENERAL PRINCIPLES
 - AS/NZS 1170.1-2002 STRUCTURAL DESIGN ACTIONS: PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS
 - AS/NZS 4600-2018 COLD-FORMED STEEL STRUCTURES
 - AS 4055-2021 WIND LOADS FOR HOUSING
 - AS 4100-2020 STEEL STRUCTURES CODE
 - AS 3623-1993 DOMESTIC METAL FRAMING
 - AS 3566.1-2002 SELF DRILLING SCREWS
 - NASH STANDARDS
- STEEL FRAMING SUPPLIER TO PROVIDE DESIGN, CONNECTORS AND FIXING HARDWARE FOR ALL STEEL TO STRUCTURAL TIMBER MEMBERS (UNO BY ENGINEER)

DESIGN: **CLARA 15**
 FACADE: **ASPIRE** CEILING: **25, L**
 GARAGE: **SINGLE**

FREEDOM | **m**
 metricon

OWNER: **A & J. BEVAN & M. LUDLOW**
LOT 9 AINSWORTH ROAD
MONGOGARIE

COVER PAGE : NOTES

BY METRICON
 209 Robina Town Centre Drive, Robina, QLD 4226
 Tel: 07 5501 7200 Fax: 07 5562 2194.
 Metricon Homes QLD Pty Ltd is licensed under the QBCC Act 1991
 (QBCC Licence 40992), NSW Builders License 36654C.
 COPYRIGHT 2009 reproduction forbidden. Unauthorised use, reproduction or
 adoption is forbidden and will be prosecuted.

JOB NO: **743489** MST VER: **FEB 2022**
 PERMIT No: **---** DWS: **N3**
CONSTRUCTION PLANS
 DATE : **01.02.24 8JJ** SHEET: **1A of 13**

MAIN HOUSE
G.L 86.250 AHD
CUT SITE
FILL SCRAPE
F.L 86.560 AHD
NOTE: PROVIDE ALL BATTERS AT MINIMUM 1:2 (UNO)

GRANNY FLAT
G.L 83.960 AHD
CUT SITE
FILL SCRAPE
F.L 84.270 AHD
NOTE: PROVIDE ALL BATTERS AT MINIMUM 1:2 (UNO)

SITE COVER RES A:0.035%
SITE COVER RES B:0.016%
SITE COVER COMBINE: 0.051%

COVENANT APPLICABLE: N/A

S.W.D. NOTES:
 STORMWATER DRAIN & DOWN PIPE LAYOUT SHOWN IS INDICATIVE ONLY. PROVIDE MINIMUM 90MM DIA U.P.V.C. STORMWATER DRAINS WITH MIN 1:100 FALL CONNECTED TO LEGAL POINT OF DISCHARGE. PROVIDE 100MM DIA 'SEWER' QUALITY U.P.V.C. DRAINS TO UNDERSIDE OF GARAGE CONCRETE SLAB. PROVIDE 300MM GROUND COVER TO ALL DRAINS. GRADE SOIL AWAY FROM PERIMETER OF BUILDING TO AVOID PONDING.

NOTES: EXCAVATION
 BUILDER TO EXCAVATE & SPREAD FILL OVER REMAINING BUILDING AREA TO LEVEL. LEVELS ARE APPROX. & MAY VARY TO SUIT SITE CONDITIONS (U.N.O)
 EXCAVATIONS TO START MIN 1200mm FROM BUILDING. EMBANKMENT BATTER MUST NOT BE STEEPER THAN 45° & MUST NOT EXTEND BEYOND TITLE BOUNDARY (U.N.O).
 IF REQUIRED BUILDER TO PROVIDE DRIVEWAY ACCESS CUT AT MAX. GRADIENT OF 1:5 (U.N.O)
 IF CONCRETE DRIVEWAY IS NOT PROVIDED IT IS THE CUSTOMERS RESPONSIBILITY TO PROVIDE A GRATED DRAIN ACROSS GARAGE OPENINGS WHERE REQUIRED TO AVOID PONDING.

NOTE: HSTP BY CUSTOMER
 REFER TO SPECIFICATIONS FOR LOCATION OF PROPOSED HSTP SYSTEM & LAND APPLICATION AREA.

NOTE: NSW APPLICATION PROCESS
 DA (DEVELOPMENT APPLICATION)

NOTE: FLOOR SPACE RATIO RES A (F.S.R.) = 0.00025:1

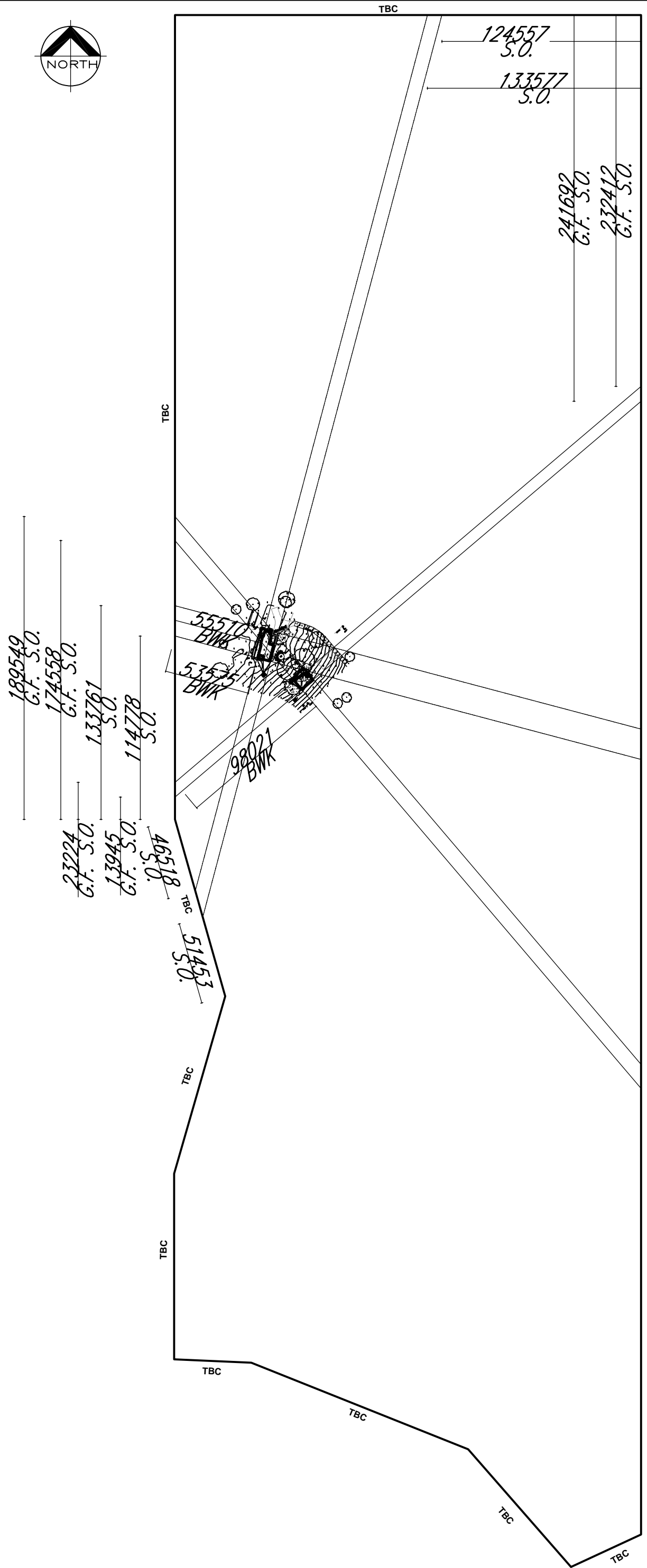
NOTE: FLOOR SPACE RATIO RES B (F.S.R.) = 0.00038:1

NOTE: BOUNDARY INFORMATION AND NORTH SYMBOL ARE APPROXIMATE

OWNER: A. & J. BEVAN & M. LUDLOW
LOT 9 AINSWORTH ROAD
MONGOGARIE

JOB NO: 743489 | **MST VER: FEB 2022**

PERMIT No: _____ | **DWS: N3**
CONSTRUCTION PLANS | **SHEET: 1B of 13**
DATE: 01.02.24 8JJ



Contour & Feature Survey



Unit: 5/23 Overford Place, ACACIA RIDGE, Qld, 4110
 Ph (07) 3363 8100 www.axisurveys.com.au

LOT 9 on DP755625
 #156 Ainsworth Road
 Suburb Mongogarie
 Local Auth Richmond Valley Council
 Area 39.15 ha

metricon
 NSW BSA No: 36854C QLD BSA No: 040992
 ACN: 053189496

Order No: 743489/706

NOTES TO BE READ BEFORE USING THIS PLAN
 This Plan has limitations regarding its use for some applications. Please contact this office if there is any doubt about the suitability of this plan for the intended use. These notes form part of this plan and they must remain with the plan or any copies. The limitations of this plan are detailed in the link below, with the main ones being:-

1. This plan has been prepared for our client & should not be used by others without approval.
2. The boundaries shown have been sourced from DoR documents or as noted, and have not been checked, unless a boundary identification survey has been completed by Axis Surveys.
3. Distances from features to the shown boundaries should not be used or relied upon.
4. If positional accuracy is critical a boundary identification survey may be required.
5. The certificate of title has not been searched and should be checked for any encumbrances.
6. The contours may not represent the local authority's definition of "Ground Level"
7. A flood search has not been carried out. Check with local council for min. and max. construction heights.
8. Non visible services (if shown), have been plotted from the relevant authority's records or from other sources and may not be accurate. Services should be exposed before design or construction commences.
9. The position of any subsurface structures have not been investigated.
10. The north point has been taken from the survey plan and may not be suitable for all uses.

Refer to this link for more information
www.axisurveys.com.au/alertsanddisclaimers/

Issue	Date	Amendment	By
A	17/07/2023	Original Issue	9202

Site No: 2302879 Order No: X493943 Scale: 1:2500
 Height Datum: AHD
 Height Origin: GNSS
 Surveyed: LJ
 Date: 17/07/2023
 1 OF 2



MAIN HOUSE
G.L. 86.250 AHD
CUT SITE
FILL SCRAPE
F.L. 86.560 AHD
NOTE: PROVIDE ALL BATTERS AT MINIMUM 1:2 (UNO)

GRANNY FLAT
G.L. 83.960 AHD
CUT SITE
FILL SCRAPE
F.L. 84.270 AHD
NOTE: PROVIDE ALL BATTERS AT MINIMUM 1:2 (UNO)

SITE COVER RES A:0.035%
SITE COVER RES B:0.016%
SITE COVER COMBINE: 0.051%

COVENANT APPLICABLE: N/A

S.W.D. NOTES:
 STORMWATER DRAIN & DOWN PIPE LAYOUT SHOWN IS INDICATIVE ONLY. PROVIDE MINIMUM 90MM DIA U.P.V.C. STORMWATER DRAINS WITH MIN 1:100 FALL CONNECTED TO LEGAL POINT OF DISCHARGE. PROVIDE 100MM DIA 'SEWER' QUALITY U.P.V.C. DRAINS TO UNDERSIDE OF GARAGE CONCRETE SLAB. PROVIDE 300MM GROUND COVER TO ALL DRAINS. GRADE SOIL AWAY FROM PERIMETER OF BUILDING TO AVOID PONDING.

NOTES: EXCAVATION
 BUILDER TO EXCAVATE & SPREAD FILL OVER REMAINING BUILDING AREA TO LEVEL. LEVELS ARE APPROX. & MAY VARY TO SUIT SITE CONDITIONS (U.N.O)

EXCAVATIONS TO START MIN 1200mm FROM BUILDING. EMBANKMENT BATTER MUST NOT BE STEEPER THAN 45° & MUST NOT EXTEND BEYOND TITLE BOUNDARY (U.N.O).

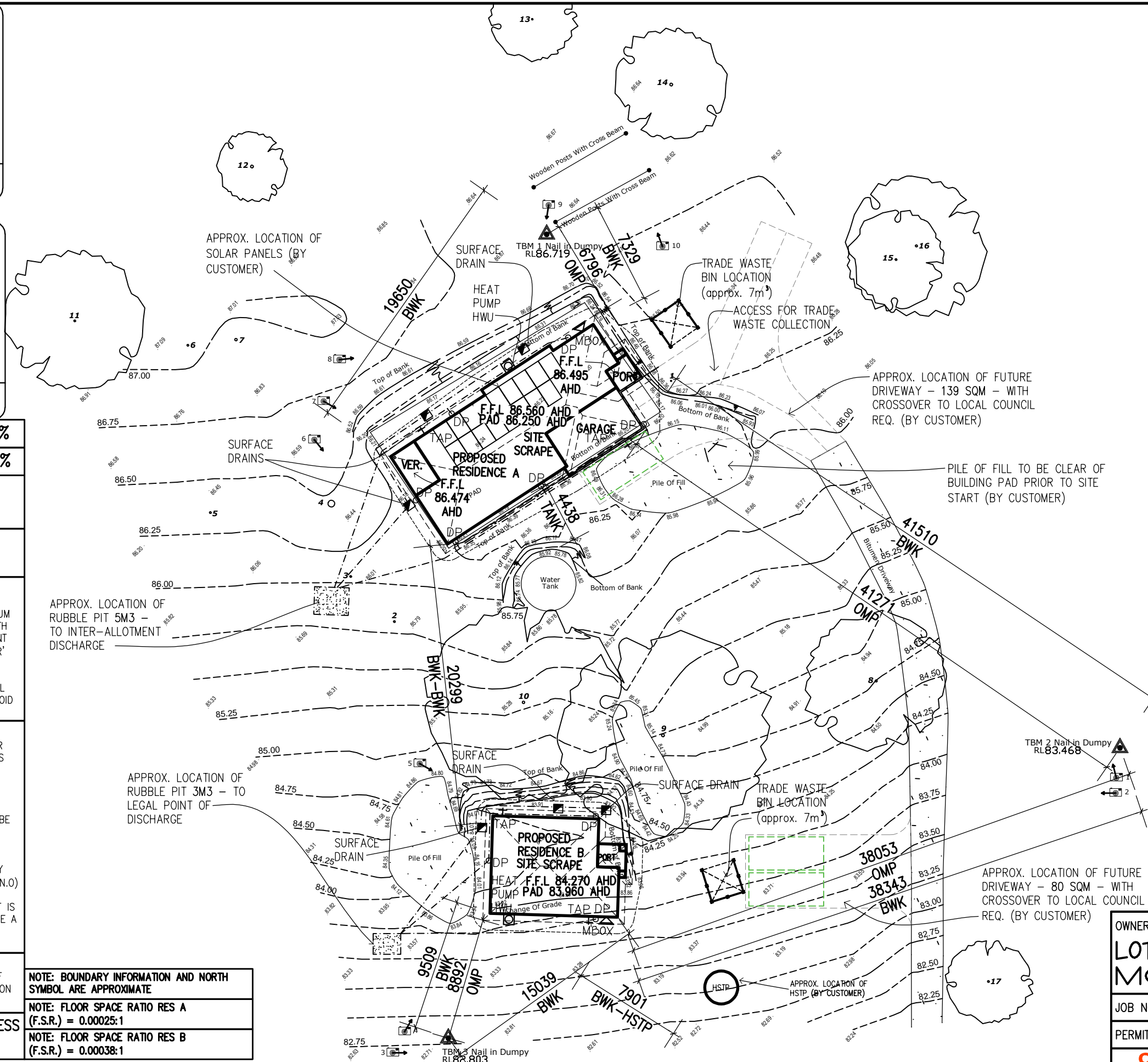
IF REQUIRED BUILDER TO PROVIDE DRIVEWAY ACCESS CUT AT MAX. GRADIENT OF 1:5 (U.N.O)

IF CONCRETE DRIVEWAY IS NOT PROVIDED IT IS THE CUSTOMERS RESPONSIBILITY TO PROVIDE A GRATED DRAIN ACROSS GARAGE OPENINGS WHERE REQUIRED TO AVOID PONDING.

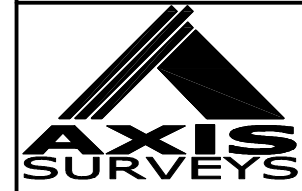
NOTE: HSTP BY CUSTOMER
 REFER TO SPECIFICATIONS FOR LOCATION OF PROPOSED HSTP SYSTEM & LAND APPLICATION AREA.

NOTE: NSW APPLICATION PROCESS
 DA (DEVELOPMENT APPLICATION)

NOTE: BOUNDARY INFORMATION AND NORTH SYMBOL ARE APPROXIMATE
NOTE: FLOOR SPACE RATIO RES A (F.S.R.) = 0.00025:1
NOTE: FLOOR SPACE RATIO RES B (F.S.R.) = 0.00038:1



Contour & Feature Survey



Unit 5/23 Overford Place, ACACIA RIDGE, Qld, 4110
 Ph (07) 3363 8100 www.axisurveys.com.au

LOT 9 on DP755625
#156 Ainsworth Road
Suburb Mongogarie
Local Auth Richmond Valley Council
Area 39.15 ha



NSW BSA No: 36854C QLD BSA No: 040992
 ACN: 053189406

Order No: 743489/706

NOTES TO BE READ BEFORE USING THIS PLAN
 This Plan has limitations regarding its use for some applications. Please contact this office if there is any doubt about the suitability of this plan for the intended use. These notes form part of this plan and they must remain with the plan or any copies. The limitations of this plan are detailed in the link below, with the main ones being:-

1. This plan has been prepared for our client & should not be used by others without approval.
 2. The boundaries shown have been sourced from DoR documents or as noted, and have not been checked, unless a boundary identification survey has been completed by Axis Surveys.
 3. Distances from features to the shown boundaries should not be used or relied upon.
 4. If positional accuracy is critical a boundary identification survey may be required.
 5. The certificate of title has not been searched and should be checked for any encumbrances.
 6. The contours may not represent the local authority's definition of 'Ground Level'.
 7. A flood search has not been carried out. Check with local council for min. and max. construction heights.
 8. Non visible services (if shown), have been plotted from the relevant authority's records or from other sources and may not be accurate. Services should be exposed before design or construction commences.
 9. The position of any subsurface structures have not been investigated.
 10. The north point has been taken from the survey plan and may not be suitable for all uses.
- Refer to this link for more information: www.axisurveys.com.au/alertsanddisclaimers/

Issue	Date	Amendment	By
A	17/07/2023	Original Issue	GE02

Site No: 2302879 Order No: X493943 Scale: 1:300
 Height Datum: AHD
 Height Origin: GNS5
 Surveyed: LD
 Date: 17/07/2023 2 OF 4

Certificate No. #HR-5KDGMP-0413916

Scan QR code or follow website link for rating details

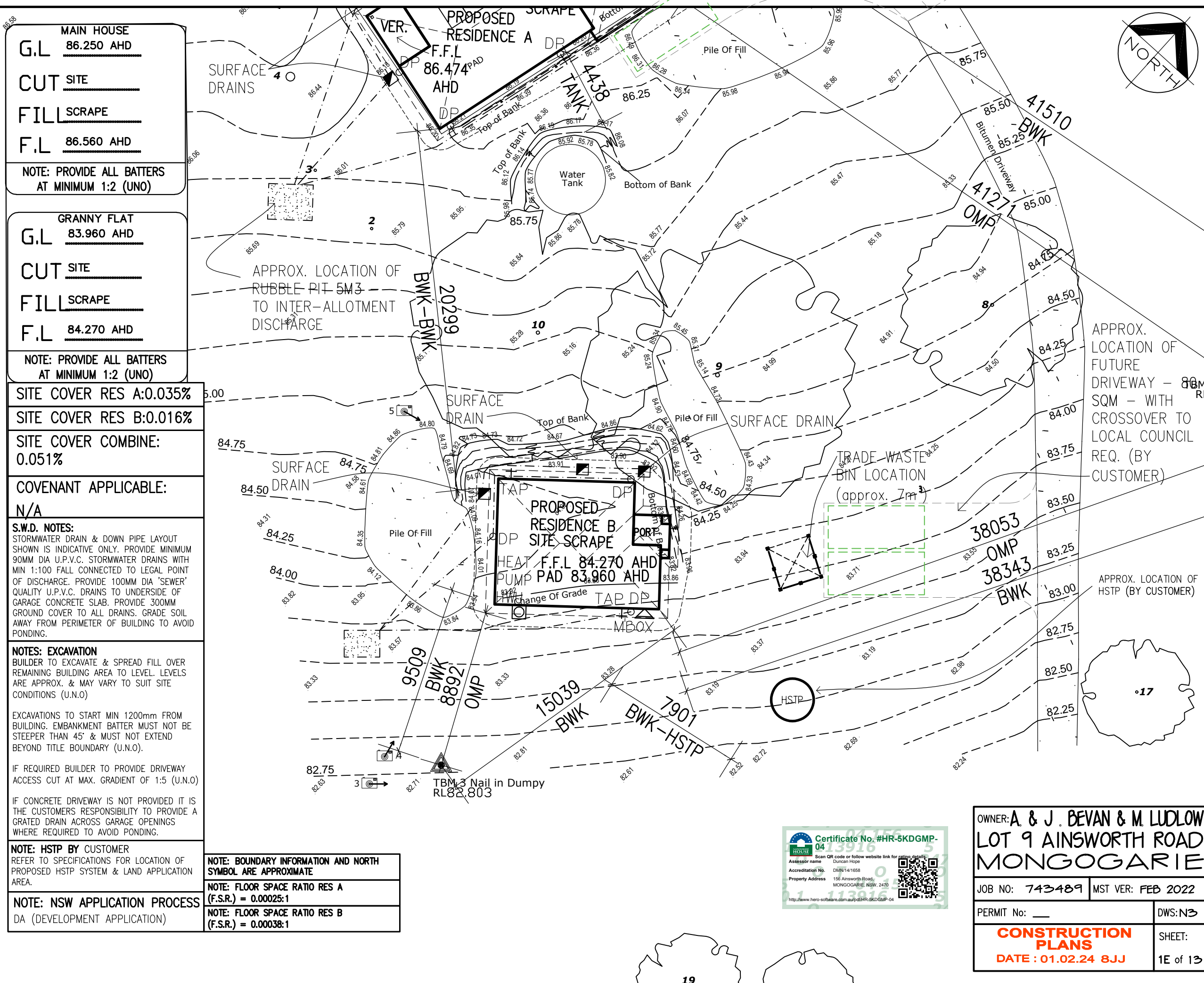
Assessor name: Duncan Hope
 Accreditation No: DMN/14/1658
 Property Address: 156 Ainsworth Road, MONGOGARIE, NSW, 2470

OWNER: A. & J. BEVAN & M. LUDLOW
LOT 9 AINSWORTH ROAD
MONGOGARIE

JOB NO: 743489 MST VER: FEB 2022

PERMIT No: _____ DWS: N3

CONSTRUCTION PLANS
 DATE: 01.02.24 8JJ SHEET: 10 of 13



MAIN HOUSE
G.L 86.250 AHD
CUT SITE
FILL SCRAPE
F.L 86.560 AHD

NOTE: PROVIDE ALL BATTERS AT MINIMUM 1:2 (UNO)

GRANNY FLAT
G.L 83.960 AHD
CUT SITE
FILL SCRAPE
F.L 84.270 AHD

NOTE: PROVIDE ALL BATTERS AT MINIMUM 1:2 (UNO)

SITE COVER RES A:0.035%

SITE COVER RES B:0.016%

SITE COVER COMBINE: 0.051%

COVENANT APPLICABLE: N/A

S.W.D. NOTES:
 STORMWATER DRAIN & DOWN PIPE LAYOUT SHOWN IS INDICATIVE ONLY. PROVIDE MINIMUM 90MM DIA U.P.V.C. STORMWATER DRAINS WITH MIN 1:100 FALL CONNECTED TO LEGAL POINT OF DISCHARGE. PROVIDE 100MM DIA 'SEWER' QUALITY U.P.V.C. DRAINS TO UNDERSIDE OF GARAGE CONCRETE SLAB. PROVIDE 300MM GROUND COVER TO ALL DRAINS. GRADE SOIL AWAY FROM PERIMETER OF BUILDING TO AVOID PONDING.

NOTES: EXCAVATION
 BUILDER TO EXCAVATE & SPREAD FILL OVER REMAINING BUILDING AREA TO LEVEL. LEVELS ARE APPROX. & MAY VARY TO SUIT SITE CONDITIONS (U.N.O)

EXCAVATIONS TO START MIN 1200mm FROM BUILDING. EMBANKMENT BATTER MUST NOT BE STEEPER THAN 45° & MUST NOT EXTEND BEYOND TITLE BOUNDARY (U.N.O).

IF REQUIRED BUILDER TO PROVIDE DRIVEWAY ACCESS CUT AT MAX. GRADIENT OF 1:5 (U.N.O)

IF CONCRETE DRIVEWAY IS NOT PROVIDED IT IS THE CUSTOMERS RESPONSIBILITY TO PROVIDE A GRATED DRAIN ACROSS GARAGE OPENINGS WHERE REQUIRED TO AVOID PONDING.

NOTE: HSTP BY CUSTOMER
 REFER TO SPECIFICATIONS FOR LOCATION OF PROPOSED HSTP SYSTEM & LAND APPLICATION AREA.

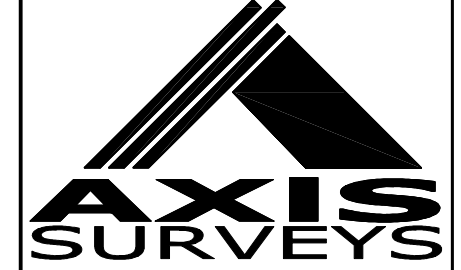
NOTE: NSW APPLICATION PROCESS
 DA (DEVELOPMENT APPLICATION)

NOTE: BOUNDARY INFORMATION AND NORTH SYMBOL ARE APPROXIMATE

NOTE: FLOOR SPACE RATIO RES A (F.S.R.) = 0.0025:1

NOTE: FLOOR SPACE RATIO RES B (F.S.R.) = 0.00038:1

Contour & Feature Survey



Unit 5/23 Overlord Place, ACACIA RIDGE, Qld, 4110
 Ph (07) 3363 8100 www.axisurveys.com.au

LOT 9 on DP755625
 #156 Ainsworth Road
Suburb Mongogarie
Local Auth Richmond Valley Council
Area 39.15 ha



NSW BSA No: 36654C QLD BSA No: 040992
 ACN: 053189496

Order No: 743489/706

NOTES TO BE READ BEFORE USING THIS PLAN

This Plan has limitations regarding its use for some applications. Please contact this office if there is any doubt about the suitability of this plan for the intended use. These notes form part of this plan and they must remain with the plan or any copies. The limitations of this plan are detailed in the link below, with the main ones being:-

1. This plan has been prepared for our client & should not be used by others without approval.
2. The boundaries shown have been sourced from DoR documents or as noted, and have not been checked, unless a boundary identification survey has been completed by Axis Surveys.
3. Distances from features to the shown boundaries should not be used or relied upon.
4. If positional accuracy is critical a boundary identification survey may be required.
5. The certificate of title has not been searched and should be checked for any encumbrances.
6. The contours may not represent the local authority's definition of "Ground Level"
7. A flood search has not been carried out. Check with local council for min. and max. construction heights.
8. Non visible services (if shown), have been plotted from the relevant authority's records or from other sources and may not be accurate. Services should be exposed before design or construction commences.
9. The position of any subsurface structures have not been investigated.
10. The north point has been taken from the survey plan and may not be suitable for all uses.

Refer to this link for more information www.axisurveys.com.au/alertsanddisclaimers/

Issue	Date	Amendment	By
A	17/07/2023	Original Issue	GEO2

Site No: 2302879	Order No: X493943	Scale: 1:200
Height Datum: AHD		PAGE A2
Height Origin: GNSS		4 OF 4
Surveyed: LD		
Date: 13	17/07/2023	

OWNER: A & J. BEVAN & M. LUDLOW
LOT 9 AINSWORTH ROAD
MONGOGARIE

JOB NO: 743489 **MST VER: FEB 2022**

PERMIT No: **DWS: N3**

CONSTRUCTION PLANS
DATE: 01.02.24 8JJ
SHEET: 1E of 13



MAIN HOUSE
G.L 86.250 AHD
CUT SITE
FILL SCRAPE
F.L 86.560 AHD
 NOTE: PROVIDE ALL BATTERS AT MINIMUM 1:2 (UNO)

GRANNY FLAT
G.L 83.960 AHD
CUT SITE
FILL SCRAPE
F.L 84.270 AHD
 NOTE: PROVIDE ALL BATTERS AT MINIMUM 1:2 (UNO)

SITE COVER RES A:0.035%
 SITE COVER RES B:0.016%
 SITE COVER COMBINE: 0.051%

COVENANT APPLICABLE:
 N/A

S.W.D. NOTES:
 STORMWATER DRAIN & DOWN PIPE LAYOUT SHOWN IS INDICATIVE ONLY. PROVIDE MINIMUM 90MM DIA U.P.V.C. STORMWATER DRAINS WITH MIN 1:100 FALL CONNECTED TO LEGAL POINT OF DISCHARGE. PROVIDE 100MM DIA 'SEWER' QUALITY U.P.V.C. DRAINS TO UNDERSIDE OF GARAGE CONCRETE SLAB. PROVIDE 300MM GROUND COVER TO ALL DRAINS. GRADE SOIL AWAY FROM PERIMETER OF BUILDING TO AVOID PONDING.

NOTES: EXCAVATION
 BUILDER TO EXCAVATE & SPREAD FILL OVER REMAINING BUILDING AREA TO LEVEL. LEVELS ARE APPROX. & MAY VARY TO SUIT SITE CONDITIONS (U.N.O)

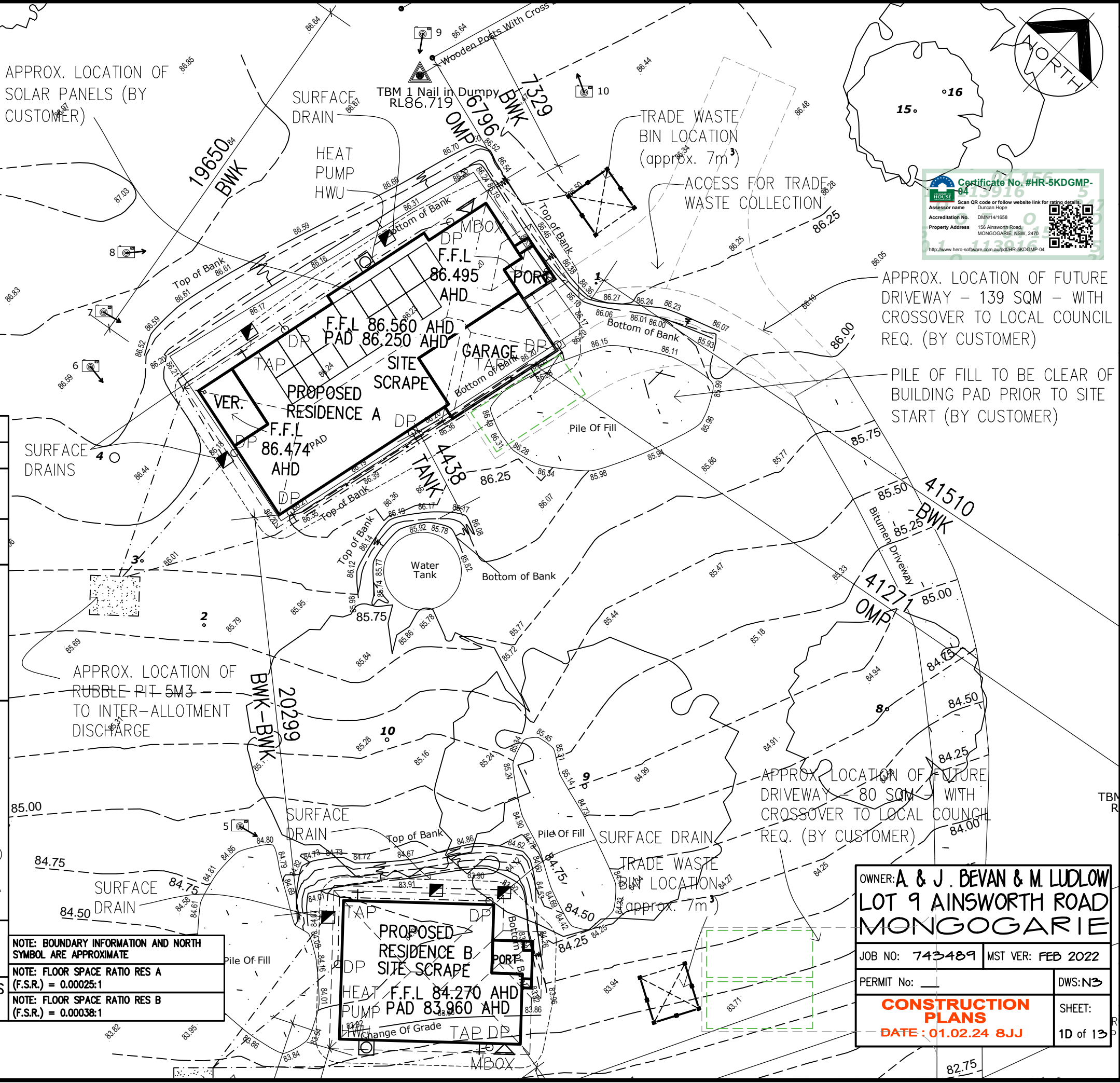
EXCAVATIONS TO START MIN 1200mm FROM BUILDING. EMBANKMENT BATTER MUST NOT BE STEEPER THAN 45° & MUST NOT EXTEND BEYOND TITLE BOUNDARY (U.N.O).

IF REQUIRED BUILDER TO PROVIDE DRIVEWAY ACCESS CUT AT MAX. GRADIENT OF 1:5 (U.N.O)

IF CONCRETE DRIVEWAY IS NOT PROVIDED IT IS THE CUSTOMERS RESPONSIBILITY TO PROVIDE A GRATED DRAIN ACROSS GARAGE OPENINGS WHERE REQUIRED TO AVOID PONDING.

NOTE: HSTP BY CUSTOMER
 REFER TO SPECIFICATIONS FOR LOCATION OF PROPOSED HSTP SYSTEM & LAND APPLICATION AREA.

NOTE: NSW APPLICATION PROCESS
 DA (DEVELOPMENT APPLICATION)



Contour & Feature Survey ©

Unit 5/23 Overlord Place, ACACIA RIDGE, Qld, 4110
 Ph (07) 3363 8100 www.axisurveys.com.au

LOT 9 on DP755625
 #156 Ainsworth Road
Suburb Mongogarie
Local Auth Richmond Valley Council
Area 39.15 ha

metricon
 NSW BSA No: 36654C QLD BSA No: 040992
 ACN: 053189496

Order No: 743489/706

NOTES TO BE READ BEFORE USING THIS PLAN

This Plan has limitations regarding its use for some applications. Please contact this office if there is any doubt about the suitability of this plan for the intended use. These notes form part of this plan and they must remain with the plan or any copies. The limitations of this plan are detailed in the link below, with the main ones being:-

1. This plan has been prepared for our client & should not be used by others without approval.
2. The boundaries shown have been sourced from DoR documents or as noted, and have not been checked, unless a boundary identification survey has been completed by Axis Surveys.
3. Distances from features to the shown boundaries should not be used or relied upon.
4. If positional accuracy is critical a boundary identification survey may be required.
5. The certificate of title has not been searched and should be checked for any encumbrances.
6. The contours may not represent the local authority's definition of "Ground Level"
7. A flood search has not been carried out. Check with local council for min. and max. construction heights.
8. Non visible services (if shown), have been plotted from the relevant authority's records or from other sources and may not be accurate. Services should be exposed before design or construction commences.
9. The position of any subsurface structures have not been investigated.
10. The north point has been taken from the survey plan and may not be suitable for all uses.

Refer to this link for more information www.axisurveys.com.au/alertsanddisclaimers/

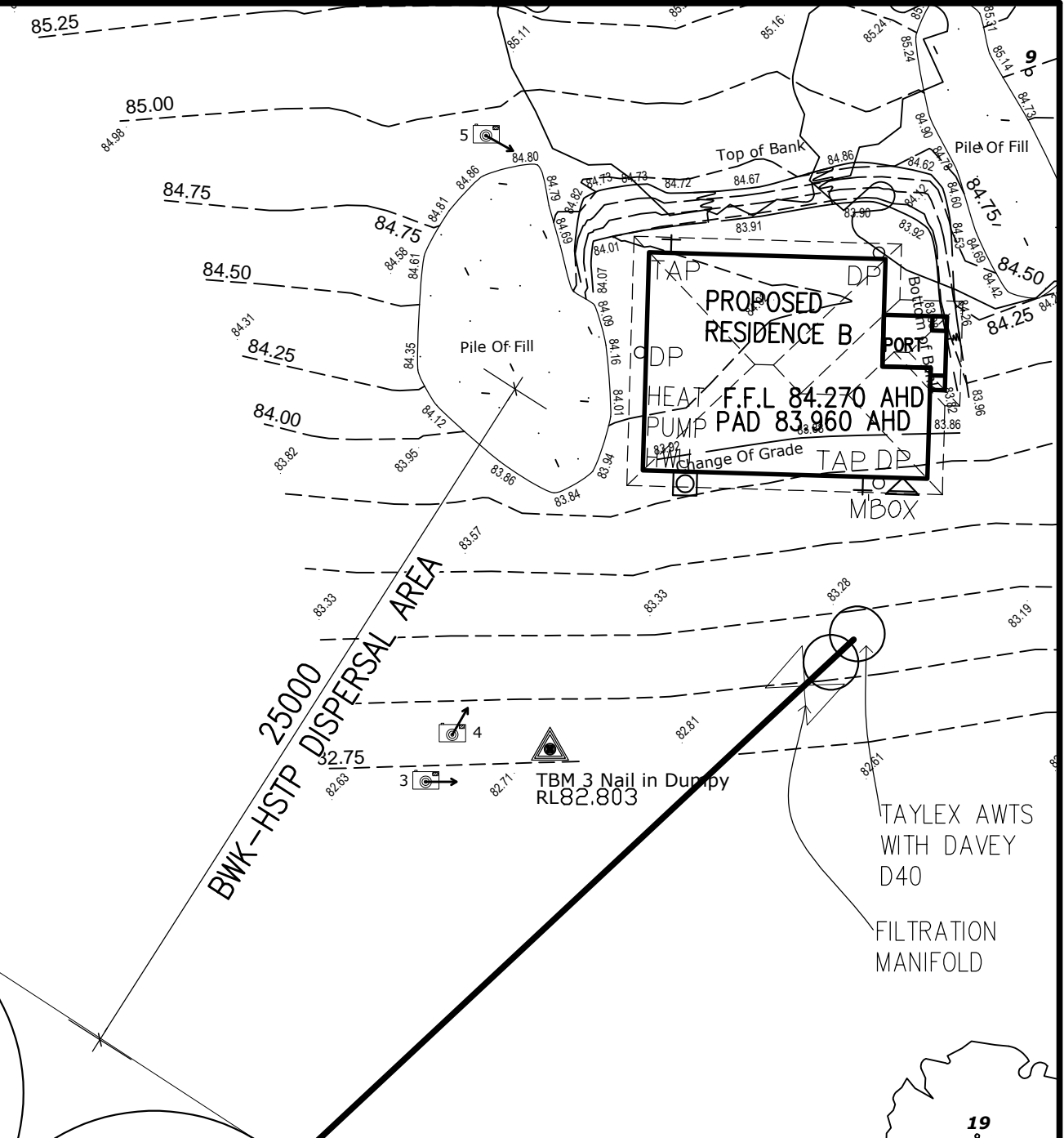
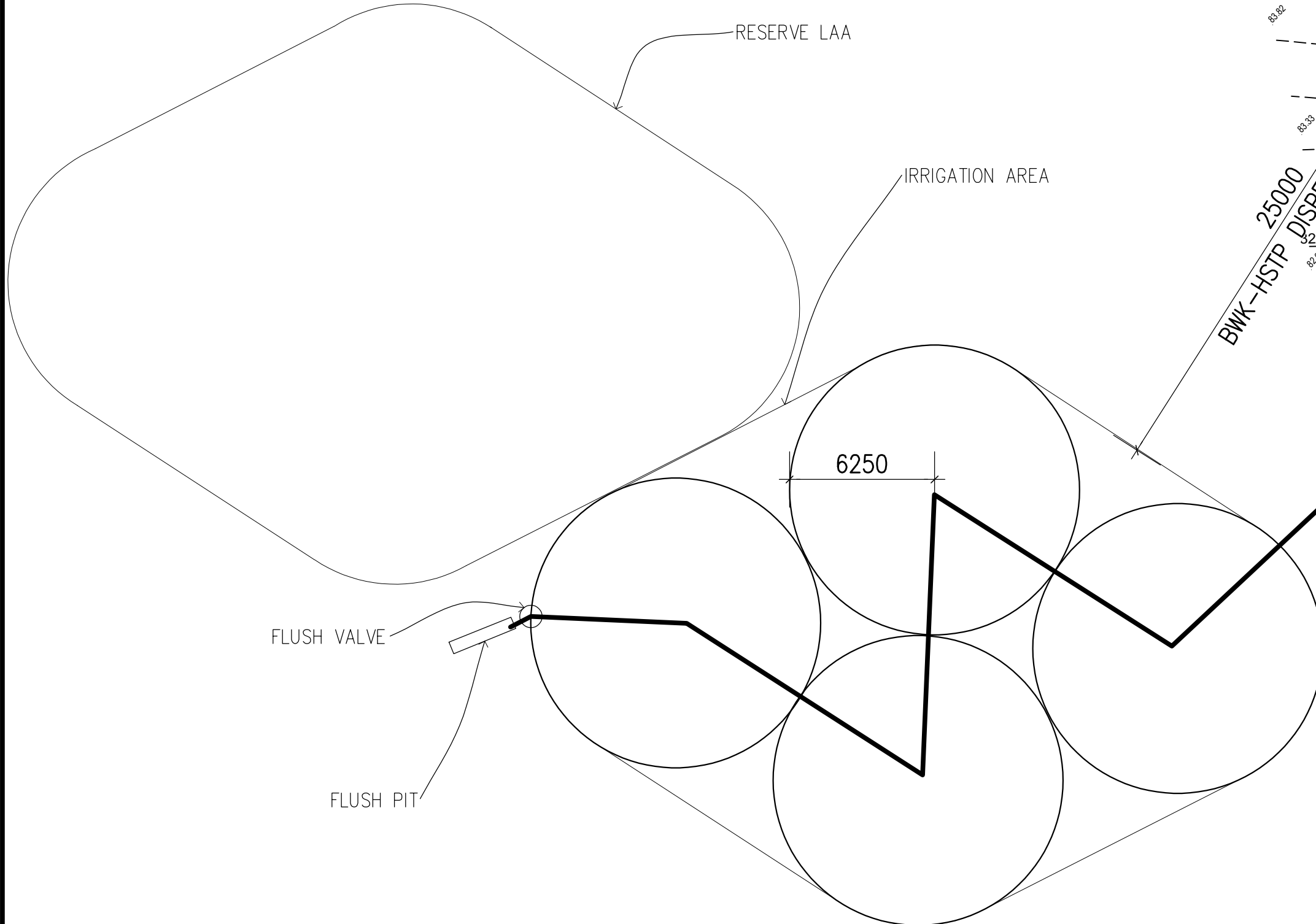
Issue	Date	Amendment	By
A	17/07/2023	Original Issue	GEO2

Site No: 2302879	Order No: X493943	Scale:
Height Datum:	AHD	1:200
Height Origin:	GNSS	PAGE A2
Surveyed:	LD	3 OF 4
Date:	17/07/2023	

OWNER: A & J. BEVAN & M. LUDLOW
LOT 9 AINSWORTH ROAD
MONGOGARIE

JOB NO: 743489 MST VER: FEB 2022
 PERMIT No: _____ DWS: N3
CONSTRUCTION PLANS
 DATE: 01.02.24 8JJ
 SHEET: 1D of 13

HSTP LAYOUT AS PROVIDED
(BY CUSTOMER)



metricon

NSW BSA No: 36654C QLD BSA No: 040992
ACN: 053189496

NOTE: HSTP BY CUSTOMER
REFER TO SPECIFICATIONS FOR LOCATION OF
PROPOSED HSTP SYSTEM & LAND APPLICATION
AREA.

Scale:
1:200

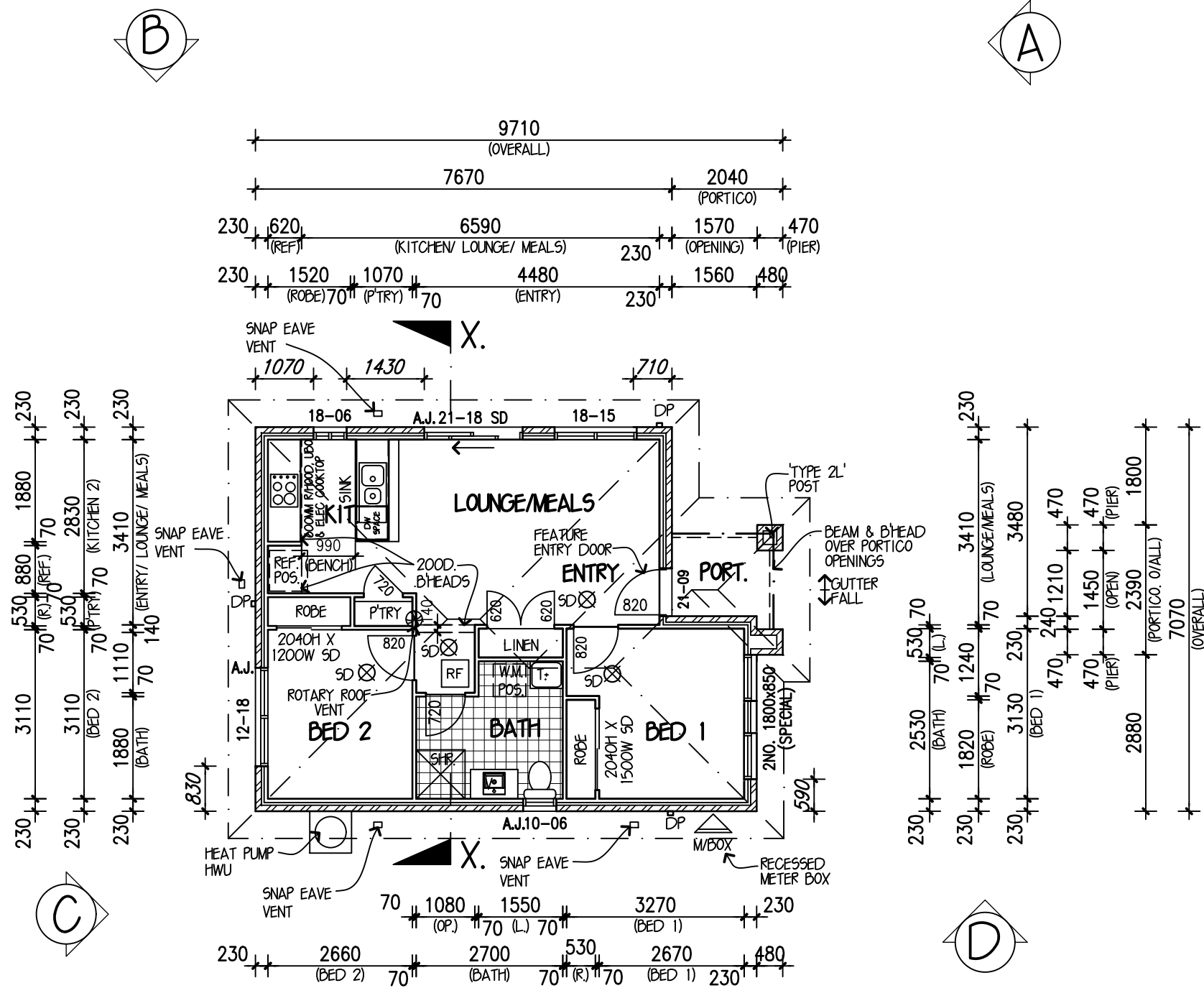
OWNER: **A. & J. BEVAN & M. LUDLOW**
LOT 9 AINSWORTH ROAD
MONGOGARIE

JOB NO: **743489** | MST VER: **FEB 2022**

PERMIT No: **---** | DWS: **N3**

CONSTRUCTION PLANS
DATE: **18.01.24 8JJ** | SHEET:
1F of 13

NOTE:
450mm eave UNO.



GRANNY FLAT FLOOR PLAN 1:100



NOTE:
REFER TO COVER PAGE NOTE FOR NSW BASIX REQUIREMENTS.

NOTE: PROVIDE BUSHFIRE HAZARD REQUIREMENTS

NOTE: 70MM STEEL FRAME & TRUSSES

AREAS:			
GRD FLR:	5983 SQM	PORTICO:	3.77 SQM
SUBTOTAL:	5983 SQM	TOTAL:	63.60 SQM
	6.44 SQM		6.85 SQM

DESIGN: **RETREAT 6**

FAÇADE: **ASPIRE** CEILING: **24**

GARAGE: **SINGLE**

FLOOR PLAN

METRICON HOMES OWNS COPYRIGHT IN THIS DRAWING. UNAUTHORISED USE, REPRODUCTION OR ADAPTION IS FORBIDDEN AND WILL BE PROSECUTED.

FREEDOM | **m** metricon

BY METRICON

209 Robina Town Centre Drive, Robina, QLD 4226
Tel: 07 5501 7200 Fax: 07 5562 2194
Metricon Homes QLD Pty Ltd is licensed under the QBCC Act 1991 (QBCC Licence 40992), NSW Builders License 36654C. COPYRIGHT 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.

OWNER: **A. & J. BEVAN & M. LUDLOW**
LOT 9 AINSWORTH ROAD
MONGOGARIE

JOB NO: **743489** MST VER: **FEB 2022**

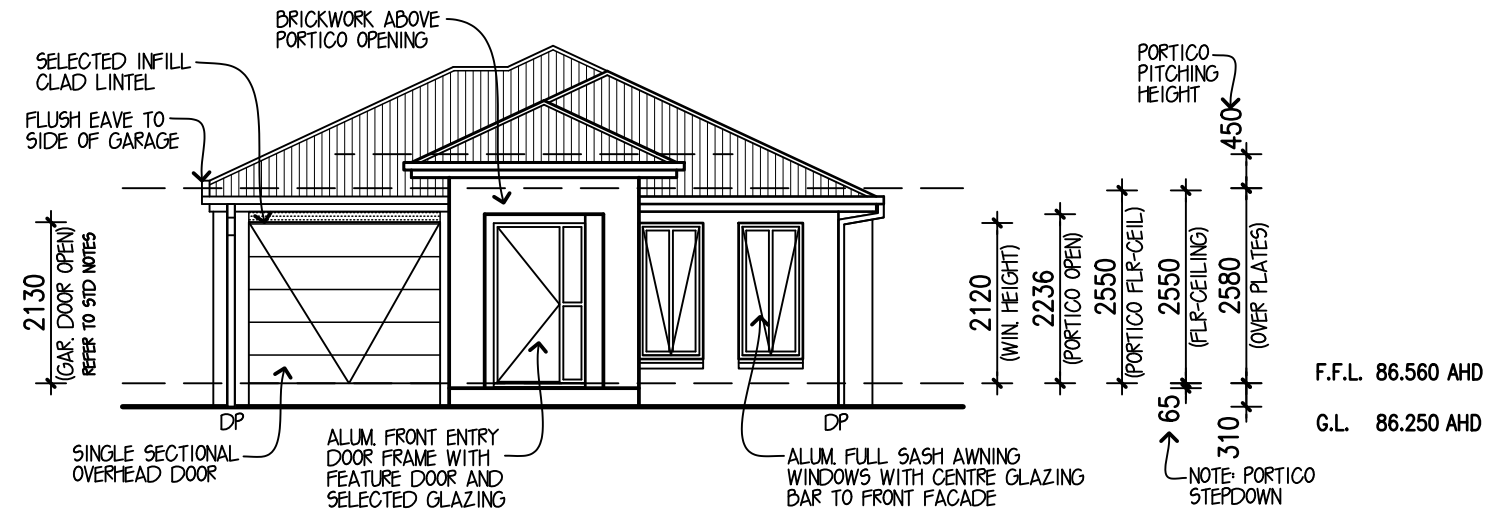
PERMIT No: **---** DWS: **N3**

CONSTRUCTION PLANS
DATE: **19.12.23 3LB** SHEET: **3 of 13**

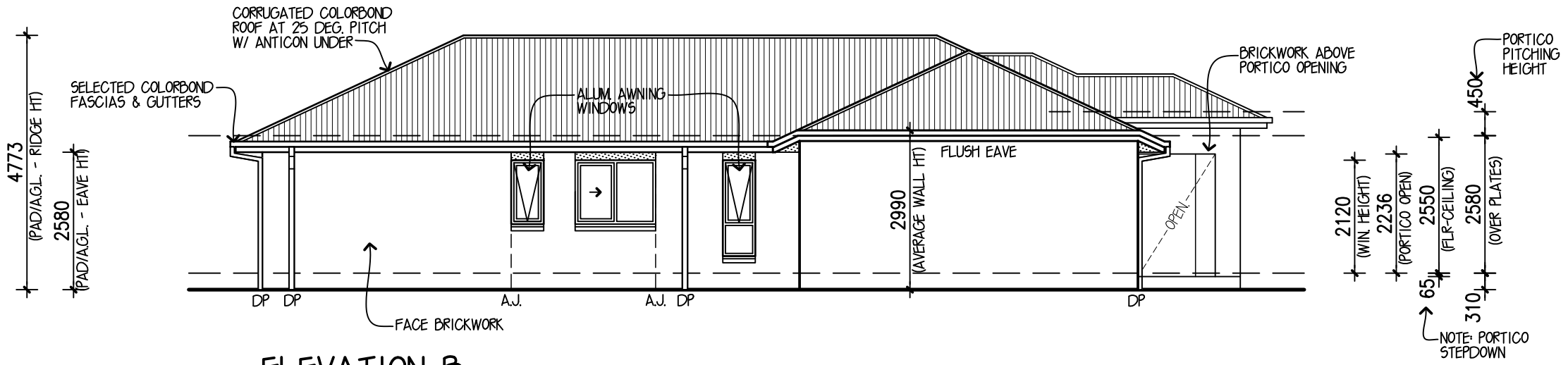
IMPORTANT NOTE:
REFER TO FACADE DETAIL
REF. NO. Q-TYP-ASPI-01

NOTE:
450mm eave UNO.

NOTE: PROVIDE BRICKWORK
ABOVE FRONT ENTRY DOOR
(U.N.O)



ELEVATION A.



ELEVATION B.

ELEVATIONS 1:100



NOTE:
REFER TO COVER PAGE NOTE FOR NSW BASIX REQUIREMENTS.

NOTE: PROVIDE BUSHFIRE HAZARD REQUIREMENTS

NOTE: 70MM STEEL FRAME & TRUSSES

NOTE:
PROVIDE SELECTED SCREENS TO ALL OPENABLE WINDOWS AND EXTERNAL DOORS

DESIGN: **CLARA 15**

FACADE: **ASPIRE** CEILING: **25, L**

GARAGE: **SINGLE**



OWNER: **A. & J. BEVAN & M. LUDLOW**
LOT 9 AINSWORTH ROAD
MONGOGARIE

ELEVATIONS

METRICON HOMES OWNS COPYRIGHT IN THIS DRAWING. UNAUTHORISED USE, REPRODUCTION OR ADAPTION IS FORBIDDEN AND WILL BE PROSECUTED.

BY METRICON

209 Robina Town Centre Drive, Robina, QLD 4226
Tel: 07 5501 7200 Fax: 07 5562 2194.
Metricon Homes QLD Pty Ltd is licensed under the QBCC Act 1991 (QBCC Licence 40992), NSW Builders License 36654C
COPYRIGHT © 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.

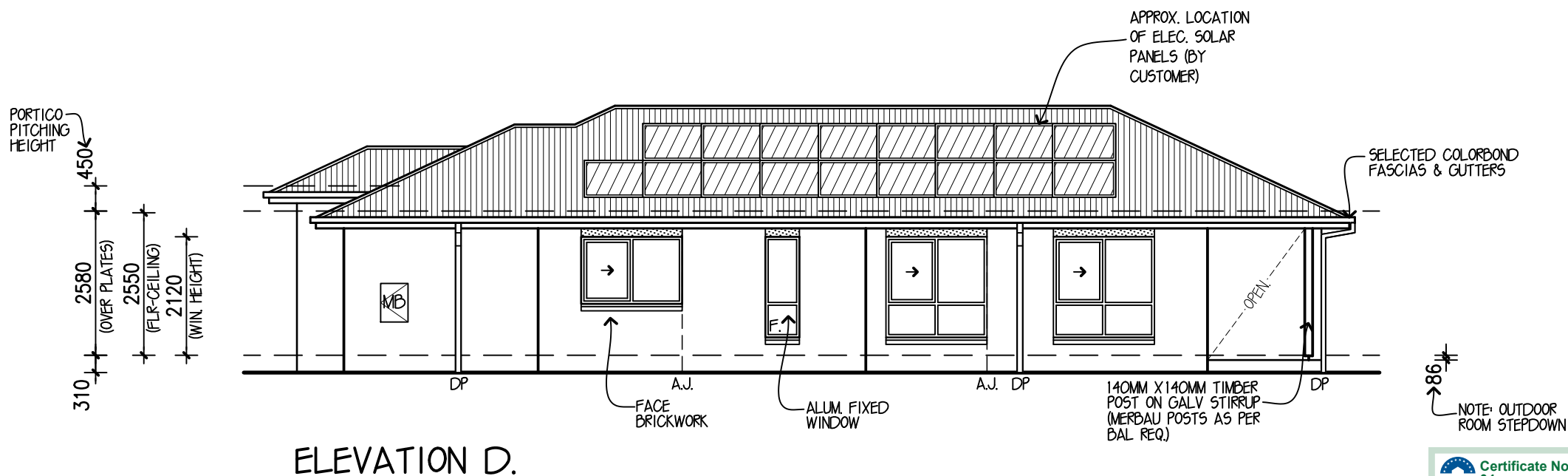
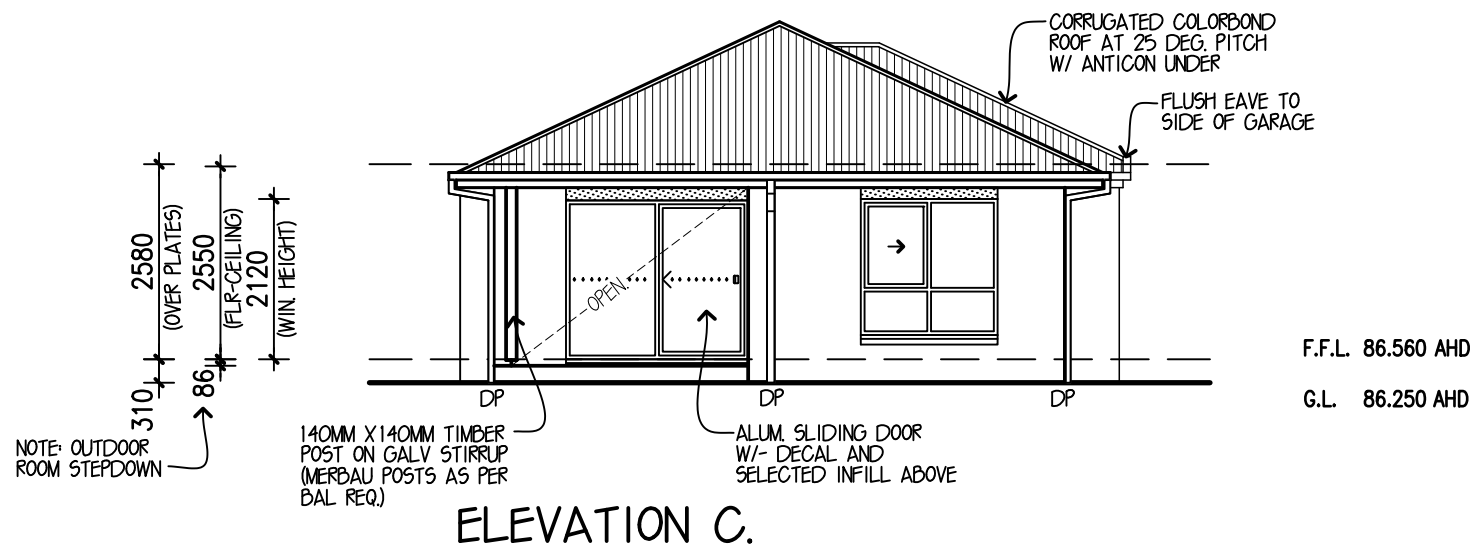
JOB NO: **743489** MST VER: **FEB 2022**

PERMIT No: **---** DWS: **N3**

CONSTRUCTION PLANS
DATE : **19.12.23 3LB**

SHEET:
4 of 13

NOTE:
450mm eave UNO.



ELEVATIONS 1:100



NOTE: REFER TO COVER PAGE NOTE FOR NSW BASIX REQUIREMENTS.

NOTE: PROVIDE BUSHFIRE HAZARD REQUIREMENTS

NOTE: 70MM STEEL FRAME & TRUSSES

NOTE: PROVIDE SELECTED SCREENS TO ALL OPENABLE WINDOWS AND EXTERNAL DOORS

DESIGN: CLARA 15
FACADE: ASPIRE CEILING: 25, L
GARAGE: SINGLE



OWNER: A. & J. BEVAN & M. LUDLOW
LOT 9 AINSWORTH ROAD
MONGOGARIE

ELEVATIONS

BY METRICON

JOB NO: 743489 MST VER: FEB 2022

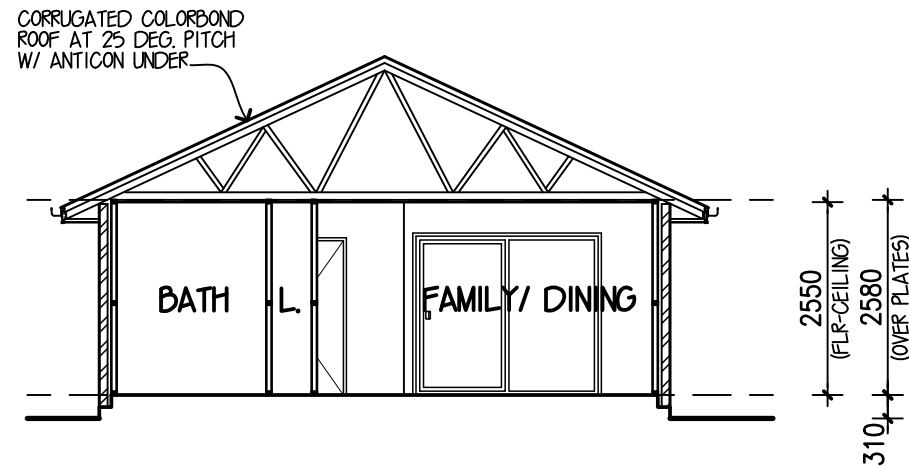
209 Robina Town Centre Drive, Robina, QLD 4226
Tel: 07 5501 7200 Fax: 07 5562 2194.
Metricon Homes QLD Pty Ltd is licensed under the QBCC Act 1991 (QBCC Licence 40992), NSW Builders License 36654C
COPYRIGHT 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.

PERMIT No: _____ DWS: N3

CONSTRUCTION PLANS
DATE: 19.12.23 3LB

SHEET: 5 of 13

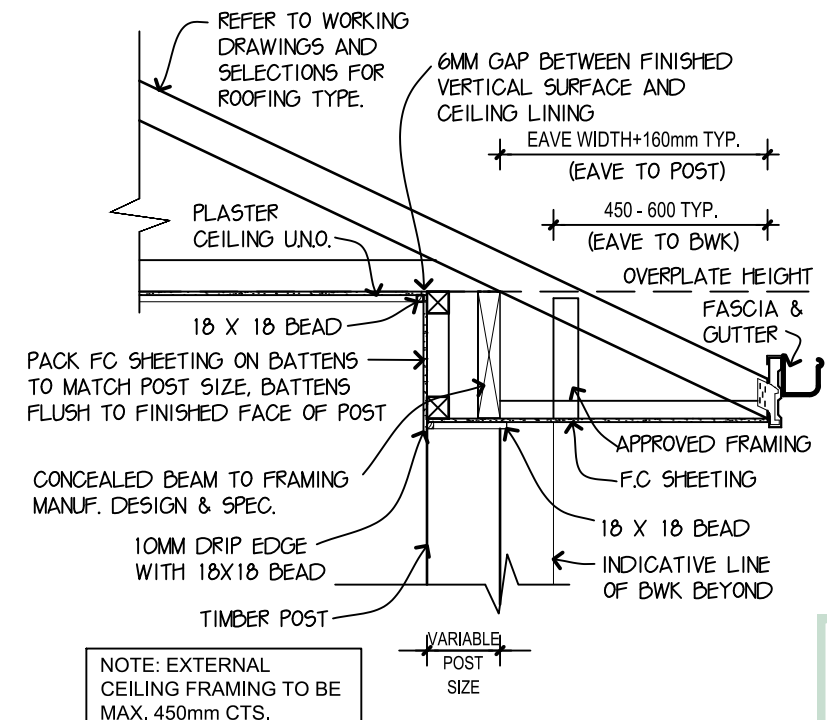
NOTE:
450mm eave UNO.



F.F.L. 86.560 AHD
 WAFFLE POD SLAB
 G.L. 86.250 AHD
 NOTE: REFER ENGINEER'S FOOTING DESIGN.

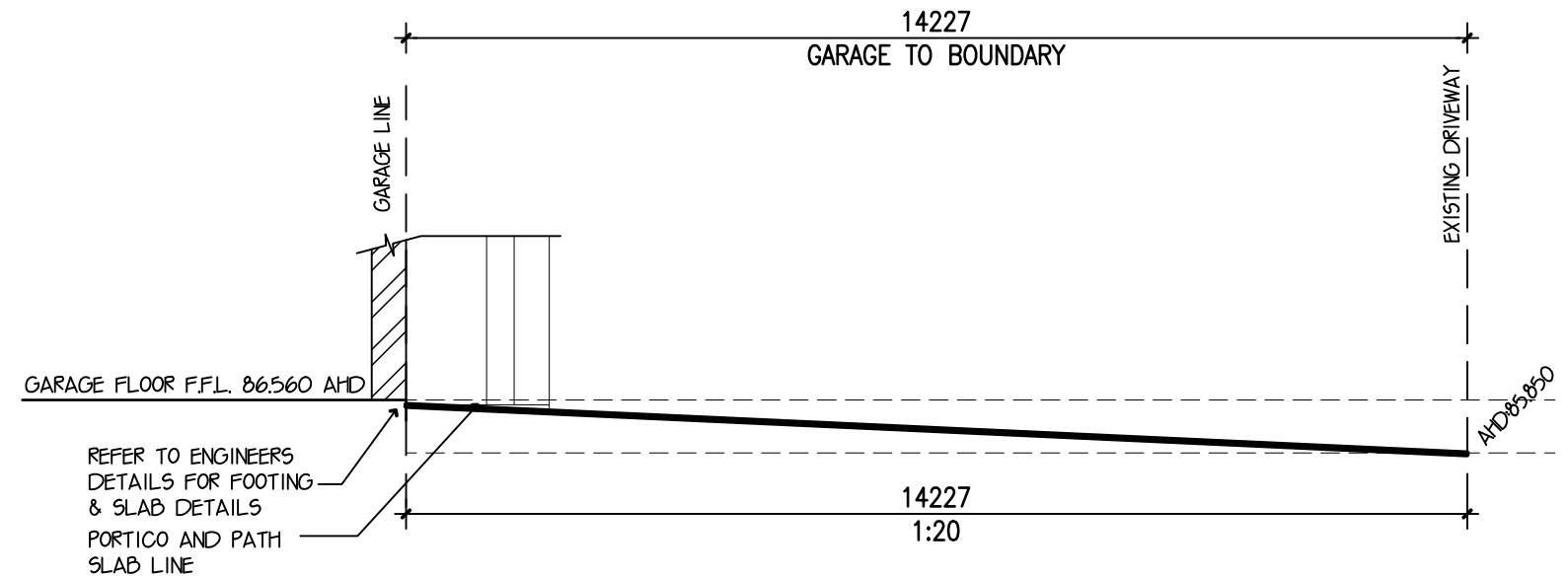
SOIL CLASSIFICATION 'S'
 REFER SOIL REPORT (REF. NO 232884)

SECTION X-X



NOTE: EXTERNAL CEILING FRAMING TO BE MAX. 450mm CTS.

TYPICAL EAVE DETAIL
 OUTDOOR ROOM - TIMBER POST
 CONCEALED BEAM
 N.T.S.



SECTION A-A 1:100
 DRIVEWAY & VEHICULAR CROSSING

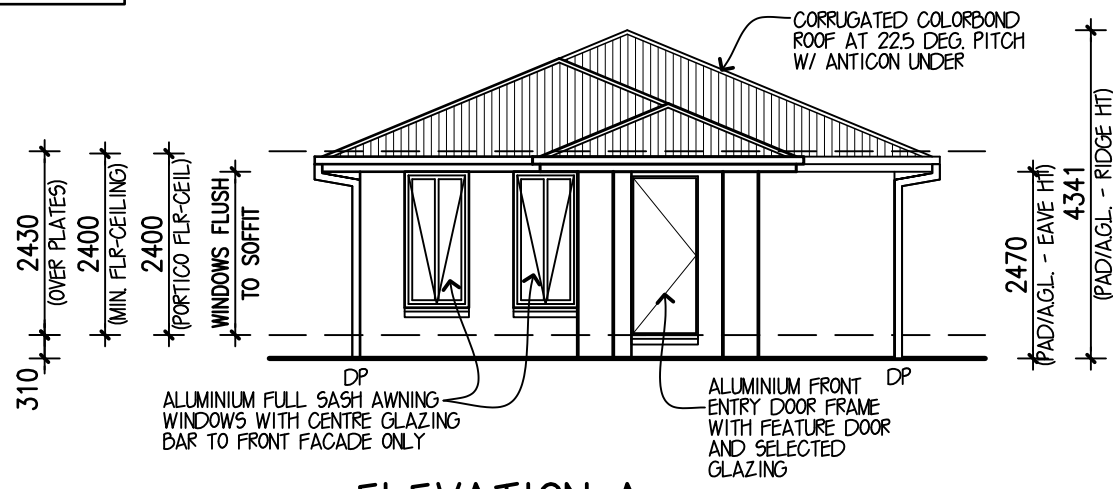
SECTION 1:100

NOTE: REFER TO COVER PAGE NOTE FOR NSW BASIX REQUIREMENTS. NOTE: PROVIDE BUSHFIRE HAZARD REQUIREMENTS NOTE: 70MM STEEL FRAME & TRUSSES	DESIGN: CLARA 15 FACADE: ASPIRE CEILING: 25, L GARAGE: SINGLE	FREEDOM m metricon	OWNER: A. & J. BEVAN & M. LUDLOW LOT 9 AINSWORTH ROAD MONGOGARIE	
	SECTION		BY METRICON 209 Robina Town Centre Drive, Robina, QLD 4226 Tel: 07 5501 7200 Fax: 07 5562 2194. Metricon Homes QLD Pty Ltd is licensed under the QBCC Act 1991 (QBCC Licence 40992), NSW Builders License 36654C COPYRIGHT © 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.	JOB NO: 743489 MST VER: FEB 2022
	METRICON HOMES OWNS COPYRIGHT IN THIS DRAWING. UNAUTHORISED USE, REPRODUCTION OR ADAPTION IS FORBIDDEN AND WILL BE PROSECUTED.	CONSTRUCTION PLANS DATE : 19.12.23 3LB	SHEET: 6 of 13	

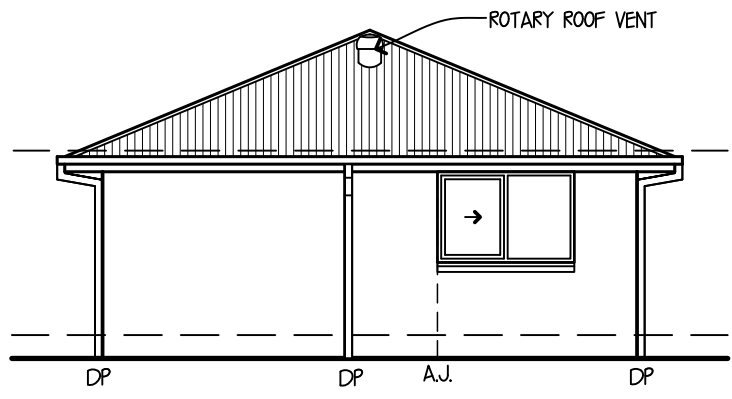
NOTE:
450mm eave UNO.

NOTE: PROVIDE BRICKWORK ABOVE FRONT ENTRY DOOR (U.N.O)

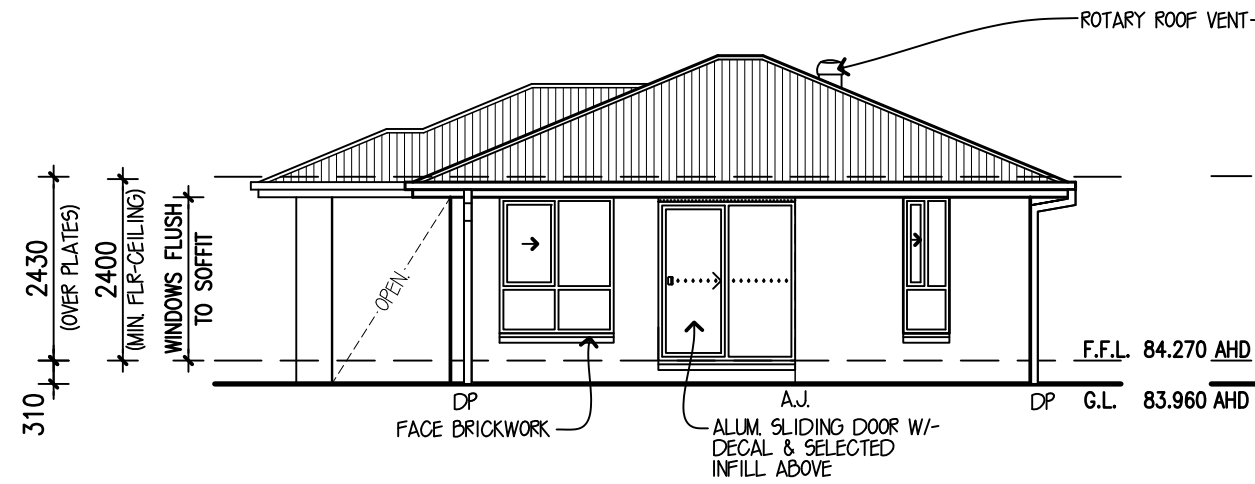
NOTE:
REFER TO COVER PAGE NOTE FOR NSW BASIX REQUIREMENTS.
NOTE: PROVIDE BUSHFIRE HAZARD REQUIREMENTS
NOTE: 70MM STEEL FRAME & TRUSSES
NOTE:
PROVIDE SELECTED SCREENS TO ALL OPENABLE WINDOWS AND EXTERNAL DOORS



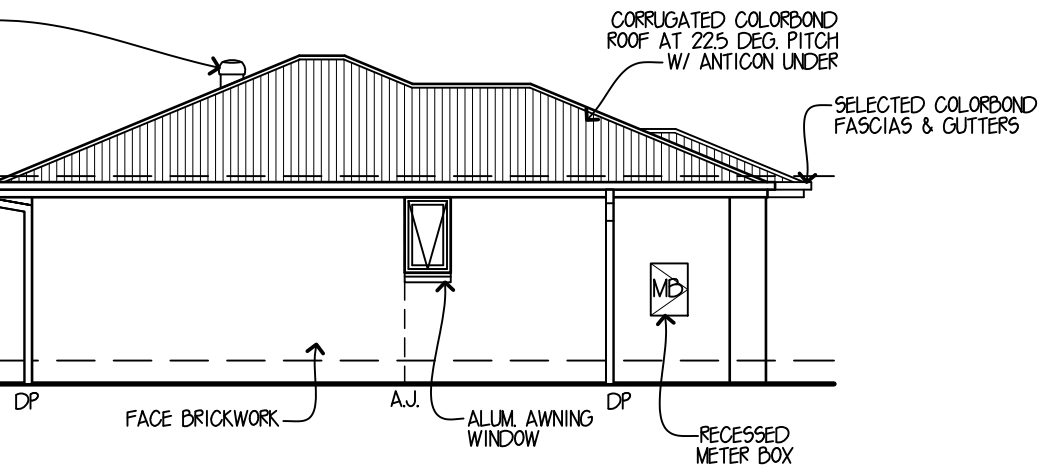
ELEVATION A.



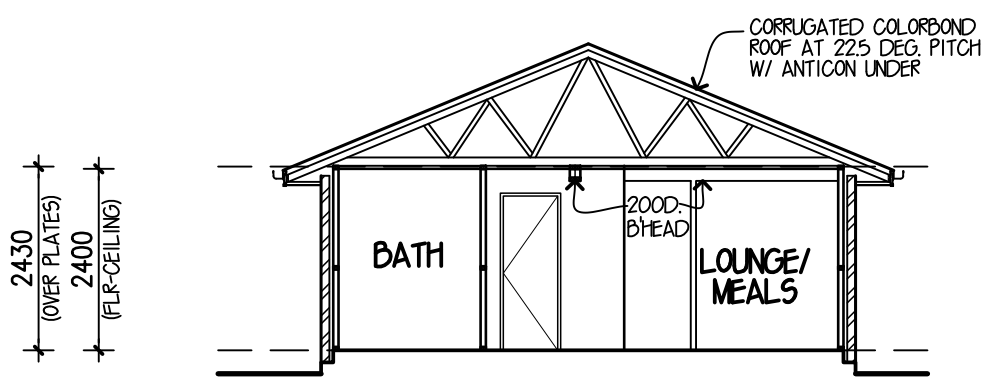
ELEVATION C.



ELEVATION B.
ELEVATIONS 1:100



ELEVATION D.



F.F.L. 84.270 AHD
WAFFLE POD SLAB
G.L. 83.960 AHD
NOTE: REFER ENGINEER'S FOOTING DESIGN.

SOIL CLASSIFICATION 's'
REFER SOIL REPORT (REF. NO 232884)

SECTION X-X
SECTION 1:100



DESIGN: **RETREAT 6**
FACADE: **ASPIRE** CEILING: **24**
GARAGE:

SECTION

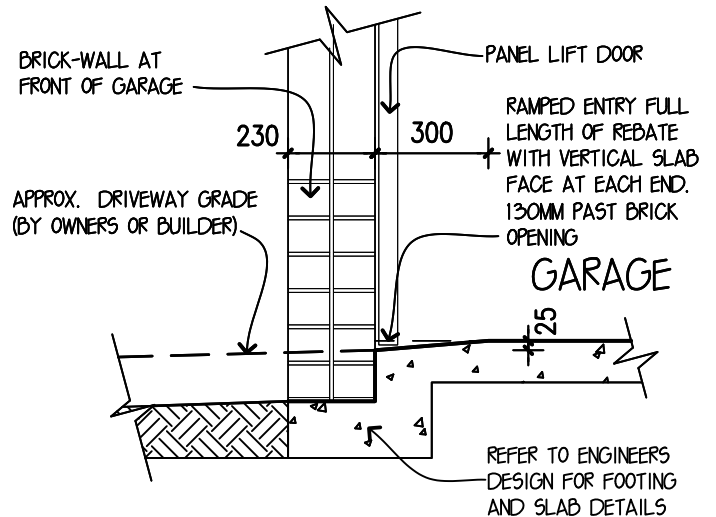
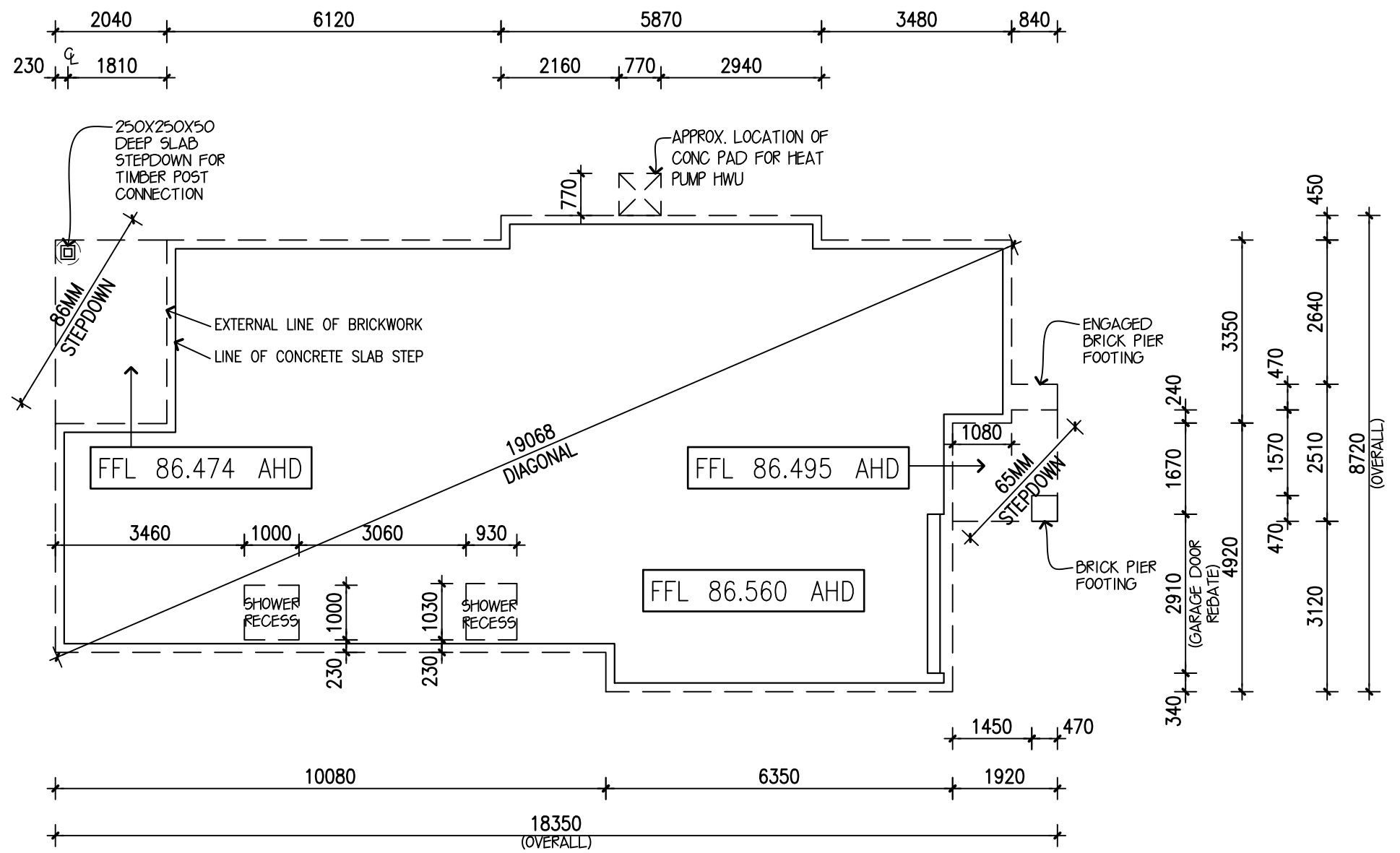
METRICON HOMES OWNS COPYRIGHT IN THIS DRAWING. UNAUTHORISED USE, REPRODUCTION OR ADAPTION IS FORBIDDEN AND WILL BE PROSECUTED.



BY METRICON
209 Robina Town Centre Drive, Robina, QLD 4226
Tel: 07 5501 7200 Fax: 07 5562 2194.
Metricon Homes QLD Pty Ltd is licensed under the CBCC Act 1991 (CBCC Licence 40992), NSW Builders License 36654C.
COPYRIGHT 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.

OWNER: **A. & J. BEVAN & M. LUDLOW**
LOT 9 AINSWORTH ROAD
MONGOGARIE

JOB NO: **743489** MST VER: **FEB 2022**
PERMIT No: _____ DWS: **N3**
CONSTRUCTION PLANS SHEET:
DATE: **19.12.23 3LB** 7 of 13



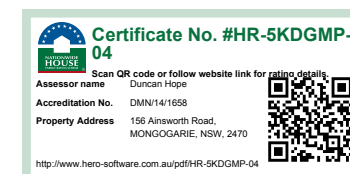
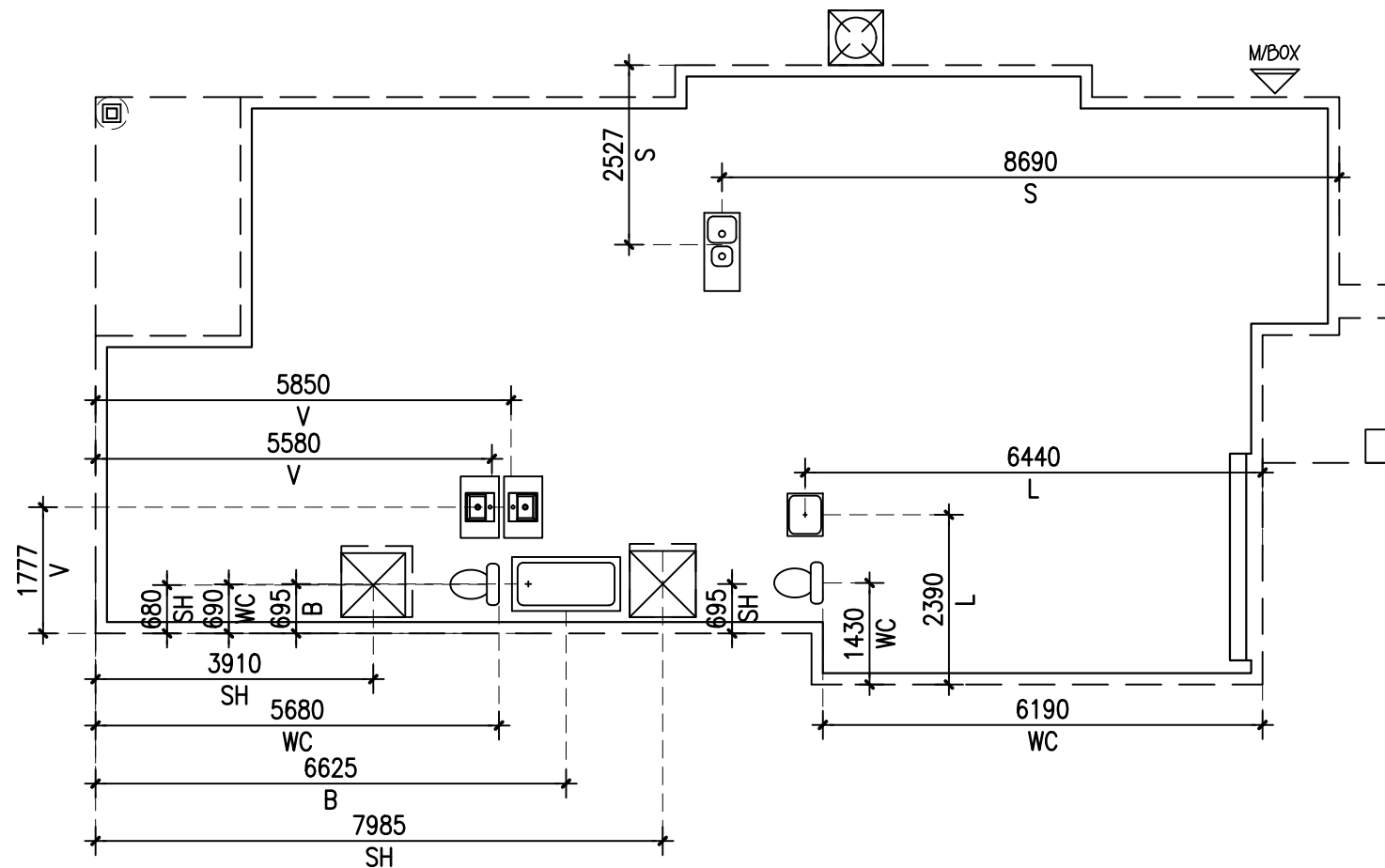
GARAGE DOOR REBATE/END DETAIL
SCALE 1:20



SLAB PLAN 1:100

DESIGN: CLARA 15		OWNER: A. & J. BEVAN & M. LUDLOW	
FACADE: ASPIRE CEILING: 25, L GARAGE: SINGLE		LOT 9 AINSWORTH ROAD MONGOGARIE	
SLAB PLAN METRICON HOMES OWNS COPYRIGHT IN THIS DRAWING. UNAUTHORISED USE, REPRODUCTION OR ADAPTION IS FORBIDDEN AND WILL BE PROSECUTED.	BY METRICON 209 Robina Town Centre Drive, Robina, QLD 4226 Tel: 07 5501 7200 Fax: 07 5562 2194.	JOB NO: 743489	MST VER: FEB 2022
	METRICON HOMES QLD Pty Ltd is licensed under the QBCC Act 1991 (QBCC Licence 40992), NSW Builders License 36654C. COPYRIGHT © 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.	PERMIT No: ---	DWS: N3

CONSTRUCTION PLANS
DATE: 19.12.23 3LB



QA SLAB LAYOUT PLAN 1:100

INTERNAL PLUMBING LAYOUT - DIMENSIONS LEGEND:

NOTE: SPECIFIC LOCATION OF REQUIRED PLUMBING POINTS MUST BE DETERMINED IN CONJUNCTION WITH PRODUCT SPECIFICATIONS, COLOUR SELECTION AND CONTRACT.

- V = VANITY BASIN (NOTE: WASTE IS DIMENSIONED AS 100MM OFF WALL AS STD)
- WC = CENTRELINE TOILET (NOTE: WASTE POINT IS DIMENSIONED HARD AGAINST WALL AS STD)
- B = CENTRELINE BATH (NOTE: WASTE POINT IS INDICATIVE ONLY - REFER TO SPECS TO CLARIFY)
- PS = CENTRELINE PLUMBING STACK
- SH = CENTRELINE SHOWER BASE (IF STRIP DRAIN SELECTED, DIM. TO CENTRELINE OF DRAIN 150MM OFF WALL)
- S = CENTRELINE KITCHEN SINK BOWLS
- L = CENTRELINE LAUNDRY TUB

DESIGN: **CLARA 15**
 FACADE: **ASPIRE** CEILING: **25, L**
 GARAGE: **SINGLE**

FREEDOM | **m**
 metricon

OWNER: **A. & J. BEVAN & M. LUDLOW**
LOT 9 AINSWORTH ROAD
MONGOGARIE

QA SLAB LAYOUT PLAN

BY METRICON

JOB NO: **743489** MST VER: **FEB 2022**

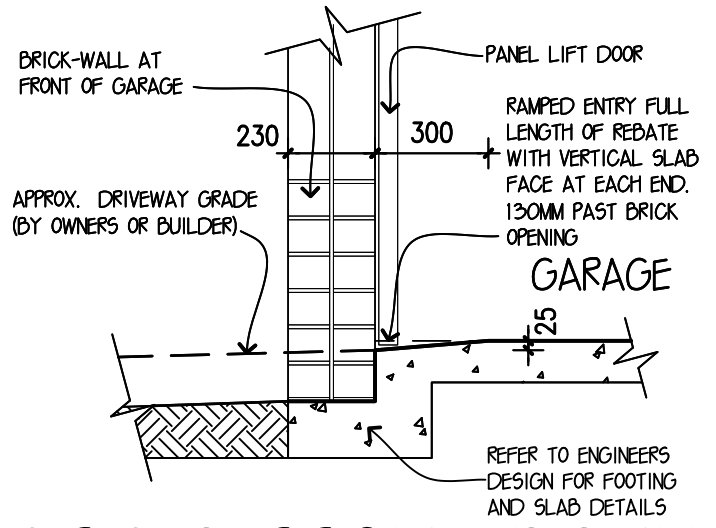
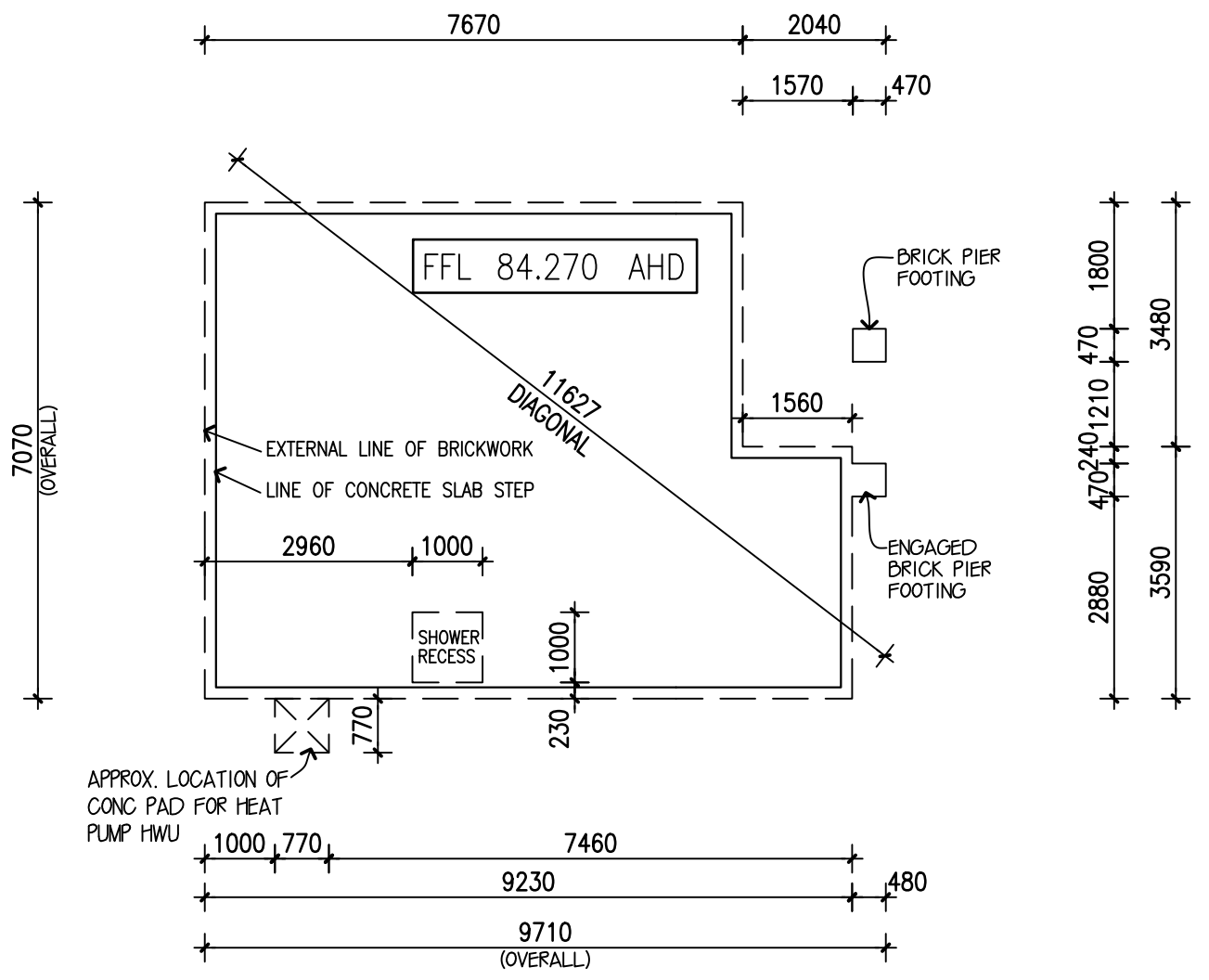
METRICON HOMES OWNS COPYRIGHT IN THIS DRAWING. UNAUTHORISED USE, REPRODUCTION OR ADAPTION IS FORBIDDEN AND WILL BE PROSECUTED.

209 Robina Town Centre Drive, Robina, QLD 4226
 Tel: 07 5501 7200 Fax: 07 5562 2194.
 Metricon Homes QLD Pty Ltd is licensed under the QBCC Act 1991 (QBCC Licence 40992), NSW Builders License 36654C
 COPYRIGHT © 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.

PERMIT No: **---** DWS: **N3**

CONSTRUCTION PLANS
 DATE : **19.12.23 3LB**

SHEET:
8A of 13

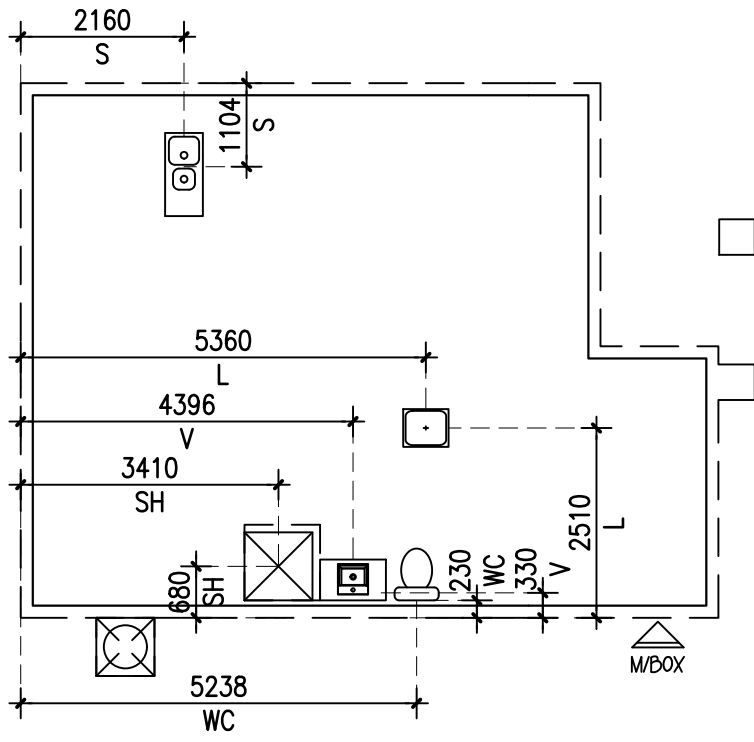


GARAGE DOOR REBATE/END DETAIL
SCALE 1:20

SLAB PLAN 1:100



DESIGN: RETREAT 6	FREEDOM m metricon	OWNER: A. & J. BEVAN & M. LUDLOW	
FAÇADE: ASPIRE CEILING: 24		LOT 9 AINSWORTH ROAD MONGOGARIE	
GARAGE:	BY METRICON	JOB NO: 743489	MST VER: FEB 2022
SLAB PLAN	209 Robina Town Centre Drive, Robina, QLD 4226 Tel: 07 5501 7200 Fax: 07 5562 2194.	PERMIT No: ---	DWS: N3
	METRICON HOMES OWNS COPYRIGHT IN THIS DRAWING. UNAUTHORISED USE, REPRODUCTION OR ADAPTION IS FORBIDDEN AND WILL BE PROSECUTED.	Metricon Homes QLD Pty Ltd is licensed under the QBCC Act 1991 (QBCC Licence 40992), NSW Builders License 36654C. COPYRIGHT © 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.	CONSTRUCTION PLANS
		DATE: 19.12.23 3LB	



QA SLAB LAYOUT PLAN 1:100

INTERNAL PLUMBING LAYOUT - DIMENSIONS LEGEND: <i>NOTE: SPECIFIC LOCATION OF REQUIRED PLUMBING POINTS MUST BE DETERMINED IN CONJUNCTION WITH PRODUCT SPECIFICATIONS, COLOUR SELECTION AND CONTRACT.</i> V = VANITY BASIN (NOTE: WASTE IS DIMENSIONED AS 100MM OFF WALL AS STD) WC = CENTRELINE TOILET (NOTE: WASTE POINT IS DIMENSIONED HARD AGAINST WALL AS STD) B = CENTRELINE BATH (NOTE: WASTE POINT IS INDICATIVE ONLY - REFER TO SPECS TO CLARIFY) PS = CENTRELINE PLUMBING STACK SH = CENTRELINE SHOWER BASE (IF STRIP DRAIN SELECTED, DIM. TO CENTRELINE OF DRAIN 150MM OFF WALL) S = CENTRELINE KITCHEN SINK BOWLS L = CENTRELINE LAUNDRY TUB	DESIGN: RETREAT 6 FACADE: ASPIRE CEILING: 24 GARAGE:	FREEDOM m metricon	OWNER: A. & J. BEVAN & M. LUDLOW LOT 9 AINSWORTH ROAD MONGOGARIE	
	QA SLAB LAYOUT PLAN		BY METRICON 209 Robina Town Centre Drive, Robina, QLD 4226 Tel: 07 5501 7200 Fax: 07 5562 2194. Metricon Homes QLD Pty Ltd is licensed under the QBCC Act 1991 (QBCC Licence 40992), NSW Builders License 36654C COPYRIGHT © 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.	JOB NO: 743489 MST VER: FEB 2022
METRICON HOMES OWNS COPYRIGHT IN THIS DRAWING. UNAUTHORISED USE, REPRODUCTION OR ADAPTION IS FORBIDDEN AND WILL BE PROSECUTED.		CONSTRUCTION PLANS DATE : 19.12.23 3LB		SHEET: 88 of 13

NOTES:

- * INTERNAL HEIGHT DIMENSIONS ARE TAKEN FROM F.F.L.
- * INTERNAL DIMENSIONS ARE TAKEN FROM PLASTER.
- * ALL BENCHTOP DIMENSIONS ARE CRITICAL.
- * TILE & CUPBOARD DIMENSIONS ARE APPROX. ONLY & MAY BE ALTERED TO SUIT MODULAR SIZES & FINISH THICKNESSES.
- * SHOWER SCREEN HEIGHTS ARE INDICATIVE ONLY AND WILL ALTER DEPENDING ON SHOWER BASE CONSTRUCTION METHODS.
- * BENCHTOPS AND ISLAND BENCH BACK PANELS MAY HAVE A JOIN DEPENDANT ON SIZE & CONFIGURATION, POSITIONED AT THE MANUFACTURERS DISCRETION.
- * PROFILE LINES DRAWN ON CABINETRY ARE INDICATIVE ONLY, REFER TO COLOUR SELECTION.

NOTE:
 PROVIDE SELECTED STONE BENCH TOP TO VANITIES WITH 20mm EDGE.

DESIGN: **CLARA 15**
 FACADE: **ASPIRE** CEILING: **25, L**
 GARAGE: **SINGLE**

INTERNAL ELEVATIONS

METRICON HOMES OWNS COPYRIGHT IN THIS DRAWING. UNAUTHORISED USE, REPRODUCTION OR ADAPTION IS FORBIDDEN AND WILL BE PROSECUTED.

FREEDOM | **m**
 metricon

BY METRICON

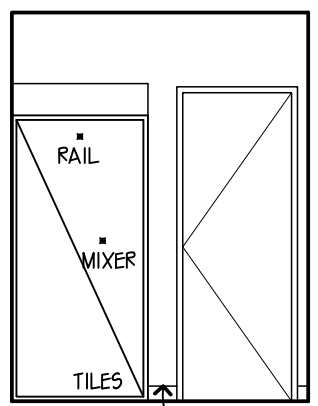
209 Robina Town Centre Drive, Robina, QLD 4226
 Tel: 07 5501 7200 Fax: 07 5562 2194
 Metricon Homes QLD Pty Ltd is licensed under the QBCC Act 1991 (QBCC Licence 40992), NSW Builders License 36654C.
 COPYRIGHT 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.

OWNER: **A. & J. BEVAN & M. LUDLOW**
LOT 9 AINSWORTH ROAD
MONGOGARIE

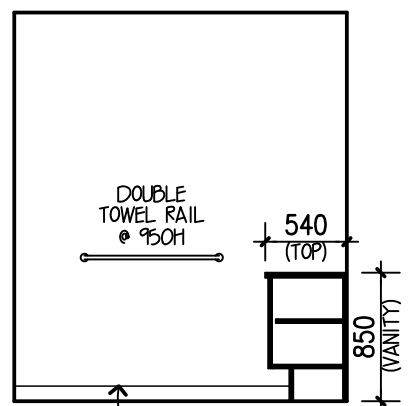
JOB NO: **743489** MST VER: **FEB 2022**

PERMIT No: **—** DWS: **N3**

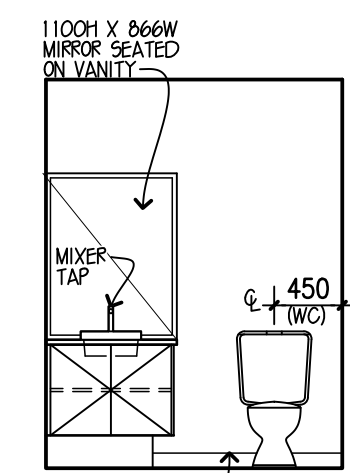
CONSTRUCTION PLANS SHEET:
 DATE: **19.12.23 3LB** 10 of 13



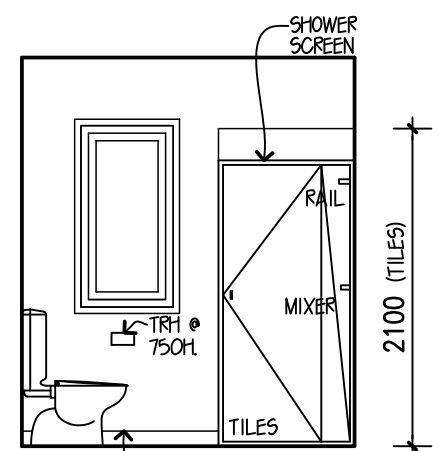
SKIRTING TILES
 ELEVATION A
 ENSUITE



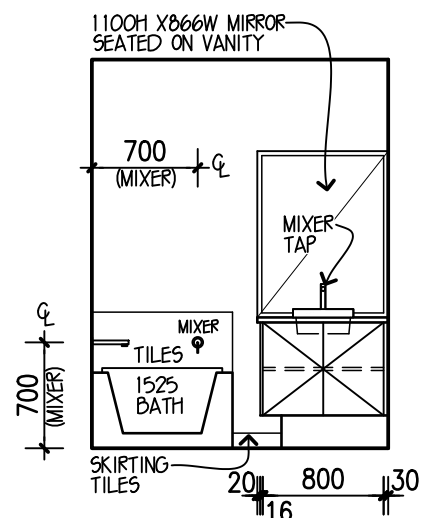
DOUBLE TOWEL RAIL @ 750H
 540 (TOP)
 850 (VANITY)
 20 520
 SKIRTING TILES
 ELEVATION B



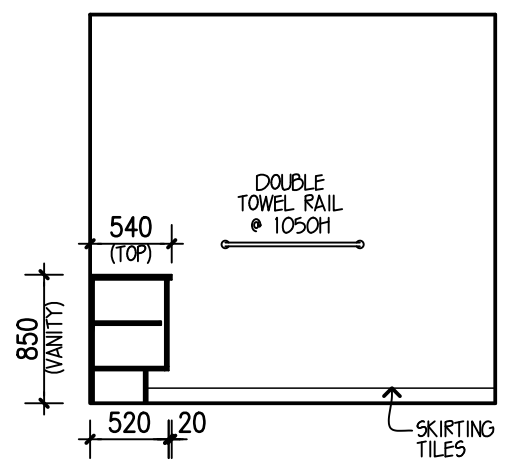
1100H X 866W MIRROR SEATED ON VANITY
 MIXER TAP
 450 (WC)
 30 800 20
 16 SKIRTING TILES
 ELEVATION C



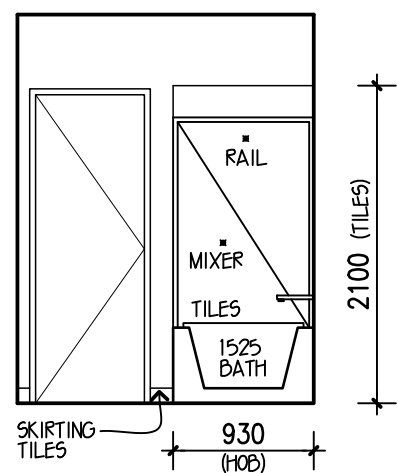
SHOWER SCREEN
 2100 (TILES)
 900X900 SHR. BASE
 SKIRTING TILES
 ELEVATION D



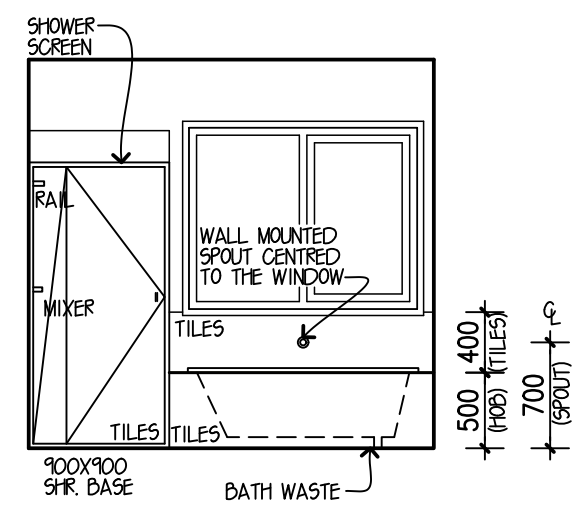
1100H X 866W MIRROR SEATED ON VANITY
 700 (MIXER) @
 700 (MIXER) @
 1525 BATH
 20 800 30
 16 SKIRTING TILES
 ELEVATION A
 BATH



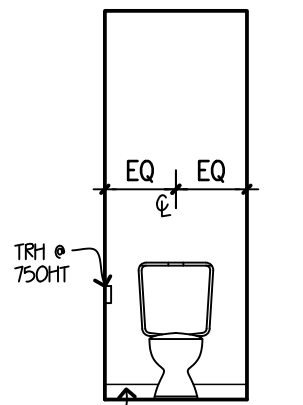
DOUBLE TOWEL RAIL @ 1050H
 540 (TOP)
 850 (VANITY)
 520 20
 SKIRTING TILES
 ELEVATION B



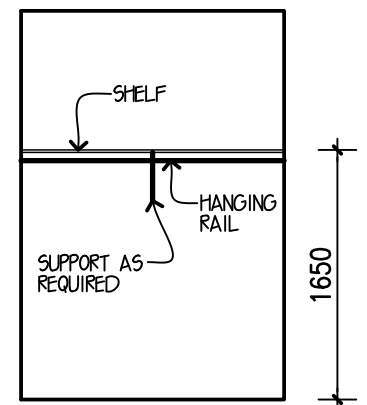
RAIL
 MIXER
 1525 BATH
 930 (HOB)
 SKIRTING TILES
 ELEVATION C



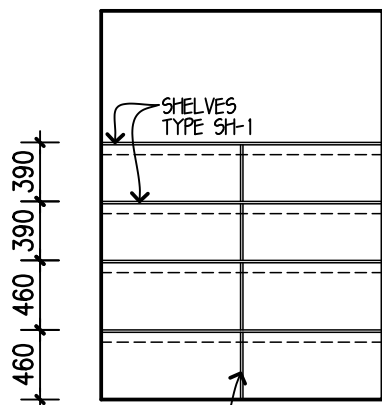
SHOWER SCREEN
 2100 (TILES)
 900X900 SHR. BASE
 WALL MOUNTED SPOUT CENTRED TO THE WINDOW
 500 1400 (HOB) (TILES)
 700 (SPOUT) @
 BATH WASTE
 ELEVATION D



TRH @ 750HT
 EQ EQ
 SKIRTING TILES
 ELEVATION C
 W.C.

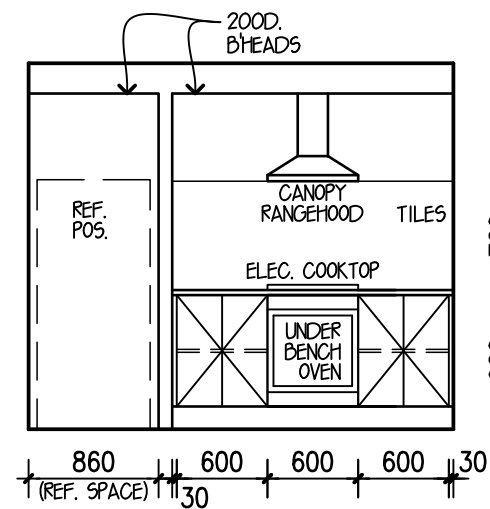


SHELF
 HANGING RAIL
 SUPPORT AS REQUIRED
 1650

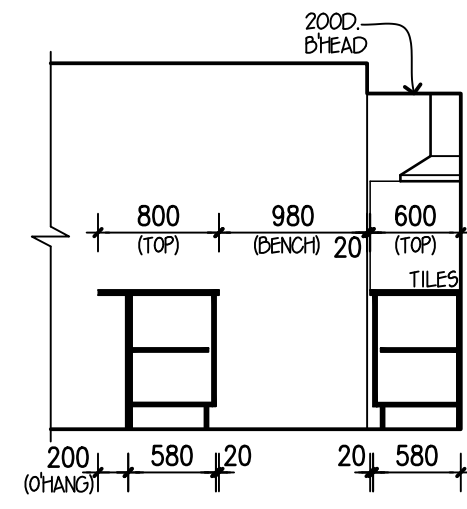


SHELVES TYPE SH-1
 SUPPORT AS REQUIRED
 460 460 390 390
 ELEVATION D
 LINEN

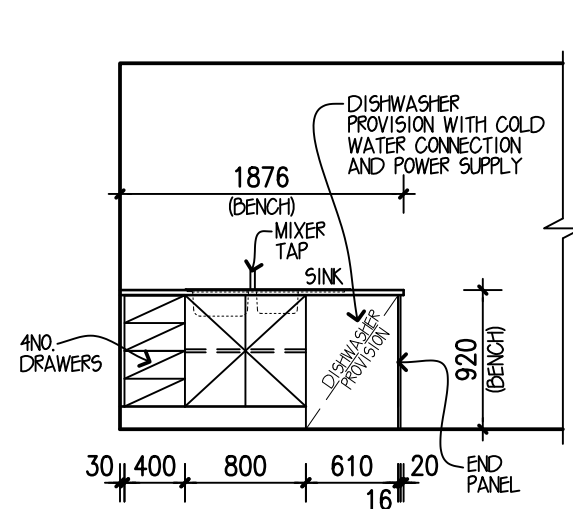
INTERNALS 1:50



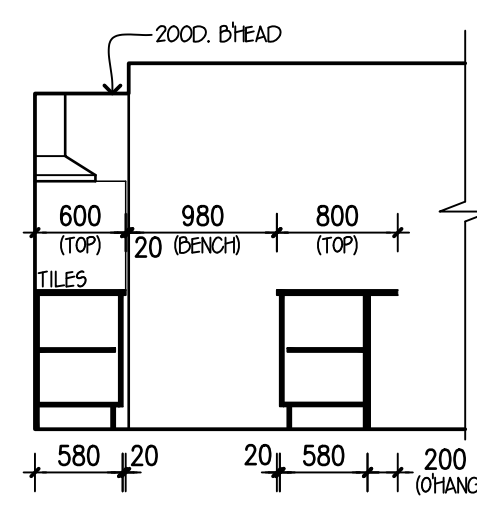
ELEVATION A
KITCHEN



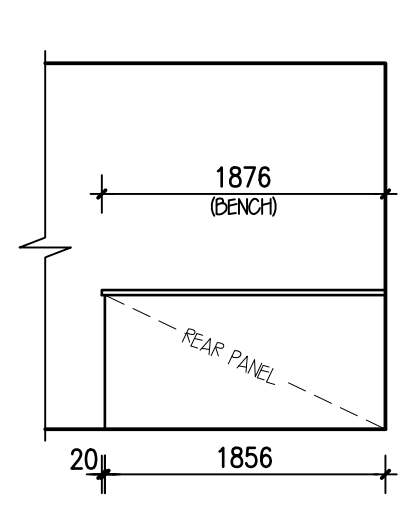
ELEVATION B



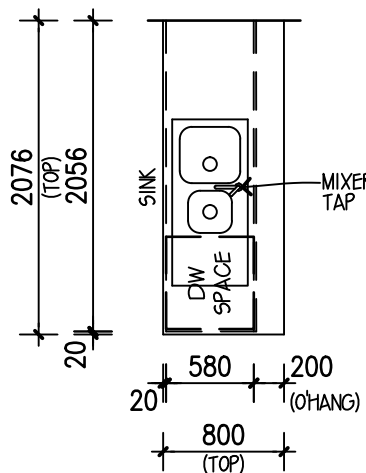
ELEVATION C



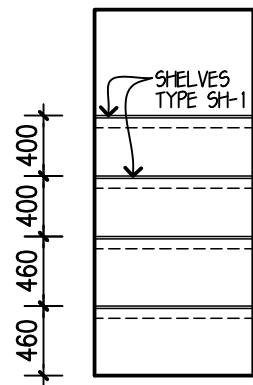
ELEVATION D



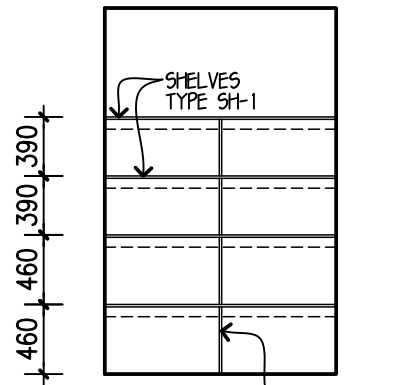
ELEVATION A
(ISLAND BENCH)



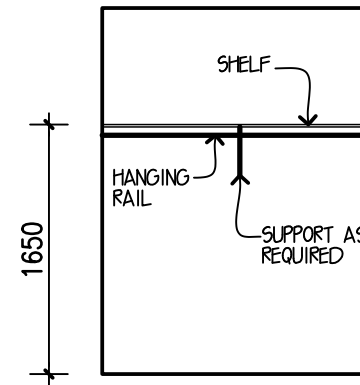
KITCHEN ISLAND
BENCH DETAIL



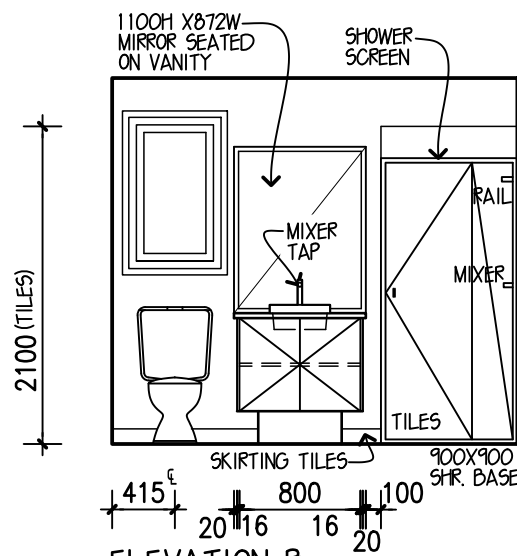
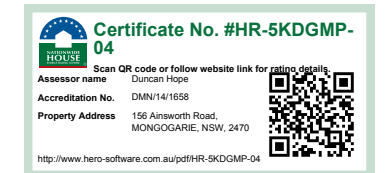
ELEVATION B
PANTRY



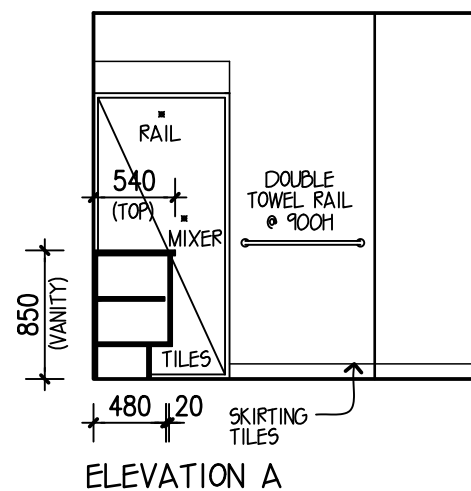
ELEVATION B
LINEN



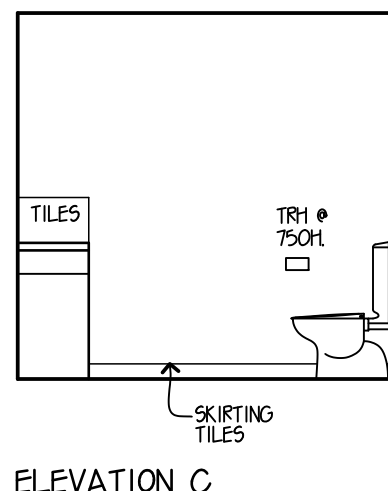
BED'S 1 & 2
ROBE (TYPICAL)
INTERNALS 1:50



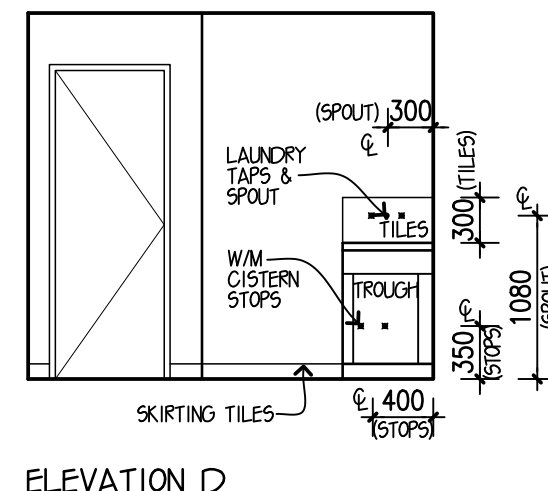
ELEVATION B
BATH
INTERNALS 1:50



ELEVATION A



ELEVATION C



ELEVATION D

DESIGN: **RETREAT 6**
 FACADE: **ASPIRE** CEILING: **25, L**
 GARAGE: **SINGLE**

INTERNAL ELEVATIONS

METRICON HOMES OWNS COPYRIGHT IN THIS DRAWING. UNAUTHORISED USE, REPRODUCTION OR ADAPTION IS FORBIDDEN AND WILL BE PROSECUTED.



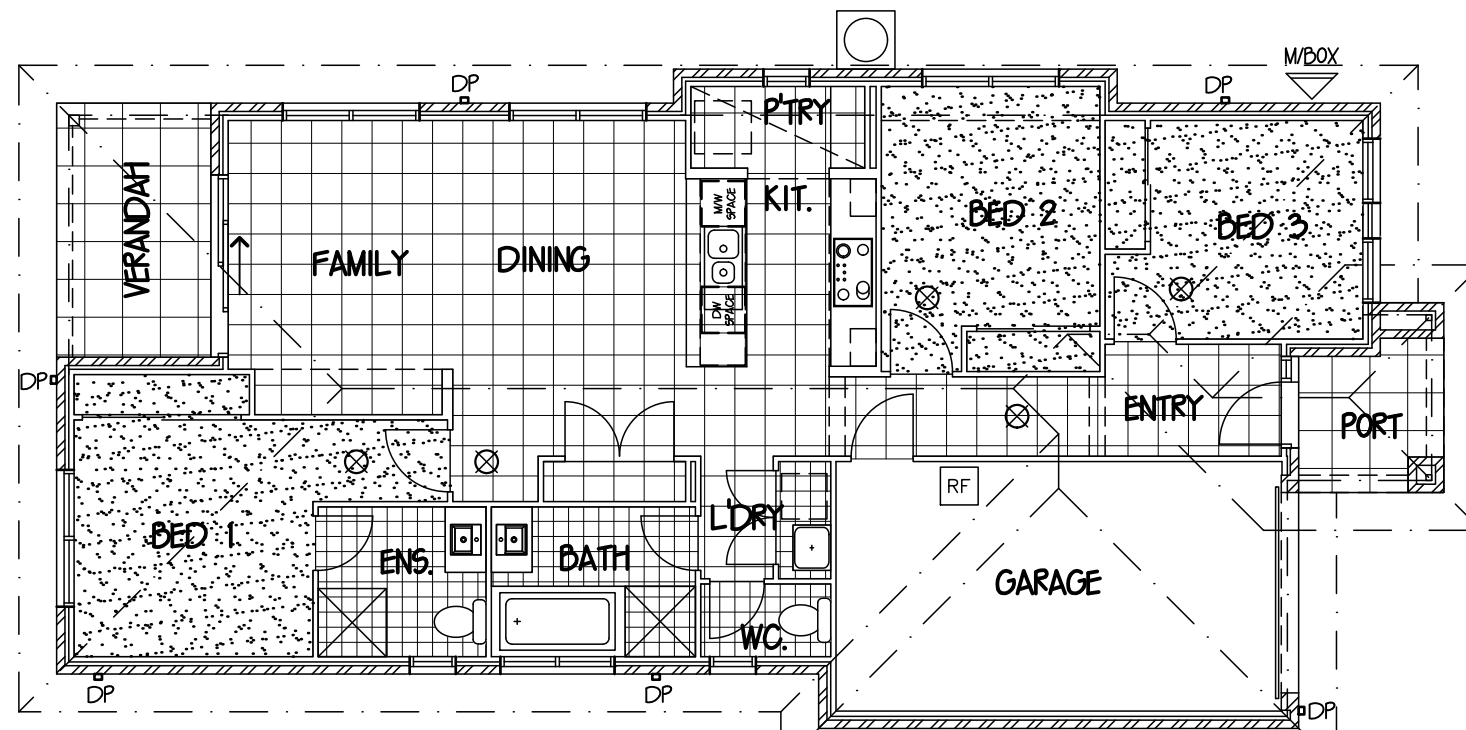
BY METRICON
 209 Robina Town Centre Drive, Robina, QLD 4226
 Tel: 07 5501 7200 Fax: 07 5562 2194
 Metricon Homes QLD Pty Ltd is licensed under the QBCC Act 1991 (QBCC Licence 40992), NSW Builders License 36654C
 COPYRIGHT © 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.

OWNER: **A. & J. BEVAN & M. LUDLOW**
LOT 9 AINSWORTH ROAD
MONGOGARIE

JOB NO: 743489 MST VER: FEB 2022

PERMIT No: _____ DWS: N3

CONSTRUCTION PLANS
 DATE: 19.12.23 3LB SHEET: 11 of 13



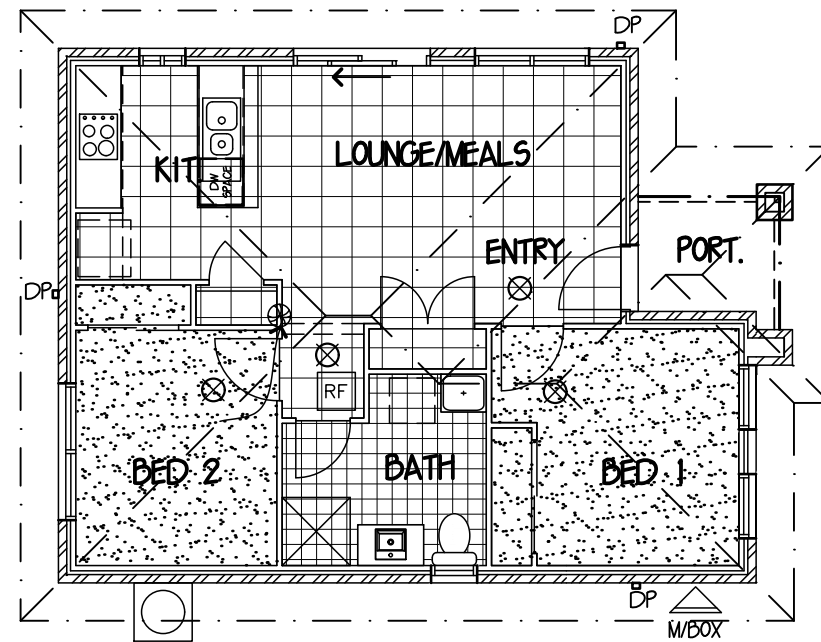
FLOOR COVERINGS LEGEND:

	WET AREA TILES = 9.70 SQM
	TILED = 44.30 SQM
	CARPET = 33.94 SQM
	OUTDOOR TILES = 10.29 SQM



FLOOR COVERING PLAN 1:100

DESIGN: CLARA 15 FACADE: ASPIRE CEILING: 25, L GARAGE: SINGLE	FREEDOM m metricon	OWNER: A. & J. BEVAN & M. LUDLOW LOT 9 AINSWORTH ROAD MONGOGARIE	
		BY METRICON 209 Robina Town Centre Drive, Robina, QLD 4226 Tel: 07 5501 7200 Fax: 07 5562 2194. Metricon Homes QLD Pty Ltd is licensed under the QBCC Act 1991 (QBCC Licence 40992), NSW Builders License 36654C. COPYRIGHT © 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.	JOB NO: 743489 MST VER: FEB 2022 PERMIT No: --- DWS: N3
FLR. COVER PLAN METRICON HOMES OWNS COPYRIGHT IN THIS DRAWING. UNAUTHORISED USE, REPRODUCTION OR ADAPTION IS FORBIDDEN AND WILL BE PROSECUTED.	CONSTRUCTION PLANS DATE : 19.12.23 3LB		SHEET: 12 of 13



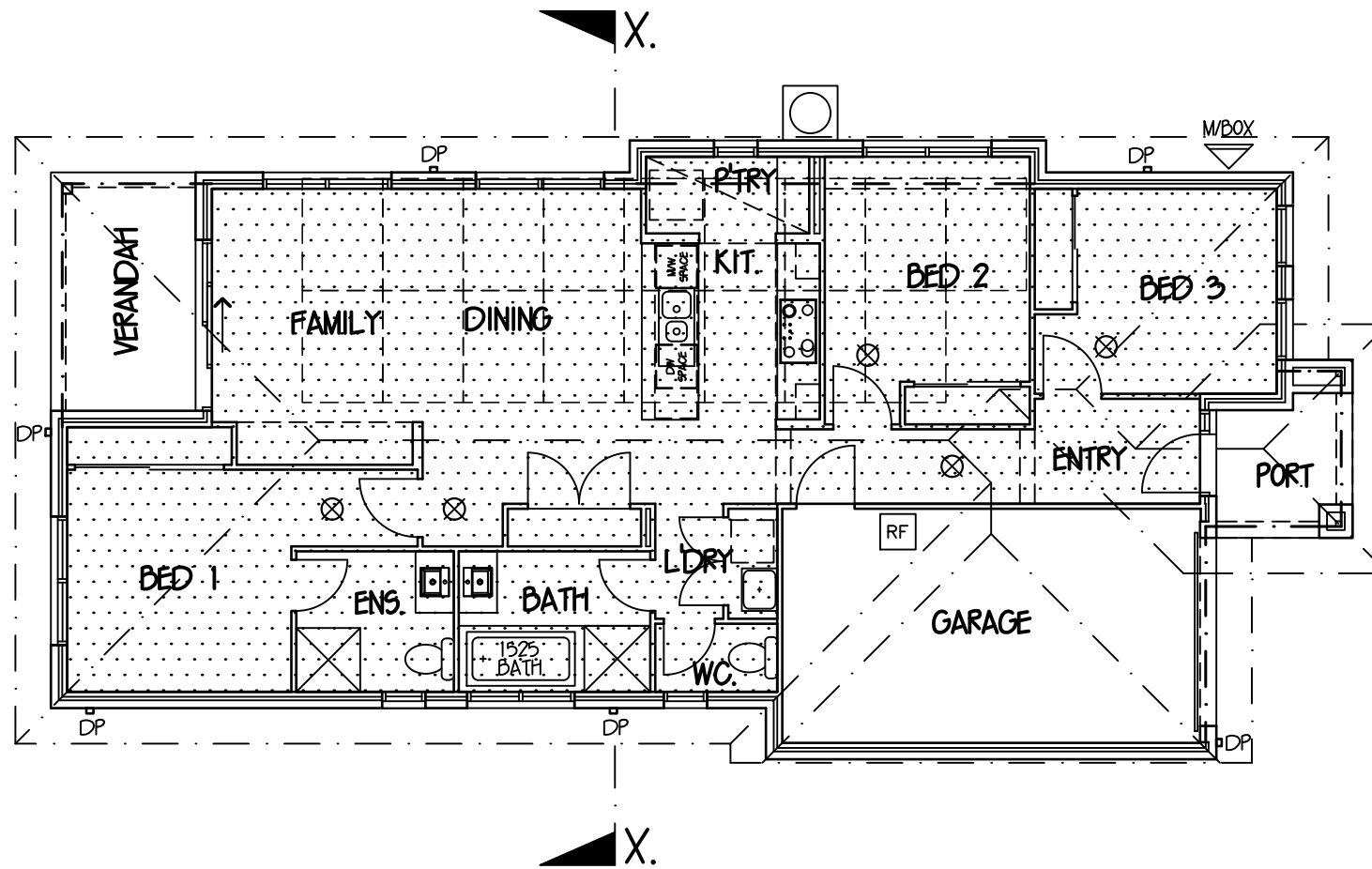
FLOOR COVERINGS LEGEND:

	WET AREA TILES = 5.34 SQM
	TILED = 24.04 SQM
	CARPET = 19.39 SQM



FLOOR COVERING PLAN 1:100

DESIGN: RETREAT 6 FACADE: ASPIRE CEILING: 24 GARAGE:		OWNER: A. & J. BEVAN & M. LUDLOW LOT 9 AINSWORTH ROAD MONGOGARIE	
		FLR. COVER PLAN	BY METRICON
METRICON HOMES OWNS COPYRIGHT IN THIS DRAWING. UNAUTHORISED USE, REPRODUCTION OR ADAPTION IS FORBIDDEN AND WILL BE PROSECUTED.	209 Robina Town Centre Drive, Robina, QLD 4226 Tel: 07 5501 7200 Fax: 07 5562 2194. Metricon Homes QLD Pty Ltd is licensed under the QBCC Act 1991 (QBCC Licence 40992), NSW Builders License 36654C COPYRIGHT © 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.	PERMIT No: ---	DWS: N3
		CONSTRUCTION PLANS DATE : 19.12.23 3LB	
		SHEET: 13 of 13	



Floor Space Ratio = 0.00025 :1

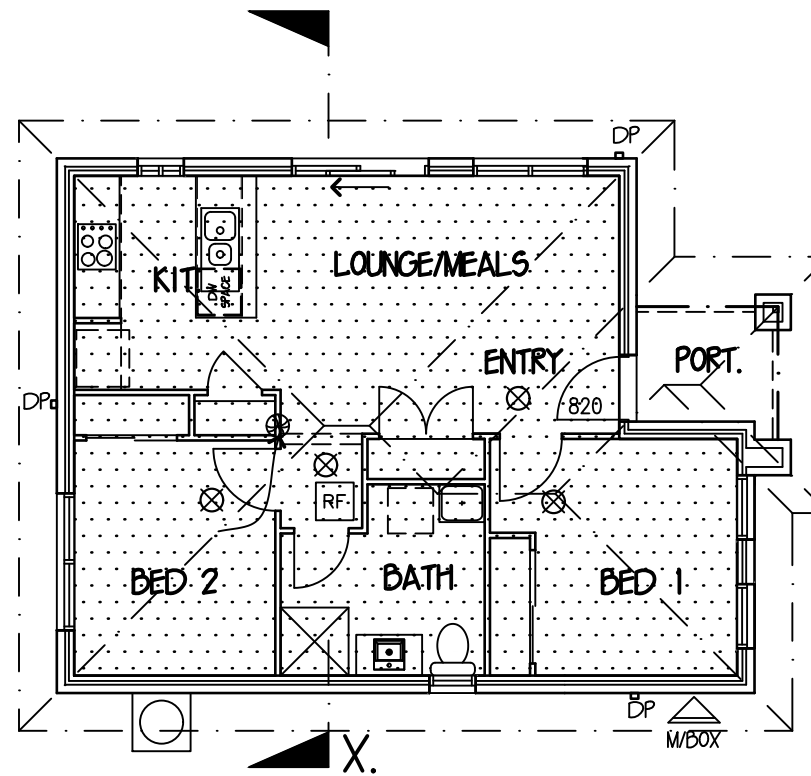
Gross Floor Area/Site Area = FSR
 96.13sqm/ 391500 sqm = 0.00025

Gross Floor Area	
(measured from the internal face of external walls excludes front portico, outdoor room, garage and stair void)	
Ground Floor:	96.13 SQM
First Floor:	0.00 SQM
Total:	96.1 SQM

 = Gross Floor Area



DESIGN: CLARA 15		OWNER: A. & J. BEVAN & M. LUDLOW	
FACADE: ASPIRE CEILING: 25, L		LOT 9 AINSWORTH ROAD MONGOGARIE	
GARAGE: SINGLE		JOB NO: 743489	MST VER: FEB 2022
FLOOR PLAN	BY METRICON 209 Robina Town Centre Drive, Robina, QLD 4226 Tel: 07 5501 7200 Fax: 07 5562 2194. Metricon Homes QLD Pty Ltd is licensed under the QBCC Act 1991 (QBCC Licence 40992), NSW Builders License 36654C. COPYRIGHT 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.	PERMIT No: —	DWS: N3
	METRICON HOMES OWNS COPYRIGHT IN THIS DRAWING. UNAUTHORISED USE, REPRODUCTION OR ADAPTION IS FORBIDDEN AND WILL BE PROSECUTED.	CONSTRUCTION PLANS DATE : 19.12.23 3LB	SHEET: 2 of 13



Floor Space Ratio = 0.00013 :1

Gross Floor Area/Site Area = FSR
 52.54sqm/ 391500 sqm = 0.00013

Gross Floor Area	
(measured from the internal face of external walls excludes front portico, outdoor room, garage and stair void)	
Ground Floor:	52.54 SQM
First Floor:	0.00 SQM
Total:	52.5 SQM

 = Gross Floor Area



DESIGN: RETREAT 6	FREEDOM m metricon	OWNER: A. & J. BEVAN & M. LUDLOW	
FACADE: ASPIRE CEILING: 24 GARAGE: SINGLE		LOT 9 AINSWORTH ROAD MONGOGARIE	
FLOOR PLAN	BY METRICON	JOB NO: 743489	MST VER: FEB 2022
	209 Robina Town Centre Drive, Robina, QLD 4226 Tel: 07 5501 7200 Fax: 07 5562 2194. Metricon Homes QLD Pty Ltd is licensed under the QBCC Act 1991 (QBCC Licence 40992), NSW Builders License 36654C. COPYRIGHT 2009 reproduction forbidden. Unauthorised use, reproduction or adaption is forbidden and will be prosecuted.	PERMIT No: ___	DWS: N3
		CONSTRUCTION PLANS DATE : 19.12.23 3LB	
		SHEET: 3 of 13	