



Energy@greenchoiceconsulting.com.au  
1300 864 944

## Energy Efficiency Report

**Address:**

Lot 22, (#11) Harden Crescent, Georges Hall, NSW 2198

**Building Classification:**

Class 1

**GC Consulting Job Number:**

ER1-T3318\_Unit 2

**Client Job Number:**

11 hardencres

**Compliance achieved?**

Yes

**Date of Report:**

27/01/2025



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# Home Performance

## Achieved Rating

Total (MJ/m <sup>2</sup> )	29.6
Heating (MJ/m <sup>2</sup> )	18.3
Cooling (MJ/m <sup>2</sup> )	11.4

## Target Rating

Total (MJ/m <sup>2</sup> )	30
Heating (MJ/m <sup>2</sup> )	25
Cooling (MJ/m <sup>2</sup> )	18

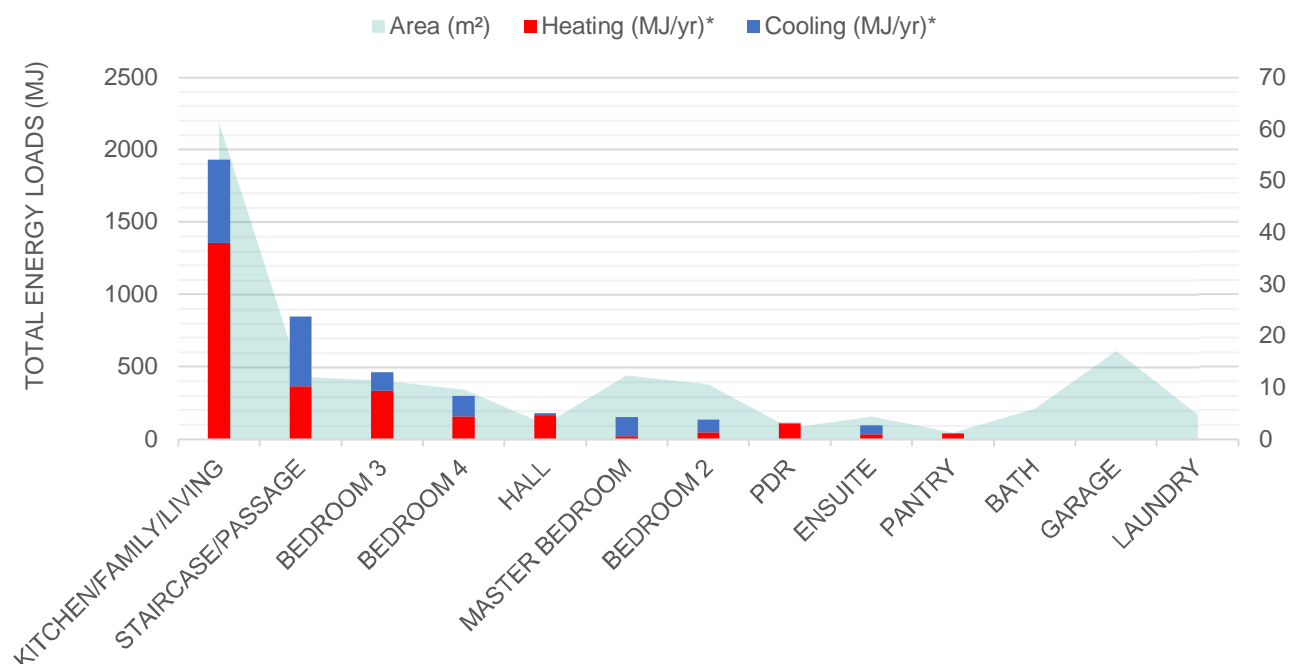
7.0 Stars

Compliance is achieved when the following conditions are met:

1. The Star Rating heating load must be lower than the Limit heating load.
2. The Star Rating cooling load must be lower than the Limit cooling load.
3. The Star Rating total Energy must be lower than the Limit total energy.

NatHERS Climate Zone: 56

## ZONED ENERGY LOAD DISTRIBUTION TOTALS (MJ)



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# Building Specifications

External Wall Construction	Insulation	Frame Material	Notes
Brick Veneer	R2.7 Insulation + Wrap	Timber Frame	Living & Garage
Framed	R2.7 Insulation + Wrap	Timber Frame	Living

If a steel frame is nominated, then a thermal break with an R-Value of 0.2 (or greater) must be installed between the frame and any external cladding, if applicable.

If reflective wrap is used it may need to be class 4 to meet Vapour Permeable requirements. It is the client's responsibility to ensure the product selected is compliant with all NCC provisions.

Internal Wall Construction	Insulation	Notes
Partiwall	R2.7 Insulation	As per drawings
Stud Frame	R2.5 Insulation	Internal Laundry & Bathroom walls
Stud Frame	None	Remainder

Floor Construction Type/s	Underfloor Insulation	Slab Edge Insulation	Notes
Concrete slab on ground	None	None	Ground floor
AAC Panel	None	N/A	Suspended floors
Floor coverings as per drawings/client notes (NatHERS Defaults modelled if not specified)			

Ceiling Construction Type	Insulation	Notes
Plasterboard	R5.0 Insulation	Throughout (excl. Garage)
Plasterboard	R3.0 Insulation	450mm ceiling perimeter reduced to R3.0 as per NatHERS protocols   must be installed as per AS3999

Roof Construction Type	Insulation	Notes	Colour
Colorbond	R1.3 Anticon	As per drawings	Light

All ceiling penetrations are to be sealed.

Glazing Supplier
Not Nominated

Ceiling Penetrations
If downlights are installed, must be IC/IC-F Rated

Type	U-Value	SHGC	Glass	Notes
Sliding Windows	5.00	0.52	Low-E	As per documentation
Sliding Windows	3.00	0.48	DG + Low-E	As per documentation
Awning Windows	2.99	0.48	DG + Low-E	As per documentation
Sliding Doors	2.96	0.50	DG + Low-E	As per documentation
Fixed Windows	2.96	0.48	DG + Low-E	As per documentation

If the window type is default A the values apply to the following window/door types: Awning, Casement, hinged, French and Tilt'n'turn windows.

If the window type is default B the values apply to the following window/door types: Fixed, Bi-Fold, Double-Hung, Louvre, Sliding, and stacker.

A 5% tolerance is allowed to the nominated SHGC values. The U-Value must be the same or lower than the nominated values.

Please contact us if your supplier does not meet the values noted above.

Additional Notes
-

## Energy Efficiency Report

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# Declaration of Compliance

I certify that the details provided within this energy efficiency report are true, correct, and reflective of the plans and specifications of this dwelling. I certify that I am a specialist in the relevant discipline and compliance has been demonstrated with the requirements of the National Construction Code (NCC) as outlined in this report.

Name of assessor: Albert Burton  
Qualification: CPP41212 Certificate IV in NatHERS Assessment  
Accreditation number: DMN/21/2045  
Signature: *Albert Burton*  
Company Name: Green Choice Consulting Pty Ltd (ABN 63 658 893 415)

Green Choice Consulting Pty Ltd (ACN 658 893 415) holds no responsibility if the project is not constructed in accordance with the requirements of the current National Construction Code (NCC) or and/or the requirements detailed in this report. Any changes to the design elements of the building may void this assessment and require the project to be recertified to confirm compliance.

This report demonstrates compliance with the energy efficiency provisions of the national construction code only. It is the client's responsibility to ensure all products are compliant with the relevant building codes and project specific requirements. Green Choice Consulting does not accept responsibility for the selection of non-compliant products.

## Provisions for this assessment

This assessment demonstrates compliance with Part H6 of the NCC. Calculations have been done using Hero and the Chenath Engine (v3.22).

- (1) Building must comply with Section 13 of the ABCB Housing Provisions clauses—
  - (a) 13.2.2, for building fabric thermal insulation; and
  - (b) 13.2.3(7) and 13.2.5(5), for thermal breaks; and
  - (c) 13.2.3(5), for compensating for a loss of ceiling insulation, other than where the *house energy rating software* has compensated for a loss of ceiling insulation; and
  - (d) 13.2.6(4), 13.2.6(5) and 13.2.6(6) for floor edge insulation; and
  - (e) Part 13.4, for building sealing
- (2) To comply with H6P2, in addition to S42C3, a building must comply with Part 13.7 of the ABC Housing Provisions.

Services must be installed as per Part 13.7.

All metal roof framing must have a thermal break, consisting of a material with an R-Value of greater than or equal to 0.2, installed between the metal sheet roofing and its supporting metal purlins, metal rafters or metal battens.  
All metal wall framing must have a thermal break, consisting of a material with an R-Value greater than or equal to 0.2, installed between the external cladding and the metal frame.

## QLD only provisions (to apply if this project is in QLD)

In accordance with the Queensland Development Code Part 4.1—

For applying S42C2 of Specification 42 of the BCA, a reference to climate zones 1 and 2 is taken to be a reference to climate zones 1, 2, 3 or 5.

Toilet cisterns must have a dual flush function, minimum 4-star WELS rating and be compatible with the size of the toilet bowl to allow for proper functioning of the toilet.

## WA only provisions (to apply if this project is in WA)

All tap fittings other than bath outlets and garden taps must be a minimum of 4 stars WELS rated.

All showerheads must be a minimum of 3 stars WELS rated.

All sanitary flushing systems must be a minimum of 4 stars WELS rated dual flush.

An outdoor private swimming pool or spa associated with a Class 1 building must be supplied with a cover, blanket or the like that is designed to reduce water evaporation and is accredited under the Smart Approved Watermark Scheme governed by the Australian Water Association, the Irrigation Association of Australia, the Nursery and Garden Industry Australia and the Water Services Association of Australia.

All internal heated water outlets (such as taps, showers and washing machine water supply fittings) must be connected to a heated water system or a re-circulating heated water system with pipes installed and insulated in accordance with AS/NZS 3500: Plumbing and Drainage, Part 4 Heated Water Services. The pipe from the heated water system or re-circulating heated water system to the furthest heated water outlet must not be more than 20 m in length or 2 liters of internal volume.

## NSW only provisions (to apply if this project is in NSW)

All requirements in this report are in accordance with the BASIX requirements.

All insulation must be installed as per NSW H6P1.

Building must be sealed as per NSW H6P2.

Domestic services must be selected and have features as per NSW H6P3.

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# Nationwide House Energy Rating Scheme®

## NatHERS® Certificate No. #HR-VMUJ5D-02

Generated on 24 Jan 2025 using Hero 4.1 (Chenath v3.23)

### Property

**Address** Unit 2, Lot 22 (#11) Harden Crescent,  
Georges Hall, NSW, 2198

**Lot/DP** 22/236764

**NCC Class\*** 1a

**Floor/all Floors** 1 of 2 floors

**Type** New

### Plans

**Main Plan** 11 hardencres

**Prepared by** Aktreum Building Designers

### Construction and environment

<b>Assessed floor area (m²)*</b>	<b>Exposure Type</b>
<b>Conditioned*</b> 123.4	Suburban
<b>Unconditioned*</b> 10.9	<b>NatHERS climate zone</b>
<b>Total</b> 151.5	56 - Mascot AMO
<b>Garage</b> 17.2	



### Accredited assessor

**Name** Albert Burton

**Business name** Green Choice Consulting

**Email** albert@greenchoiceconsulting.com.au

**Phone** +61 045219132

**Accreditation No.** DMN/21/2045

**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

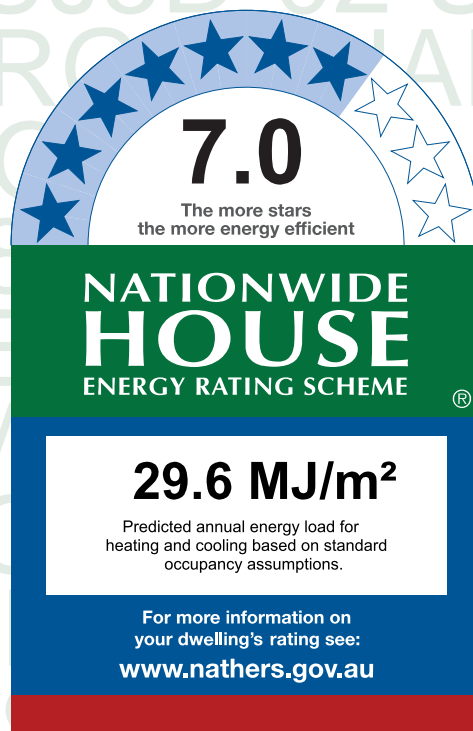
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. 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](http://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
<b>Modelled</b>	18.3	11.4
<b>Load limits</b>	25	18

#### Features determining load limits

Floor type	
(lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
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-VMUJ5D-02>.

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 onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

## 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.



## 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?

☐☐☐☐

Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?

☐☐☐☐

### 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?

☐☐☐☐☐

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?

☐☐☐

#### 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?

☐☐☐☐☐

Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?

☐☐☐☐☐

#### 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?

☐☐☐☐☐

#### 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?

☐☐☐☐☐

#### 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?

☐☐☐☐☐

#### 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?

☐☐☐☐☐

#### 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.

☐☐☐☐

#### 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".

☐☐☐☐

#### Heating and cooling load limits\*

Do the load limits settings (shown on page 1) match what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

\* 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"/>
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#### Insulation installation method

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

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



## Room schedule

Room	Zone Type	Area (m <sup>2</sup> )
BEDROOM 2	Bedroom	10.70
ENSUITE	Night Time	4.48
MASTER BEDROOM	Bedroom	12.42
BATH	Unconditioned	6.01
BEDROOM 3	Bedroom	11.39
BEDROOM 4	Bedroom	9.73
STAIRCASE/PASSAGE	Day Time	12.21
KITCHEN/FAMILY/LIVING	Kitchen/Living	61.08
PDR	Day Time	2.27
PANTRY	Day Time	1.35
HALL	Day Time	3.13
GARAGE	Garage	17.21
LAUNDRY	Unconditioned	4.88

## 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
HAAWD-030-050	Housing Aluminium Awning Window Double Glazed	2.99	0.48	0.46	0.51
HAFWD-030-050	Housing Aluminium Fixed Window Double Glazed	2.96	0.48	0.46	0.51
HASWD-030-050	Housing Aluminium Sliding Window Double Glazed	3.00	0.48	0.46	0.50
HASWS-050-050	Housing Aluminium Sliding Window Single Glazed	5.00	0.52	0.49	0.54
HBSDD-030-050	Housing Thermally Broken Aluminium Sliding Door Double Glazed	2.96	0.50	0.47	0.52

\* Refer to glossary.



Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
BATH	HASWS-050-050	W23	600	1500	Sliding	10	W	None
BEDROOM 2	HASWD-030-050	W24	800	2000	Sliding	10	N	None
BEDROOM 3	HBSDD-030-050	D08	2350	2100	Sliding Door	45	S	None
BEDROOM 3	HASWD-030-050	W22	800	2170	Sliding	10	W	None
BEDROOM 4	HASWD-030-050	W31	800	2170	Sliding	10	E	None
BEDROOM 4	HBSDD-030-050	D07	2350	2100	Sliding Door	45	S	None
ENSUITE	HASWD-030-050	W25	900	700	Sliding	10	E	None
KITCHEN/FAMILY/LIVING	HASWD-030-050	W09	1450	1500	Sliding	45	N	None
KITCHEN/FAMILY/LIVING	HBSDD-030-050	D05	2350	3000	Sliding Door	45	N	None
KITCHEN/FAMILY/LIVING	HAAWD-030-050	W10-1	1500	900	Awning	90	E	None
KITCHEN/FAMILY/LIVING	HAFWD-030-050	W10-2	400	900	Fixed	0	E	None
KITCHEN/FAMILY/LIVING	HAAWD-030-050	W11-1	1500	900	Awning	90	E	None
KITCHEN/FAMILY/LIVING	HAFWD-030-050	W11-2	400	900	Fixed	0	E	None
KITCHEN/FAMILY/LIVING	HASWD-030-050	W12	1450	1500	Sliding	45	E	None
KITCHEN/FAMILY/LIVING	HASWD-030-050	W13	800	2170	Sliding	45	E	None
KITCHEN/FAMILY/LIVING	HAFWD-030-050	W14	2050	750	Fixed	0	S	None
KITCHEN/FAMILY/LIVING	HAFWD-030-050	W08	600	3000	Fixed	0	W	None
MASTER BEDROOM	HASWD-030-050	W26	800	2170	Sliding	10	E	None
STAIRCASE/PASSAGE	HAFWD-030-050	W30	2104	1400	Fixed	0	E	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)	Orient-ation	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 <sup>2</sup> )	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
GARAGE	2340	2755	100	S
KITCHEN/FAMILY/LIVING	2350	1200	90	S
LAUNDRY	2100	820	90	N

## 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	2.70	Yes
FC-REFL-CAV	Fibre-Cement Clad Battened (Refl Cavity) Stud Wall	0.50	Medium	2.70	Yes

## External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
BATH	BV-REFL-CAV	2750	3331	W	550	Yes
BEDROOM 2	FC-REFL-CAV	2750	3100	N		No
BEDROOM 2	BV-REFL-CAV	2750	3450	W	550	Yes
BEDROOM 3	BV-REFL-CAV	2750	3384	S	1475	Yes
BEDROOM 3	BV-REFL-CAV	2750	3100	W	550	Yes
BEDROOM 4	BV-REFL-CAV	2750	3100	E	552	No
BEDROOM 4	BV-REFL-CAV	2750	3446	S	1475	Yes
ENSUITE	FC-REFL-CAV	2750	3730	N		No
ENSUITE	BV-REFL-CAV	2750	1200	E	552	No
GARAGE	BV-REFL-CAV	2750	3093	S	533	Yes
GARAGE	BV-REFL-CAV	2750	5565	W		Yes
GARAGE	BV-REFL-CAV	2750	950	E	3793	Yes
KITCHEN/FAMILY /LIVING	BV-REFL-CAV	2750	6920	N	3400	Yes
KITCHEN/FAMILY /LIVING	BV-REFL-CAV	2750	12181	E		Yes
KITCHEN/FAMILY /LIVING	BV-REFL-CAV	2750	3740	S	1487	Yes
KITCHEN/FAMILY /LIVING	BV-REFL-CAV	2750	4880	W		Yes
LAUNDRY	BV-REFL-CAV	2750	1700	N	8370	Yes
LAUNDRY	BV-REFL-CAV	2750	1783	S		Yes
MASTER BEDROOM	BV-REFL-CAV	2750	3330	E	552	No
STAIRCASE/PASSAGE	BV-REFL-CAV	2750	2161	E	552	No

## Internal wall *type*

Wall ID	Wall Type	Area (m <sup>2</sup> )	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	89.8	0.00
INT-PB	Internal Plasterboard Stud Wall	26.5	2.50
P-PART11	Partiwall	6.9	5.40

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
BATH	AAC-75: Suspended AAC (Aerated Autoclaved Concrete) Floor (75mm)	6.0	N/A	0.15	Tile (8mm)
BEDROOM 2	AAC-75: Suspended AAC (Aerated Autoclaved Concrete) Floor (75mm)	10.7	N/A	0.15	Carpet
BEDROOM 3	AAC-75: Suspended AAC (Aerated Autoclaved Concrete) Floor (75mm)	11.4	N/A	0.15	Carpet
BEDROOM 4	AAC-75: Suspended AAC (Aerated Autoclaved Concrete) Floor (75mm)	9.7	N/A	0.15	Carpet
ENSUITE	AAC-75: Suspended AAC (Aerated Autoclaved Concrete) Floor (75mm)	4.5	N/A	0.15	Tile (8mm)
GARAGE	CSOG-100: Concrete Slab on Ground (100mm)	17.2	N/A	0.00	Exposed
HALL	CSOG-100: Concrete Slab on Ground (100mm)	3.1	N/A	0.00	Carpet
KITCHEN/FAMILY/LIVING	CSOG-100: Concrete Slab on Ground (100mm)	61.1	N/A	0.00	Tile (8mm)
LAUNDRY	CSOG-100: Concrete Slab on Ground (100mm)	4.9	N/A	0.00	Tile (8mm)
MASTER BEDROOM	AAC-75: Suspended AAC (Aerated Autoclaved Concrete) Floor (75mm)	12.4	N/A	0.15	Carpet
PANTRY	CSOG-100: Concrete Slab on Ground (100mm)	1.4	N/A	0.00	Tile (8mm)
PDR	CSOG-100: Concrete Slab on Ground (100mm)	2.3	N/A	0.00	Tile (8mm)
STAIRCASE/PASSAGE	AAC-75: Suspended AAC (Aerated Autoclaved Concrete) Floor (75mm)	12.2	N/A	0.15	Carpet

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
BATH	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
BATH	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	5.00	Yes
BEDROOM 2	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
BEDROOM 2	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	5.00	Yes
BEDROOM 3	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
BEDROOM 3	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	5.00	Yes
BEDROOM 4	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	5.00	Yes
BEDROOM 4	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
ENSUITE	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	5.00	Yes

\* Refer to glossary.

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
ENSUITE	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
GARAGE	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	0.00	No
KITCHEN/FAMILY/LIVING	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	5.00	Yes
LAUNDRY	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	5.00	Yes
MASTER BEDROOM	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	5.00	Yes
MASTER BEDROOM	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
STAIRCASE/PASSAGE	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	5.00	Yes
STAIRCASE/PASSAGE	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
BATH	2	Downlight	90	Sealed
BEDROOM 2	3	Downlight	90	Sealed
BEDROOM 3	3	Downlight	90	Sealed
BEDROOM 4	3	Downlight	90	Sealed
ENSUITE	1	Downlight	90	Sealed
HALL	1	Downlight	90	Sealed
KITCHEN/FAMILY/LIVING	1	Exhaust Fan	350	Sealed
KITCHEN/FAMILY/LIVING	13	Downlight	90	Sealed
LAUNDRY	1	Downlight	90	Sealed
MASTER BEDROOM	3	Downlight	90	Sealed
PANTRY	1	Downlight	90	Sealed
PDR	1	Downlight	90	Sealed
STAIRCASE/PASSAGE	3	Downlight	90	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
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\* Refer to glossary.





## Ceiling fans

Location	Quantity	Diameter (mm)
None		

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	1.30	0.30	Light
FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	0.00	0.50	Medium

## 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]
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	

## 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 home's 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

<b>Annual energy load</b>	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
<b>AFRC</b>	Australian Fenestration Rating Council
<b>Assessed floor area</b>	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.
<b>Ceiling penetrations</b>	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.
<b>Conditioned</b>	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.
<b>COP</b>	Coefficient of performance
<b>Custom windows</b>	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
<b>Default windows</b>	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
<b>EER</b>	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
<b>Energy use</b>	This is your home's rating without solar or batteries.
<b>Energy value</b>	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).
<b>Entrance door</b>	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.
<b>Exposure</b>	see exposure categories below
<b>Exposure category - exposed</b>	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
<b>Exposure category - open</b>	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).
<b>Exposure category - suburban</b>	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
<b>Exposure category - protected</b>	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
<b>Horizontal shading feature</b>	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
<b>National Construction Code (NCC) Class</b>	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 <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .
<b>Net zero home</b>	a home that achieves a net zero energy value*.
<b>Opening percentage</b>	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
<b>Provisional value</b>	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 <a href="http://www.nathers.gov.au">www.nathers.gov.au</a>
<b>Recommended capacity</b>	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.
<b>Reflective wrap (also known as foil)</b>	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
<b>Roof window</b>	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.
<b>Shading features</b>	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
<b>Solar heat gain coefficient (SHGC)</b>	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.
<b>Skylight (also known as roof lights)</b>	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
<b>STCs</b>	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
<b>Thermal breaks</b>	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.
<b>U-value</b>	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
<b>Unconditioned</b>	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions
<b>Vertical shading features</b>	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).
<b>Window shading device</b>	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.



AMENDED DA CLAUSE 4.55 PROPOSED TWO STOREY ATTACHED DUPLEX 11 HARDEN CRS GEORGES HALL



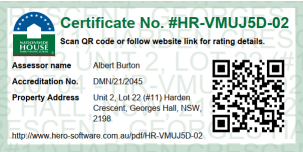
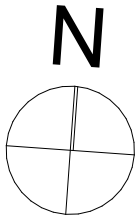
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2	SITE ANALYSIS	
3	DEMOLITION PLAN	
4	SUBDIVISION PLAN	
5	SEDIMENT CONTROL PLAN	
6	SITE PLAN	
7	GROUND FLOOR PLAN	
8	FIRST FLOOR PLAN	
9	ROOF PLAN	
10	ELEVATIONS	
11	ELEVATIONS	
12	SECTIONS	
13	SECTION	
14	CONCEPT LANDSCAPE PLAN	
15	WINDOWS AND DOORS SCHEDULE	
16	BASIX COMMITMENTS	
17	STREETSCAPE & FENCE DETAIL	
18	SHADOW DIAGRAMS	
19	NOTIFICATION PLAN	

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Building Designers

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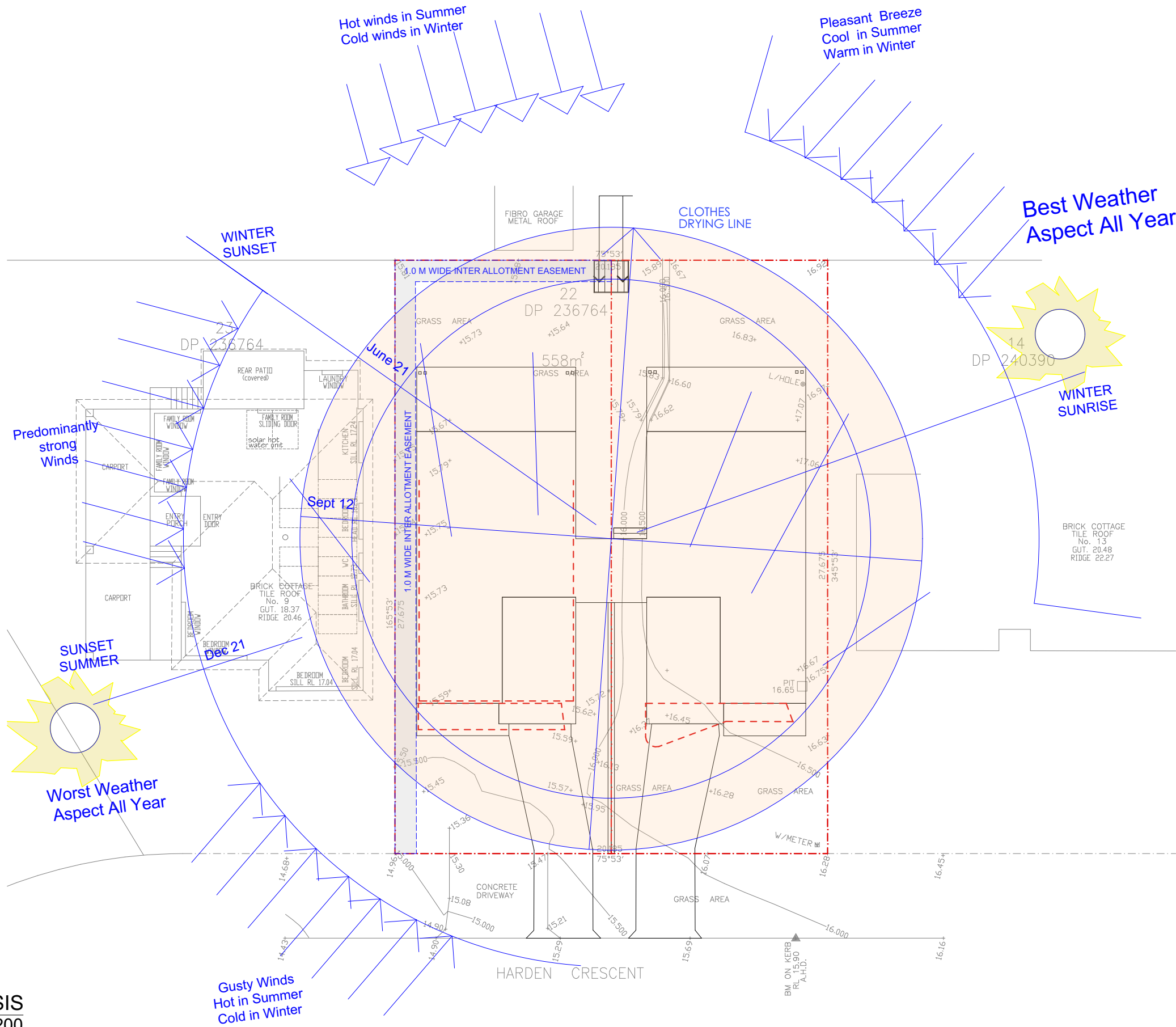
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OCCUPANCY AMENDED DA CLAUSE 4.55  
ClientMr HAYDAR ALI  
Address11 HARDEN CRES GEORGES HALL LOT 22 DP236764

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IssueF

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Sheet Number:1

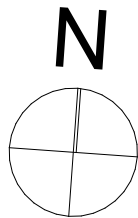




SITE ANALYSIS  
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Client  
Mr HAYDAR ALI  
Address  
11 HARDEN CRES GEORGES  
HALL LOT 22 DP236764

Sheet Title: **SITE ANALYSIS**

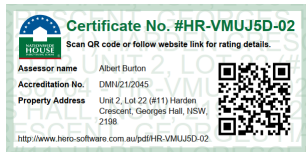
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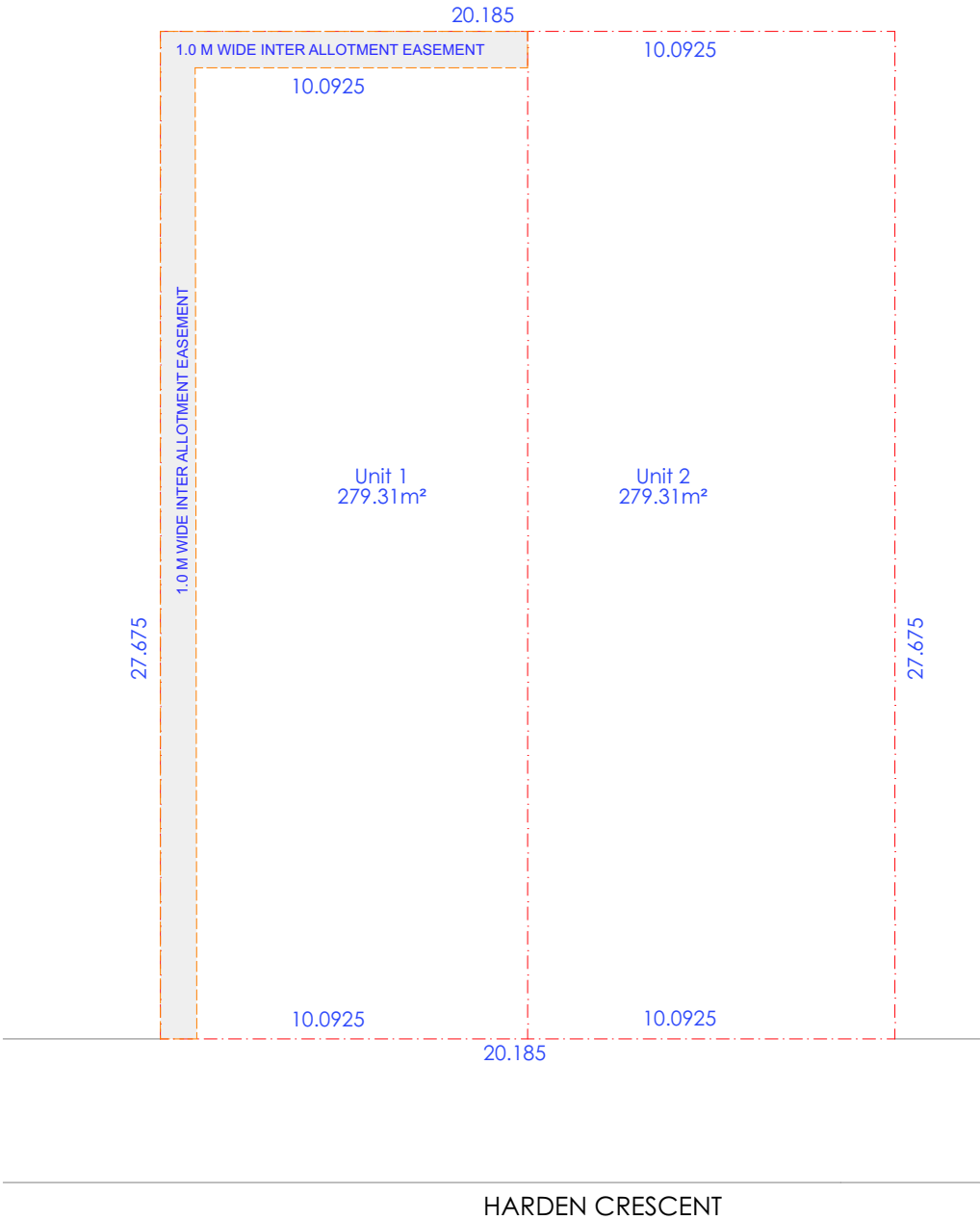
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3



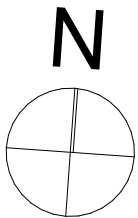
**Quality of Work:** All work carried out must comply with: Building Code of Australia to the extent required under Environmental Planning Assessment Act 1979, all other relevant codes, standards and specifications that the work is required to comply with under any law and the conditions of any relevant development consent or complying development certificate and any construction certificate.



# SUBDIVISION PLAN

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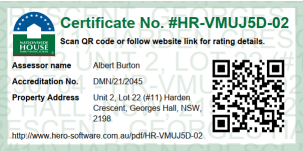
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Client	Address	Scale	1:200	Date/Revision	05/01/25
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**Quality of Work:** All work carried out must comply with: Building Code of Australia to the extent required under Environmental Planning Assessment Act 1979, all other relevant codes, standards and specifications that the work is required to comply with under any law and the conditions of any relevant development consent or complying development certificate and any construction certificate.

**Construction Management Plan**

- The following Construction Management Plan will highlight the following:
- Location of material storage.
  - Location of any plant & equipment (cranes,hoists,etc.)
  - Maximum intended weight and size of construction and delivery vehicles
  - Intended timing of deliveries to site.
  - Contact details for of person with authority to respond to any construction related access issues.
  - Intended communication of construction details to adjoining residents
  - Details of any signage to be erected on the site

**Location of any plant or equipment**

Plant and equipment (cranes, hoists, rubbish bins etc) will be located in Location "B" (front yard) to avoid damage to existing established landscape to the rear of the

NOTE - Use of plant & equipment is to be timed so that material storage does not interfere with locating plant or equipment in the required area.

**Construction and delivery vehicles**

Construction vehicles will generally take the shape of trade utes/vans. Delivery vehicles are to be of fixed tray type with maximum weight of 3 tonnes. Concrete delivery is to be in the more of mini-mix vehicle. Rubbish bins are to be limited to 4 cubic metre bins during demolition stage and reduced to 3 cubic metre bins for general site cleaning as necessary.

**Vehicle access and egress**

Construction vehicles (utes/vans) can access and egress the site without any special requirements. Delivery trucks are not to enter the site and must stay on the public, road to avoid damage to road crossing, footpath and or driveway.

**Material delivery and handling**

Materials delivered to site are to be unloaded from delivery truck on site wherever possible and stored in appropriate location as specified immediately. Where unloading is not possible on site materials are to be unloaded at street level and manually carried onto site and stored in appropriate locations as specified immediately.  
NOTE- At no time are materials to be stored on the road, access handle, nature strip or adjoining properties.

**Hours of Work**

All Construction /Demolition work relating to the Development Consent within the city must be carried out between the hours of 7:00am to 5:00pm Mondays to Fridays and 7:00am to 12:00 noon on Saturday. No work is to be done on Sunday and Public Holidays. Refer Council's DA Determination Notes.

**Timing of deliveries**

Material deliveries will generally take place between 8:00am and 3:00pm the day before the materials will be required on site.

**Communication with adjoining residents**

Upon receipt of the Construction Certificate the adjoining residents will be notified that works are being arranged to begin. This will provide approximately 3 weeks' notice in this regard. This notification will include all contact details per above. Further to this the Construction Supervisor will introduce himself to these residents a minimum of 48 hours prior to commencement.

**Location of Material Storage**

Materials will be stored on site in locations marked or shown Below:  
Location marked = (side access for proposed driveway) heavy/bulky materials such as bricks/steel/roof tiles etc will be stored in this area in order to allow lifting off delivery truck and placement for storage without "double handling" of materials. Timber/Pre-Fabricated frames and trusses etc will be stored on the front lawn. These materials are generally of longer lengths and light enough to allow manual handling from delivery truck to storage area.

Location "C" - New floor platform- internal finishing materials (Skirting/architraves/doors etc\_ will be stored internally within the new area as directed by the builder for protection from weather. Fragile materials such as tiles, plumbing fittings and fixtures etc will be stored in the old study/bedroom area or rooms not generally used by the proprietors so as to minimize possibility of damage and to provide security against theft.

NOTE - Material deliveries are to be timed so that only materials required for the scope of works to be carried out at that stage are on site in order to ensure the site is not cluttered and to allow easy access for trades/residents to and from the site.

**Signage**

Signage in the form of a site sign to identify the Builder's and Architects names and contact details and the Principal certifying Authority will be required on site. The location of this signage is shown on the associated plans

**Soil & Water Management Plans**

All sediment controls are to be installed before work commence. Any areas of exposed soil are to be minimised. All top-soil is to be retained on site for re-use. Material & soil stockpiles are to be protected sediment fencing. Stockpiles and work areas are to be as indicated by the Construction Management Plan to preserve existing vegetation. Surface water flows during construction are to be controlled as

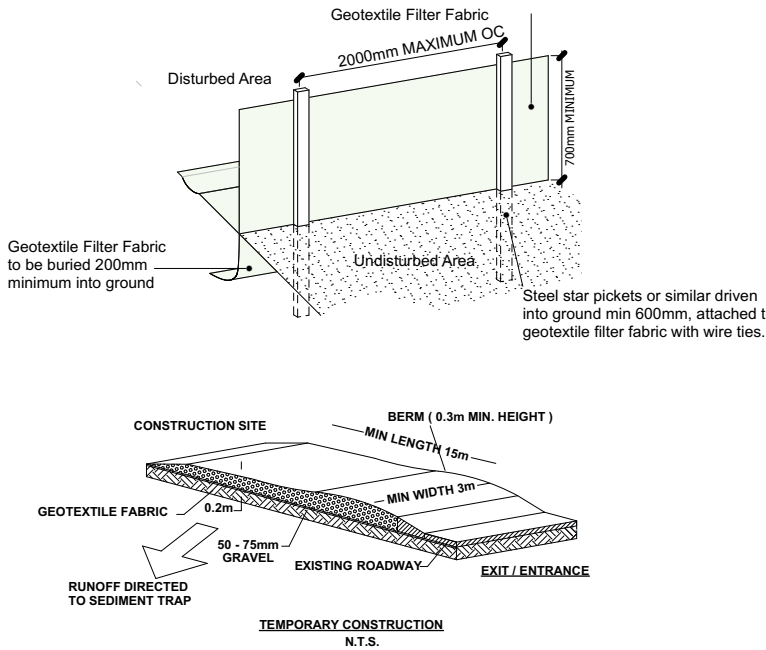
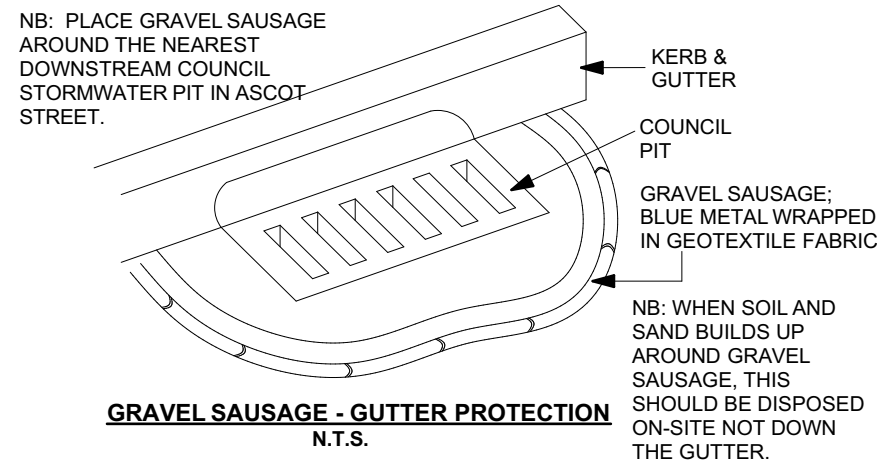
Clean run off is to be diverted around disturbed areas  
Disturbed areas are to be promptly rehabilitated  
Sediment fence are to be regularly monitored and manufactured during construction.  
Slope gradient & flow distance are to be minimised

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**SEDIMENTATION CONTROL NOTES**

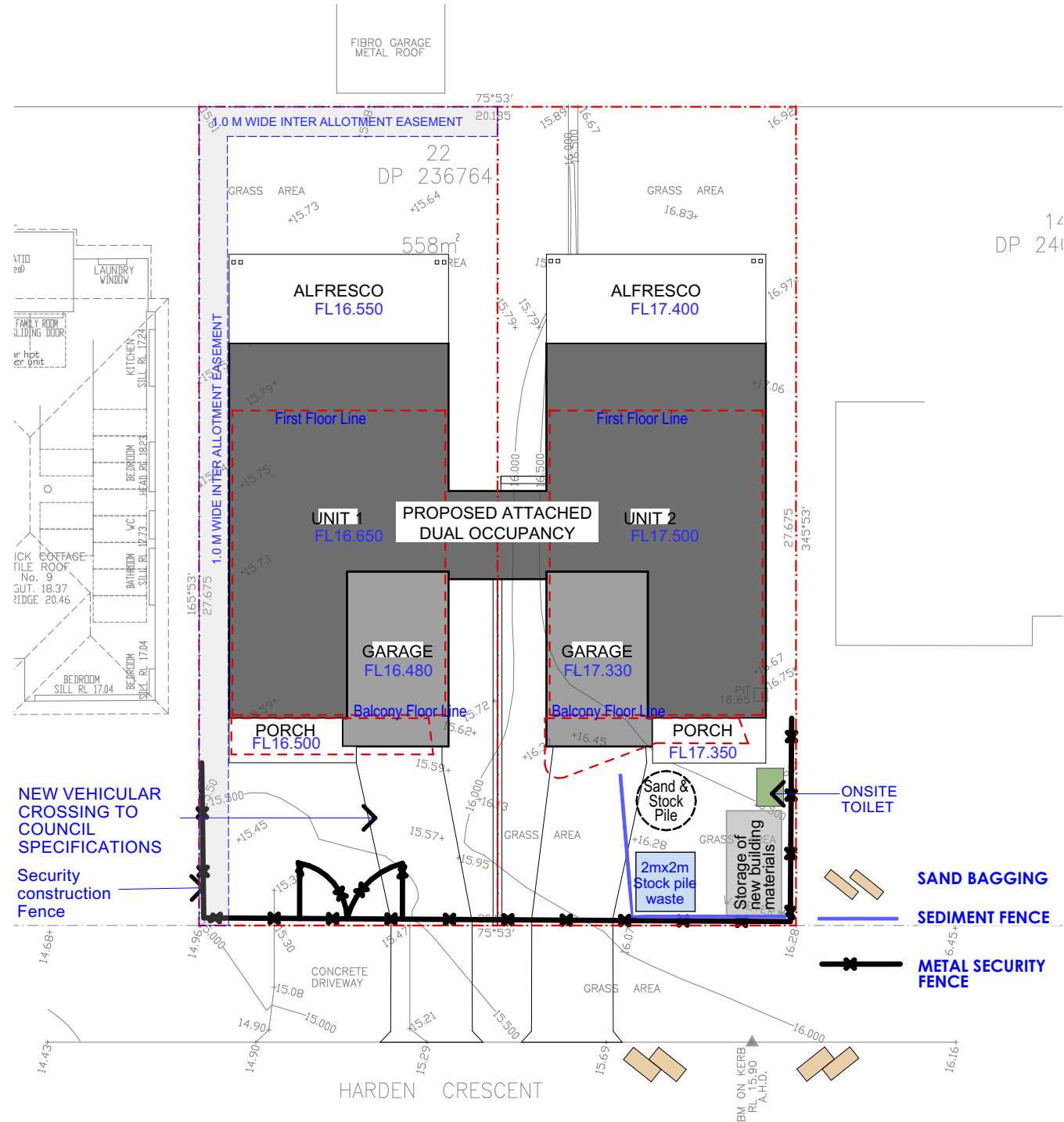
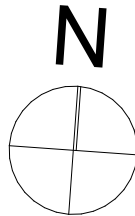
- ALL EROSION AND SEDIMENTATION CONTROL MEASURE, INCLUDING REVEGETATION AND STORAGE OF SOIL AND TOPSOIL, SHALL BE IMPLEMENTED TO THE STANDARDS OF THE SOIL CONSERVATION OF NSW.
2. DRAINAGE WORKS SHALL BE CONSTRUCTED AROUND ALL INLET PITS, CONSISTING OF 300MM W X 300MM D TRENCH.
3. ALL SEDIMENT BASINS AND TRAPS SHALL BE CLEANED WHEN AT A MAXIMUM OF 60% FULL OF SOIL MATERIALS.
4. ALL DISTURBED AREAS SHALL BE REVEGETATED AS SOON AS THE RELEVANT WORKS ARE COMPLETED.
5. SOIL AND TOPSOIL STOCKPILES SHALL BE LOCATED AWAY FROM DRAINAGE LINES AND AREAS WHERE WATER MAY CONCENTRATE.
6. FILTER SHALL BE CONSTRUCTED BY STRETCHING A FILTER FABRIC (PROPEX OR EQUIVALENT) BETWEEN POSTS AT 2M CENTRES. FABRIC SHALL BE BURIED 200MM ALONG THE BOTTOM EDGE.

NB: PLACE GRAVEL SAUSAGE AROUND THE NEAREST DOWNSTREAM COUNCIL STORMWATER PIT IN ASCOT STREET.



**NOTE:**  
IN ACCORDANCE WITH SECTION 80 A (11) OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 AND CLAUSE 98 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2000, IT IS A PRESCRIBED CONDITION THAT ALL BUILDING WORK MUST BE CARRIED OUT IN ACCORDANCE WITH THE PROVISIONS OF THE BUILDING CODE OF AUSTRALIA (BCA).

**DEMOLITION WORK NOTE:**  
A DEMOLITION WORK MUST BE IN ACCORDANCE WITH AUSTRALIAN STANDARD AS2601-2001, DEMOLITION OF STRUCTURES AND RELEVANT ENVIRONMENTAL / OCCUPATIONAL HEALTH AND SAFETY REQUIREMENTS.



SEDIMENT CONTROL PLAN  
1:200

project		Sheet Title:	
PROPOSED ATTACHED DUAL OCCUPANCY AMENDED DA CLAUSE 4.55		SEDIMENT CONTROL PLAN	
Client	Address	Scale	Date/Revision
Mr HAYDAR ALI	11 HARDEN CRES GEORGES HALL LOT 22 DP236764	1:200	05/01/25
Issue	F	Drawing No.: 11 hardencres	Sheet Number: 5





ENVIRONMENTAL SITE MANAGEMENT NOTES

- All existing trees to be retained unless shown otherwise on approved Architect's or Landscape drawings. Trees retained are to be protected with a high visibility fence, plus flagging to individual trees as necessary.
- Retain all existing grass cover wherever possible.
- Sediment and erosion controls must be in place prior to the commencement of any earthworks of demolition activity.
- Install temporary sediment barriers to all inlet pits likely to collect silt laden water, until surrounding areas are paved or regrassed.
- All silt fences and barriers are to be maintained in good order and regularly desilted during the construction period.
- It is the responsibility of the contractor to ensure that all measures are taken during the course of construction to prevent sediment erosion and pollution of the downstream system. Supervising engineer should be contacted if in doubt.
- It is the responsibility of the contractor to ensure that all measures are taken during the course of construction to prevent sediment erosion and pollution of the downstream system. Supervising engineer should be contacted if in doubt.
- Waste materials are to be stockpiled or loaded into Utility vehicles located as shown on plan.
- stockpiles of loose material such as sand, soil, gravel must be covered with geotextile silt fence material. Plastic sheeting or membrane must not be used. Safety barricading should be used to isolate stockpiles of solid materials such as steel reinforcing, formwork, scaffolding.
- All vehicles leaving the site must pass over the 'ballast' area to shake off site clay and soil. If necessary wheels and axles are to be hose down. Ballast is to be maintained and replaced as necessary during the construction period.
- Delivery and other motor vehicles removing excavated material should travel on stabilised construction paths and material should be taken to the truck to reduce truck movement on the site.
- Any sediment deposit on the public way, including footpath reserve and road surface, is to be removed immediately.
- Provide barriers round all construction works within the footpath area to provide safe access for pedestrians.
- Concrete pumps and cranes are to operate from within the ballast entry driveway area and are not to operate from the public roadway unless specific council permission is obtained.
- delivery vehicles must not stand within the public roadway for more than 20 minutes at a time.
- Any excavation work adjacent to adjoining properties or the public roadway is not to be commenced until the structural engineer is consulted and specific instructions received from the engineer.
- Toilet facilities must be either a flushing type or approved portable chemical closet. Chemical closets are to be maintained and serviced on a regular basis so that offensive odour is not emitted.

SEDIMENTATION CONTROL NOTES

- ALL EROSION AND SEDIMENTATION CONTROL MEASURE, INCLUDING REVEGETATION AND STORAGE OF SOIL AND TOPSOIL, SHALL BE IMPLEMENTED TO THE STANDARDS OF THE SOIL CONSERVATION OF NSW.
2. DRAINAGE WORKS SHALL BE CONSTRUCTED AROUND ALL INLET PITS, CONSISTING OF 300MM W X 300MM D TRENCH.
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Soil Management
All excess soil on site generated as a result of necessary excavations to be re-used as fill to sub base of raft slab and to achieve a levelled building platform.
Termite Protection Note
Kordon Termite Barrier to be installed to perrimeter of building and to all drainage pipe penetrations
Soil Note
Slab Level to form Datum to be Determined on Site & to Existing FFL Retaining walls to be completed to engineers details (if required) Sewer connection to Existing Connection Dish drains (if Needed) to Authorities Details Smoke Alarms to be Mains Connected There are no existing trees to be removed.

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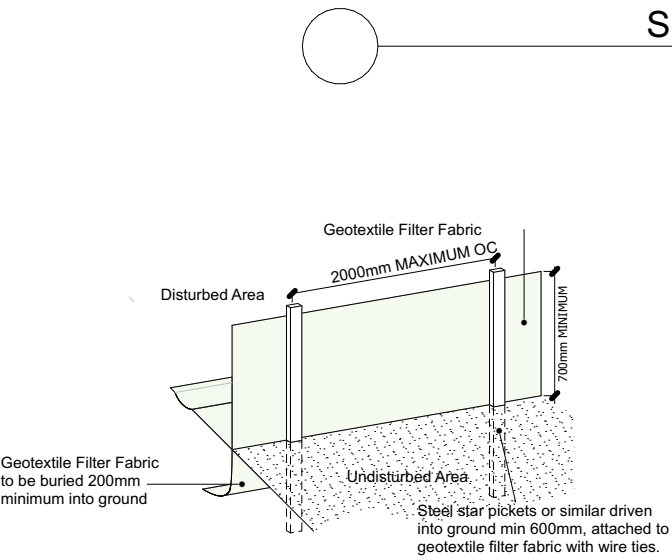
**NOTE:**  
KEEP FOOT PATH AND PUBLIC PEDESTRIAN AREA CLEAN AND CLEAR AT ALL TIMES

**IMPORTANT NOTES**  
CONDENSATION MANAGEMENT SHALL BE IN ACCORDANCE WITH NCC 2019 PART3.8.7 APPLY AN APPROPRIATE TERMITE MANAGEMENT SYSTEM IN ACCORDANCE WITH PART 3.1.3 OF THE NCC

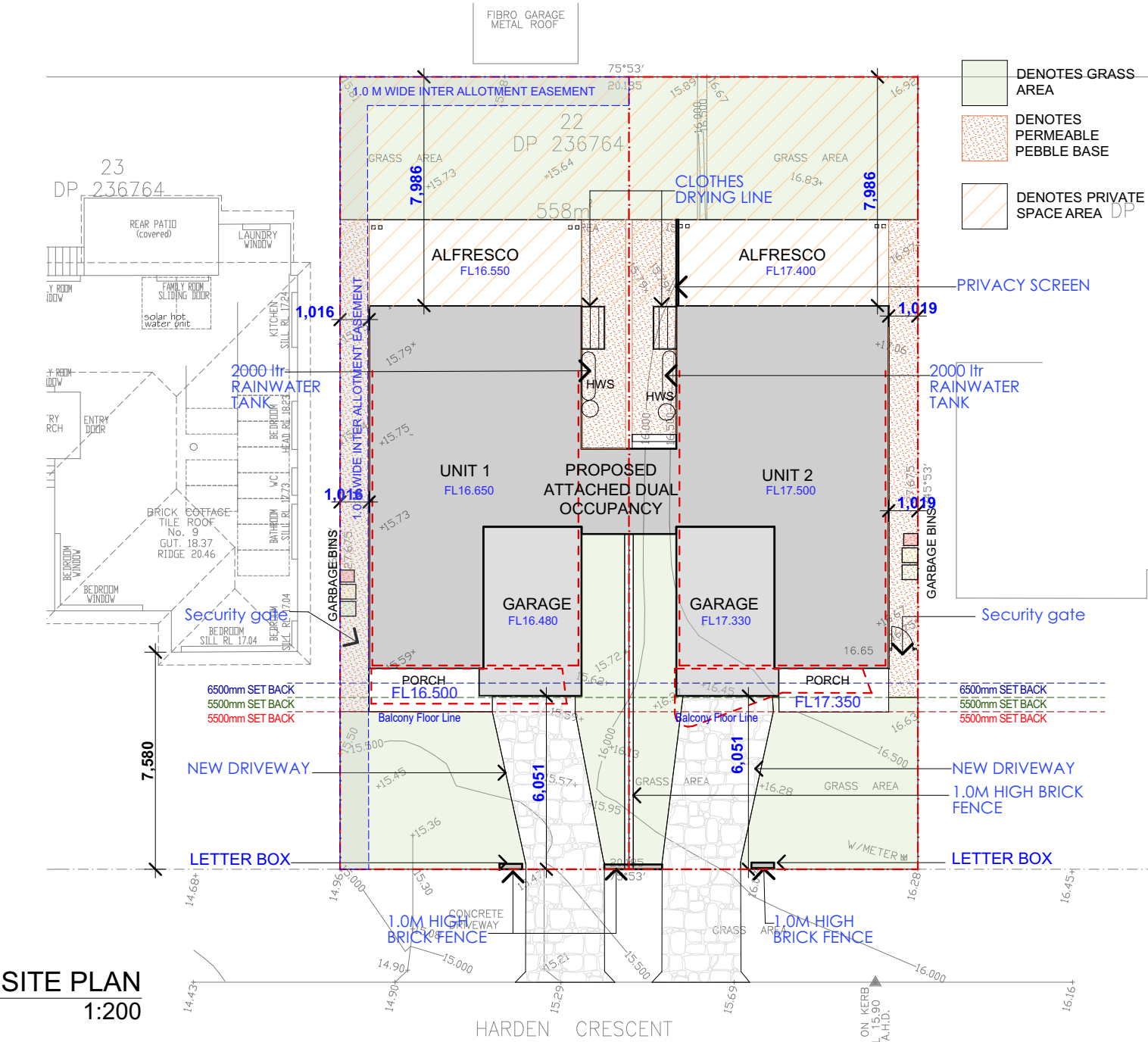
**NOTE: COUNCIL ISSUED FOOTWAY DESIGN LEVELS**  
COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE INCORPORATED INTO THE FINISHED LEVELS ONCE ISSUED BY COUNCIL

**NOTE: SERVICES**  
NO EXCAVATIONS TO BE CARRIED OUT WITHIN FOOTPATH AND PUBLIC PEDESTRIAN AREA WITHOUT CHECKING FOR DEPTH AND LOCATION OF SERVICES

1. ALL EROSION AND SEDIMENTATION CONTROL MEASURES, INCLUDING REVEGETATION AND STORAGE OF SOIL AND TOPSOIL, SHALL BE IMPLEMENTED TO THE STANDARDS OF THE SOIL CONSERVATION OF NSW.
2. ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILIZED AS EARLY AS POSSIBLE DURING DEVELOPMENT.
3. SEDIMENT TRAPS SHALL BE CONSTRUCTED AROUND ALL INLET PITS, CONSISTING OF 300mm WIDE X 300mm DEEP TRENCH.
4. ALL SEDIMENT BASINS AND TRAPS SHALL BE CLEANED WHEN THE STRUCTURES ARE A MAXIMUM OF 60 % FULL OF SOIL MATERIALS, INCLUDING THE MAINTENANCE PERIOD.
5. ALL DISTURBED AREAS SHALL BE REVEGITATED AS SOON AS THE RELEVANT WORKS ARE COMPLETED.
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7. FILTER SHALL BE CONSTRUCTED BY STRETCHING A FILTER FABRIC (PROPEX OR APPROVED EQUIVALENT BETWEEN POST AT 3.0m CENTRES. FABRIC SHALL BE BURIED 150mm ALONG ITS LOWER EDGE.



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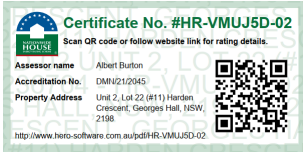
CALCULATIONS (combined units)

TOTAL SITE AREA	= 558.62m <sup>2</sup>
TOTAL GROUND FLOOR AREA	= 149.66m <sup>2</sup>
TOTAL FIRST FLOOR AREA	= 129.64m <sup>2</sup>
TOTAL FLOOR AREA	= 279.30m <sup>2</sup>
TOTAL F.S.R.	= 0.500:1
GARAGE FLOOR AREA (per unit)	= 17.15m <sup>2</sup>
PRIVATE OPEN AREA (per unit)	= 80.72m <sup>2</sup>

CALCULATIONS (per unit)

SITE AREA (per unit)	= 279.31m <sup>2</sup>
GROUND FLOOR AREA (per unit)	= 74.83m <sup>2</sup>
FIRST FLOOR AREA (per unit)	= 64.82m <sup>2</sup>
TOTAL FLOOR AREA (per unit)	= 139.65m <sup>2</sup>
F.S.R. (per unit)	= 0.500:1
GARAGE FLOOR AREA (per unit)	= 17.15m <sup>2</sup>
PRIVATE OPEN AREA (per unit)	= 80.72m <sup>2</sup>

project	PROPOSED ATTACHED DUAL OCCUPANCY AMENDED DA CLAUSE 4.55	Sheet Title: SITE PLAN	Date/Revision	05/01/25
Client	Mr HAYDAR ALI	Address	11 HARDEN CRES GEORGES HALL LOT 22 DP236764	
Scale	1:200, 1:100	Drawing No.:	11 hardencres	Sheet Number: 6
Issue	F			



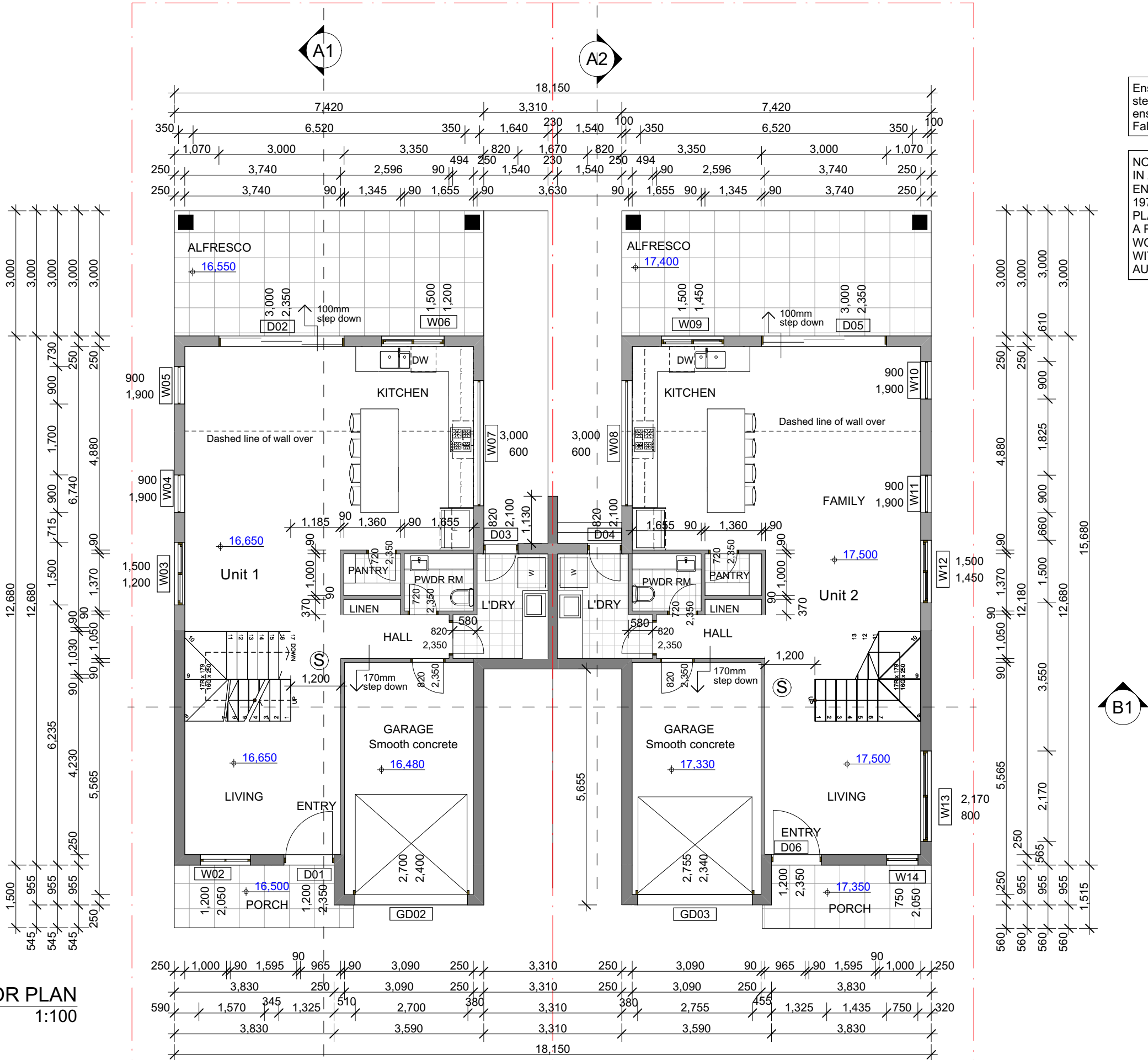
Quality of Work: All work carried out must comply with: Building Code of Australia to the extent required under Environmental Planning Assessment Act 1979, all other relevant codes, standards and specifications that the work is required to comply with under any law and the conditions of any relevant development consent or complying development certificate and any construction certificate.

LEGEND

- VJ
- Verticle Joint
- S
- Smoke Detector

Ensure all wet areas floor slab to ground floor to be stepdown below main floor slab finished floor level to ensure flush finish with main floor finished level.  
Fall gradient to side dish drain @ 1°

NOTE:  
IN ACCORDANCE WITH SECTION 80 A (11) OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 AND CLAUSE 98 OF THE ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION 2000, IT IS A PRESCRIBED CONDITION THAT ALL BUILDING WORK MUST BE CARRIED OUT IN ACCORDANCE WITH THE PROVISIONS OF THE BUILDING CODE OF AUSTRALIA (BCA).



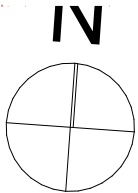
GROUND FLOOR PLAN  
1:100

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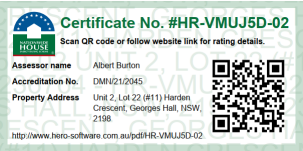
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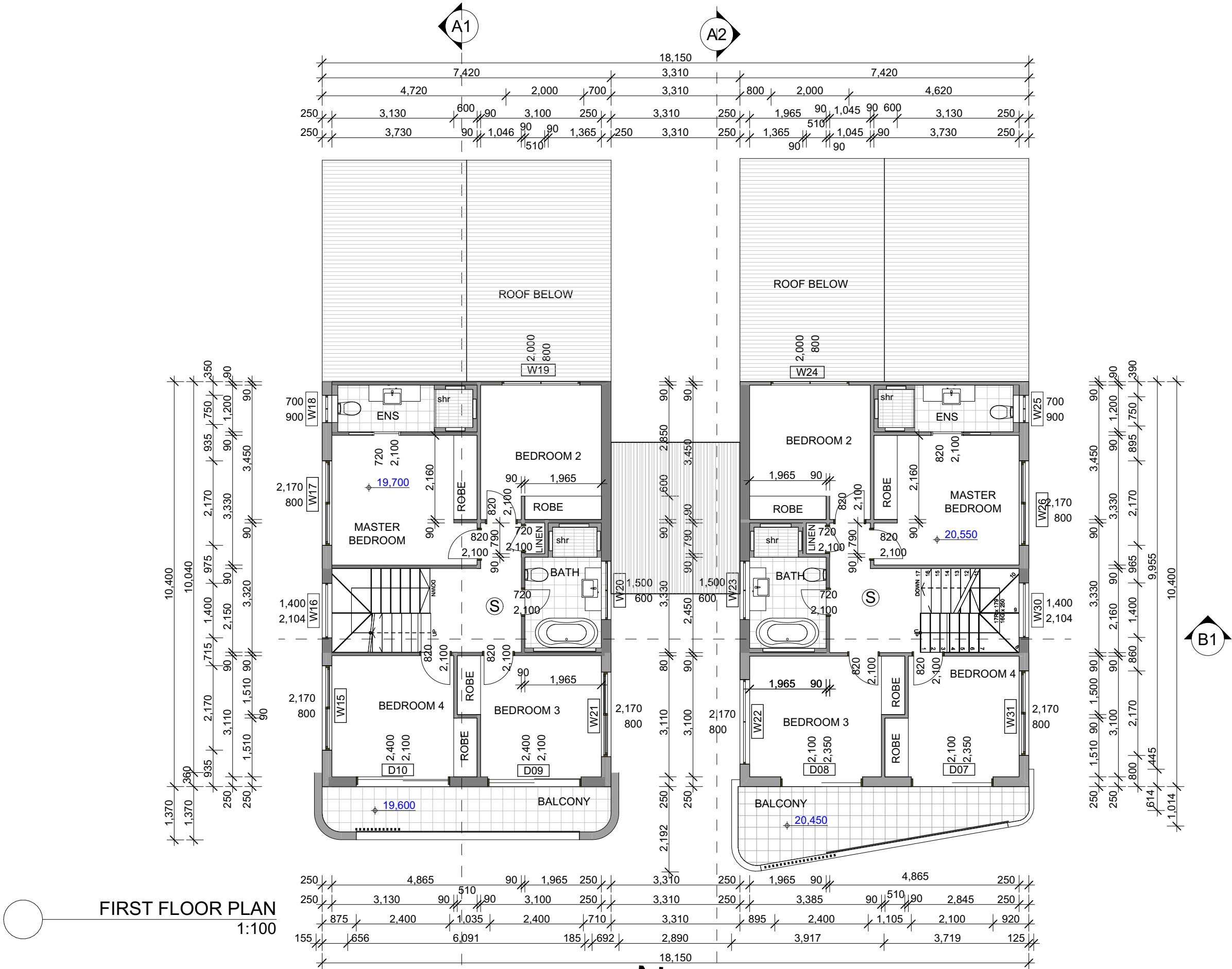


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OCCUPANCY AMENDED DA CLAUSE 4.55			
Client	Address	Scale	Date/Revision
Mr HAYDAR ALI	11 HARDEN CRES GEORGES HALL LOT 22 DP236764	1:100	05/01/25
Issue	F	Drawing No.:	Sheet Number:
		11 hardencres	7



LEGEND

- VJ
- Verticle Joint
- S
- Smoke Detector

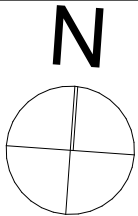


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Client  
Mr HAYDAR ALI  
Address  
11 HARDEN CRES GEORGES  
HALL LOT 22 DP236764

Sheet Title:

FIRST FLOOR PLAN

Scale

1:100

Issue

F

Drawing No.:

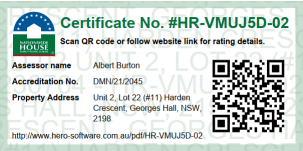
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Date/Revision

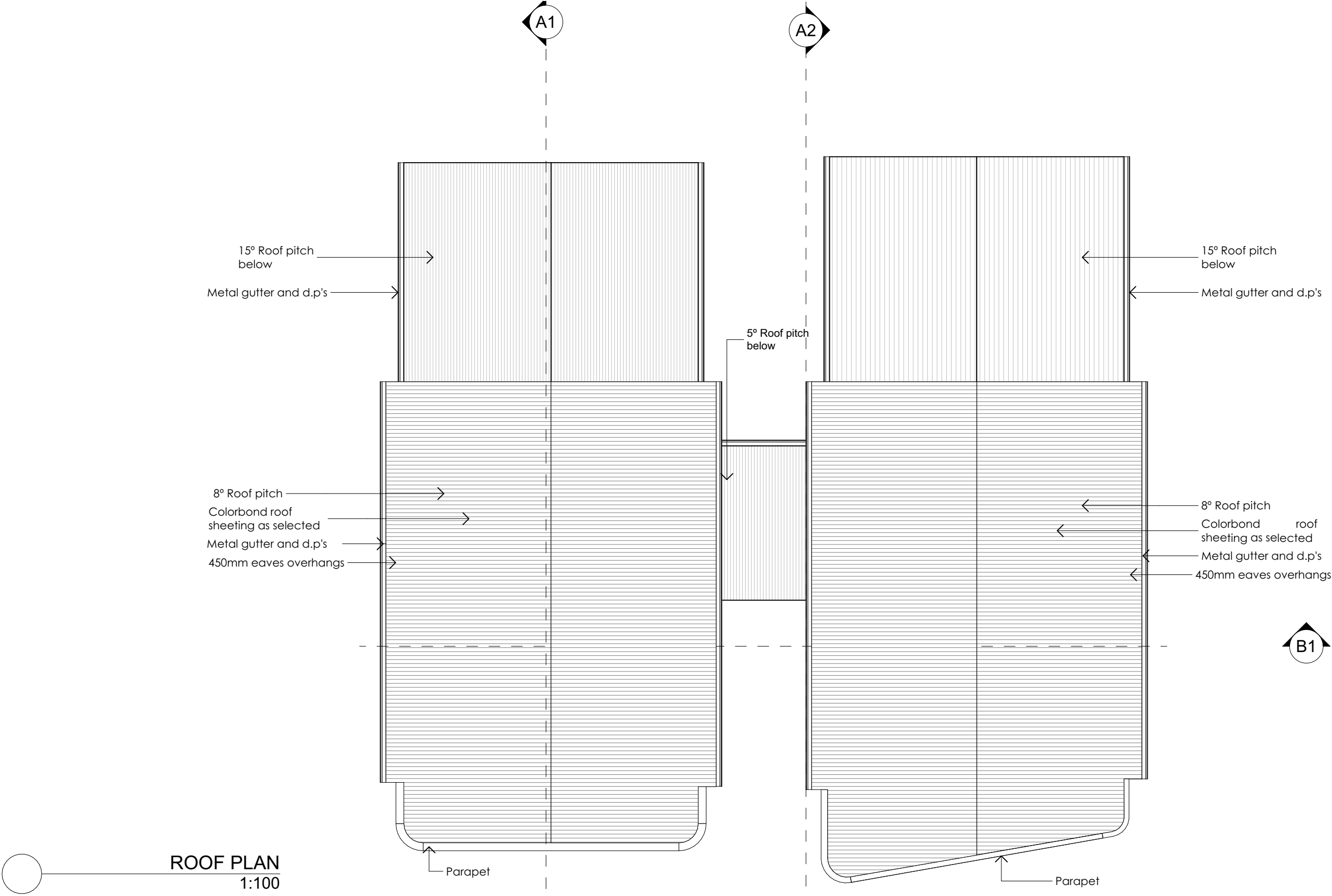
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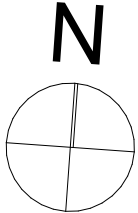
ROOF PLAN  
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PROPOSED ATTACHED DUAL OCCUPANCY AMENDED DA CLAUSE 4.55	
Client	Address
Mr HAYDAR ALI	11 HARDEN CRES GEORGES HALL LOT 22 DP236764

Sheet Title:

ROOF PLAN

Scale

1:100

Issue

F

Drawing No.:

11 hardencres

Date/Revision

05/01/25

Sheet Number:

9

PROFESSIONAL

CERTIFICATE

OF REGISTRATION

Certificate No. #HR-VMUJ5D-02

Scan QR code or follow website link for rating details.

Assessor name

Albert Butson

Accreditation No.

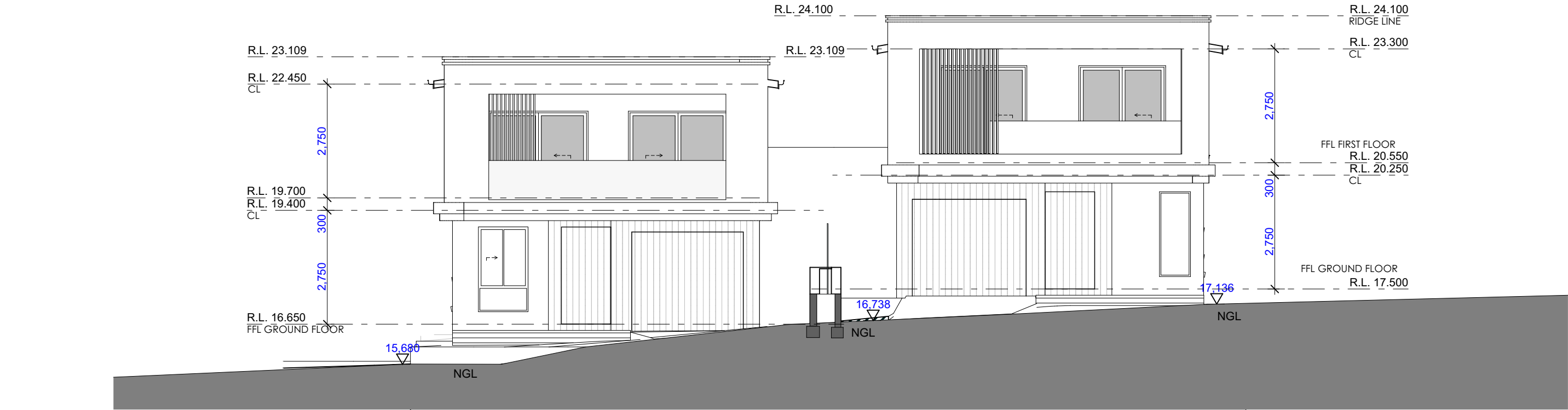
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Property Address

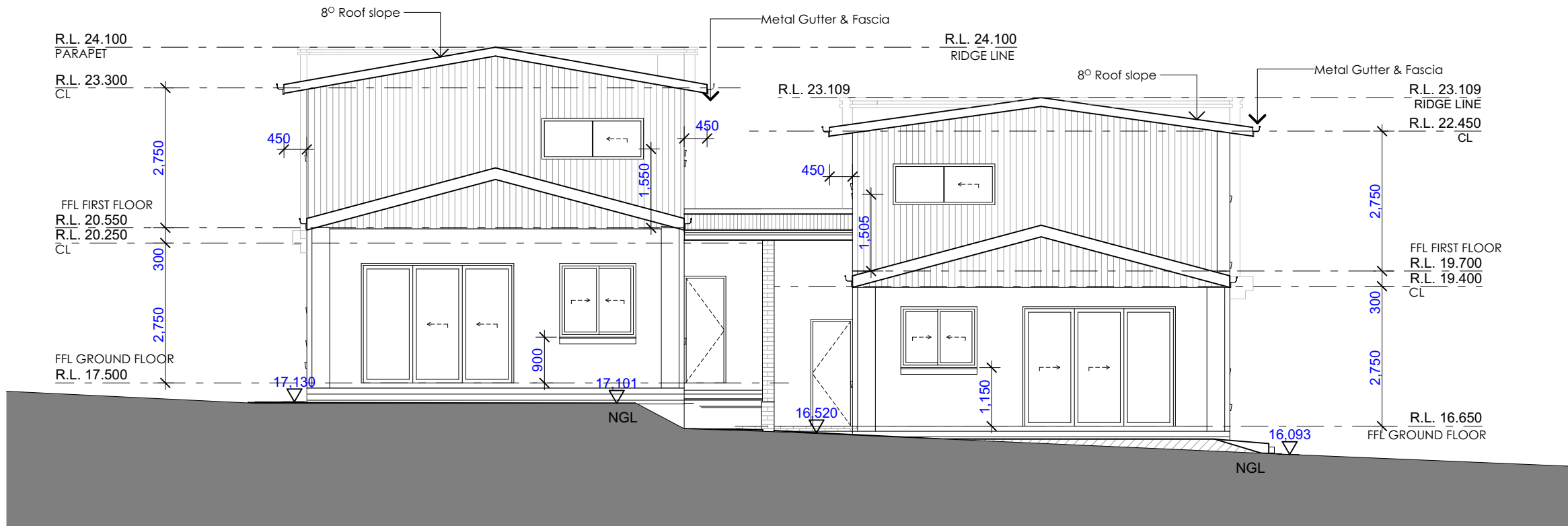
Unit 2, Lot 22 (R11) Harden  
Crescent, Georges Hall, NSW,  
2158

http://www.hero-software.com.au/pdf/HR-VMUJ5D-02





SOUTH ELEVATION  
1:100



NORTH ELEVATION  
1:100

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project

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OCCUPANCY AMENDED DA CLAUSE 4.55  
Client Mr HAYDAR ALI  
Address 11 HARDEN CRES GEORGES  
HALL LOT 22 DP236764

Sheet Title: ELEVATIONS

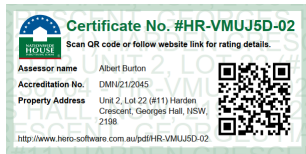
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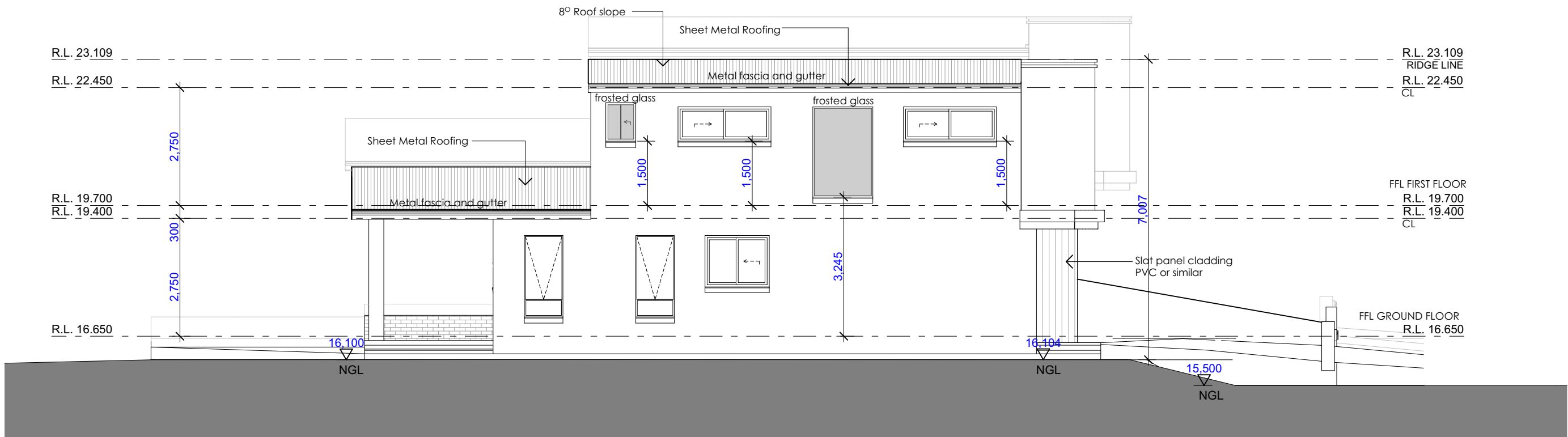
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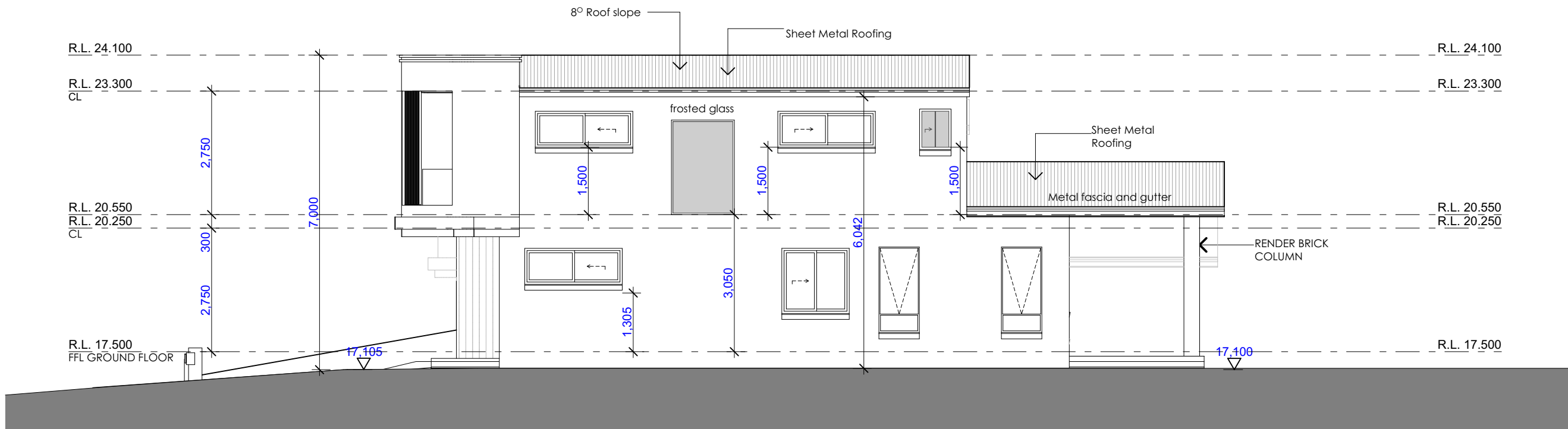
Date/Revision 05/01/25

Sheet Number: 10





WEST ELEVATION  
1:100



EAST ELEVATION  
1:100

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**PROPOSED ATTACHED DUAL  
OCCUPANCY AMENDED DA CLAUSE 4.55**  
Client: Mr HAYDAR ALI  
Address: 11 HARDEN CRES GEORGES  
HALL LOT 22 DP236764

Sheet Title: **ELEVATIONS**

Scale: **1:100**

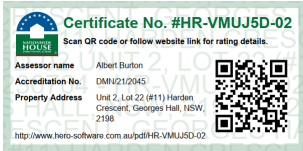
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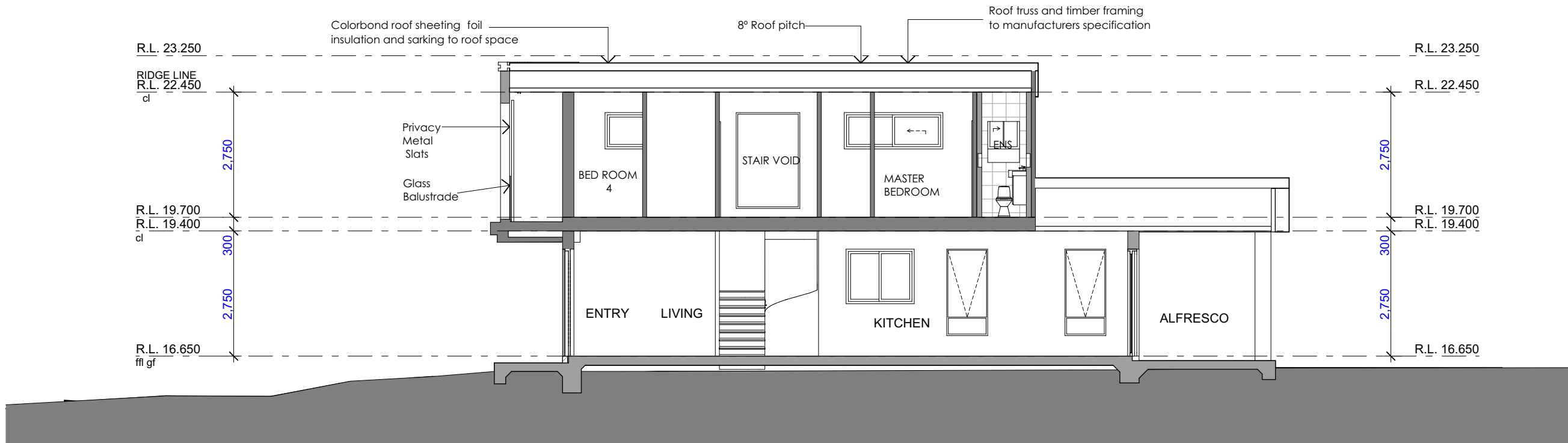
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Date/Revision: **05/01/25**

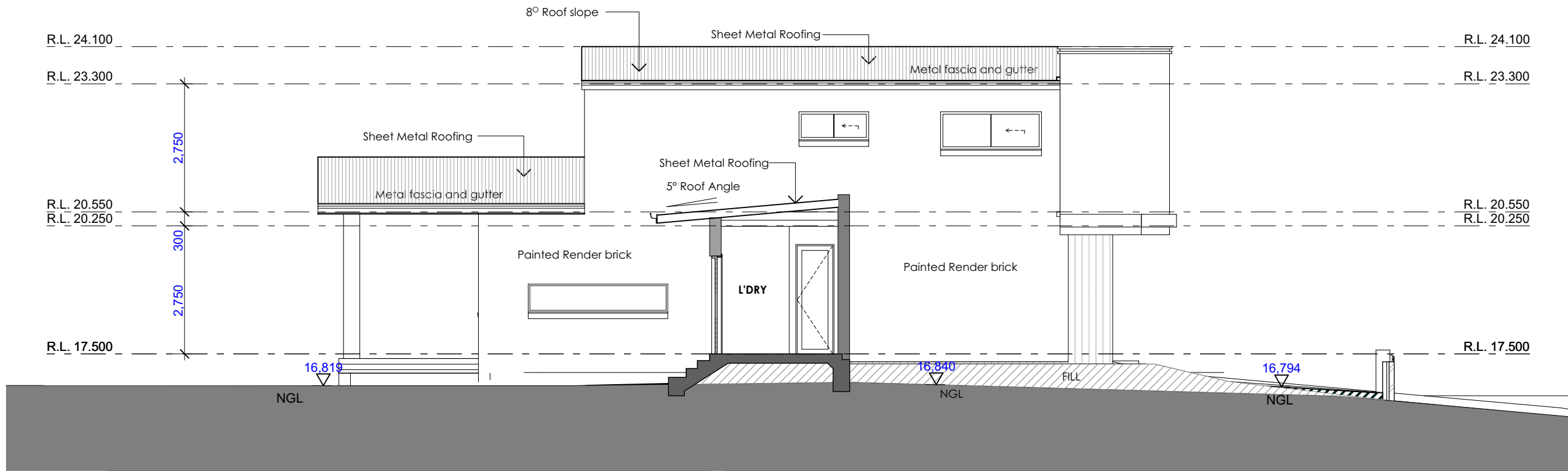
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**11**





SECTION A  
1:100



SECTION WEST ELEVATION  
1:100

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OCCUPANCY AMENDED DA CLAUSE 4.55  
Client Mr HAYDAR ALI  
Address 11 HARDEN CRES GEORGES  
HALL LOT 22 DP236764

Sheet Title: SECTIONS

Scale 1:100

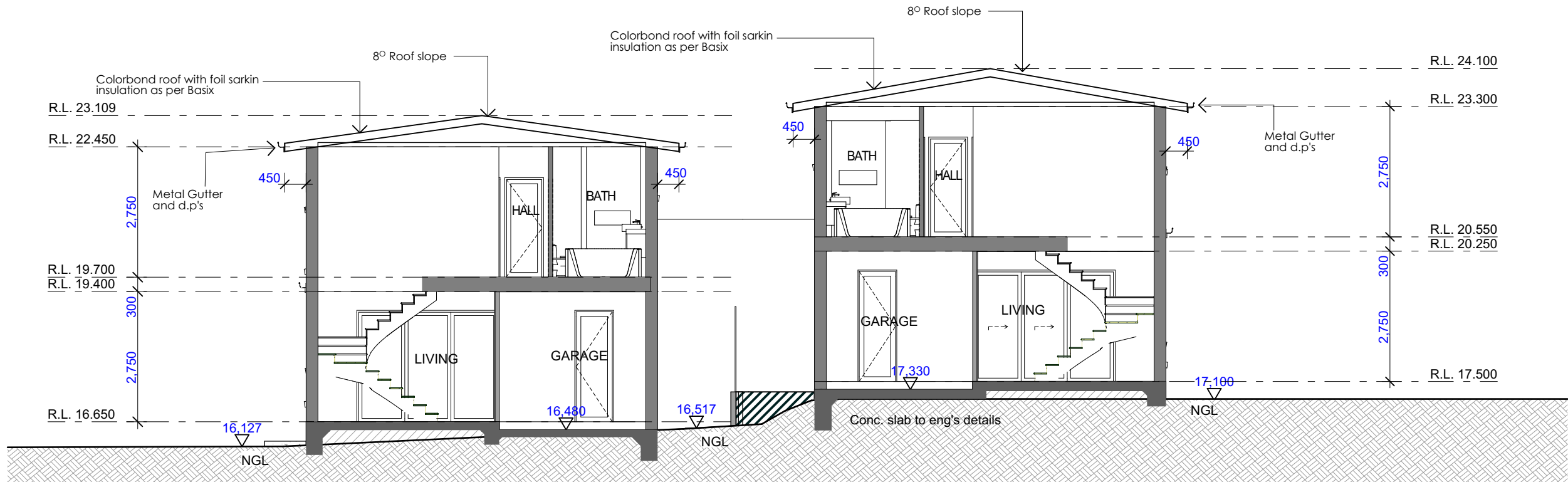
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Drawing No.: 11 hardencres

Date/Revision 05/01/25

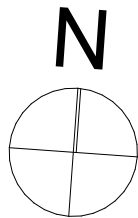
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SECTION B  
1:100

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project

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OCCUPANCY AMENDED DA CLAUSE 4.55  
Client Mr HAYDAR ALI  
Address 11 HARDEN CRES GEORGES  
HALL LOT 22 DP236764

Sheet Title: SECTION

Scale 1:100

Issue F

Drawing No.:  
11 hardencres

Date/Revision 05/01/25

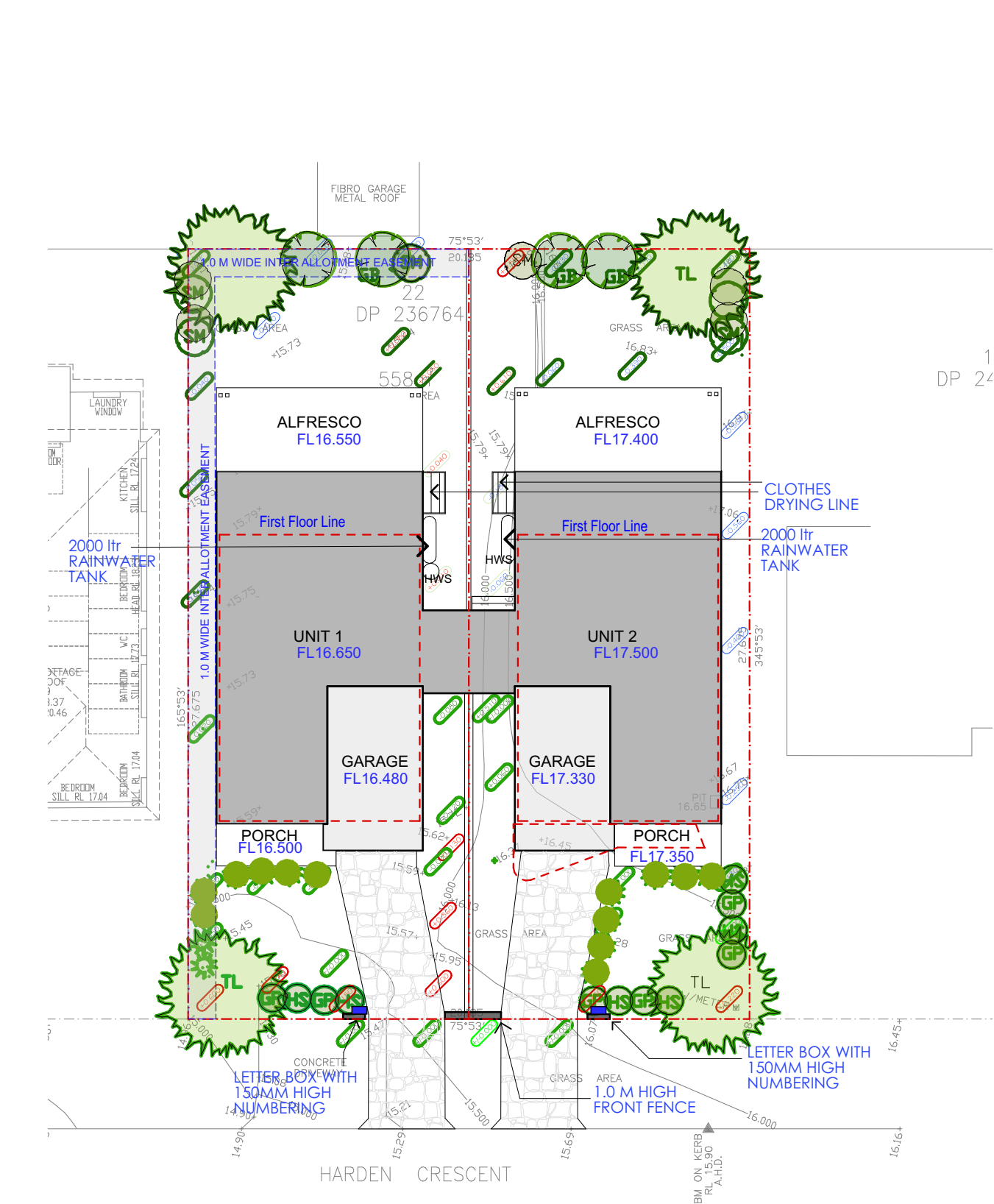
Sheet Number:

13





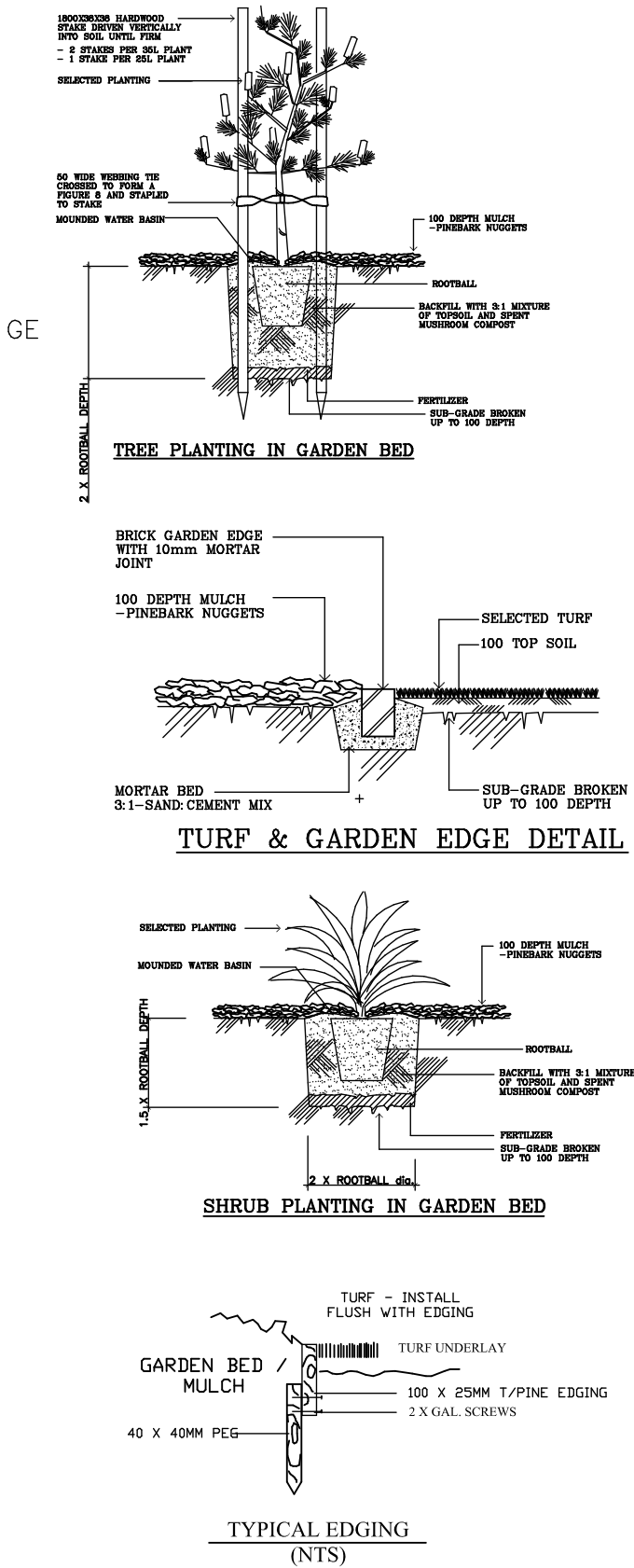
Quality of Work: All work carried out must comply with: Building Code of Australia to the extent required under Environmental Planning Assessment Act 1979, all other relevant codes, standards and specifications that the work is required to comply with under any law and the conditions of any relevant development consent or complying development certificate and any construction certificate.



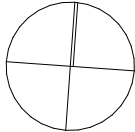
LANDSCAPE PLAN  
1:200

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**AKTREUM**  
Building Designers  
0435 237 853



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project

**PROPOSED ATTACHED DUAL  
OCCUPANCY AMENDED DA CLAUSE 4.55**  
Client: Mr HAYDAR ALI  
Address: 11 HARDEN CRES GEORGES HALL LOT 22 DP236764

Sheet Title:

**CONCEPT LANDSCAPE PLAN**

Scale:

**1:200**

Issue:

**F**

Drawing No.:

**11 hardencres**

Date/Revision

**05/01/25**

Sheet Number:

**14**

## PLANT SCHEDULE

**BOTANIC NAME**

**KEY**

**POT**

**HT**

**WTH**

**SIZE (M) (M)**

### TREES

BRACHYCHITON ACERIFOLIUS  
EUCALYPTUS RACEMOSA  
Tristanopsis Laurina  
STREET TREE (dwarf eucalyptus)

BA

ER

TL

35LTR

45LTR

75LTR

45LTR

13

13

10

7

5

10

8

3

### SHRUBS

CALLISTEMON 'HARKNESS'  
GREVILLEA 'BANKSII'  
GREVILLEA 'HONEY GEM'  
GREVILLEA 'POORINDA 'ROYAL MANTLE'  
HIBBERTIA SCANDENS  
LEPTOSPERMUM 'FIREBALL'  
LEPTOSPERMUM 'ULTRAGEDUS'  
LEPTOSPERMUM 'PAGEANT'  
LEPTOSPERMUM PETERSONII  
LOMANDRA 'TANIKAI'  
RAPHIS EXCELSA  
SYZYGIUM 'BRONZED AUSSIE'  
SYZYGIUM 'CASACADE'  
TRISTANIA NERIIFOLIA

CH

GB

GHG

GP

HS

LF

LD

LA

LP

SC

RE

SB

SC

TN

200MM

200MM

200MM

150MM

200MM

200MM

200MM

200MM

200MM

200MM

200MM

200MM

200MM

200MM

3

3

3

0.3

0.3

1.5

1.5

1.5

1.5

1.5

1.5

1.5

1.5

1.5

2

2

2

1.5

1.5

1.5

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1.5

## NOTES AND SPECIFICATIONS

### EXCAVATIONS:

Any services drawn on the plans have been indicatively located. Prior to carrying out any excavations, the contractor is to confirm the locations of all services. Service pits and lids are to be covered by any materials. Trim and grade area to form a smooth even finish.

### GARDEN BED / MULCH:

The topsoil to all garden bed areas shall be 2 part site topsoil and 1 part organic compost thoroughly mixed together prior to placing into position. Where site topsoil is not suitable imported topsoil meeting the requirements of AS4413:1998 shall be used. Garden bed sub grades are to be cultivated to a depth of 150mm. Topsoil depth of all garden bed areas in deep soil to be 300mm(min.)  
At the completion of all planting operations apply a 75mm layer mulch over entire garden bed / planter taking care not to smother plants. Reduce depth of mulch around base of plants to form 'watering dish'. Mulch to be Pin Bark Nuggets as supplied by ANL or similar. Mulch used in garden beds located within an onsite detention basin shall be 75mm layer mineral mulch such as scona gravel.

### TURF:

Apply 150 layer of topsoil to all turfed areas laid over deep soil. Prior to laying turf, contractor to ensure all top soiled areas are smoothly graded with no surface depressions or other irregularities, large stones or building debris. The surface is to have even running falls to all drainage points. Turf used for this site shall be cultivated Kikuyu. Unless specified otherwise, turf shall be laid flush with adjacent finished surface levels. Water turfed areas immediately after turfing operations. Top dress any excessively undulating areas to form a smooth level surface with a coarse grade washed river sand.

### GARDEN EDGING:

All garden edging as denoted by "GE" on the plan is to be constructed using either insitu concrete or brick laid over 100mm layer mortar. Extruded bricks shall not be used. (Refer to detail).

### PLANT MATERIAL:

All plant material are to be the number species variety and size as specified on the plant schedule. The plants are to be healthy nursery stock, free from disease, insects all weed or roots of weeds. No plant is to be installed which has not been hardened off or is otherwise inferior in quality. All plants are to be thoroughly soaked 1 hour prior to planting.

### PROPOSED TREES:

All tree planting holes to be excavated 200mm wider and at least 200mm deeper than the root ball size (container size). All trees are to be staked with 2 x 50 x 50 x 2400 HW stack. Secure tree to stake using 50mm jute webbing tied in figure 8 loop. Drive stakes into ground well clear of root ball. Where trees are turfed areas, ensure a 75mm layer of mulch is placed around the base of the tree to extent of the excavated area, reduce depth of mulch around stem to form watering dish.

### SERVICES:

Any services located in the landscape plans are indicative locations for general information only. Prior to excavation contractor to confirm location of all services including any sewer lines. Where the proposed tree located above any existing sewer line. Contractor to notify the landscape architect to relocate tree.

### IRRIGATION:

Provide one hose cock in the front and rear landscape areas of each dwelling.

### PAVING:

All pavement areas including driveways and pathways are to have a stenciled concrete finish. All pavement surfaces to comply with requirements of AS/NZ 3661.1 1993. Slip Resistance of Pedestrian Surface.

### STANDARDS:

All materials and standards of workmanship used on this project is to comply with the latest revision of the relevant Australian Standards.

### MAINTENANCE:

Maintain all landscape areas to ensure plant health and occupant safety for a period of 12 month beginning from date of practical completion to the satisfaction of Council. Maintenance will include but is not limited to the following activities: Mowing, Edging and Top dressing of turf areas, Weeding garden beds and turf areas. (All trees will require regular ongoing observation and maintenance).

### DISCREPANCIES:

Should there be any discrepancies on the drawings and or on site, landscape contractor to notify the Superintendent for resolution prior to the commencement of the works. Where the situation is not readily resolved onsite, the Superintendent is to notify the landscape architect immediately for correction.

## LANDSCAPE DESIGN NOTES:

**THE LANDSCAPING OF THE SITE SHALL BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED PLANS.**

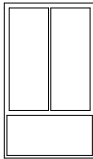
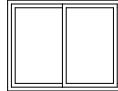





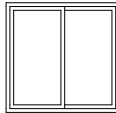


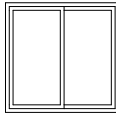
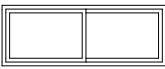

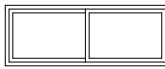
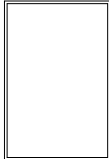
**ALL LANDSCAPING WORKS CARRIED OUT, PRIOR TO THE ISSUE OF AN OCCUPATION CERTIFICATE, IN ACCORDANCE WITH THE APPROVED C.C. PLANS. THE LANDSCAPING IS TO BE MAINTAINED TO THE APPROVED STANDARD AT ALL TIMES.**

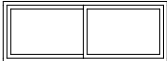



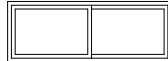




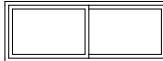
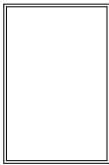
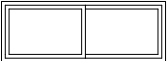
**RETAINING WALLS OVER 600mm IN HEIGHT SHALL REQUIRE DESIGN AND SPECIFICATION BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER (refer to structural engineers drawings).**

**EXISTING SITE TREES SHALL BE REMOVED IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN.**

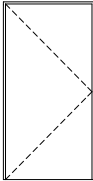
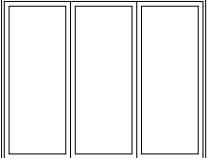
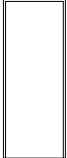

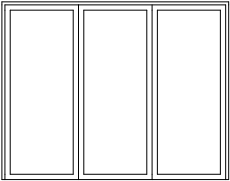
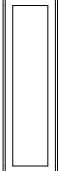
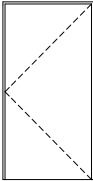
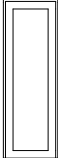

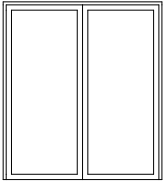
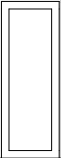
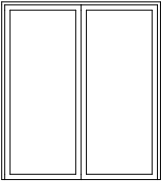
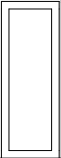
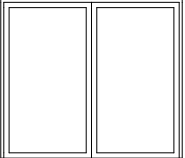



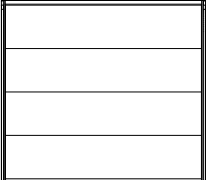
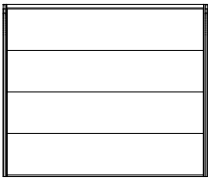
**Quality of Work:** All work carried out must comply with: Building Code of Australia to the extent required under Environmental Planning Assessment Act 1979, all other relevant codes, standards and specifications that the work is required to comply with under any law and the conditions of any relevant development consent or complying development certificate and any construction certificate.

Window List															
ID	W02	W03	W04	W05	W06	W07	W08	W09	W10	W11	W12	W13	W14	W15	W1
W x H Size	1,200×2,050	1,500×1,200	900×1,900	900×1,900	1,500×1,200	3,000×600	3,000×600	1,500×1,450	900×1,900	900×1,900	1,500×1,450	2,170×800	750×2,050	2,170×800	1,400×2,10
3D Front View															

ID	6	W17	W18	W19	W20	W21	W22	W23	W24	W25	W26	W30	W31
W x H Size	4	2,170×800	700×900	2,000×800	1,500×600	2,170×800	2,170×800	1,500×600	2,000×800	700×900	2,170×800	1,400×2,104	2,170×800
3D Front View													

WINDOW SCHEDULE

Door List														
ID	D01	D02	D03	D04	D05	D005	D06	D006	D006	D07	D007	D08	D008	D09
W x H Size	1,200×2,350	3,000×2,350	820×2,100	820×2,100	3,000×2,350	720×2,350	1,200×2,350	720×2,100	820×2,100	2,100×2,350	820×2,100	2,100×2,350	820×2,100	2,400×2,100
3D Front View														

ID	D10	GD02	GD03
W x H Size	2,400×2,100	2,700×2,400	2,755×2,340
3D Front View			

DOOR SCHEDULE

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Client

Mr HAYDAR ALI

Address

11 HARDEN CRES GEORGES  
HALL LOT 22 DP236764

Scale

1:1

Issue

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Sheet Title: WINDOWS AND DOORS SCHEDULE

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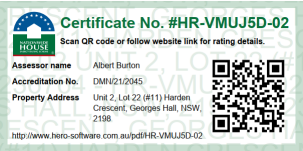
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Date/Revision

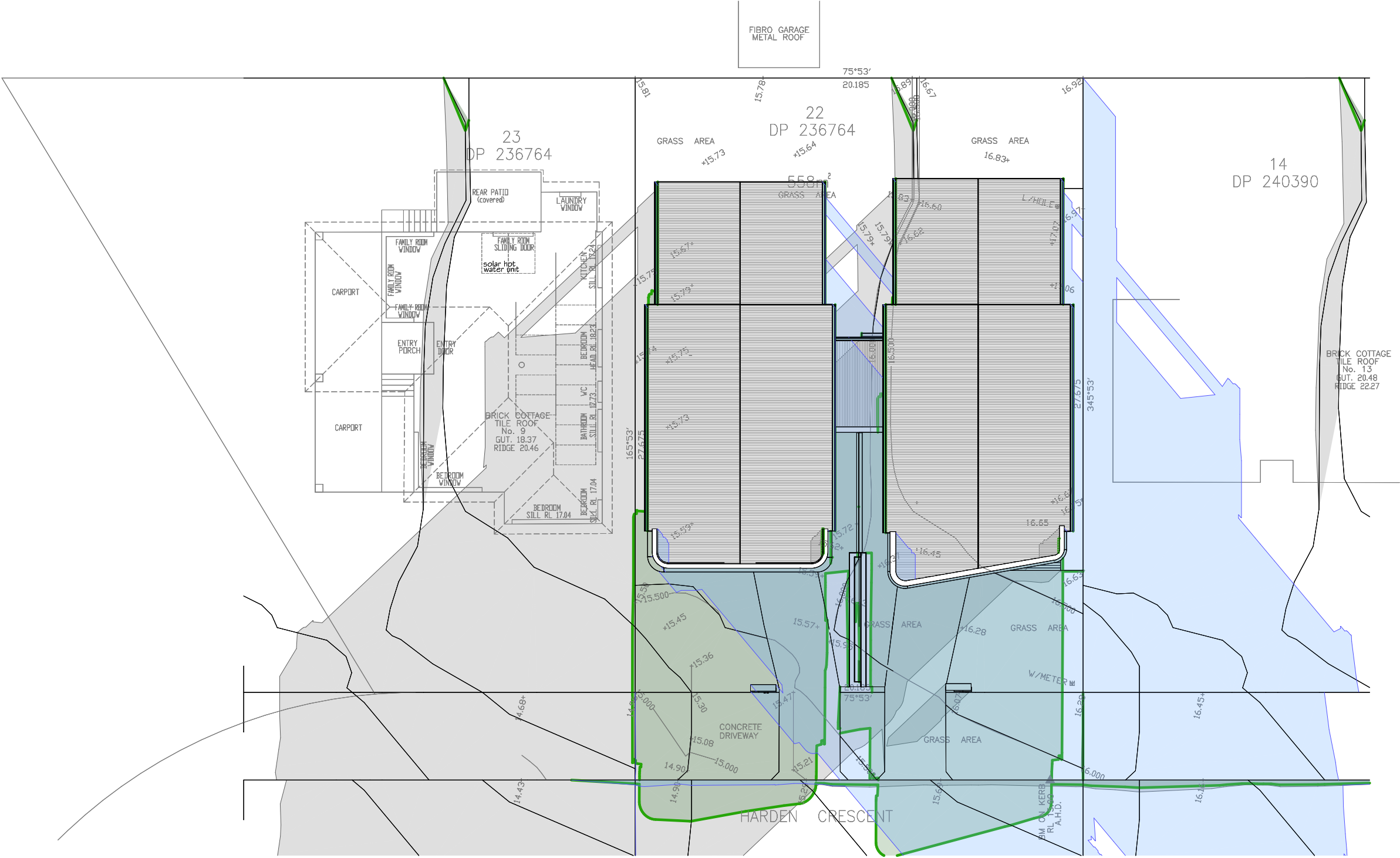
05/01/25

Sheet Number:

15







- Shadow 21 june 9am
- Shadow 21 june 12pm
- Shadow 21 june 3pm

SHADOW DIAGRAMS 21 JUNE  
1:200

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Building Designers  
0435 237 853

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project  
**PROPOSED ATTACHED DUAL  
OCCUPANCY AMENDED DA CLAUSE 4.55** Sheet Title: **SHADOW DIAGRAMS**

Client	Address	Scale	Date/Revision
Mr HAYDAR ALI	11 HARDEN CRES GEORGES HALL LOT 22 DP236764	F	05/01/25
Issue	11 hardencres		Sheet Number: 18

