BASIX® Certificate

Building Sustainability Index www.basix.nsw.gov.au

Single Dwelling

Certificate number: 1313393S

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 10/09/2020 published by the Department. This document is available at www.basix.nsw.gov.au

Secretary
Date of issue: Monday, 05 June 2023
To be valid, this certificate must be lodged within 3 months of the date of issue.

NSW GOVERNMENT | Planning, Industry & Environment

Project summary	
Project name	4322A.02 Georges Hall
Street address	158 Henry Lawson Drive Georges Hall 2198
Local Government Area	Canterbury-Bankstown Council
Plan type and plan number	deposited 12034
Lot no.	14
Section no.	-
Project type	separate dwelling house
No. of bedrooms	5

Project score		
Water	✔ 40	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 52	Target 50

Certificate Prepared by
Name / Company Name: Lin & Associates Pty Ltd
ABN (if applicable): 34097383821

5.4 NATIONWIDE HOUSE ENERGY RATING SCHEME 59.5 MJ/m² www.nathers.gov.au

0008682478 01 Jun 2023
Assessor Ailin Zhang
Accreditation No. DMN/19/1894
Address
Unit House, 198 Henry Lawson Drive , Georges Hall , NSW , 2198

hstar.com.au

Description of project

Project address	
Project name	4322A.02 Georges Hall
Street address	158 Henry Lawson Drive Georges Hall 2198
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Plan type and plan number	Deposited Plan 12034
Lot no.	14
Section no.	-
Project type	
Project type	separate dwelling house
No. of bedrooms	5
Site details	
Site area (m²)	912
Roof area (m²)	253
Conditioned floor area (m2)	390.0
Unconditioned floor area (m2)	17.0
Total area of garden and lawn (m2)	232

Assessor details and thermal loads		
Assessor number	DMN/19/1894	
Certificate number	0008682478	
Climate zone	56	
Area adjusted cooling load (MJ/m².year)	21	
Area adjusted heating load (MJ/m².year)	39	
Ceiling fan in at least one bedroom	No	
Ceiling fan in at least one living room or other conditioned area	No	
Project score		
Water	✔ 40	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 52	Target 50

Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Fixtures			
The applicant must install showerheads with a minimum rating of 4 star (> 6 but <= 7.5 L/min plus spray force and/or coverage tests) in all showers in the development.		✔	✔
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✔	✔
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✔	
The applicant must install basin taps with a minimum rating of 5 star in each bathroom in the development.		✔	
Alternative water			
Rainwater tank			
The applicant must install a rainwater tank of at least 1800 litres on the site. This rainwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.	✔	✔	✔
The applicant must configure the rainwater tank to collect rain runoff from at least 80 square metres of the roof area of the development (excluding the area of the roof which drains to any stormwater tank or private dam).		✔	✔
The applicant must connect the rainwater tank to: • the cold water tap that supplies each clothes washer in the development • at least one outdoor tap in the development (Note: NSW Health does not recommend that rainwater be used for human consumption in areas with potable water supply.)		✔ ✔	✔ ✔

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Simulation Method			
The applicant must attach the certificate referred to under "Assessor Details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for an occupation certificate for the proposed development.			
The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX certificate, including the Cooling and Heating loads shown on the front page of this certificate.			
The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Assessor Certificate requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor to certify that this is the case. The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.	✔	✔	✔
The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✔	✔
The applicant must construct the floors and walls of the dwelling in accordance with the specifications listed in the table below.	✔	✔	✔

Floor and wall construction	Area
floor - concrete slab on ground	All or part of floor area square metres
floor - suspended floor above garage	All or part of floor area

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: electric heat pump with a performance of 31 to 35 STCs or better.	✔	✔	✔
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: 3-phase airconditioning; Energy rating: EER 2.5 - 3.0		✔	✔
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: 3-phase airconditioning; Energy rating: EER 2.5 - 3.0		✔	✔
The cooling system must provide for day/night zoning between living areas and bedrooms.		✔	✔
Heating system			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: 3-phase airconditioning; Energy rating: EER 3.0 - 3.5		✔	✔
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: 3-phase airconditioning; Energy rating: EER 3.0 - 3.5		✔	✔
The heating system must provide for day/night zoning between living areas and bedrooms.		✔	✔
Ventilation			
The applicant must install the following exhaust systems in the development:			
At least 1 Bathroom: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✔	✔
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✔	✔
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✔	✔
Artificial lighting			
The applicant must ensure that the "primary type of artificial lighting" is fluorescent or light emitting diode (LED) lighting in each of the following rooms, and where the word "dedicated" appears, the fittings for those lights must only be capable of accepting fluorescent or light emitting diode (LED) lamps:			
• at least 6 of the bedrooms / study;		✔	✔

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
• at least 2 of the living / dining rooms;		✔	✔
• the kitchen;		✔	✔
• all bathrooms/toilets;		✔	✔
• the laundry;		✔	✔
• all hallways;		✔	✔
Natural lighting			
The applicant must install a window and/or skylight in the kitchen of the dwelling for natural lighting.	✔	✔	✔
The applicant must install a window and/or skylight in 6 bathroom(s)/toilet(s) in the development for natural lighting.	✔	✔	✔
Alternative energy			
The applicant must install a photovoltaic system with the capacity to generate at least 0.6 peak kilowatts of electricity as part of the development. The applicant must connect this system to the development's electrical system.	✔	✔	✔
Other			
The applicant must install a gas cooktop & electric oven in the kitchen of the dwelling.		✔	
The applicant must install a fixed outdoor clothes drying line as part of the development.		✔	

Legend
In these commitments, "applicant" means the person carrying out the development.
Commitments identified with a ✔ in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
Commitments identified with a ✔ in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
Commitments identified with a ✔ in the "Certifier check" column must be certified by a certifying authority as having been fulfilled, before a final occupation certificate(either interim or final) for the development may be issued.

Assessor Construction Summary

Project:	**Address:**	198 Henry Lawson Drive Georges Hall NSW
Contact:	**Name:**	Mark Yuen
	Contact:	mark@winningbuilders.com.au

Assessor:	**Name:**	Ailin Zhang	**Company:**	Victor Lin & Associates
	Address:	PO Box 5080. Sth Turramurra. 2074	**Number:**	DMN/19/1894
	Contact:	0412-988088	**Email:**	Ailin@linassociates.com.au

Ext. Walls:	**Construction**	**Insulation**		**Colour**	**Details**
	Concrete cavity 110mm	Kooltherm K12 R1.0		Med	Total wall system R2.0
Int. Walls:	**Construction**				**Details**
	Concrete	None			As per plans
Floors:	**Construction**	**Insulation**			**Details**
	Concrete slab	None			Under all ground floors (exl garage)
Ceilings:	**Construction**	**Insulation**			**Details**
	Concrete	R4.0			Under all roofs
Roof:	**Construction**	**Insulation**		**Colour**	**Details**
	Tile	Foil		Dark	As per plans
Windows:	**Product ID**	**Glazing**	**Frame**	**Uw/SHGCw**	**Window No.**
	Generic	Single Clear	Aluminium	6.70 / 0.70	All windows in garage & wet areas
				6.70 / 0.57	D04
		Single Low E		5.40 / 0.58	All other fixed, single hung, sliding, stacking windows & doors
				5.40 / 0.49	All other awning windows
Skylights:	**Product ID**	**Glass**	**Frame**	**Uw/SHGCw**	**Details**
	Generic	Single Clear	Timber/Metal	n/a	As per plans

Other:	**Orientation**	**Terrain**	**Weatherseals**	**Climate Zone**	**Recessed Downlights**
	345	Suburban	Yes	56	YES - SEALED TYPE ONLY 100mm LED at 1 per 5 sqm of ceiling space

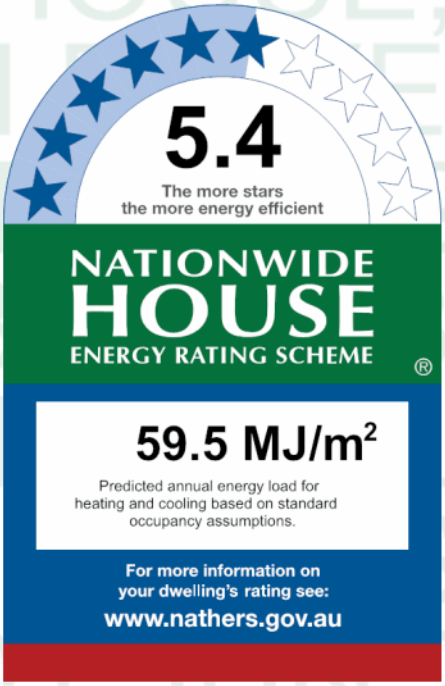
Overshadowing Details:		Other Project Building
Assessment:	**Drawings:**	198 Henry Lawson Drive Georges Hall NSW dwgs as stamped
	File Ref:	4322A.02
	Software:	BERS Pro 4.4

Certification Number: 0008682478 **Date:** 31-May-2023

House No.	Insulation Summary (refer also to table above)								
	Conditioned Area	Unconditioned Area	Heating	Cooling	Star			SEALED Recessed Downlights ONLY	Sealed exhaust vents
House	390	17	38.8	20.7	5.4			X	X

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0008682478

Generated on 01 Jun 2023 using BERS Pro v4.4.1.5 (3.21)



Property

Address	Unit House, 198 Henry Lawson Drive , Georges Hall , NSW , 2198
Lot/DP	14/12034
NCC Class*	1A
Type	New Dwelling

Plans

Main plan	A0000 - A6001
Prepared by	PTW

Construction and environment

Assessed floor area (m^2)*

Conditioned*	390.0
Unconditioned*	52.0
Total	441.0
Garage	36.0

Exposure type

Suburban

NatHERS climate zone

56

Thermal performance

Heating	Cooling
38.8 MJ/m^2	20.7 MJ/m^2

Accredited assessor

Name	Ailin Zhang
Business name	Victor Lin Associates Pty Ltd
Email	ailin@linassociates.com.au
Phone	1800884199
Accreditation No.	DMN/19/1894
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	-

About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=aRDbJpAmR.
When using either link, ensure you are visiting hstar.com.au

National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at www.abcb.gov.au.

State and territory variations and additions to the NCC may also apply.

Certificate check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

Ceiling penetrations*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

Apartment entrance doors

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 level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

Provisional* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

Additional notes

I have modeled the shading in accordance with NatHERS principles

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73
ALM-002-03 A	ALM-002-03 A Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61
ALM-001-03 A	ALM-001-03 A Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60

Custom* windows

Custom* windows

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

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Garage 1	ALM-002-01 A	n/a	1800	600	n/a	45	N	Yes
Garage 1	ALM-002-01 A	n/a	1800	600	n/a	45	N	Yes
toilet	ALM-002-01 A	n/a	1800	600	n/a	45	N	Yes
foyer	ALM-002-03 A	n/a	2920	1373	n/a	00	E	No
foyer	ALM-001-03 A	n/a	2900	2800	n/a	90	E	No
foyer	ALM-002-03 A	n/a	2850	2630	n/a	00	S	No
Kitchen/Living	ALM-004-01 A	n/a	3000	3020	n/a	00	N	No
Kitchen/Living	ALM-004-01 A	n/a	3000	1415	n/a	00	N	No
Kitchen/Living	ALM-002-03 A	n/a	2900	3563	n/a	45	W	No
Kitchen/Living	ALM-002-03 A	n/a	2900	4700	n/a	90	W	No
laundry	ALM-001-01 A	n/a	2400	900	n/a	90	S	No
laundry	ALM-002-01 A	n/a	300	600	n/a	00	S	No
scullery	ALM-001-03 A	n/a	1800	1000	n/a	90	S	No
master room	ALM-002-03 A	n/a	1800	1000	n/a	45	S	No
master room	ALM-002-03 A	n/a	3050	4900	n/a	90	W	Yes
wir	ALM-002-03 A	n/a	1800	600	n/a	45	S	Yes
wir	ALM-002-03 A	n/a	1800	600	n/a	45	S	Yes
bath	ALM-002-01 A	n/a	1800	600	n/a	45	N	Yes
corridor	ALM-002-03 A	n/a	3000	830	n/a	00	E	Yes
bath	ALM-002-01 A	n/a	1800	600	n/a	45	N	Yes
Bedroom 2	ALM-002-03 A	n/a	1800	1000	n/a	45	N	No
Bedroom 3	ALM-002-03 A	n/a	3050	3639	n/a	90	W	Yes
gym	ALM-002-03 A	n/a	1800	1000	n/a	45	S	No
bath	ALM-002-01 A	n/a	1800	1000	n/a	45	S	No
Bedroom 1	ALM-002-03 A	n/a	3050	3000	n/a	90	E	Yes

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
void	ALM-004-01 A	n/a	3500	3020	n/a	00	N	No
void	ALM-004-01 A	n/a	3500	1415	n/a	00	N	No
ens	ALM-002-01 A	n/a	1800	1000	n/a	45	N	No
ens	ALM-002-01 A	n/a	1800	1000	n/a	45	N	No
Bedroom 4	ALM-002-03 A	n/a	3050	3500	n/a	90	E	Yes
WIR	ALM-002-01 A	n/a	1800	600	n/a	45	S	No
bathroom	ALM-002-03 A	n/a	1800	700	n/a	00	S	No

Roof window *type and performance*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight *type and performance*

Skylight ID	Skylight description
GEN-04-006a	Single-glazed clear, Timber and Aluminium Frame

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance

* Refer to glossary.

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
corridor	GEN-04-006a	n/a	500	9.40	N	None	No	0.50
void	GEN-04-006a	n/a	50	20.30	N	None	No	0.50

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage 1	3000	4700	90	E
foyer	2040	1800	90	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Cavity Brick	0.50	Medium	No insulation	No
EW-2	Cavity Brick	0.50	Medium	Bulk Insulation R1	No
EW-3	Cavity Brick	0.50	Medium	Bulk Insulation R1	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage 1	EW-1	3000	6045	N	300	NO
Garage 1	EW-1	3000	5500	E	2300	NO
Garage 1	EW-1	3000	1600	S	5200	YES
toilet	EW-2	3000	2890	N	300	NO
foyer	EW-2	3000	4945	E	2100	YES
foyer	EW-2	3000	3900	S	200	NO
foyer	EW-2	3000	3600	W	200	YES
foyer	EW-2	3000	3000	S	300	YES
Kitchen/Living	EW-3	3000	10745	N	300	NO
Kitchen/Living	EW-2	3000	11545	S	250	NO
Kitchen/Living	EW-2	3000	10500	W	2600	NO

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
TV room	EW-2	3000	4590	N	300	NO
laundry	EW-2	3000	3545	E	200	YES
laundry	EW-2	3000	1945	S	300	NO
scullery	EW-2	3000	2390	S	275	NO
master room	EW-2	3050	6345	S	625	NO
master room	EW-2	3050	4845	W	2925	NO
wir	EW-2	3050	4690	S	650	NO
bath	EW-2	3050	2790	N	800	NO
corridor	EW-2	3050	1190	E	4200	YES
bath	EW-2	3050	2190	N	800	NO
Bedroom 2	EW-2	3050	3490	N	800	NO
Bedroom 3	EW-2	3050	3590	W	2950	NO
gym	EW-2	3050	3600	E	9500	YES
gym	EW-2	3050	2345	S	650	NO
bath	EW-2	3050	2390	S	650	NO
Bedroom 1	EW-2	3050	3545	N	800	NO
Bedroom 1	EW-2	3050	4300	E	2700	NO
Bedroom 1	EW-2	3050	1500	S	6900	YES
wir	EW-2	3050	3745	N	800	NO
wir	EW-2	3050	1845	W	2975	NO
void	EW-2	3500	4590	N	300	NO
ens	EW-2	3050	3590	N	800	NO
Bedroom 4	EW-2	3050	3445	E	2500	NO
Bedroom 4	EW-2	3050	800	S	2100	YES
Bedroom 4	EW-2	3050	2145	W	0	YES
WIR	EW-2	3050	1345	E	3300	YES
WIR	EW-2	3050	3200	S	675	NO
WIR	EW-2	3050	1345	W	0	NO
bathroom	EW-3	3050	2890	S	4275	YES

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Tilt Concrete		438.00	No insulation

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage 1	Concrete Slab on Ground 200mm	35.90	None	No Insulation	Bare
toilet	Concrete Slab on Ground 200mm	5.30	None	No Insulation	Ceramic Tiles 8mm
foyer	Concrete Slab on Ground 200mm	36.90	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 200mm	115.70	None	No Insulation	Ceramic Tiles 8mm
TV room	Concrete Slab on Ground 200mm	25.50	None	No Insulation	Ceramic Tiles 8mm
laundry	Concrete Slab on Ground 200mm	6.90	None	No Insulation	Ceramic Tiles 8mm
scullery	Concrete Slab on Ground 200mm	8.50	None	No Insulation	Ceramic Tiles 8mm
master room/Kitchen/Living	Concrete Above Plasterboard 200mm	30.70		No Insulation	Cork Tiles or Parquetry 8mm
wir/foyer	Concrete Above Plasterboard 200mm	0.50		No Insulation	Cork Tiles or Parquetry 8mm
wir/Kitchen/Living	Concrete Above Plasterboard 200mm	22.20		No Insulation	Cork Tiles or Parquetry 8mm
wir/Garage 1	Concrete Above Plasterboard 200mm	6.40		No Insulation	Cork Tiles or Parquetry 8mm
bath/Garage 1	Concrete Above Plasterboard 200mm	4.40		No Insulation	Ceramic Tiles 8mm
bath/toilet	Concrete Above Plasterboard 200mm	0.70		No Insulation	Ceramic Tiles 8mm
corridor/Garage 1	Concrete Above Plasterboard 200mm	6.50		No Insulation	Cork Tiles or Parquetry 8mm
corridor/foyer	Concrete Above Plasterboard 200mm	2.60		No Insulation	Cork Tiles or Parquetry 8mm
corridor/Kitchen/Living	Concrete Above Plasterboard 200mm	7.70		No Insulation	Cork Tiles or Parquetry 8mm
corridor/TV room	Concrete Above Plasterboard 200mm	5.60		No Insulation	Cork Tiles or Parquetry 8mm
bath/Kitchen/Living	Concrete Above Plasterboard 200mm	4.00		No Insulation	Ceramic Tiles 8mm
Bedroom 2/TV room	Concrete Above Plasterboard 200mm	14.80		No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 3/Kitchen/Living	Concrete Above Plasterboard 200mm	19.40		No Insulation	Cork Tiles or Parquetry 8mm

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
gym/foyer	Concrete Above Plasterboard 200mm	3.00		No Insulation	Cork Tiles or Parquetry 8mm
gym/laundry	Concrete Above Plasterboard 200mm	6.90		No Insulation	Cork Tiles or Parquetry 8mm
gym/scullery	Concrete Above Plasterboard 200mm	1.40		No Insulation	Cork Tiles or Parquetry 8mm
bath/foyer	Concrete Above Plasterboard 200mm	3.10		No Insulation	Ceramic Tiles 8mm
bath/Kitchen/Living	Concrete Above Plasterboard 200mm	1.40		No Insulation	Ceramic Tiles 8mm
bath/scullery	Concrete Above Plasterboard 200mm	7.10		No Insulation	Ceramic Tiles 8mm
Bedroom 1/Garage 1	Concrete Above Plasterboard 200mm	15.10		No Insulation	Cork Tiles or Parquetry 8mm
wir/Kitchen/Living	Concrete Above Plasterboard 200mm	6.90		No Insulation	Cork Tiles or Parquetry 8mm
void/Kitchen/Living	Concrete Above Plasterboard 200mm	19.50		No Insulation	Cork Tiles or Parquetry 8mm
wir/foyer	Concrete Above Plasterboard 200mm	5.30		No Insulation	Cork Tiles or Parquetry 8mm
wir/TV room	Concrete Above Plasterboard 200mm	2.40		No Insulation	Cork Tiles or Parquetry 8mm
ens/toilet	Concrete Above Plasterboard 200mm	4.70		No Insulation	Ceramic Tiles 8mm
ens/TV room	Concrete Above Plasterboard 200mm	2.00		No Insulation	Ceramic Tiles 8mm
Bedroom 4/foyer	Concrete Above Plasterboard 200mm	13.20		No Insulation	Cork Tiles or Parquetry 8mm
WIR/foyer	Concrete Above Plasterboard 200mm	4.30		No Insulation	Cork Tiles or Parquetry 8mm
bathroom/foyer	Concrete Above Plasterboard 200mm	3.60		No Insulation	Ceramic Tiles 8mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage 1	Concrete, Plasterboard	No insulation	No
Garage 1	Concrete Above Plasterboard	No Insulation	No
toilet	Concrete Above Plasterboard	No Insulation	No
foyer	Concrete, Plasterboard	No insulation	No
foyer	Concrete Above Plasterboard	No Insulation	No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete Above Plasterboard	No Insulation	No
TV room	Concrete Above Plasterboard	No Insulation	No
laundry	Concrete Above Plasterboard	No Insulation	No
scullery	Concrete Above Plasterboard	No Insulation	No
master room	Concrete, Plasterboard	Bulk Insulation R4	No
wir	Concrete, Plasterboard	Bulk Insulation R4	No
wir	Concrete, Plasterboard	Bulk Insulation R4	No
bath	Concrete, Plasterboard	Bulk Insulation R4	No
corridor	Concrete, Plasterboard	Bulk Insulation R4	No
bath	Concrete, Plasterboard	Bulk Insulation R4	No
Bedroom 2	Concrete, Plasterboard	Bulk Insulation R4	No
Bedroom 3	Concrete, Plasterboard	Bulk Insulation R4	No
gym	Concrete, Plasterboard	Bulk Insulation R4	No
bath	Concrete, Plasterboard	Bulk Insulation R4	No
Bedroom 1	Concrete, Plasterboard	Bulk Insulation R4	No
wir	Concrete, Plasterboard	Bulk Insulation R4	No
void	Concrete, Plasterboard	Bulk Insulation R4	No
wir	Concrete, Plasterboard	Bulk Insulation R4	No
ens	Concrete, Plasterboard	Bulk Insulation R4	No
Bedroom 4	Concrete, Plasterboard	Bulk Insulation R4	No
WIR	Concrete, Plasterboard	Bulk Insulation R4	No
bathroom	Concrete, Plasterboard	Bulk Insulation R4	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
toilet	1	Downlights - LED	150	Sealed
toilet	1	Exhaust Fans	300	Sealed
foyer	8	Downlights - LED	150	Sealed
Kitchen/Living	18	Downlights - LED	150	Sealed

* Refer to glossary.

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
TV room	6	Downlights - LED	150	Sealed
laundry	1	Downlights - LED	150	Sealed
laundry	1	Exhaust Fans	300	Sealed
scullery	2	Downlights - LED	150	Sealed
master room	6	Downlights - LED	150	Sealed
wir	4	Downlights - LED	150	Sealed
wir	2	Downlights - LED	150	Sealed
bath	1	Downlights - LED	150	Sealed
bath	1	Exhaust Fans	300	Sealed
corridor	6	Downlights - LED	150	Sealed
bath	1	Downlights - LED	150	Sealed
bath	1	Exhaust Fans	300	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Bedroom 3	2	Downlights - LED	150	Sealed
gym	2	Downlights - LED	150	Sealed
bath	2	Downlights - LED	150	Sealed
bath	1	Exhaust Fans	300	Sealed
Bedroom 1	4	Downlights - LED	150	Sealed
wir	2	Downlights - LED	150	Sealed
void	4	Downlights - LED	150	Sealed
wir	2	Downlights - LED	150	Sealed
ens	2	Downlights - LED	150	Sealed
ens	1	Exhaust Fans	300	Sealed
Bedroom 4	4	Downlights - LED	150	Sealed
WIR	1	Downlights - LED	150	Sealed
bathroom	1	Exhaust Fans	300	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Waterproofing Membrane	No Insulation, Only an Air Gap	0.50	Medium
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark

Explanatory notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings 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, indoor air temperature and local climate.

Not all assumptions that may have been 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.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
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, rangehoods, 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.
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.
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 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.
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
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 device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
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.
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).

GENERAL NOTES:

ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE PRINCIPAL CERTIFYING AUTHORITY AND NCC 2022.

ALL DEMOLITION WORK TO BE CARRIED OUT IN ACCORDANCE WITH AS 2601-2001.

SILT SEDIMENT CONTROL MEASURES TO BE IN PLACE PRIOR EXCAVATION OR CONSTRUCTION WORK.

PEDESTRIAN ACCESS, INCLUDING DISABLED AND PRAM ACCESS DURING ROAD WORK TO BE MAINTAINED AS PER AS 17423. 'PART 3 - TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS'.

BUILDER SHALL MAKE GOOD ALL DISTURBED AREAS ADJACENT TO THE WORKS ON COUNCILS ROAD. FOOTPATH ARE TO BE RESTORED TO THE SATISFACTION OF THE PRINCIPAL CERTIFYING AUTHORITY.

ALL CONCRETE FOOTINGS, FLOOR SLABS AND TIMBER ROOF FRAMING TO STRUCTURAL ENGINEERS DETAILS.

THE REFLECTIVITY INDEX OF GLASS USED IN THE EXTERNAL FACADE OF THE BUILDING IS NOT TO EXCEED 20%.

ONGOING WASTE FROM THE PROPOSED DEVELOPMENT IS TO BE ADDED TO THE EXISTING WASTE COLLECTION SYSTEM CURRENTLY IN USE BY THE EXISTING DEVELOPMENT ON SITE.

SAFETY GLASS SHALL BE USED IN EVERY GLASS DOOR OR PANEL ENCLOSING OR PARTLY ENCLOSING A SHOWER OR BATH.

ALL BATHROOM AND WC WINDOWS SHALL BE FITTED AND MAINTAINED WITH OBSCURE GLASS.

NCC COMPLIANCE:

SECTION A GOVERNING REQUIREMENTS

PART A6 BUILDING CLASSIFICATION

A6G2 CLASS 1 BUILDINGS:

ONE OR MORE BUILDINGS WHICH IN ASSOCIATION CONSTITUTE--

(1) CLASS 1A IS ONE OR MORE BUILDINGS, WHICH TOGETHER FORM A SINGLE DWELLING INCLUDING THE FOLLOWING:

(A) A DETACHED HOUSE

(B) ONE OF A GROUP OF TWO OR MORE ATTACHED DWELLINGS, EACH BEING A BUILDING, SEPARATED BY A FIRE-RESISTING WALL, INCLUDING A ROW HOUSE, TERRACE HOUSE, TOWN HOUSE OR VILLA UNIT.

SECTION H CLASS 1 AND 10 BUILDINGS

PART H1 STRUCTURE

- SEE ENGINEERS PLANS

PART H2 DAMP AND WEATHERPROOFING

- PART H2D8 EXTERNAL WATERPROOFING

(1) PERFORMANCE REQUIREMENT H2P2 IS SATISFIED FOR THE DESIGN AND CONSTRUCTION OF EXTERNAL WATERPROOFING FOR ROOFING SYSTEMS ON FLAT ROOFS, ROOF TERRACES, BALCONIES AND TERRACES AND OTHER SIMILAR HORIZONTAL SURFACES LOCATED ABOVE INTERNAL SPACES OF A BUILDING PROVIDED—

(A) MEMBRANES USED IN THE EXTERNAL WATERPROOFING SYSTEM COMPLY WITH AS 4654.1; AND

(B) THE DESIGN AND INSTALLATION OF THE EXTERNAL WATERPROOFING SYSTEM IS IN ACCORDANCE WITH AS 4654.2.

(2) THE REQUIREMENTS OF (1) APPLY TO—

(A) ROOFING SYSTEMS OTHER THAN THOSE COMPLYING WITH H1D7(2) AND (3); AND

(B) TERRACES, BALCONIES AND THE LIKE OTHER THAN—

(I) A CONCRETE SLAB THAT HAS A MINIMUM STEP-DOWN OF 50 MM BELOW THE INTERNAL FLOOR LEVEL; OR

(II) A SUSPENDED CONCRETE SLAB—

(A) WHERE THE SUBFLOOR SPACE IS NOT USED FOR HABITABLE OR NON-HABITABLE PURPOSES; AND

(B) THAT HAS A MINIMUM STEP-DOWN OF 50 MM BELOW THE INTERNAL FLOOR LEVEL; OR

(III) SPACED DECKING IN CONJUNCTION WITH FRAMING MEMBERS THAT ARE SUITABLE FOR EXTERNAL USE.

PART H3 FIRE SAFETY

- PART H3D2.1 FIRE HAZARD PROPERTIES AND NON-COMBUSTIBLE BUILDING ELEMENTS

THE FOLLOWING MATERIALS, THOUGH COMBUSTIBLE OR CONTAINING COMBUSTIBLE FIBRES, MAY BE USED WHEREVER A NON-COMBUSTIBLE MATERIAL IS REQUIRED:

(A) PLASTERBOARD.

(B) PERFORATED GYPSUM LATH WITH A NORMAL PAPER FINISH.

(C) FIBROUS-PLASTER SHEET.

(D) FIBRE-REINFORCED CEMENT SHEETING.

(E) PRE-FINISHED METAL SHEETING HAVING A COMBUSTIBLE SURFACE FINISH NOT EXCEEDING 1 MM THICKNESS AND WHERE THE SPREAD-OF-FLAME INDEX OF THE PRODUCT IS NOT GREATER THAN 0.

(F) SARKING-TYPE MATERIALS THAT DO NOT EXCEED 1 MM IN THICKNESS AND HAVE A FLAMMABILITY INDEX NOT GREATER THAN 5.

(G) BONDED LAMINATED MATERIALS WHERE--

(I) EACH LAMINA, INCLUDING ANY CORE, IS NON-COMBUSTIBLE; AND

(II) EACH ADHESIVE LAYER DOES NOT EXCEED 1MM IN THICKNESS AND THE TOTAL THICKNESS OF THE ADHESIVE LAYERS DOES NOT EXCEED 2MM; AND

(III) THE SPREAD-OF-FLAME INDEX AND THE SMOKE-DEVELOPED INDEX OF THE BONDED LAMINATED MATERIAL AS A WHOLE DO NOT EXCEED 0 AND 3 RESPECTIVELY.

- PART H3D2.2 FIRE HAZARD PROPERTIES

THE FIRE HAZARD PROPERTIES OF MATERIALS USED IN A CLASS 1 BUILDING MUST COMPLY WITH THE FOLLOWING:

(A) SARKING-TYPE MATERIALS USED IN THE ROOF MUST HAVE A FLAMMABILITY INDEX NOT GREATER THAN 5.

(B) FLEXIBLE DUCTWORK USED FOR THE TRANSFER OF PRODUCTS INITIATING FROM A HEAT SOURCE THAT CONTAINS A FLAME MUST COMPLY WITH THE FIRE HAZARD PROPERTIES SET OUT IN AS 4254.1.

- PART H3D3 FIRE SEPARATION OF EXTERNAL WALLS

COMPLIANCE WITH PART 9.2 OF THE ABCB HOUSING PROVISIONS SATISFIES PERFORMANCE REQUIREMENT H3P1 FOR FIRE SEPARATION OF EXTERNAL WALLS.

- PART H3D4 FIRE PROTECTION OF SEPARATING WALLS AND FLOORS

COMPLIANCE WITH PART 9.3 OF THE ABCB HOUSING PROVISIONS SATISFIES PERFORMANCE REQUIREMENT H3P1 FOR FIRE PROTECTION OF SEPARATING WALLS AND FLOORS.

- PART NSW H3D4 FIRE SEPARATION OF GARAGE TOP DWELLINGS

COMPLIANCE WITH NSW PART 9.4 OF THE ABCB HOUSING PROVISIONS SATISFIES PERFORMANCE REQUIREMENT H3P1 FOR FIRE SEPARATION OF GARAGE TOP DWELLINGS.

- PART H3D6 SMOKE ALARMS AND EVACUATION LIGHTING

(1) COMPLIANCE WITH PART 9.5 OF THE ABCB HOUSING PROVISIONS SATISFIES PERFORMANCE REQUIREMENT H3P2 FOR SMOKE ALARMS AND EVACUATION LIGHTING.

(2) FOR THE PURPOSES OF (1), A CLASS 1 BUILDING INCLUDES A CLASS 10A PRIVATE GARAGE LOCATED ABOVE OR BELOW THE CLASS 1 BUILDING.

- PART H3V2 AVOIDANCE OF SPREAD OF FIRE FROM ALLOTMENT BOUNDARY

COMPLIANCE WITH H3P1(1)(B) TO AVOID THE SPREAD OF FIRE FROM AN ALLOTMENT BOUNDARY IS VERIFIED WHEN—

(A) THE EXTERNAL WALLS AND ANY OPENINGS IN THE EXTERNAL WALLS OF A BUILDING, LESS THAN 0.9 M FROM AN ALLOTMENT BOUNDARY, ARE CAPABLE OF WITHSTANDING 92.6 KW/M2 OF HEAT FLUX FOR 60 MINUTES; AND

(B) THE EXTERNAL WALLS EXTEND TO THE UNDERSIDE OF A NON-COMBUSTIBLE ROOF COVERING OR NON-COMBUSTIBLE EAVES LINING IN ACCORDANCE WITH CLAUSE 9.2.3 OF THE ABCB HOUSING PROVISIONS.

PART H4 HEALTH AND AMENITY

- PART H4D2 WET AREAS

COMPLIANCE WITH AS 3740 OR PART 10.2 OF THE ABCB HOUSING PROVISIONS SATISFIES PERFORMANCE REQUIREMENT H4P1 FOR WET AREAS PROVIDED THE WET AREAS ARE PROTECTED IN ACCORDANCE WITH THE APPROPRIATE REQUIREMENTS OF 10.2.1 TO 10.2.6 AND 10.2.12 OF THE ABCB HOUSING PROVISIONS.

- PART H4D3 MATERIALS AND INSTALLATION OF WET AREA COMPONENTS AND SYSTEMS

PERFORMANCE REQUIREMENT H4P1 IS SATISFIED FOR MATERIALS AND THE INSTALLATION OF WET AREA COMPONENTS AND SYSTEMS IF—

(A) BUILDING ELEMENTS IN WET AREAS ARE WATER RESISTANT OR WATERPROOF IN ACCORDANCE WITH CLAUSES 1 THE ABCB HOUSING PROVISIONS; AND

(B) THEY COMPLY WITH EITHER—

(I) AS 3740 AND CLAUSE 10.2.12 OF THE ABC OR

(II) 10.2.7 TO 10.2.32 OF THE ABCB HOUSING

- PART H4D7 VENTILATION

(1) EXCEPT FOR AN EXHAUST FAN FROM A SANIT LAUNDRY, KITCHEN OR BATHROOM, PERFORMAN H4P5 IS SATISFIED FOR A MECHANICAL VENTILAT INSTALLED IN ACCORDANCE WITH AS 1668.2.

(2) COMPLIANCE WITH PART 10.6 OF THE ABCB H SATISFIES PERFORMANCE REQUIREMENT H4P5 F

- PART H4D8 SOUND INSULATION

COMPLIANCE WITH PART 10.7 OF THE ABCB HOUSING F PERFORMANCE REQUIREMENT H4P6 FOR SOUND INSUI

- PART H4D9 CONDENSATION MANAGEMENT

COMPLIANCE WITH PART 10.8 OF THE ABCB HOUSING F PERFORMANCE REQUIREMENT H4P7 FOR CONDENSAT MANAGEMENT.

PART H5 SAFE MOVEMENT AND ACCESS

- PART H5D2 STAIRWAY AND RAMP CONSTRUCTION

COMPLIANCE WITH PART 11.2 OF THE ABCB HOUSING P PERFORMANCE REQUIREMENT H5P1 FOR STAIRWAY AN RAMP CONSTRUCTION.

STANDARDS AUSTRALIA COM

THE BUILDING SHALL BE CONSTRUCTED IN ACCORDAN LIMITED TO THE FOLLOWING AUSTRALIAN STANDARD

AS/NZS 2293.1:2018	EMERGENCY EVACUATION L
AS 3700:2018	MASONRY STRUCTURES
AS 1670.1:2018	FIRE DETECTION, WARNING INTERCOM SYSTEMS--SYSTE INSTALLATION AND COMMIS
AS/NZS 1668:2016	THE USE OF VENTILATION A IN BUILDINGS SET
AS 1428:2021	GENERAL REQUIREMENTS F BUILDING WORK
AS 2293.1:2018	EMERGENCY ESCAPE LIGHT BUILDINGS
AS 3500.3:2021	PLUMBING AND DRAINAGE -
AS/NZS 1664.1:1997	ALUMINIUM STRUCTURES
AS/NZS 1905.1:2015 & 1905.2:2005	COMPONEN PROTECTIO RESISTANT
AS 2050:2018	INSTALLATION OF ROOF TIL
AS 2047:2014	WINDOWS - SELECTION ANI
AS/NZS 2327:2017	COMPOSITE STRUCTURES
AS 2870:2011	RESIDENTIAL SLABS AND FO
AS 1684.2:2021	RESIDENTIAL TIMBER-FRAM
AS/NZS 3013:2005	ELECTRICAL INSTALLATION
AS 1668.1:2015 & 1668.4:2012	THE USE OF MEC AND AIR CONDIT
AS 2444:2001	PORTABLE FIRE EXTINGUISH BLANKETS-SELECTION AND
AS 3786:2014	SMOKE ALARMS
AS 1288:2021	GLASS - SELECTION AND IN
AS 2107:2016	ACOUSTICS- RECOMMENDE & REVERBERATION TIMES F
AS 3660.3:2014	TERMITE MANAGEMENT-NE
AS 3740:2021	WATERPROOFING OF DOME
AS 1926.1:2012 & 1926.2:2007	SAFETY BARRIER

ADDITIONAL NOTES

- PROVIDE SIGNAL MASTER TV ANTENNA
- PROVIDE FIXED OUTDOOR CLOTHES DRYER
- ALL WALL FIXTURES TO BE INSTALLED ARE TO BE RATED AAA
- ANY NEW HOT WATER SYSTEM IS TO ACHIEVE A MINIMUM 4 STARS
- ALL EXTERNAL TILES ARE TO BE SLIP RESISTANT.

BASIX NOTES

FIXTURES

ALL SHOWER HEADS 4 STAR (>6 BUT <=7.5L/MIN)

ALL TOILET FLUSHING SYSTEMS 4 STAR

ALL KITCHEN TAPS 4 STAR

ALL BATHROOM TAPS 5 STAR

ALTERNATIVE WATER

1800L RAIN WATER TANK

COLLECT RUN-OFF FROM 80m² OF ROOF AREA

CONNECT RAIN WATER TANK TO COLD WATER TAP FOR EACH CLOTHES WASHER & 1 OUTDOOR TAP

HOT WATER

ELECTRIC HEAT PUMP 31-35 STC OR BETTER

HEATING/COOLING

3-PHASE AIRCONDITIONING TO LIVING AREAS AND BEDROOMS W/ DAY/NIGHT ZONING

VENTILATION

1 BATHROOM INDIVIDUAL FAN DUCTED TO FAÇADE OR ROOF W/ MANUAL SWITH ON/OFF

KITCHEN INDIVIDUAL FAN DUCTED TO FAÇADE OR ROOF W/ MANUAL SWITH ON/OFF

LAUNDRY INDIVIDUAL FAN DUCTED TO FAÇADE OR ROOF INTERLOCKED TO LIGHT

ARTIFICIAL LIGHTING

PRIMARY LED/FLOURESCENT LIGHTING TO 6 BEDROOMS/STUDY/2 LIVING/DINING/KITCHEN/ BATHS/LAUNDRY/HALLWAYS

NATURAL LIGHTING

6 BATHROOMS/TOILETS & KITCHEN TO BE NATURALLY LIT

OTHER

PHOTOVOLTAIC SYSTEM 0.6KW

GAS COOKTOP & ELECTRIC OVEN

FIXED OUTDOOR CLOTHES LINE

Assessor Construction Summary

Project:	**Address:**	198 Henry Lawson Drive Georges Hall NSW			
Contact:	**Name:**	Mark Yuen			
	Contact:	mark@winningbuilders.com.au			
Assessor:	**Name:**	Ailin Zhang		**Company:**	Victor Lin & Associates
	Address:	PO Box 5080. Sth Turramurra. 2074		**Number:**	DMN/19/1894
	Contact:	0412-988088		**Email:**	Ailin@linassociates.com.au

Ext. Walls:	**Construction**	**Insulation**	**Colour**	**Details**
	Concrete cavity 110mm	Kooltherm K12 R1.0	Med	Total wall system R2.0
Int. Walls:	**Construction**			**Details**
	Concrete	None		As per plans
Floors:	**Construction**	**Insulation**		**Details**
	Concrete slab	None		Under all ground floors (exl garage)
Ceilings:	**Construction**	**Insulation**		**Details**
	Concrete	R4.0		Under all roofs
Roof:	**Construction**	**Insulation**	**Colour**	**Details**
	Tile	Foil	Dark	As per plans

Windows:	**Product ID**	**Glazing**	**Frame**	**Uw/SHGCw**	**Window No.**
	Generic	Single Clear	Aluminium	6.70 / 0.70	All windows in garage & wet areas
				6.70 / 0.57	D04
		Single Low E		5.40 / 0.58	All other fixed, single hung, sliding, stacking windows & doors
				5.40 / 0.49	All other awning windows

Skylights:	**Product ID**	**Glass**	**Frame**	**Uw/SHGCw**	**Details**
	Generic	Single Clear	Timber/Metal	n/a	As per plans

Other:	**Orientation**	**Terrain**	**Weatherseals**	**Climate Zone**	**Recessed Downlights**
	345	Suburban	Yes	56	YES - SEALED TYPE ONLY 100mm LED at 1 per 5 sqm of ceiling space

Overshadowing Details:	Other Project Building	
Assessment:	**Drawings:**	198 Henry Lawson Drive Georges Hall NSW dwgs as stamped
	File Ref:	4322A.02
	Software:	BERS Pro 4.4

Certification Number: 0008682478 **Date:** 31-May-2023

House No.	Insulation Summary (refer also to table above)								
	Conditioned Area	Unconditioned Area	Heating	Cooling	Star			SEALED Recessed Downlights ONLY	Sealed exhaust vents
House	390	17	38.8	20.7	5.4			X	X

Disclaimer: By using this summary you are accepting all the terms of this disclaimer notice. While every effort is made to ensure that the content of this summary is accurate, the summary is provided "as is" and Victor Lin & Associates Pty Ltd, makes no representations or warranties in relation to the accuracy or completeness of the information found on it. In no event will Victor Lin & Associates Pty Ltd, be liable for any damages whatsoever for any differences between this summary and the NatHERS Univesal Certificates that relate to this project. You accept that it is your responsibility to check the Universal Certificates and comply with any differences that may exist on those certificates.

0008682478 01 Jun 2023
Assessor Ailin Zhang
Accreditation No. DMN/19/1894
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Unit House, 198 Henry Lawson Drive , Georges Hall , NSW , 2198
5.4 NATIONWIDE HOUSE ENERGY RATING SCHEME 59.5 MJ/m² www.nathers.gov.au
hstar.com.au

PROPOSED DWELLING - 198 HENRY LAWSON DRIVE GEORGES HALL 2198 - LOT 14 DP12034

S4.55 ISSUE

REV	DATE	DESCRIPTION	BY
00	26.05.23	S4.55 SUBMISSION	EF
01	29.05.23	S4.55 SUBMISSION	EF
02	02.06.23	S4.55 SUBMISSION	EF

CLIENT
L & J Management PTY LTD
Winning Builders PTY LTD

PROJECT ADDRESS
198 Henry Lawson Drive
Georges Hall 2198
Lot 14 DP12034

ALVARO ARCHITECTS PTY LTD
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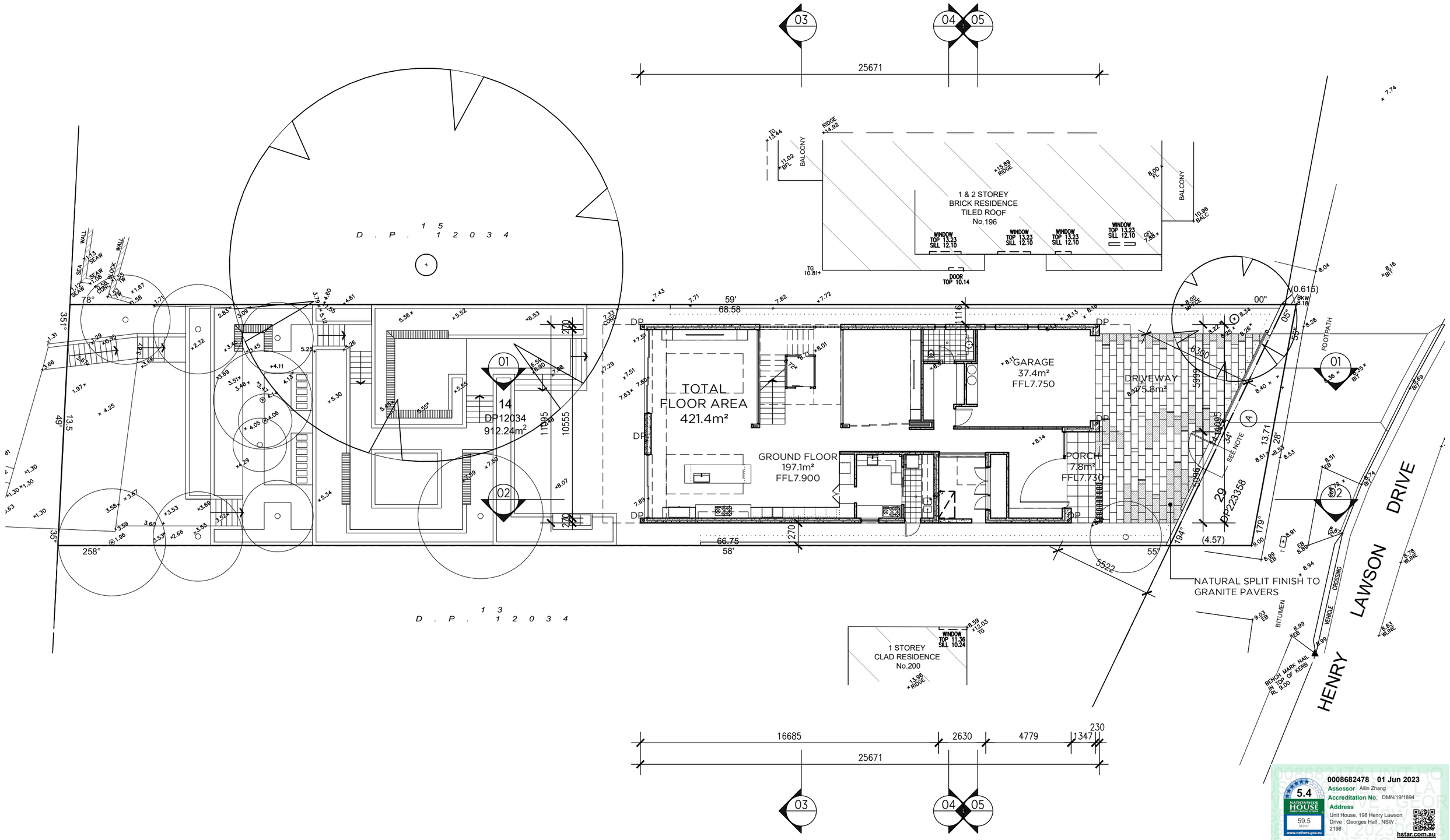
PROJECT
PROPOSED DWELLING
GEORGES HALL

NORTH

DRAWN	DRAWING TITLE	
EF	COVER SHEET	
CHECKED	SCALE @A3	JOB NUMBER
RA	NTS	0325
APPROVED	DRAWING NO.	REV
RA	000	02



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00	26.05.23	S4.55 SUBMISSION	EF
01	02.06.23	S4.55 SUBMISSION	EF

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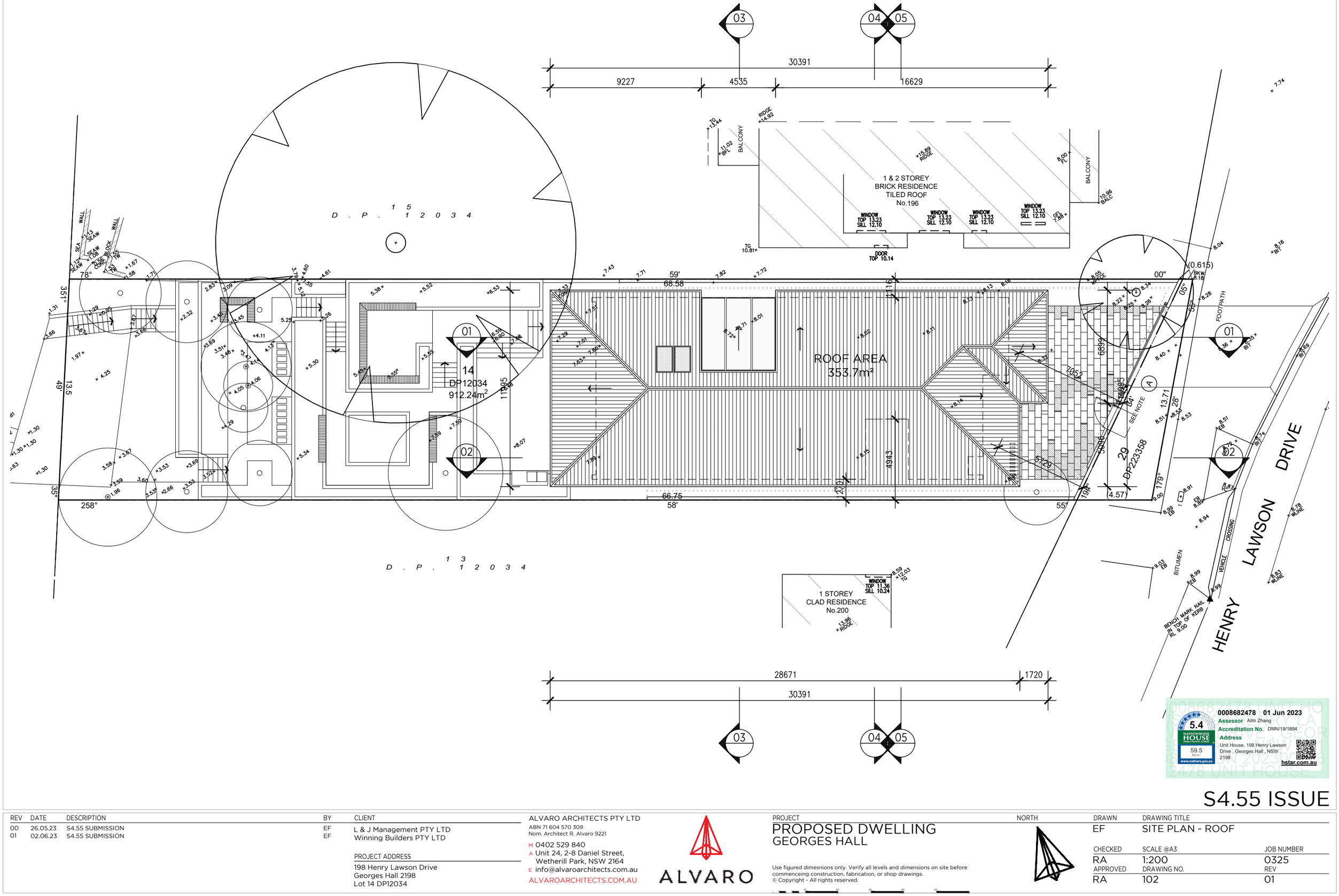
NORTH

DRAWN	DRAWING TITLE
EF	SITE PLAN
CHECKED	SCALE @A3
RA	1:200
APPROVED	DRAWING NO.
RA	101
JOB NUMBER	
0325	
REV	
01	



S4.55 ISSUE

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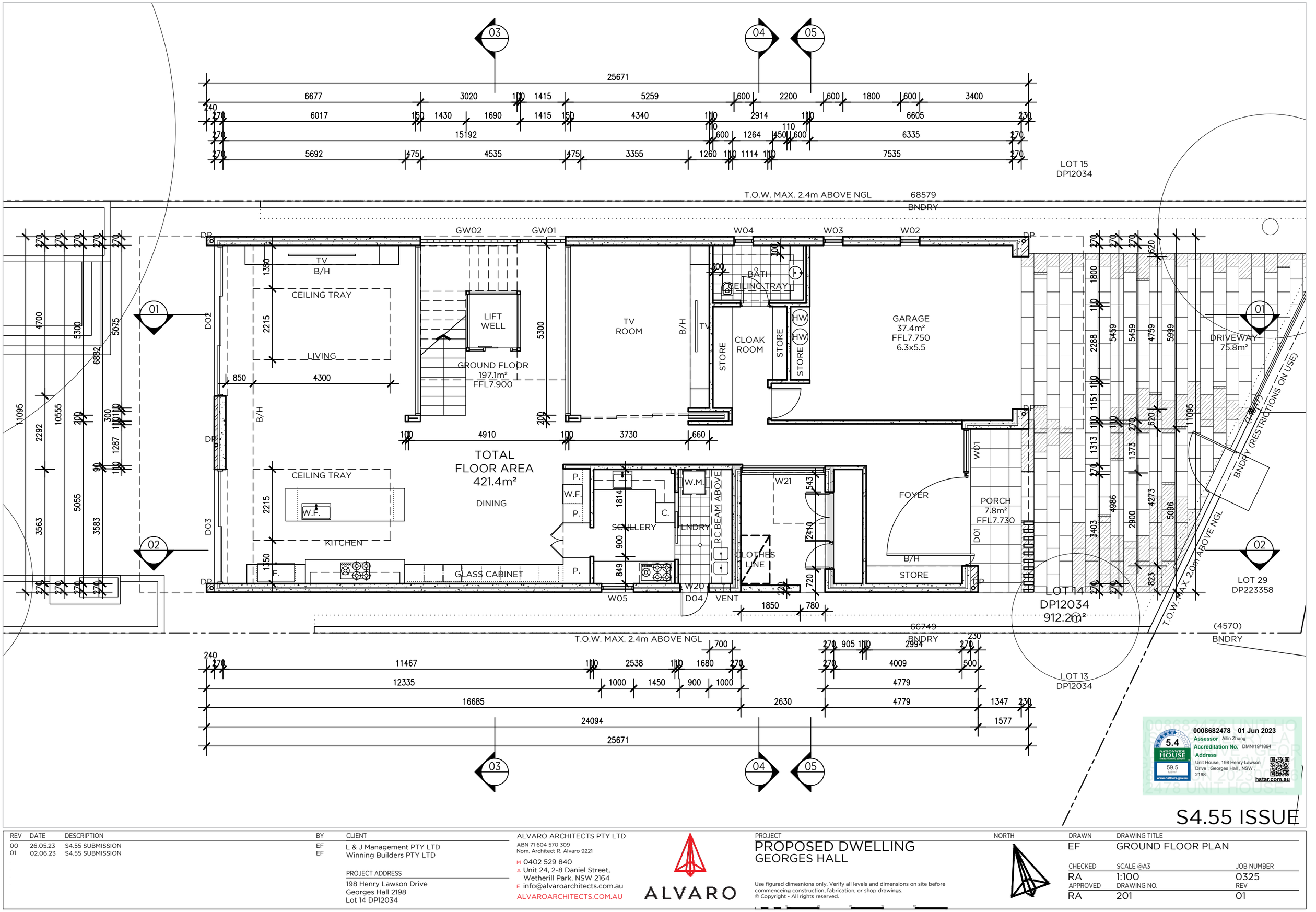
NORTH

DRAWN	DRAWING TITLE
EF	SITE PLAN - ROOF

CHECKED	SCALE @A3	JOB NUMBER
RA	1:200	0325
APPROVED	DRAWING NO.	REV
RA	102	01



S4.55 ISSUE

REV	DATE	DESCRIPTION	BY
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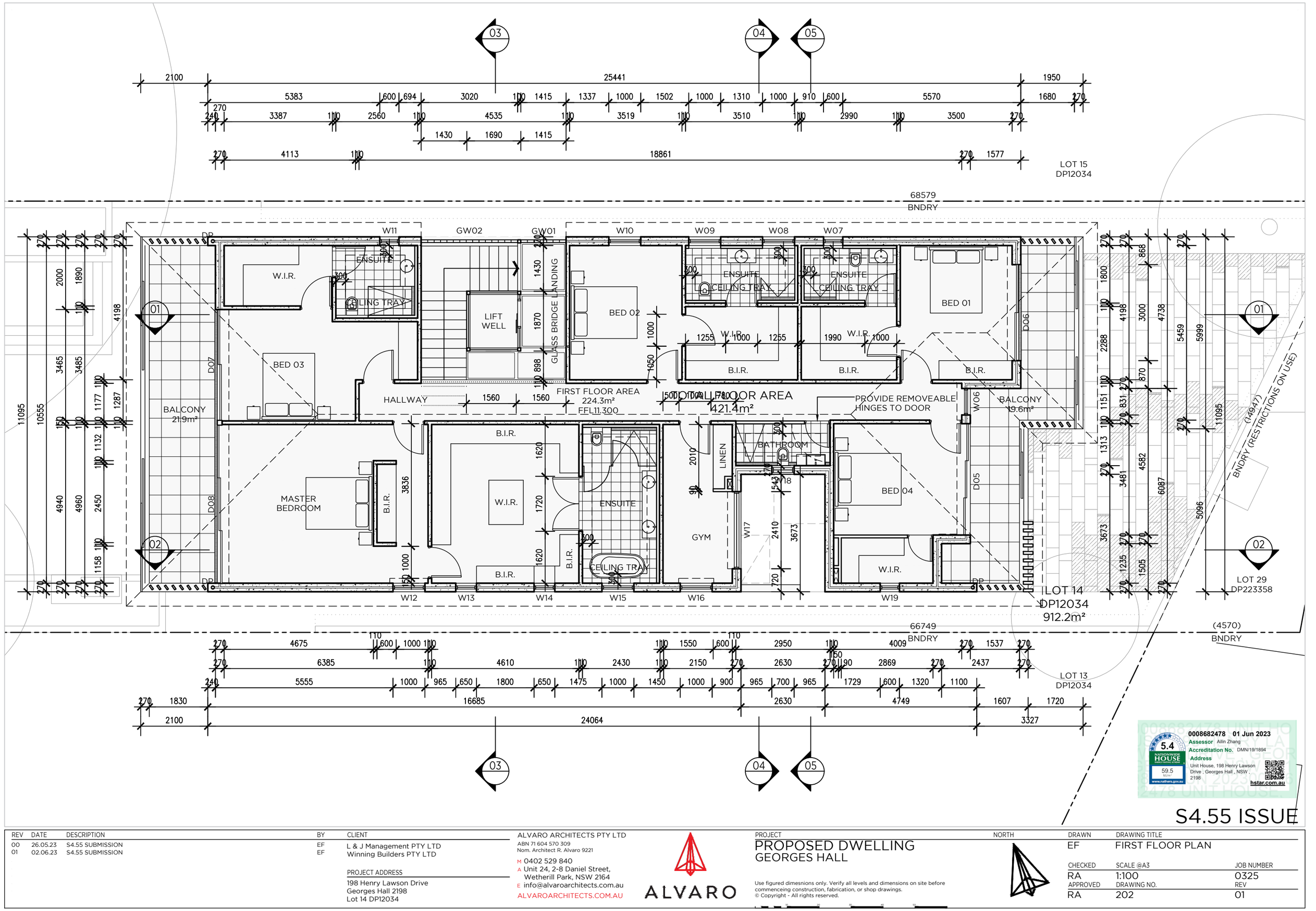
NORTH

DRAWN	DRAWING TITLE
EF	GROUND FLOOR PLAN
CHECKED	SCALE @A3
RA	1:100
APPROVED	DRAWING NO.
RA	201
JOB NUMBER	
0325	
REV	
01	



S4.55 ISSUE

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01	02.06.23	S4.55 SUBMISSION	EF

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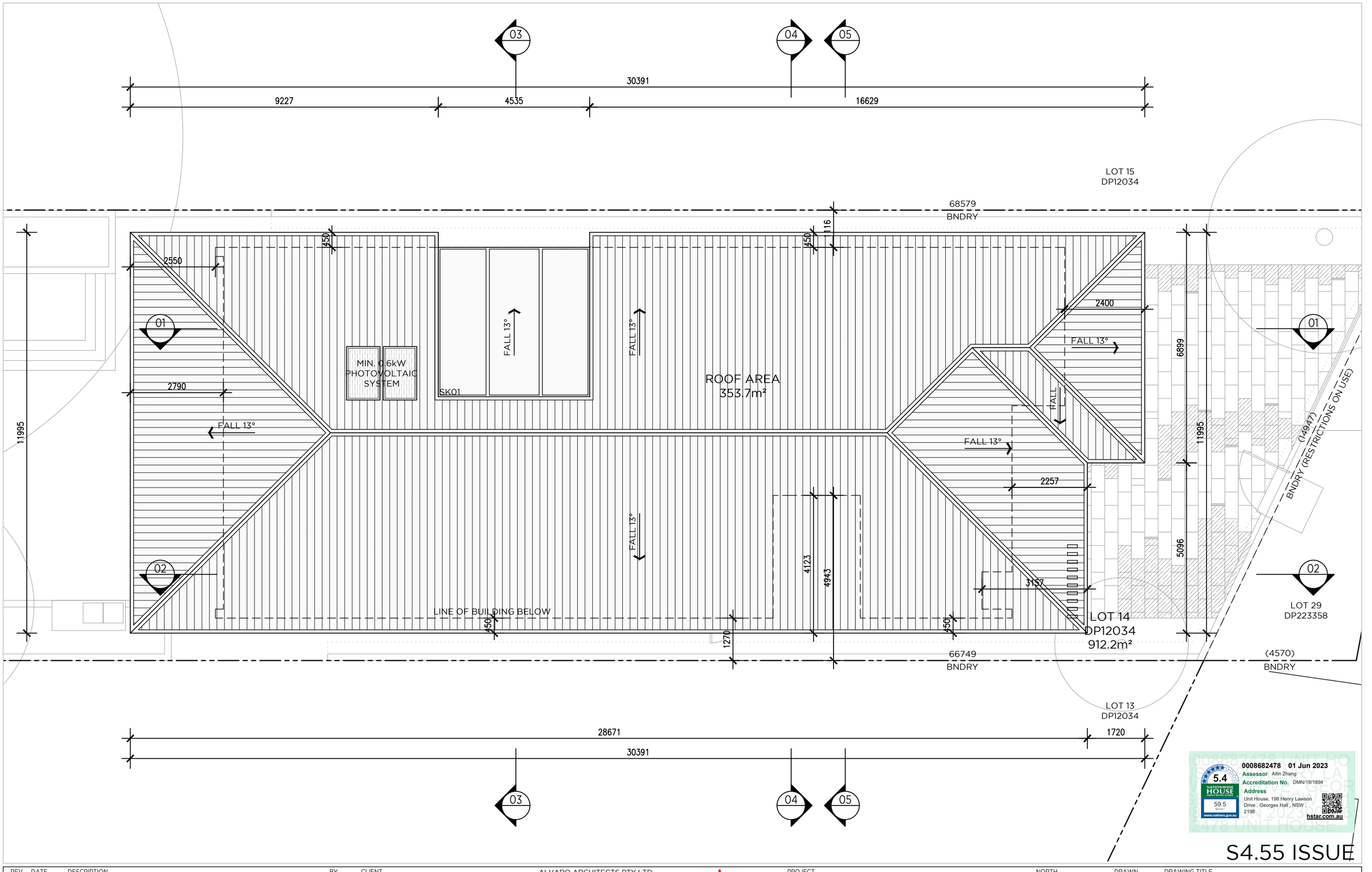
GEORGES HALL

NORTH

DRAWN	DRAWING TITLE
EF	FIRST FLOOR PLAN
CHECKED	SCALE @A3	JOB NUMBER
RA	1:100	0325
APPROVED	DRAWING NO.	REV
RA	202	01



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S4.55 ISSUE

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PROJECT
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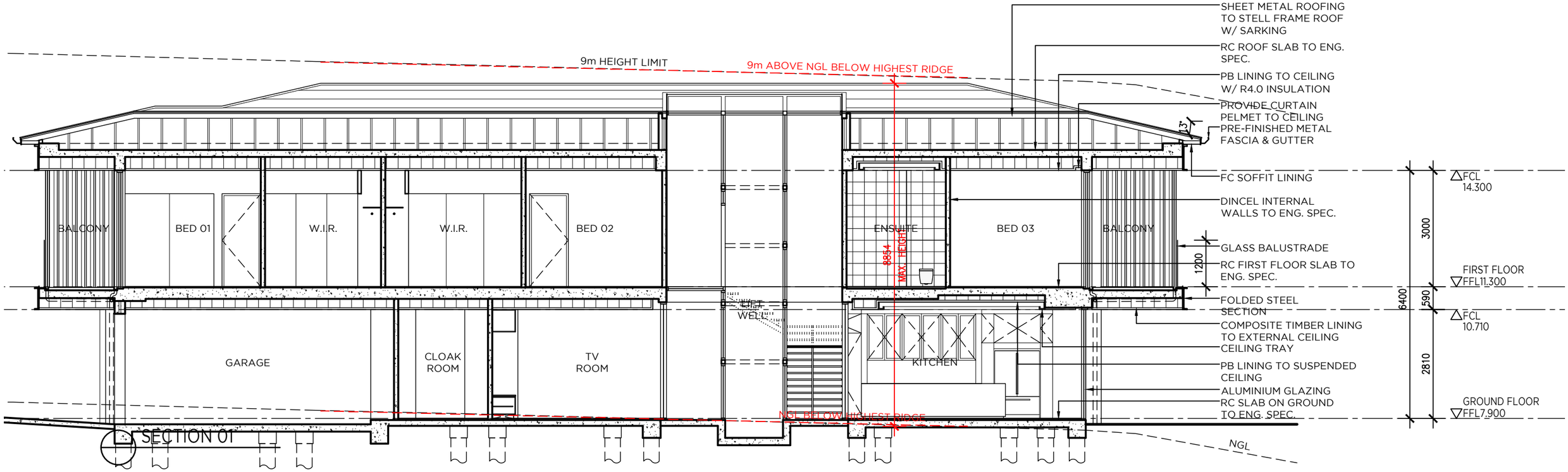
GEORGES HALL

NORTH

DRAWN	DRAWING TITLE
EF	ROOF PLAN
CHECKED	SCALE @A3	JOB NUMBER
RA	1:100	0325
APPROVED	DRAWING NO.	REV
RA	203	01



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S4.55 ISSUE

REV	DATE	DESCRIPTION	BY
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CLIENT
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PROJECT
PROPOSED DWELLING
GEORGES HALL

DRAWN	DRAWING TITLE
EF	SECTIONS

CHECKED	SCALE @A3	JOB NUMBER
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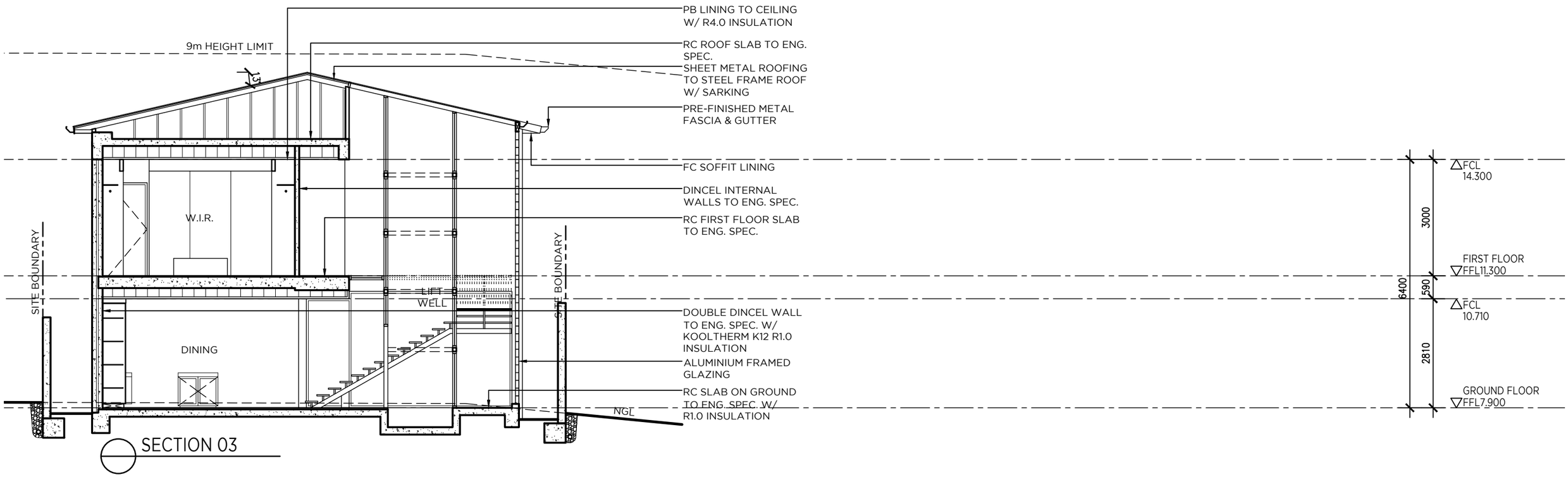
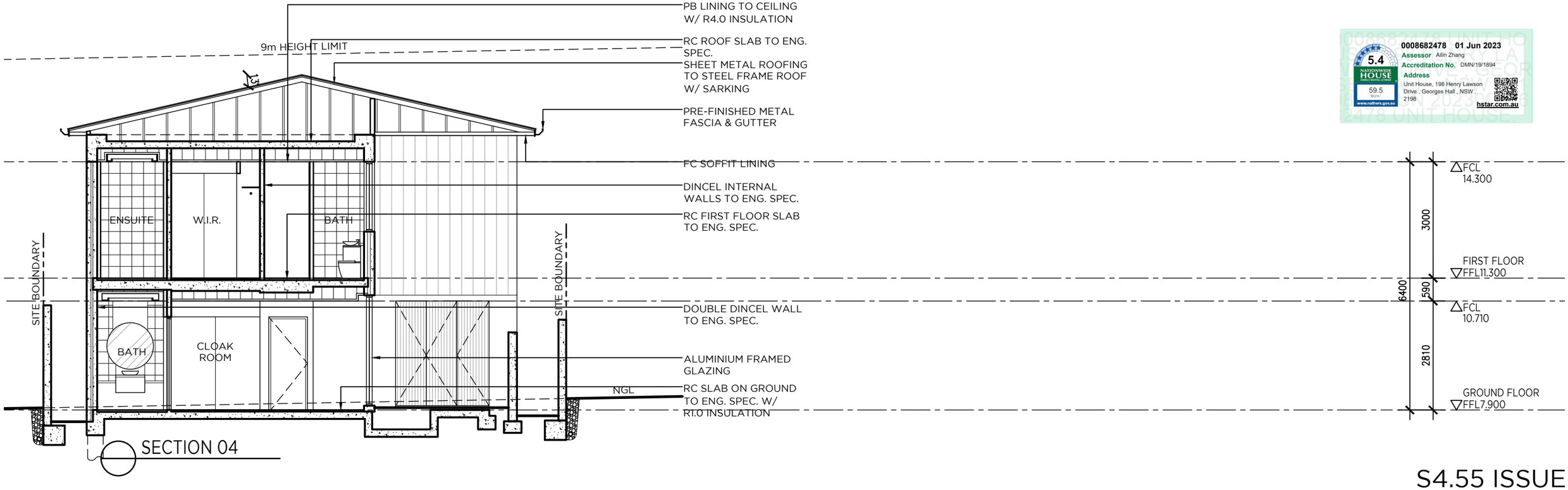
APPROVED	DRAWING NO.	REV
RA	301	00



SECTION 03



SECTION 04

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S4.55 ISSUE

REV	DATE	DESCRIPTION	BY
00	26.05.23	S4.55 SUBMISSION	EF

CLIENT
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GEORGES HALL

DRAWN	DRAWING TITLE	
EF	SECTIONS	
CHECKED	SCALE @A3	JOB NUMBER
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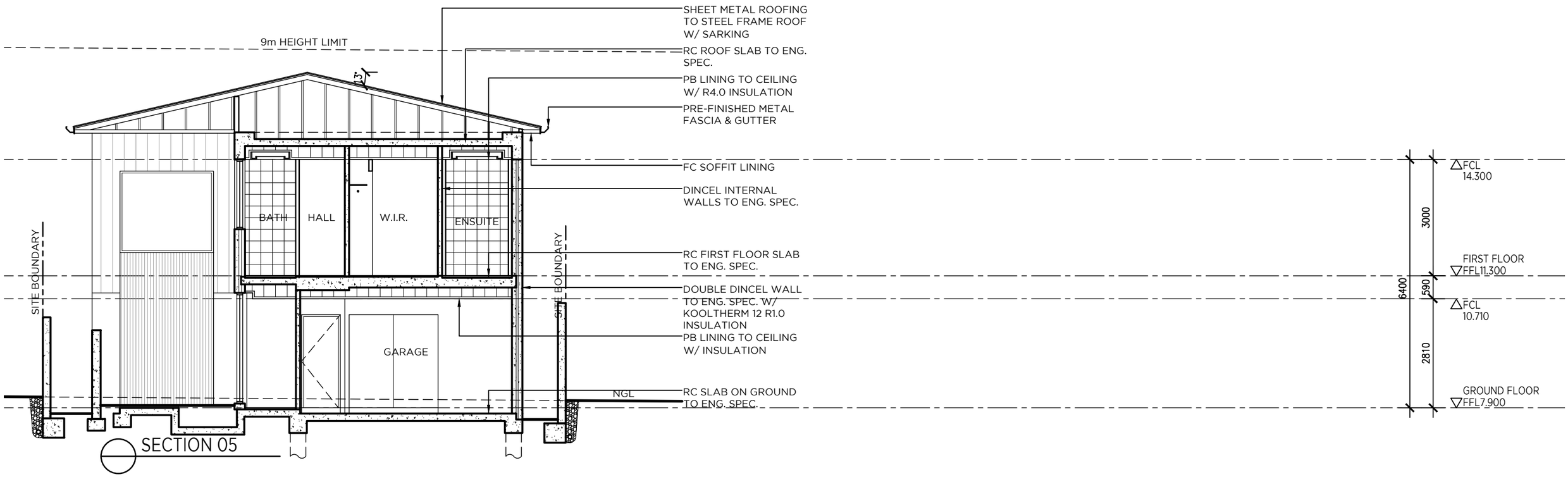
APPROVED	DRAWING NO.	REV
RA	302	00



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S4.55 ISSUE

REV	DATE	DESCRIPTION	BY
00	26.05.23	S4.55 SUBMISSION	EF

CLIENT
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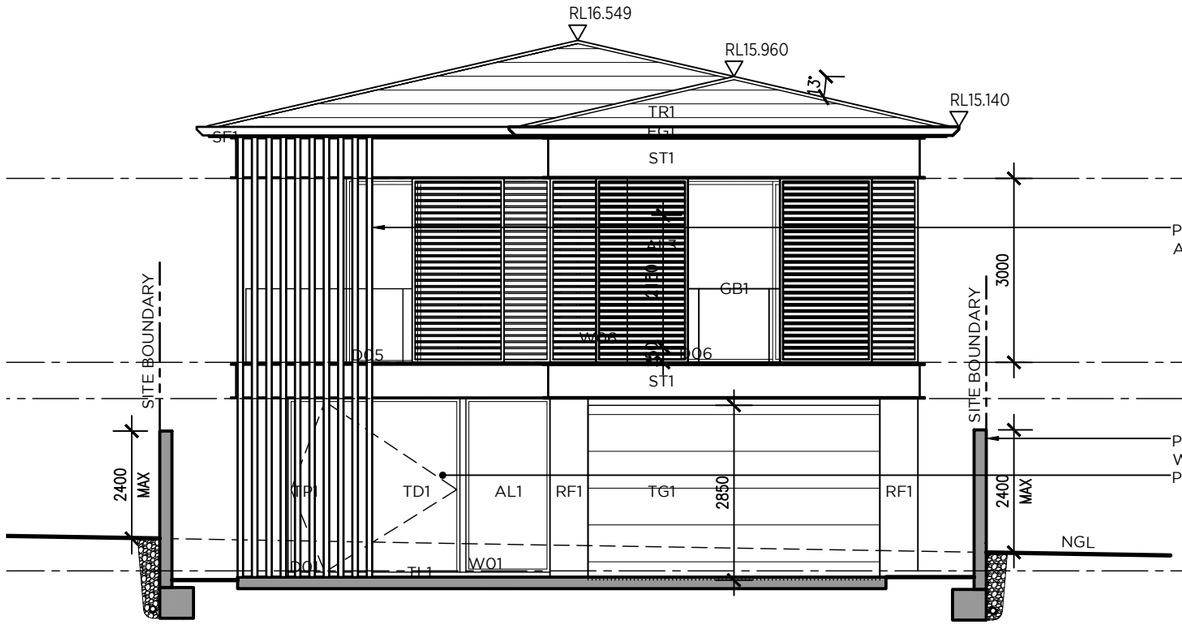
PROJECT
PROPOSED DWELLING
GEORGES HALL

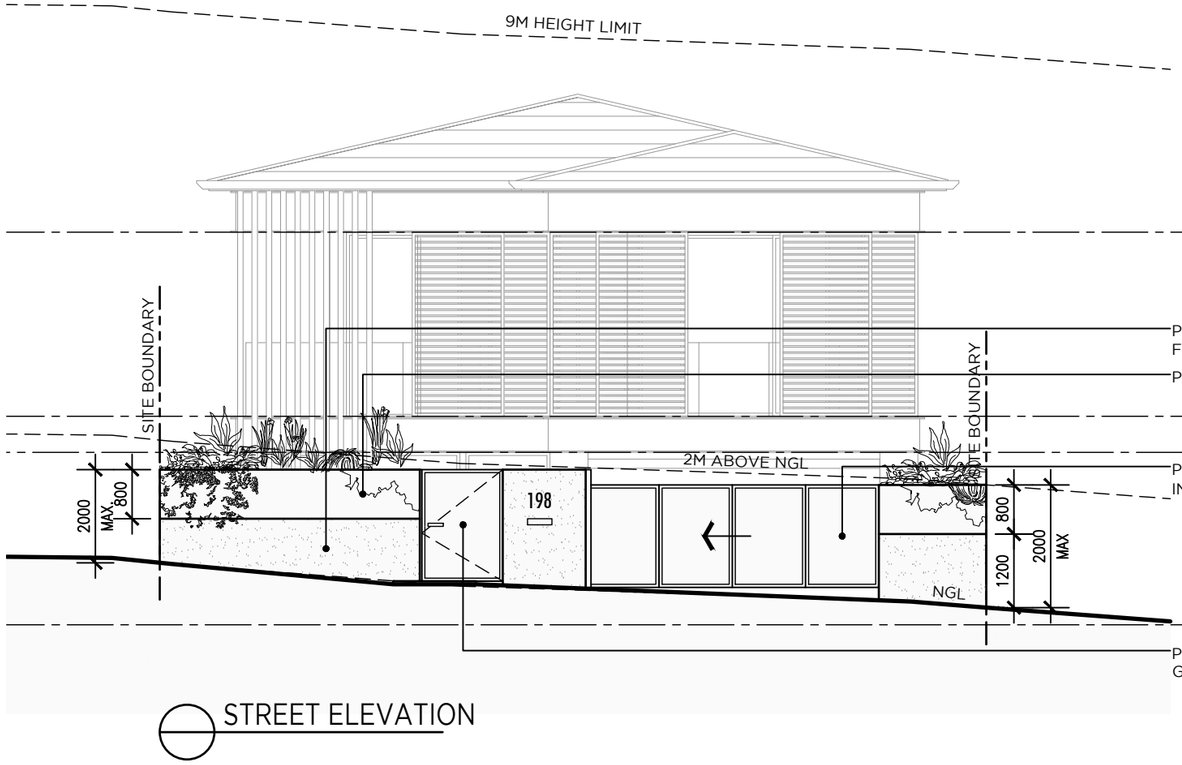
DRAWN	DRAWING TITLE	
EF	SECTION	
CHECKED	SCALE @A3	JOB NUMBER
RA	1:100	0325
APPROVED	DRAWING NO.	REV
RA	303	00



SOUTH EAST ELEVATION

CODE	DESCRIPTION
AL1	POWDERCOAT FINISH TO ALUMINIUM FRAMED GLAZING
AL2	POWERCOAT FINISH TO ALUMINIUM LOUVRES
AL3	POWERCOAT FINISH TO ALUMINIUM PRIVACY SCREEN
FG1	PRE-FINISHED METAL FASCIA & GUTTER
GB1	GLASS BALUSTRADE
GB2	GLASS BLOCK WALL
PF1	PAINT FINISH TO PANELS
RF1	PAINT AND RENDER FINISH
SF1	~~PRINT FINISH TO FC SOFFIT LINING~~
ST1	PAINT FINISH TO STEEL ELEMENT
TD1	SOLID CORE TIMBER ENTRY DOOR
TG1	PRE-FINISHED GARAGE LIFT DOOR
TL1	SELECTED NON-SLIP TILE FINISH TO EXTERNAL FLOORING
TP1	TIMBER FINISH TO FIXED TIMBER BATTENS
TR1	SELECTED TILE FINISH TO ROOFING

MATERIAL SCHEDULE



STREET ELEVATION

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Assessor Ailin Zhang
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5.4 NATIONWIDE HOUSE ENERGY RATING SCHEME 59.5 MJ/m² www.nathers.gov.au
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S4.55 ISSUE

REV	DATE	DESCRIPTION	BY
00	26.05.23	S4.55 SUBMISSION	EF
01	29.05.23	S4.55 SUBMISSION	EF
02	02.06.23	S4.55 SUBMISSION	EF

CLIENT
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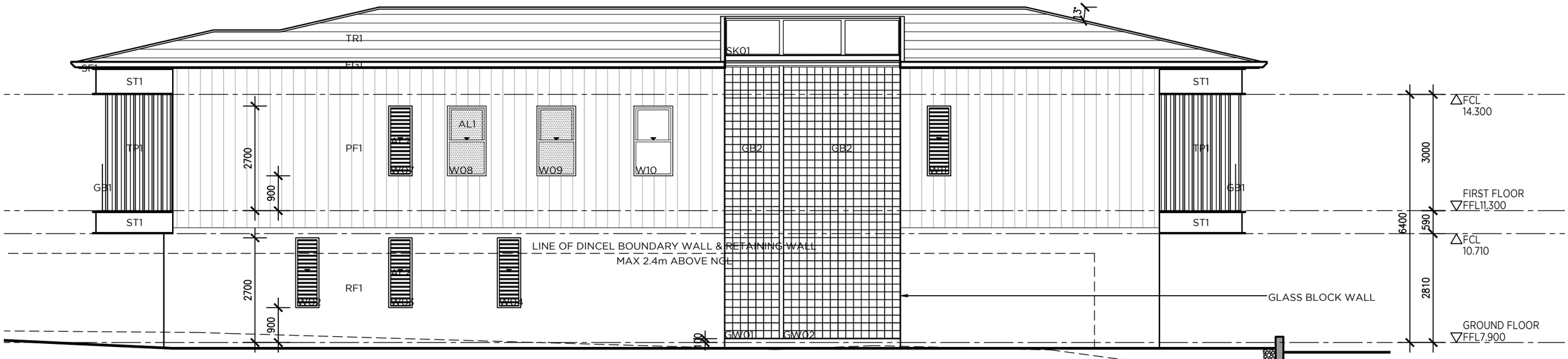
PROJECT
PROPOSED DWELLING
GEORGES HALL

DRAWN	DRAWING TITLE	
EF	ELEVATIONS	
CHECKED	SCALE @A3	JOB NUMBER
RA	1:100	0325
APPROVED	DRAWING NO.	REV
RA	304	02



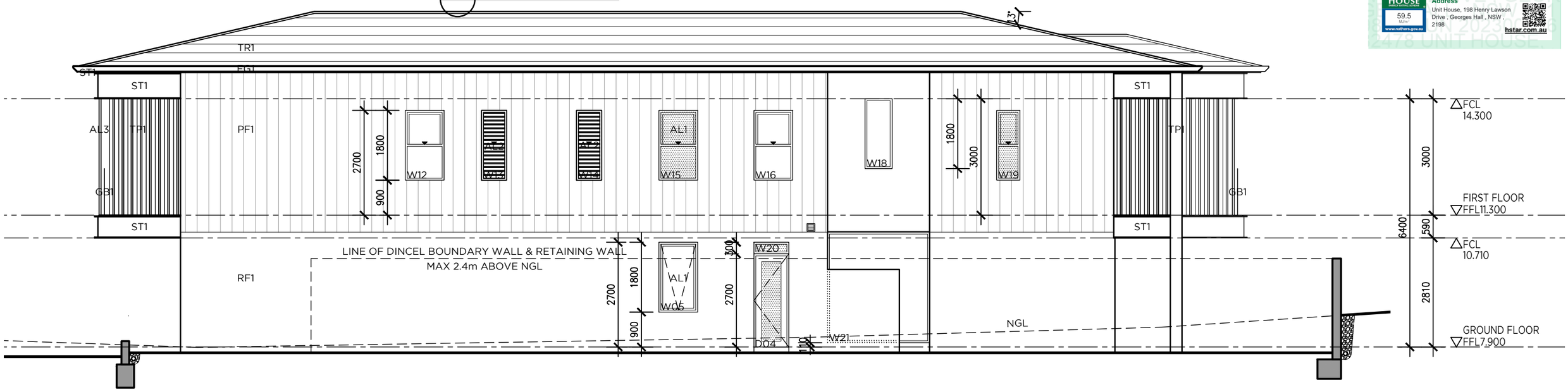
NORTH EAST ELEVATION

CODE	DESCRIPTION
AL1	POWDERCOAT FINISH TO ALUMINIUM FRAMED GLAZING
AL2	POWERCOAT FINISH TO ALUMINIUM LOUVRES
AL3	POWERCOAT FINISH TO ALUMINIUM PRIVACY SCREEN
FG1	PRE-FINISHED METAL FASCIA & GUTTER
GB1	GLASS BALUSTRADE

CODE	DESCRIPTION
GB2	GLASS BLOCK WALL
PF1	PAINT FINISH TO PANELS
RF1	PAINT AND RENDER FINISH
SF1	PRINT FINISH TO FC SOFFIT LINING
ST1	PAINT FINISH TO STEEL ELEMENT

CODE	DESCRIPTION
TD1	SOLID CORE TIMBER ENTRY DOOR
TG1	PRE-FINISHED GARAGE LIFT DOOR
TL1	SELECTED NON-SLIP TILE FINISH TO EXTERNAL FLOORING
TP1	TIMBER FINISH TO FIXED TIMBER BATTENS
TR1	SELECTED TILE FINISH TO ROOFING

MATERIAL SCHEDULE



SOUTH WEST ELEVATION

S4.55 ISSUE

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PROJECT
PROPOSED DWELLING
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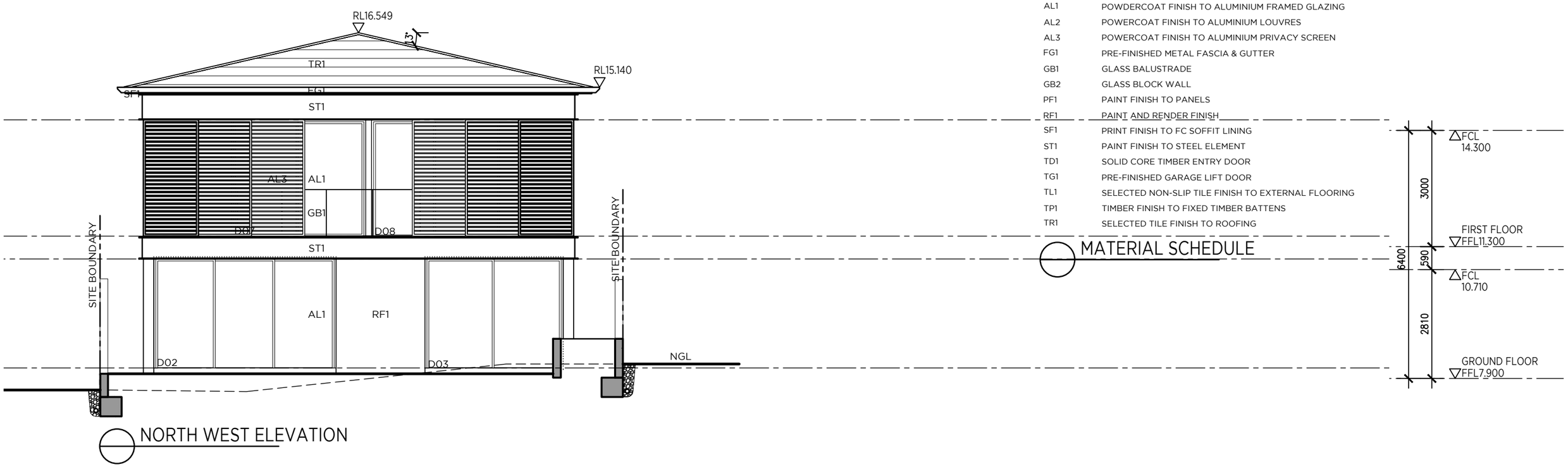
DRAWN	DRAWING TITLE
EF	ELEVATIONS

CHECKED	SCALE @A3	JOB NUMBER
RA	1:100	0325
APPROVED	DRAWING NO.	REV
RA	305	00



NORTH WEST ELEVATION

CODE	DESCRIPTION
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MATERIAL SCHEDULE

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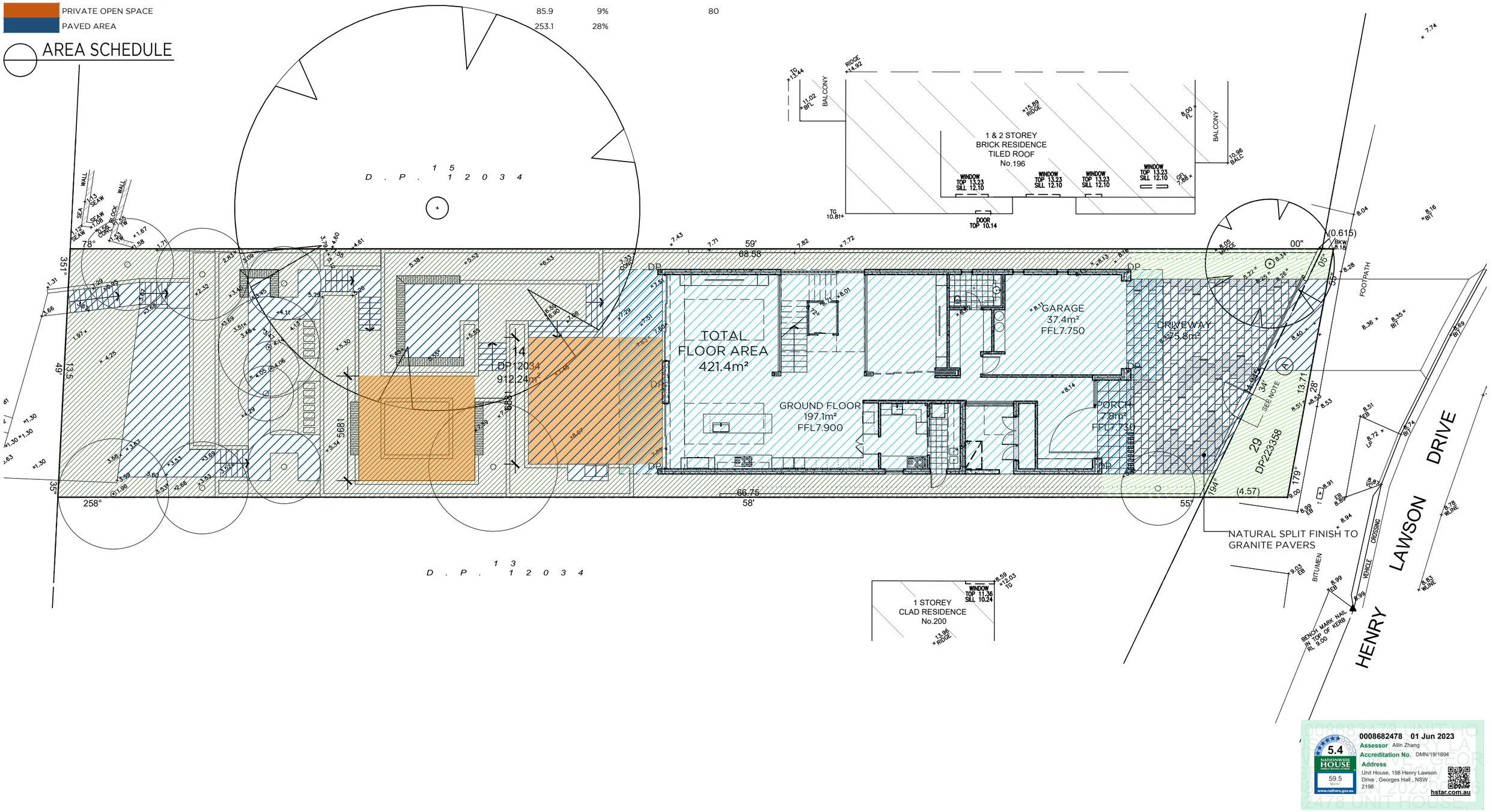
PROPOSED DWELLING
GEORGES HALL

DRAWN	DRAWING TITLE	
EF	ELEVATION	
CHECKED	SCALE @A3	JOB NUMBER
RA	1:100	0325
APPROVED	DRAWING NO.	REV
RA	306	00

CODE	TYPE	PROPOSED (m²)	%	REQUIRED/PERMITTED (m²)/(%)
	SITE COVERAGE	318.4	35%	
	FRONT LANDSCAPED AREA	49.7	35%	64.6
	MIN. 45% OF AREA BETWEEN DWELLING & PRIMARY ROAD TO BE LANDSCAPED	49.7	35%	45%
	REAR LANDSCAPED AREA	337.3	37%	
	TOTAL LANDSCAPED AREA	436.7	48%	
	PRIVATE OPEN SPACE	85.9	9%	80
	PAVED AREA	253.1	28%	

AREA SCHEDULE



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GEORGES HALL

NORTH

DRAWN	DRAWING TITLE	
EF	AREA PLAN & SCHEDULE	
CHECKED	SCALE @A3	JOB NUMBER
RA	1:200	0325
APPROVED	DRAWING NO.	REV
RA	401	01

No.	STYLE	SIZE (mm) WIDTH	HEIGHT	AREA(m^2)	REMARKS	CODE	ORIENTATION	EAVE (mm) WIDTH (INCL. GUTTER)	HEIGHT ABOVE WINDOW	WINDOW SILL HEIGHT
W01	FIXED WINDOW	1373	2830	3.89	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	SE	1807	0	0
W02	SINGLE HUNG WINDOW	600	1800	1.08	ALUMINIUM SG CLEAR (U=6.7 SHGC=0.7) W/ LOUVRES	CUSTOM	NE	600	4375	900
W03	SINGLE HUNG WINDOW	600	1800	1.08	ALUMINIUM SG CLEAR (U=6.7 SHGC=0.7) W/ LOUVRES	CUSTOM	NE	600	4375	900
W04	OPAQUE SINGLE HUNG WINDOW	600	1800	1.08	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41) W/ LOUVRES	CUSTOM	NE	600	4375	900
W05	AWNING WINDOW	1000	1800	1.80	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.36)	CUSTOM	SW	600	4375	900
W06	FIXED WINDOW	831	2150	1.79	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	SE	4127	600	250
W07	OPAQUE SINGLE HUNG WINDOW	600	1800	1.08	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41) W/ LOUVRES	CUSTOM	NE	600	975	900
W08	OPAQUE SINGLE HUNG WINDOW	1000	1800	1.80	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	NE	600	975	900
W09	OPAQUE SINGLE HUNG WINDOW	1000	1800	1.80	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	NE	600	975	900
W10	SINGLE HUNG WINDOW	1000	1800	1.80	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	NE	600	975	900
W11	OPAQUE SINGLE HUNG WINDOW	600	1800	1.08	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41) W/ LOUVRES	CUSTOM	NE	600	975	900
W12	SINGLE HUNG WINDOW	1000	1800	1.80	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	SW	600	975	900
W13	SINGLE HUNG WINDOW	650	1800	1.17	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41) W/ LOUVRES	CUSTOM	SW	600	975	900
W14	SINGLE HUNG WINDOW	650	1800	1.17	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41) W/ LOUVRES	CUSTOM	SW	600	975	900
W15	OPAQUE SINGLE HUNG WINDOW	1000	1800	1.80	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	SW	600	975	900
W16	SINGLE HUNG WINDOW	1000	1800	1.80	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	SW	600	975	900
W17	FIXED WINDOW	2410	2100	5.06	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	SW2124	SE	N/A	N/A	600
W18	FIXED WINDOW	700	1800	1.26	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	SW	4273	675	1200
W19	OPAQUE SINGLE HUNG WINDOW	600	1800	1.08	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	SW	600	975	900
W20	OPAQUE FIXED WINDOW	900	300	0.27	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	SW	600	4375	2400
W21	FIXED WINDOW	2630	2850	7.50	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	SW	4273	4115	110
D01	GLAZED INSERT ENTRY DOOR	2803	2830	7.93	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.36)	CUSTOM	SE	1807	0	0
D02	GLAZED STACKING DOOR	4700	2900	13.63	ALUMINIUM DG LOW-E (U=4.9 SHGC=0.33)	CUSTOM	NW	2340	0	0
D03	GLAZED SLIDING DOOR	3563	2900	10.33	ALUMINIUM DG LOW-E (U=4.9 SHGC=0.33)	CUSTOM	NW	2340	0	0
D04	OPAQUE GLAZED INSERT LAUNDRY DOOR	900	2400	2.16	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	SW	600	4675	0
D05	GLAZED STACKING DOOR	3601	3050	10.98	ALUMINIUM DG LOW-E (U=4.9 SHGC=0.33)	CUSTOM	SE	2407	0	0
D06	GLAZED SLIDING DOOR	3000	3050	9.15	ALUMINIUM DG LOW-E (U=4.9 SHGC=0.33)	CUSTOM	SE	2615	0	0
D07	GLAZED SLIDING DOOR	3439	3050	10.49	ALUMINIUM DG LOW-E (U=4.9 SHGC=0.33)	CUSTOM	NW	2940	0	0
D08	GLAZED STACKING DOOR	4966	3050	15.15	ALUMINIUM DG LOW-E (U=4.9 SHGC=0.33)	CUSTOM	NW	2940	0	0
SK01	FIXED SKYLIGHT	4535	4468	20.26	DOUBLE CLEAR	CUSTOM	N/A	N/A	N/A	N/A
GW01	GLASS BLOCK WALL	1415	7002.5	9.91	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	NE	0	N/A	100
GW02	GLASS BLOCK WALL	3020	7002.5	21.15	ALUMINIUM SG LOW SOLAR GAIN LOW-E (U=5.6 SHGC=0.41)	CUSTOM	NE	0	N/A	100

WINDOW SCHEDULE

5.4 NATIONWIDE HOUSE ENERGY RATING SCHEME 59.5 MJ/m² www.nathers.gov.au

0008682478 01 Jun 2023
Assessor Ailin Zhang
Accreditation No. DMN/19/1894
Address
Unit House, 198 Henry Lawson Drive , Georges Hall , NSW , 2198
hstar.com.au

S4.55 ISSUE

REV	DATE	DESCRIPTION	BY
00	26.05.23	S4.55 SUBMISSION	EF

CLIENT
L & J Management PTY LTD
Winning Builders PTY LTD

PROJECT ADDRESS
198 Henry Lawson Drive
Georges Hall 2198
Lot 14 DP12034

ALVARO ARCHITECTS PTY LTD
ABN 71 604 570 309
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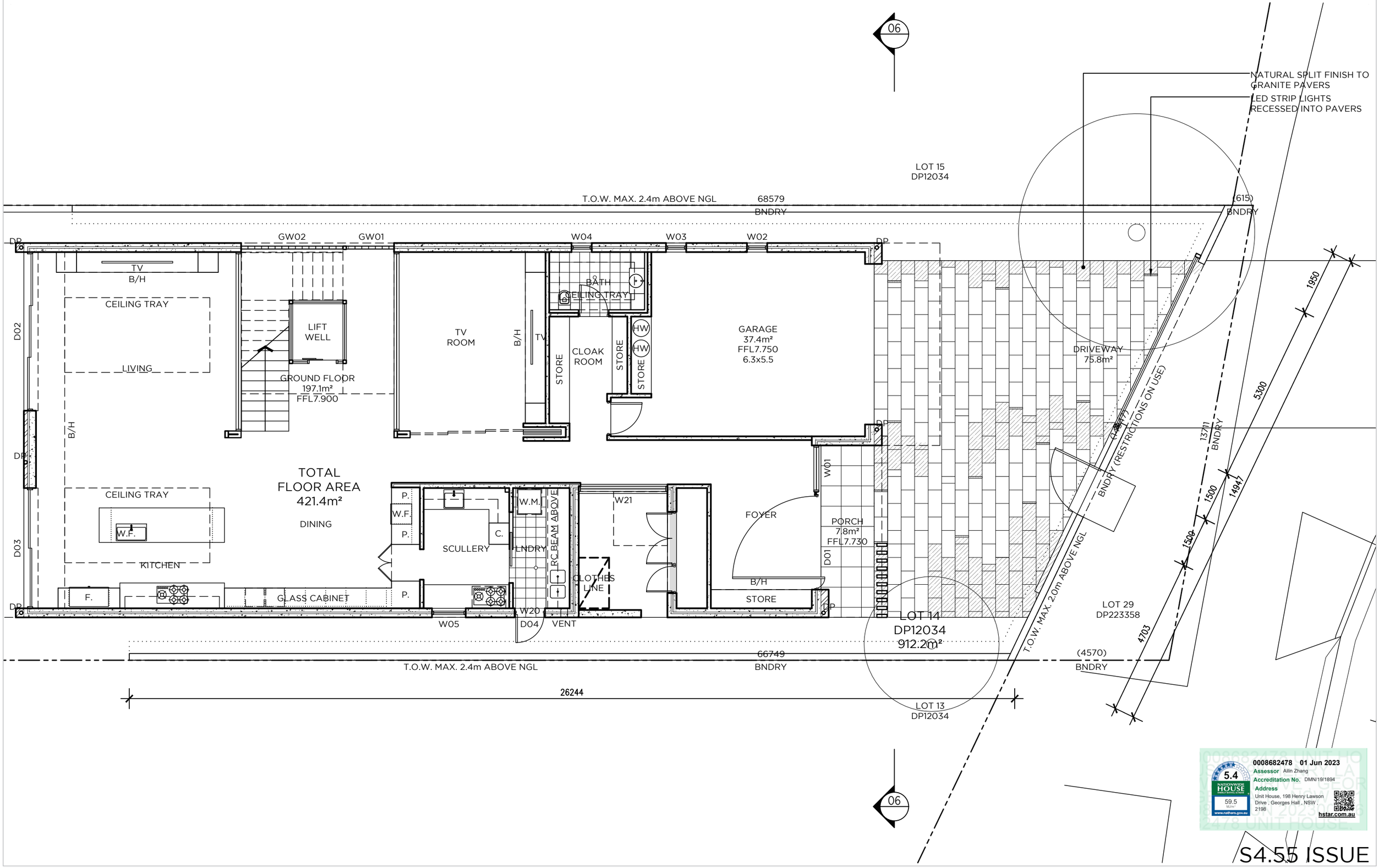
ALVARO

PROJECT
PROPOSED DWELLING
GEORGES HALL

DRAWN	DRAWING TITLE
EF	WINDOW SCHEDULE

CHECKED	SCALE @A3	JOB NUMBER
RA	NTS	0325
APPROVED	DRAWING NO.	REV
RA	501	00



S4.55 ISSUE

REV	DATE	DESCRIPTION	BY
00	26.05.23	S4.55 SUBMISSION	EF
01	02.06.23	S4.55 SUBMISSION	EF

CLIENT
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Winning Builders PTY LTD

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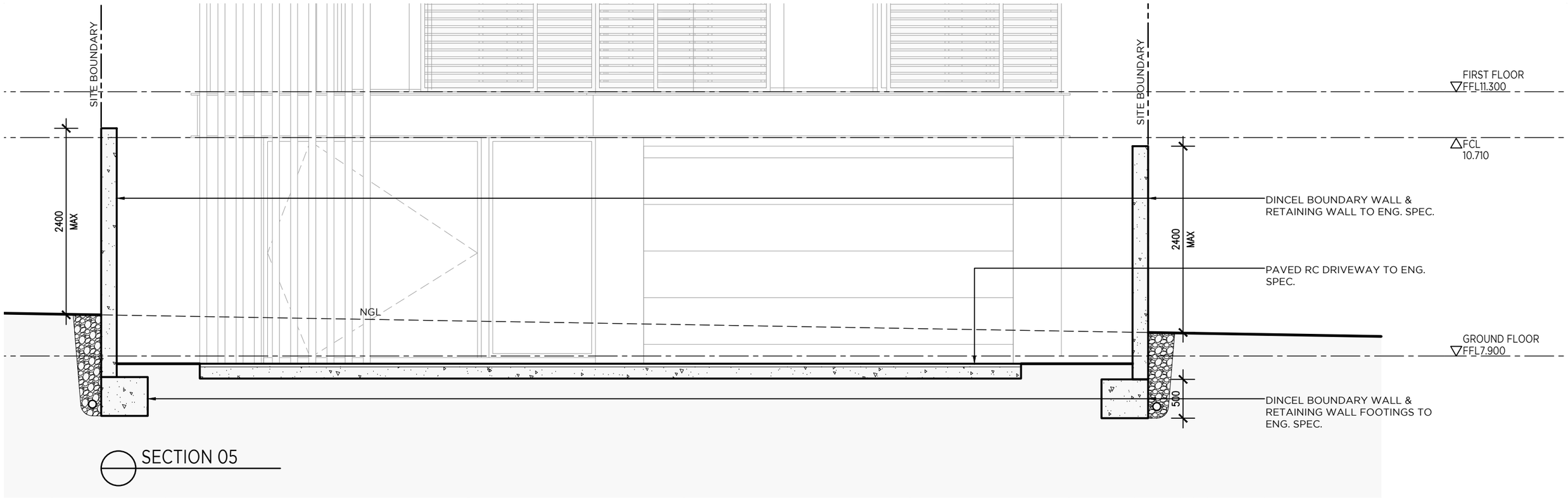
ALVARO

PROJECT
PROPOSED DWELLING
GEORGES HALL

NORTH

DRAWN	DRAWING TITLE
EF	FENCE & DRIVEWAY - PLAN
CHECKED	SCALE @A3 / JOB NUMBER
RA	1:100 / 0325
APPROVED	DRAWING NO. / REV
RA	701 / 01



SECTION 05

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DRAWN	DRAWING TITLE	
EF	FENCE & DRIVEWAY - SECTION	
CHECKED	SCALE @A3	JOB NUMBER
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APPROVED	DRAWING NO.	REV
RA	702	00