ENERGY EFFICIENCY REPORT

BASIX® Thermal Comfort Simulation Assessment

SITE ADDRESS
Lot 8 (#53B) Warriewood Road WARRIEWOOD 2102

LOCAL GOVERNMENT AUTHORITY
Northern Beaches Council

DEPOSITED PLAN
1115877

CLIENT
Rise Projects

DWELLING TYPE
Double Storey

COMMISSIONED BY
Rise Projects

REFERENCE NUMBER
RP 225_Lot 8

ASSESSMENT DATE
7/06/2022

energy@energyadvance.com.au | energy advance australia pty. ltd. | acn: 60 933 2014 | 1300 850 228 | Units 4 & 6/30 dellamarta road wangara 6065

PROJECT CERTIFICATION SUMMARY

DESIGN AND APPROVED SOFTWARE INFORMATION

SIMULATION ENGINE	Chenath Engine v3.21
EXPOSURE	Suburban
ORIENTATION:	49
NatHERS CLIMATE ZONE:	56
BCA (NCC) CLIMATE ZONE:	5

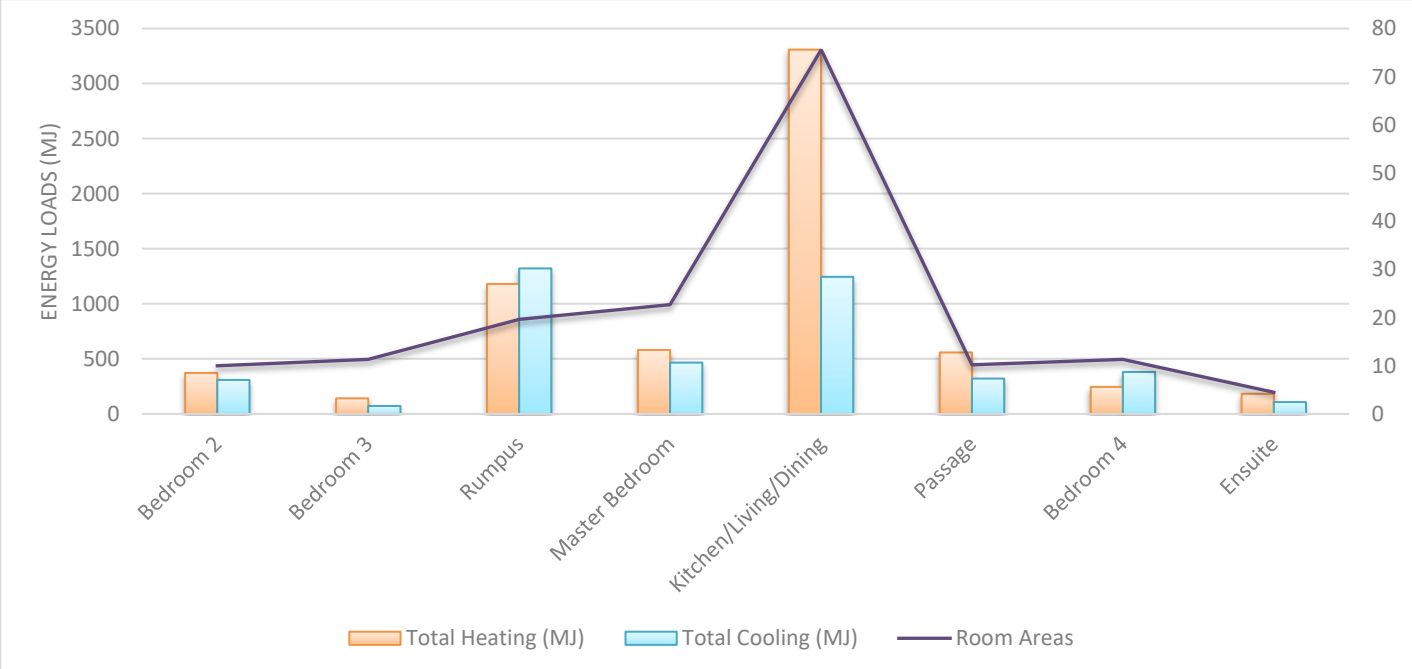
Dwelling Areas (m^2)	
INTERNAL AREAS (m^2)	179.00
OUTDOOR AREAS (m^2)	21.00
GARAGE/CARPORT (m^2)	32.00
TOTAL:	**232.00**

ASSESSMENT CALCULATIONS & SOFTWARE RESULTS

TARGET	($MJ/m^2.pa$)	PROPOSED	($MJ/m^2.pa$)	BUILD EFFICIENCY BENCHMARK	
Heating:	40.0	Heating:	38.6	**PASS:**	3.6%
Cooling:	26.0	Cooling:	25.5	**PASS:**	1.9%
Total:	**66.0**	**Total:**	**64.1**		

DWELLING THERMAL PERFORMANCE PER ZONED AREAS

The heating and cooling loads indicated are the simulated annual energy usages (MJ) for this home. The higher the load, the more energy needed to achieve thermal comfort.



STATEMENT OF COMPLIANCE

I / We certify that we are specialists in the relevant discipline and the following design documents comply with the relevant requirements of the National Construction Code (NCC Volume One/Two as applicable) in relation to thermal performance and the relevant Australian Standards specified in this report.

ASSESSOR NAME: C. Sookloll
SIGNATURE: CSookloll

RELEVANT QUALIFICATION STATEMENT

Certifiicate IV in NatHERS Assessment (Credential Number: TRF0002560)
Residential Building Thermal Performance Assessment (91318NSW) Course
Assessor Accrediting Organisation (AAO) Accreditation Number: **VIC/BDAV/14/1662 | ABSA/61846**

energy advance

BUILDING SPECIFICATION SUMMARY

EXTERNAL WALLS

	CONSTRUCTION TYPE	INSULATION	NOTES
EXTERNAL WALLS	Brick Masonry	None	To the Front Elevation Garage wall (as per drawings)
	Framed	R2.7 Batts	Throughout remainder of the external walls (as per drawings)

ADDITIONAL NOTES Location of Construction Materials as per drawings

INTERNAL WALLS

	CONSTRUCTION TYPE	INSULATION	NOTES
INTERNAL WALLS	Framed	R2.0 Batts	To the Garage, Laundry/Toilet and Bathroom internal walls only
	Framed	None	Throughout the remaining internal walls

ADDITIONAL NOTES None

ROOF AND CEILING

	CONSTRUCTION TYPE	INSULATION	NOTES
ROOF	Colorbond (un-ventilated)	R1.3 Roof Blanket	Approx. 22"5' Roof Pitch (location as per drawings)
CEILING	Plasterboard	R6.0 Insulation	House and Garage Ceiling Area

ADDITIONAL NOTES Location of ceiling insulation as per drawings

FLOOR

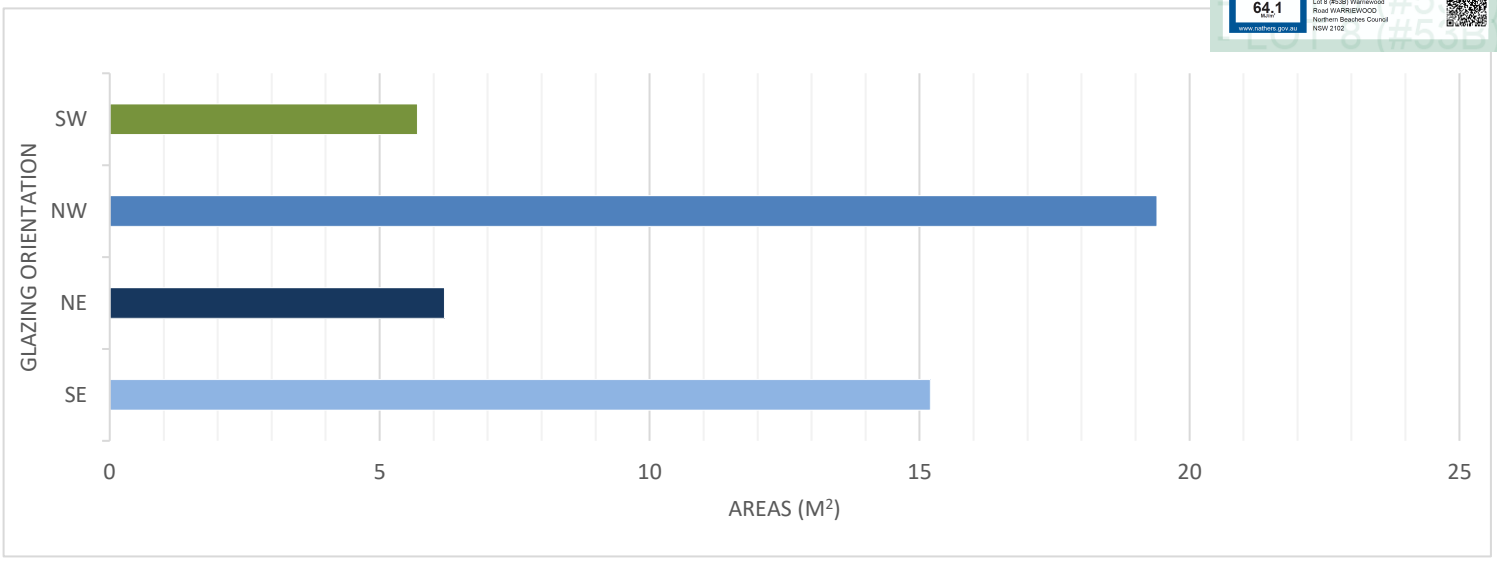
	CONSTRUCTION TYPE	INSULATION	NOTES
FLOOR	225mm Waffle | 85mm Slab	Integrated	Throughout the Ground Floor
	Timber Suspended	R4.0 Batts	Throughout the Upper Floor

ADDITIONAL NOTES Floor Coverings modelled as per Drawings & NatHERS Protocols

GLASS TYPE	COLOUR	FRAME	U_w VALUE	SHGC	NOTES
Standard	Clear	Aluminium	6.38	0.75	Casement Windows
Standard	Clear	Aluminium	6.38	0.75	Sliding Windows
Standard	Clear	Aluminium	6.36	0.65	Awning Windows
Standard	Clear	Aluminium	6.16	0.71	Sliding Doors

Note: Only a +/-5% SHGC tolerance is allowed with this rating. NB: This tolerance ONLY applies to SHGC, the U-value can always be lower but not higher than the values stated in the report. If any of the windows selected are outside the 5% tolerance then this certificate is no longer valid and the dwelling will need to be rerated to confirm compliance.

GLAZING AREA DIRECTIONS



The chart above indicates the direction of all glazed doors and windows on the external envelope of the dwelling. To increase the thermal performance of the dwelling:

1. *Maximise unsheltered northern-aspect glazing.*
2. *Keep west-facing glazing as small as possible: total window area should be less than 5% of the home's total floor area.*
3. *Keep south-facing glazing reasonably small: total window area should be less than 5% of the home's total floor area. Maximise the openable area if possible.*
4. *Keep east-facing glazing to a modest size: total window area should be less than 8% of the home's total floor area*

Refer to the floor and elevation plans for shading location

LIGHTING/PENETRATION CALCULATIONS

ARTIFICIAL LIGHTING CALCULATION ALLOWANCES

AREA WITHIN THE CLASS 1 BUILDING	**179.00 m²**		
Development Total	895.0 Watts	Area Wattage Allowance	5.0 W/m²
AREA WITHIN THE CLASS 10 BUILDING	**32.00 m²**		
Development Total	96.0 Watts	Area Wattage Allowance	3.0 W/m²
AREA WITHIN THE OUTDOOR AREAS	**21.00 m²**		
Development Total	84.0 Watts	Area Wattage Allowance	4.0 W/m²

CEILING INSULATION PENETRATION ALLOWANCE

CLASS 1 MAXIMUM PENETRATION ALLOWANCE	CLASS 1 MAXIMUM PENETRATION AREA (m²)
0.5% TOTAL INSULATED CEILING AREA	**0.90**

The clearance required around downlights by "Australian Standard AS/NZS 3000 – 2007 Electrical Installations" (AS/NZS 3000), introduces a significant area of uninsulated ceiling and therefore increases heat loss and gain through the ceiling.

If approved fireproof downlight covers, which can be fully covered by insulation, are specified and noted on the electrical plan by the building designer or architect, then there is no need to allow for the ceiling penetration

NSW ADDITIONS: BUILDING FABRIC THERMAL INSULATION

NSW 3.12.1 APPLICATION OF NSW PART 3.12.1

(a) Compliance with NSW 3.12.1.1 satisfies NSW P2.6.1(a) for thermal insulation and thermal breaks.

(b) NSW PART 3.12.1 only applies to thermal insulation in a Class 1 or 10 building where a development consent specifies that the insulation is to be provided as part of the development.

(c) In (b), the term development consent has the meaning given by the Environmental Planning and Assessment Act 1979.

(d) The Deemed-to-Satisfy Provisions of this Part for thermal breaks apply to all Class 1 buildings and Class 10a buildings with a conditioned space.

NSW 3.12.1.1 COMPLIANCE WITH BCA PROVISIONS

(a) Thermal insulation in a building must comply with the national BCA provisions of 3.12.1.1.

(b) A thermal break must be provided between the external cladding and framing in accordance with national BCA provisions of—

(i) 3.12.1.2(c) for a metal framed roof; and
(ii) 3.12.1.4(b) for a metal framed wall.

(c) Compensation for reduction in ceiling insulation must comply with the national BCA provisions of 3.12.1.2(e).

(d) A floor with an in-slab or in-screed heating or cooling system must comply with the national BCA provisions of—

(i) 3.12.1.5(a)(ii), (iii) and (e) for a suspended floor; or
(ii) 3.12.1.5(c), (d) and (e) for a concrete slab-on-ground.

BUILDING SEALING & SERVICES

NSW 3.12.3 APPLICATION OF NSW PART 3.12.3

(a) Compliance with NSW 3.12.3.1 satisfies NSW P2.6.1(b) for building sealing.

(b) NSW Part 3.12.3 is not applicable to—

(i) existing buildings being relocated; or
(ii) Class 10a buildings—
(A) without a conditioned space; or
(B) for the accommodation of vehicles; or
(iii) parts of buildings that cannot be fully enclosed; or

(iv) a permanent building opening, in a space where a gas appliance is located, that is necessary for the safe operation of a gas appliance; or

(v) a building in climate zones 2 and 5 where the only means of air-conditioning is by using an evaporative cooler.

NSW 3.12.3.1 COMPLIANCE WITH BCA PROVISIONS

The sealing of a building must comply with the national BCA provisions 3.12.3.1 to 3.12.3.6.

NSW 3.12.5 SERVICES: APPLICATION OF NSW PART 3.12.5

(a) Compliance with NSW 3.12.5.1 satisfies NSW P2.6.2 for services.

(b) NSW Part 3.12.5 is not applicable to existing services associated with existing buildings being relocated.

NSW 3.12.5.1 COMPLIANCE WITH BCA PROVISIONS

Services must comply with the national BCA provisions 3.12.5.0 to 3.12.5.3.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. LN3YI16O0X

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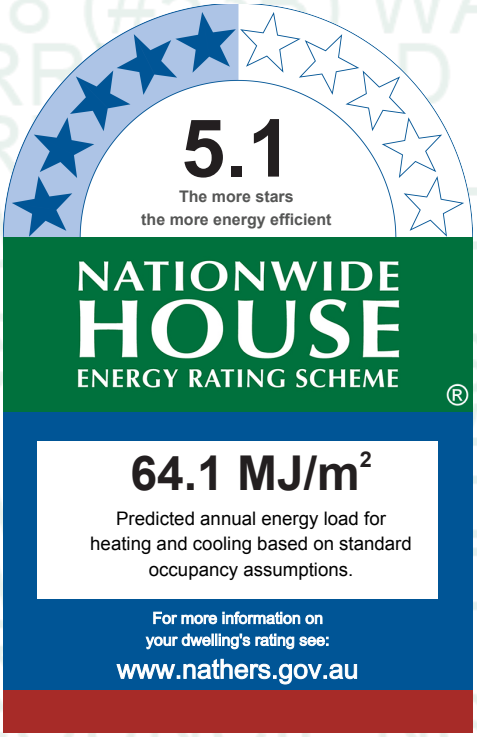


Property

Address	Lot 8 (#53B) Warriewood Road WARRIEWOOD, Northern Beaches Council, NSW, 2102
Lot/DP	8|1115877
NCC Class*	Class 1a
Type	New Home

Plans

Main plan	RP 225_Lot 8 | 07/06/2022
Prepared by	Rise Projects

Construction and environment

Assessed floor area (m²)*		**Exposure type**
Conditioned*	160.6	suburban
Unconditioned*	41.9	**NatHERS climate zone**
Total	202.5	56 Mascot AMO
Garage	31.7	

Thermal performance

Heating	Cooling
38.6 MJ/m²	**25.5** MJ/m²

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.

Accredited assessor

Name	Claude-Francois Sookloll
Business name	Energy Advance
Email	energy@energyadvance.com.au
Phone	1300 850 228
Accreditation No.	DMN/14/1662
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	Declaration completed: no conflicts

Verification

To verify this certificate, scan the QR code or visit https://www.fr5.com.au/QRCodeLanding?PublicId=LN3YI16O0X When using either link, ensure you are visiting www.FR5.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.

* Refer to glossary.

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

BCA Climate Zone: 5

Perimeter Insulation has not been included in the modelling of this dwelling

Please note, restricted window openings (%) have been modelled as per NCC 2019 requirements

Eaves indicated by the `Horizontal shading feature* maximum projection (mm)' may not be directly opposing the respective wall (i.e. some eaves may be horizontally offset)

Where applicable, an additional 150mm has been added to the projection of all `Horizontal shading features & eaves' to account for the Gutter & Fascia Board

Window and glazed door *type and performance*

Default* windows

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

Custom* windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
DOW-006-01 A	Al Sliding Door SG 5Clr	6.16	0.71	0.67	0.75
DOW-001-01 A	Al Sliding Window SG 3Clr	6.38	0.75	0.71	0.79
DOW-002-01 A	Elite Al Awning Window SG 3Clr	6.36	0.65	0.62	0.68

* Refer to glossary.

Window and glazed door *Schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living/-Dining	DOW-006-01 A	D1	2400	2688	other	60.0	SE	No
Kitchen/Living/-Dining	DOW-001-01 A	W1	600	1800	sliding	60.0	NE	No
Kitchen/Living/-Dining	DOW-001-01 A	W2	600	1800	sliding	60.0	NE	No
Kitchen/Living/-Dining	DOW-006-01 A	D2	2400	3500	other	60.0	NW	No
Kitchen/Living/-Dining	DOW-002-01 A	W3	1400	2100	awning	90.0	NW	No
Bedroom 2	DOW-001-01 A	W16	500	2050	sliding	60.0	SW	No
Bedroom 2	DOW-001-01 A	W4	1457	2410	casement	10.0	SE	No
Bedroom 3	DOW-001-01 A	W15	500	2050	sliding	60.0	SW	No
Bedroom 4	DOW-001-01 A	W14	500	2050	sliding	60.0	SW	No
Bedroom 4	DOW-001-01 A	W13	1500	1800	sliding	10.0	NW	No
Rumpus	DOW-001-01 A	W12	1500	1800	sliding	45.0	NW	No
Rumpus	DOW-001-01 A	W11	1500	1800	sliding	45.0	NW	No
Rumpus	DOW-001-01 A	W10	500	2050	sliding	60.0	NE	No
Master Bedroom	DOW-001-01 A	W6	1457	2410	casement	10.0	SE	No
Master Bedroom	DOW-001-01 A	W7	500	2410	sliding	60.0	NE	No
Master Bedroom	DOW-001-01 A	W5	1457	1200	casement	10.0	SE	No
Master Bedroom	DOW-001-01 A	W17	1457	1810	casement	10.0	SW	No
Bathroom	DOW-001-01 A	W9	500	1500	sliding	60.0	NE	No
Ensuite	DOW-001-01 A	W8	500	2050	sliding	60.0	NE	No

Roof window *type and performance value*

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 %	Area (m²)	Orientation	Outdoor shade	Indoor shade

* Refer to glossary.

No Data Available

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orient-ation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	4800	100.0	SE
Kitchen/Living/Dining	2340	920	100.0	SE
Laundry/Toilet	2040	820	100.0	NW

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
1	STANDARD - Framed Slim (Generic) - R2.7 Batts	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No
2	STANDARD - Double Brick	0.5	Medium		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	2700	5488	SW	0	Yes
Garage	2	2700	5260	SE	675	Yes
Garage	2	2700	359	NE	1340	Yes
Garage	2	2700	178	SE	0	Yes
Kitchen/Living/Dining	1	2700	1406	SE	3118	Yes
Kitchen/Living/Dining	1	2700	549	SW	1322	Yes
Kitchen/Living/Dining	1	2700	1911	SW	1752	Yes
Kitchen/Living/Dining	1	2700	4008	SE	657	No
Kitchen/Living/Dining	1	2700	11797	NE	657	Yes
Kitchen/Living/Dining	1	2700	3962	NW	2987	Yes
Kitchen/Living/Dining	1	2700	4580	NW	1592	Yes
Kitchen/Living/Dining	1	2700	1903	SW	0	Yes
Laundry/Toilet	1	2700	2089	SW	0	Yes
Laundry/Toilet	1	2700	2300	NW	0	Yes
Bedroom 2	1	2700	3008	SW	0	Yes
Bedroom 2	1	2700	3551	SE	0	Yes

* Refer to glossary.

Bedroom 3	1	2700	3153	SW	0	Yes
Bedroom 4	1	2700	3000	SW	0	Yes
Bedroom 4	1	2700	3602	NW	0	Yes
Rumpus	1	2700	5805	NW	0	Yes
Rumpus	1	2700	3500	NE	0	Yes
Master Bedroom	1	2700	3992	SE	0	No
Master Bedroom	1	2700	3203	NE	0	Yes
Master Bedroom	1	2700	1864	SE	0	Yes
Master Bedroom	1	2700	2500	SW	0	Yes
Bathroom	1	2700	1695	NE	0	Yes
Ensuite	1	2700	3153	NE	0	Yes

Internal wall *type*

Wall ID	Wall type	Area (m²)	Bulk insulation
1	STANDARD - Internal Stud Walls -R2.0 Batts	67.2	Glass fibre batt: R2.0 (R2.0)
2	STANDARD - Internal Stud Walls	77.1	

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	23.5	Enclosed	R0.0	none
Garage	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	8.2	Enclosed	R0.0	none
Kitchen/Living/D-ining	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	2.5	Enclosed	R0.0	Tiles
Kitchen/Living/D-ining	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	73.1	Enclosed	R0.0	Tiles
Laundry/Toilet	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	2	Enclosed	R0.0	Tiles
Laundry/Toilet	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	2.8	Enclosed	R0.0	Tiles
Bedroom 2	FLOOR - Framed Internal Suspended Floor (R4.0 Insulation)	10	Enclosed	R4.0	Carpet
Bedroom 3	FLOOR - Framed Internal Suspended Floor (R4.0 Insulation)	11.3	Enclosed	R4.0	Carpet
Bedroom 4	FLOOR - Framed Internal Suspended Floor (R4.0 Insulation)	11.3	Enclosed	R4.0	Carpet
Rumpus	FLOOR - Framed Internal Suspended Floor (R4.0 Insulation)	19.6	Enclosed	R4.0	Carpet
Master Bedroom	FLOOR - Framed Internal Suspended Floor (R4.0 Insulation)	22.7	Enclosed	R4.0	Carpet
Passage	FLOOR - Framed Internal Suspended Floor (R4.0 Insulation)	10.2	Enclosed	R4.0	Carpet
Bathroom	FLOOR - Framed Internal Suspended Floor (R4.0 Insulation)	5.4	Enclosed	R4.0	Tiles
Ensuite	FLOOR - Framed Internal Suspended Floor (R4.0 Insulation)	4.5	Enclosed	R4.0	Tiles

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	FLOOR - Framed Internal Suspended Floor (R4.0 Insulation)	R4.0	No
Garage	Plasterboard	R6.0	Yes
Kitchen/Living/D-ining	Plasterboard	R6.0	Yes
Kitchen/Living/D-ining	FLOOR - Framed Internal Suspended Floor (R4.0 Insulation)	R4.0	No
Laundry/Toilet	FLOOR - Framed Internal Suspended Floor (R4.0 Insulation)	R4.0	No
Laundry/Toilet	Plasterboard	R6.0	Yes
Bedroom 2	Plasterboard	R6.0	Yes
Bedroom 3	Plasterboard	R6.0	Yes
Bedroom 4	Plasterboard	R6.0	Yes
Rumpus	Plasterboard	R6.0	Yes
Master Bedroom	Plasterboard	R6.0	Yes
Passage	Plasterboard	R6.0	Yes
Bathroom	Plasterboard	R6.0	Yes
Ensuite	Plasterboard	R6.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living/Dining	1	Exhaust Fans	185	Sealed
Laundry/Toilet	1	Exhaust Fans	250	Sealed
Bathroom	1	Exhaust Fans	250	Sealed
Ensuite	1	Exhaust Fans	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
Bedroom 2	1	1200
Bedroom 3	1	1200
Bedroom 4	1	1200
Rumpus	1	1200
Master Bedroom	1	1200

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Cont:Attic-Continuous	1.3	0.32	Light

* Refer to glossary.

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 NatHERSAdministrator. 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).

DEVELOPMENT APPLICATION

TWO STORY DWELLING

LOT 08 - 53B WARRIEWOOD ROAD, WARRIEWOOD 2102 NSW

Sheet List LOT 08		
Sheet No.	Sheet Name	Rev.
DA08.00	COVER PAGE	A
DA08.01	SITE ANALYSIS	A
DA08.02	SITE PLAN	A
DA08.03.1	FLOOR PLANS	B
DA08.03.2	ELEVATIONS	A
DA08.03.3	SECTIONS	A
DA08.04	MATERIAL BOARD	A

Sheet List LOT 08		
Sheet No.	Sheet Name	Rev.
DA08.05.1	SHADOW STUDY GROUND FLOOR	A
DA08.05.2	SHADOW STUDY FIRST FLOOR	A
DA08.06	LANDSCAPE PLAN	A
DA08.07	STORMWATER MANAGEMENT PLANS	A

Date	REV	Description
27/05/22	A	FOR DA LODGEMENT

RISE PROJECTS

ADDRESS:
57/6-8 Herbert Street, St Leonards NSW 2065

PH: (02) 8094 1209
ABN: 79 160 683 929
WEBSITE: www.riseprojects.com.au

DRAWN BY: G.P | CHECKED: A.S

ADDRESS:

LOT 08 - 53B WARRIEWOOD ROAD, WARRIEWOOD

VIEW:

COVER PAGE

JOB No : **RP 225**

NORTH:

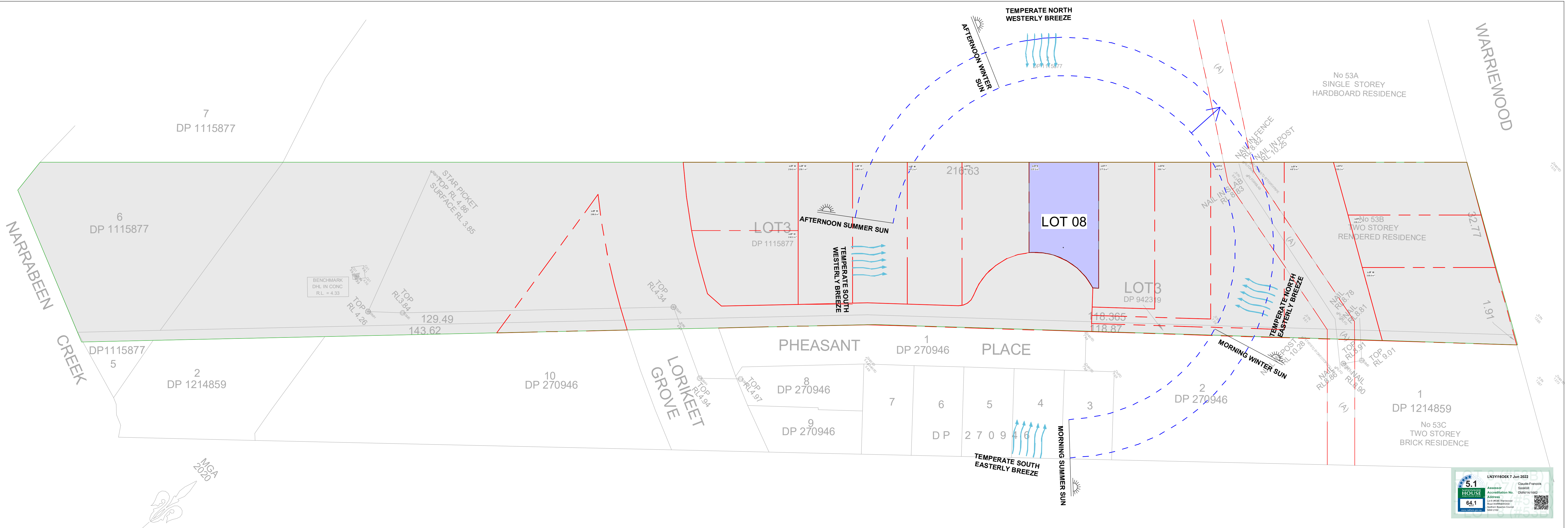
SCALE : A1/

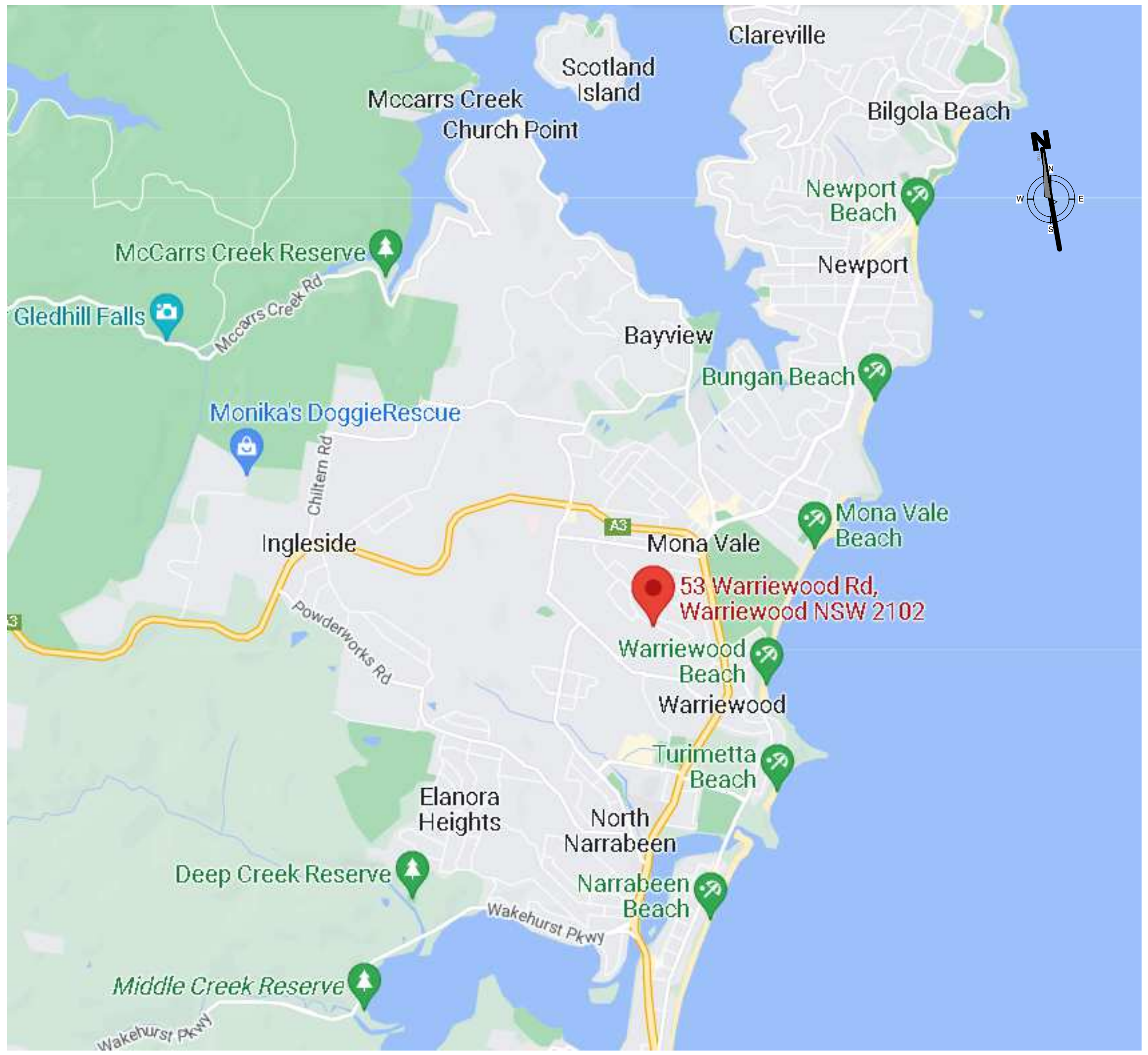
DATE: 27/05/22

DW No. **DA08.00**

REV: A

BIM 360 \\Warriewood - 53B Warriewood Rd\DA_CENTRAL.rvt





Date	REV	Description
27/05/22	A	FOR DA LODGEMENT

RISE PROJECTS

ADDRESS:
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PH: (02) 8094 1209
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DRAWN BY: G.P CHECKED: A.S

ADDRESS:

LOT 08 - 53B WARRIEWOOD ROAD, WARRIEWOOD

VIEW:

SITE ANALYSIS

JOB No : **RP 225**

NORTH:

SCALE : A1/As indicated

DATE: 27/05/22

DW No. **DA08.01**

REV: A

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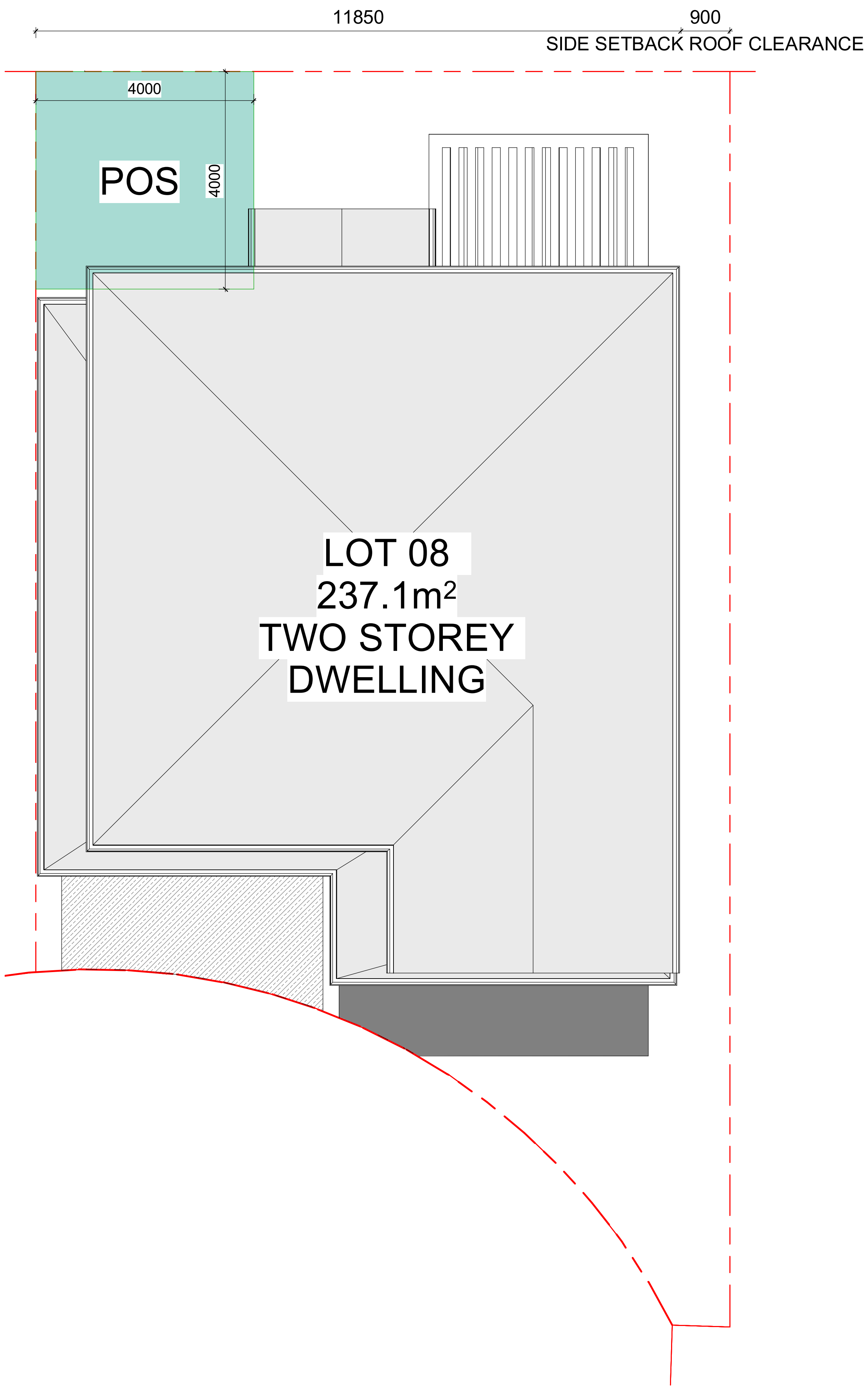

Date	REV	Description
27/05/22	A	FOR DA LODGEMENT

RISE PROJECTS

ADDRESS:
57/6-8 Herbert Street, St Leonards NSW 2065

PH: (02) 8094 1209
ABN: 79 160 683 929
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CHECKED: A.S

ADDRESS:
LOT 08 - 53B WARRIEWOOD ROAD, WARRIEWOOD

VIEW:
SITE PLAN

JOB No : **RP 225**
SCALE : A1/ 1 : 50
DATE: 27/05/22
NORTH:

DW No. **DA08.02**
REV: A

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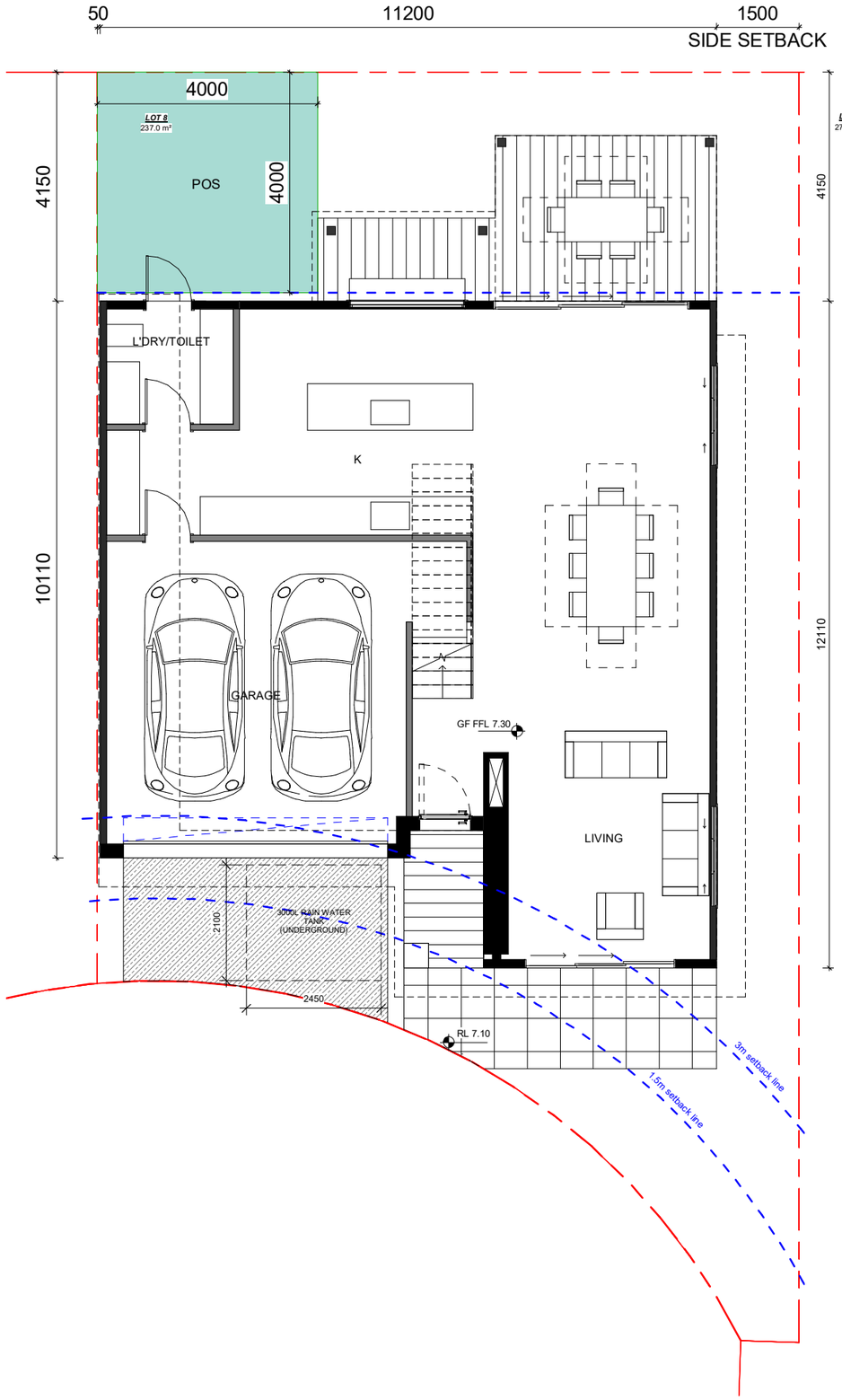
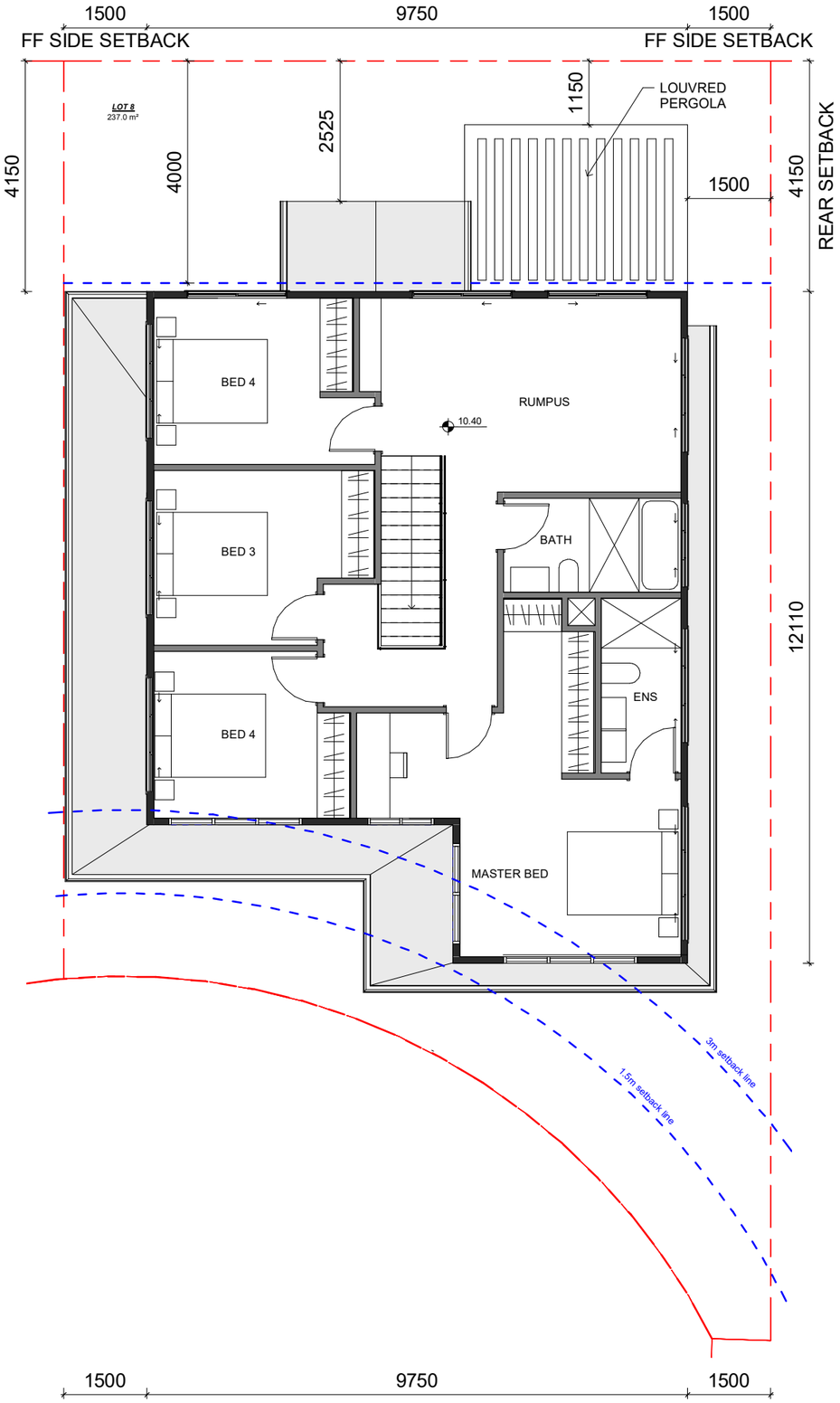


1 **GROUND FLOOR**
1 : 50



2 **FIRST FLOOR**
1 : 50

AREA SCHEDULE TYPE 3	
Name	Area
LANDSCAPE	83 m²
	83 m²
GROUND FLOOR	80 m²
FIRST FLOOR	99 m²
	179 m²
GARAGE	32 m²
	32 m²

Date	REV	Description
27/05/22	B	FOR DA LODGEMENT
27/04/22	A	FOR DA LODGEMENT

RISE PROJECTS

ADDRESS:
57/6-8 Herbert Street, St Leonards NSW 2065

PH: (02) 8094 1209
ABN: 79 160 683 929
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ADDRESS:

LOT 08 - 53B WARRIEWOOD ROAD, WARRIEWOOD

VIEW:

FLOOR PLANS

JOB No : **RP 225**

NORTH:

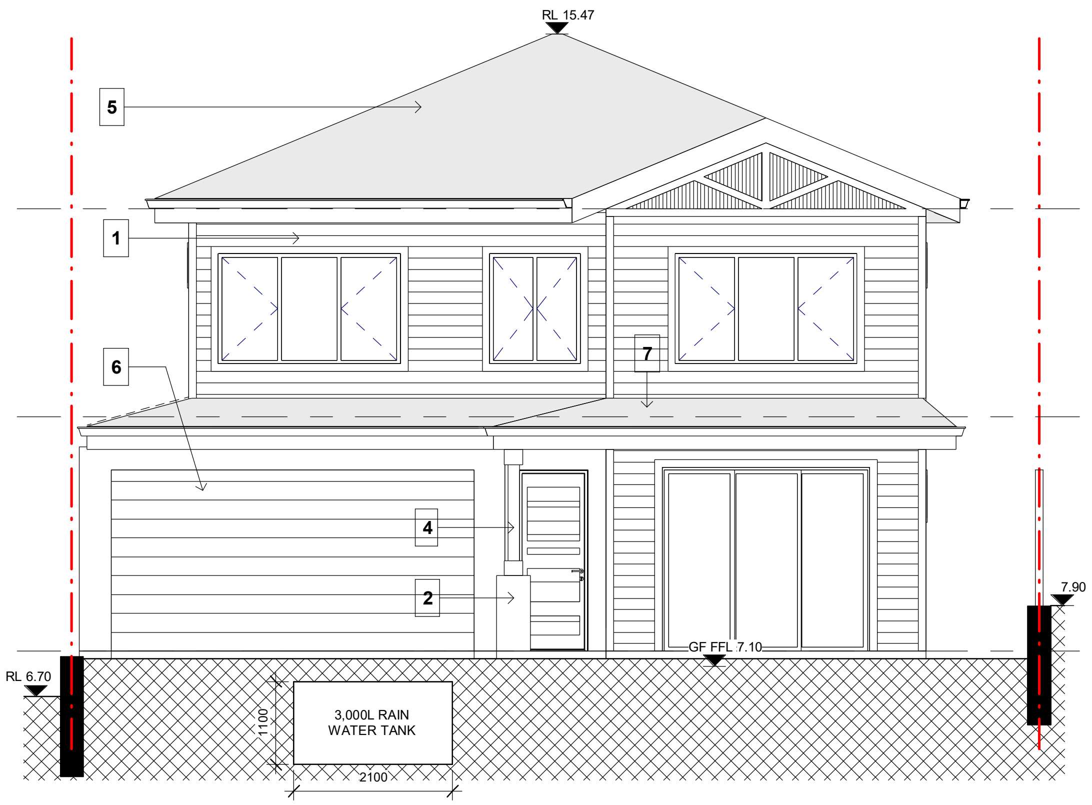
SCALE : A1/ 1 : 50

DATE: 27/05/22

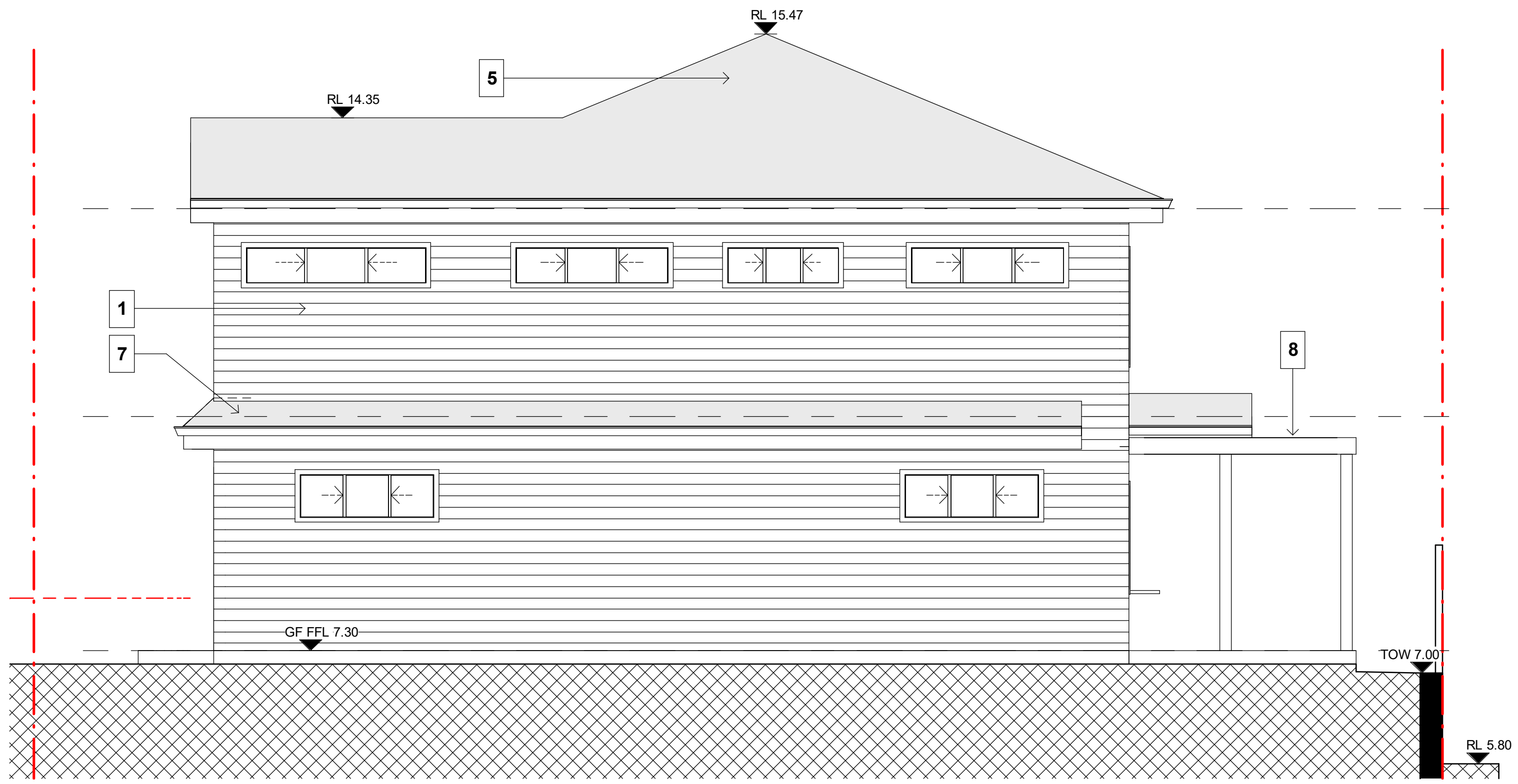
DW No. **DA08.03.1**

REV: **B**

BIM 360://Warriewood - 53B Warriewood Rd/DA_CENTRAL.rvt



1 LOT 08 ELEVATION SE
1 : 50



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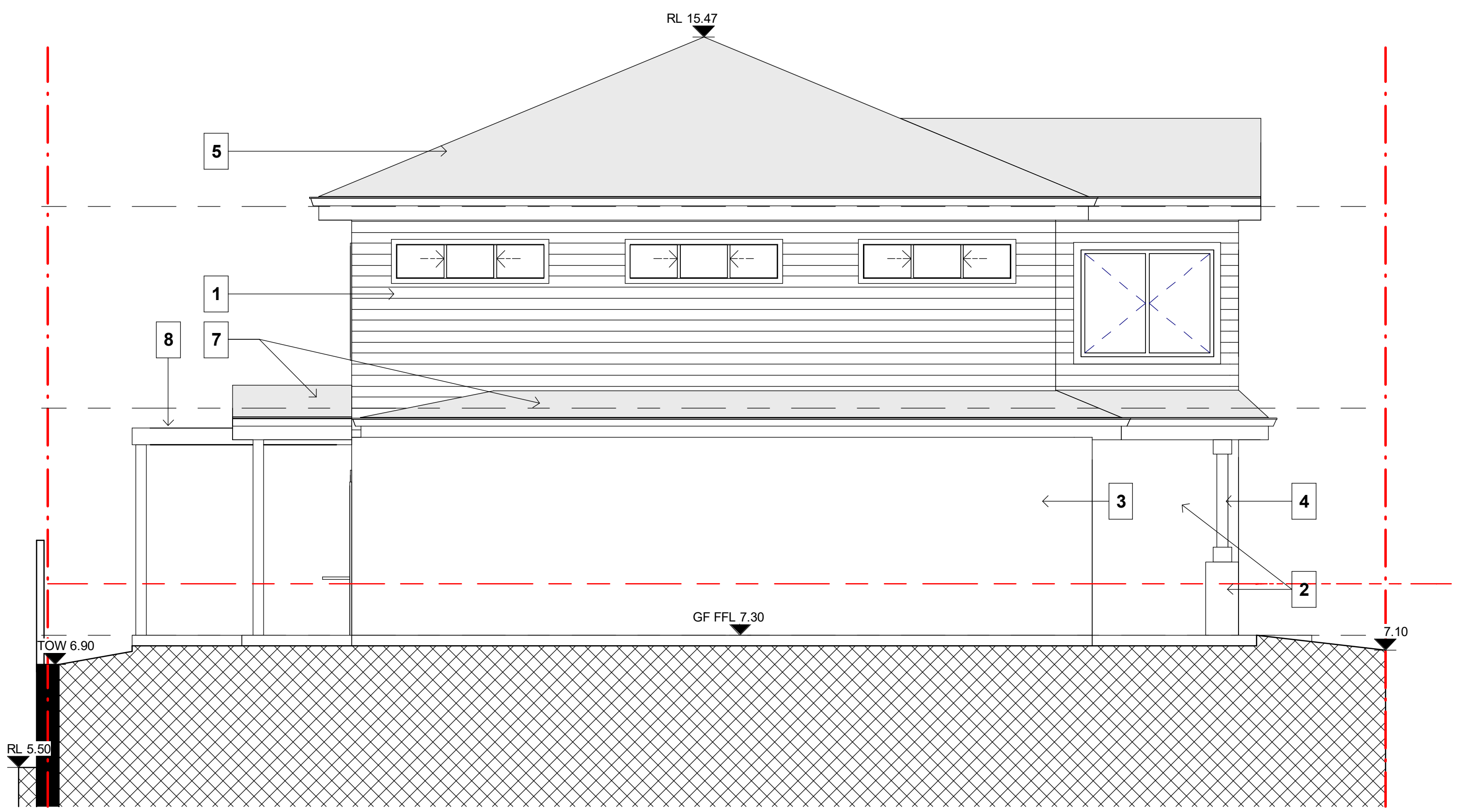
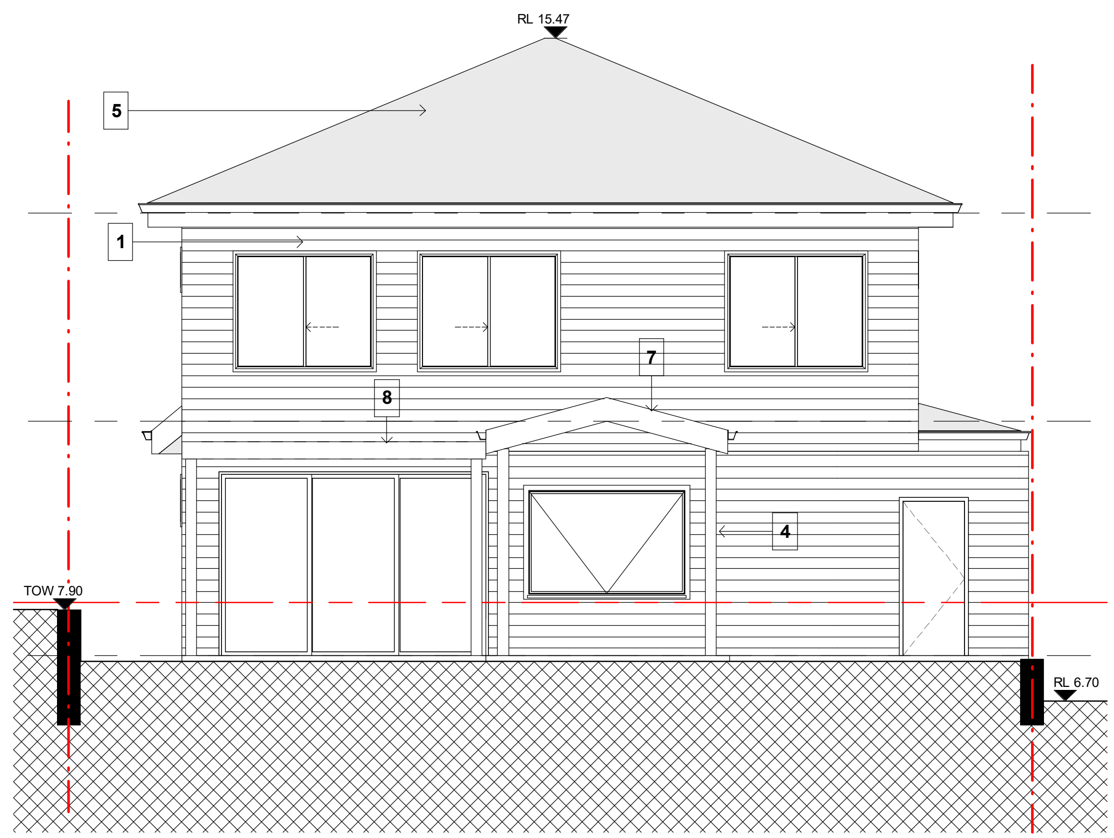
1 : 50



3 LOT 08 ELEVATION SW
1 : 50



4 LOT 08 ELEVATION NW
1 : 50

1 - WARM COLOUR WEATHERBOARD CLADDING
2 - STONE CLADDING
3 - WARM COLOUR RENDER WALL
4 - PAINTED TIMBER POST
5 - METAL ROOF
6 - PANEL LIFT GARAGE DOOR
7 - METAL ROOF - LIGHT COLOUR
8 - LOUVRED PERGOLA

Date	REV	Description
27/05/22	A	FOR DA LODGEMENT

RISE PROJECTS

ADDRESS:
57/6-8 Herbert Street, St Leonards NSW 2065

PH: (02) 8094 1209
ABN: 79 160 683 929
WEBSITE: www.riseprojects.com.au

DRAWN BY: G.P CHECKED: A.S

ADDRESS:

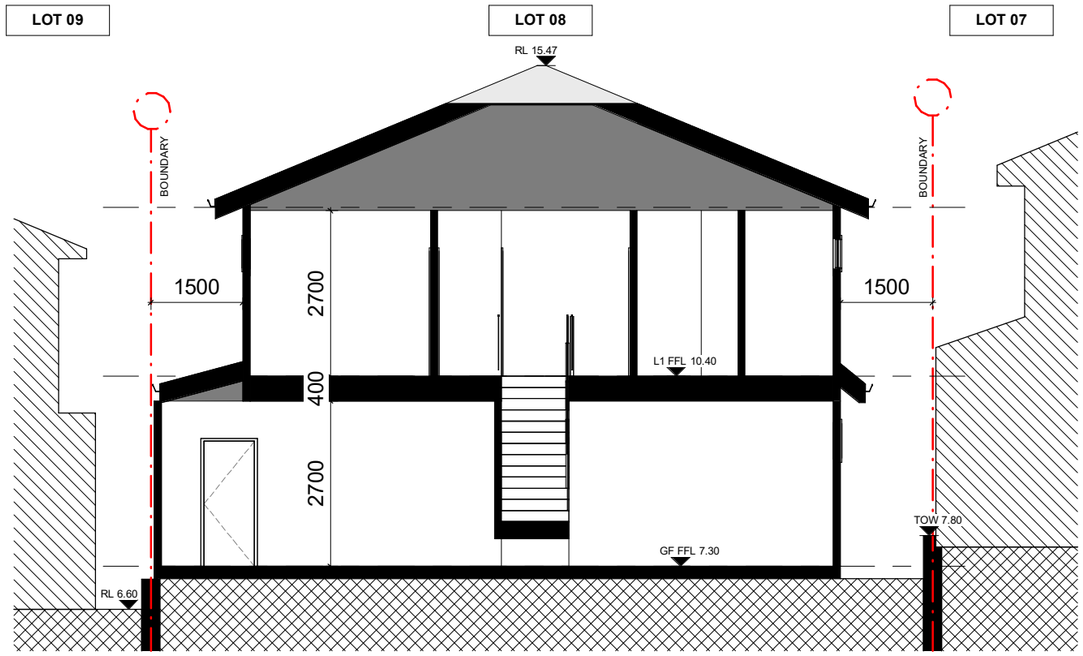
LOT 08 - 53B WARRIEWOOD ROAD, WARRIEWOOD

VIEW:

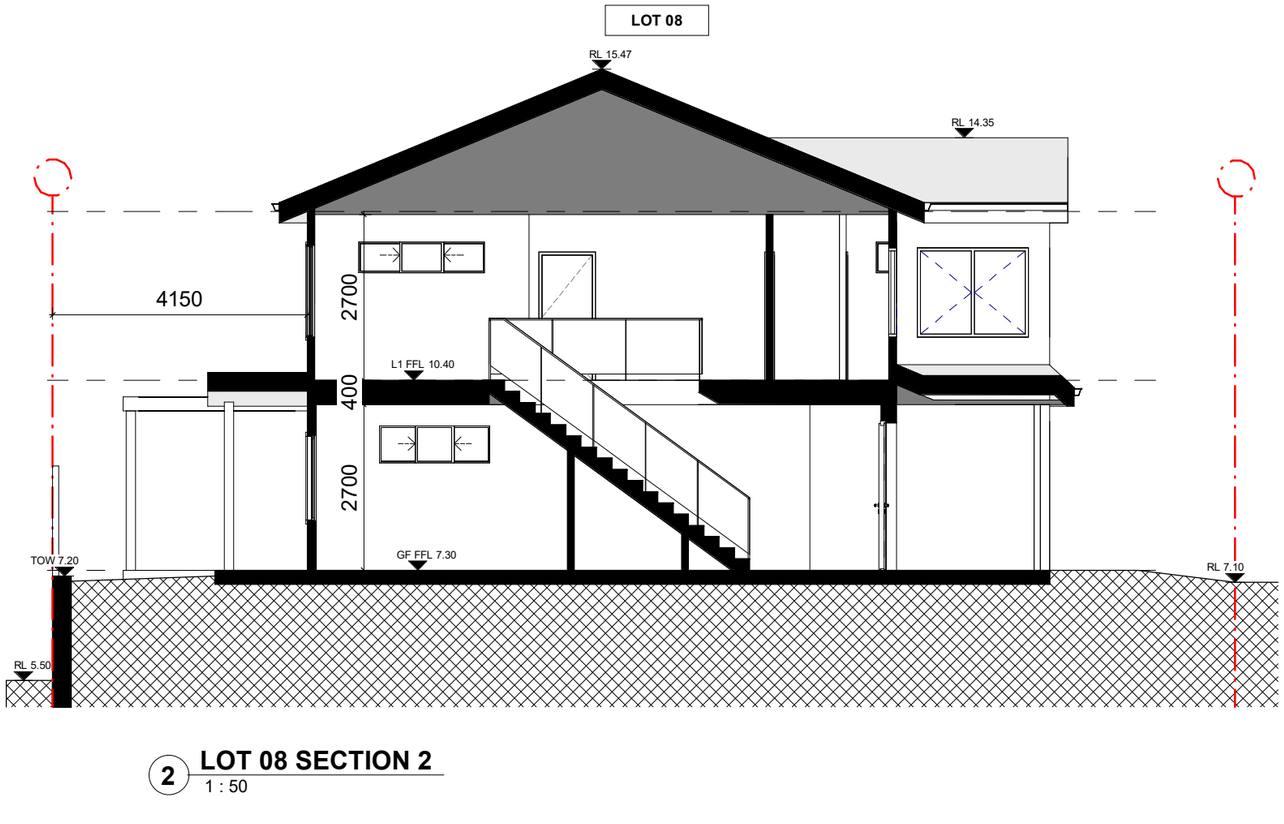
ELEVATIONS

JOB No : **RP 225**
NORTH:
SCALE : A1/ 1 : 50
DATE: 27/05/22

DW No. **DA08.03.2**
REV: A



1 LOT 08 SECTION 1
1 : 50



2 LOT 08 SECTION 2
1 : 50

LN3YI16O6X 7 Jun 2022
5.1 HOUSE ENERGY RATING
64.1 MJ/m²
Assessor Accreditation No.
Address
Claude-Francois Sodelcil
CMN/14/1662

Date	REV	Description
27/05/22	A	FOR DA LODGEMENT

RISE PROJECTS

ADDRESS:
576-8 Herbert Street, St Leonards NSW 2065

PH: (02) 8094 1209
ABN: 79 160 683 929
WEBSITE: www.riseprojects.com.au

DRAWN BY: G.P CHECKED: A.S

ADDRESS:

LOT 08 - 53B WARRIEWOOD ROAD, WARRIEWOOD

VIEW:

SECTIONS

JOB No : **RP 225**

NORTH:

SCALE : A1 / 1 : 50

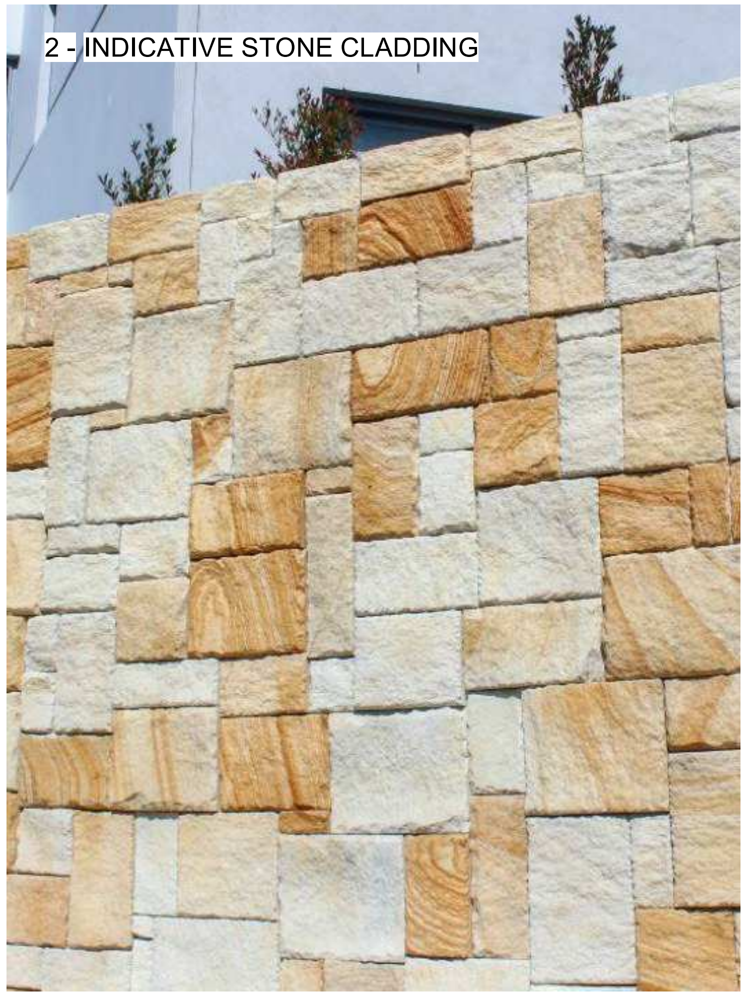
DATE: 27/05/22

DW No. **DA08.03.3**

REV: **A**

BIM 360://Warriewood - 53B Warriewood Rd/DA_CBRTRAL.rvt

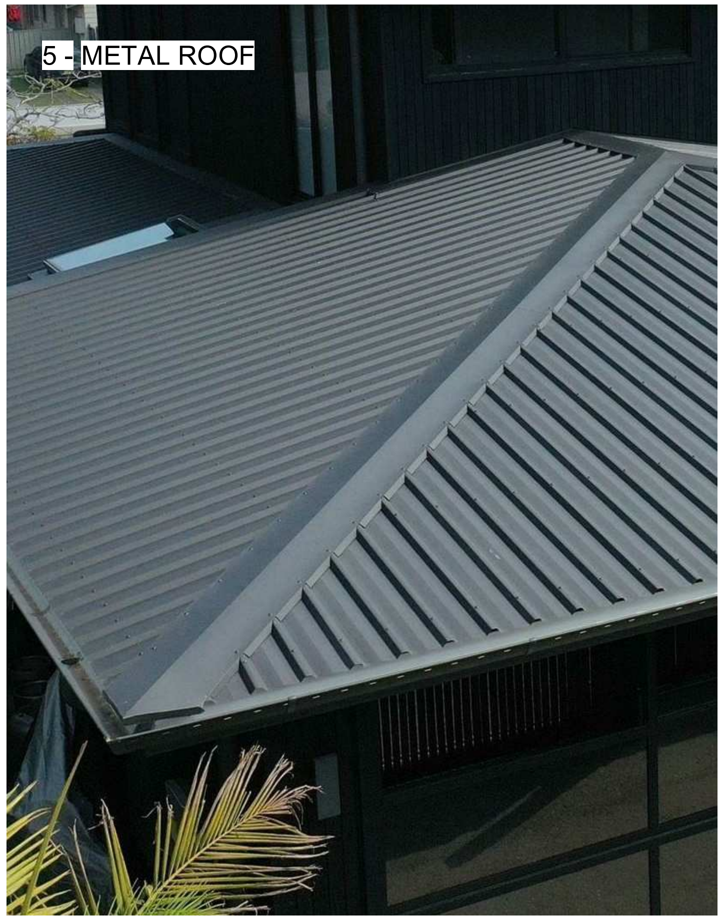
1 - WARM COLOR WEATHERBOARD CLADDING



2 - INDICATIVE STONE CLADDING

4 - PAINTED TIMBER POST

8 - LOUVRED PERGOLA



5 - METAL ROOF

6 - PANEL LIFT GARAGE DOOR

7 - METAL ROOF- LIGHT COLOUR

Date	REV	Description
27/05/22	A	FOR DA LODGEMENT

RISE PROJECTS

ADDRESS:
57/6-8 Herbert Street, St Leonards NSW 2065

PH: (02) 8094 1209
ABN: 79 160 683 929
WEBSITE: www.riseprojects.com.au

DRAWN BY: Author | CHECKED: Checker

ADDRESS:

LOT 08 - 53B WARRIEWOOD ROAD, WARRIEWOOD

VIEW:

MATERIAL BOARD

JOB No : **RP 225**

NORTH:

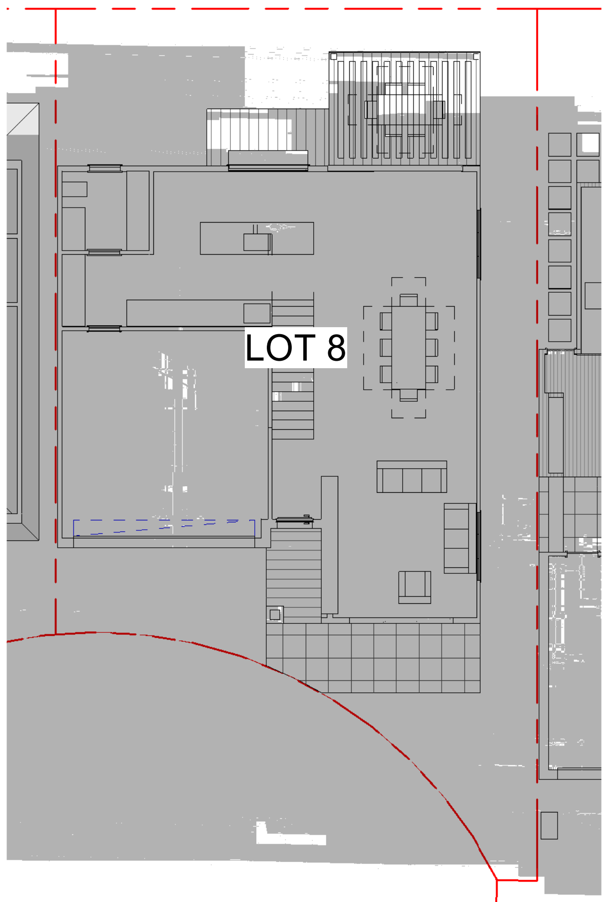
SCALE :

DATE: 27/05/22

DW No. **DA08.04**

REV: A

BIM 360://Warriewood - 53B Warriewood Rd/DA_CENTRAL.rvt



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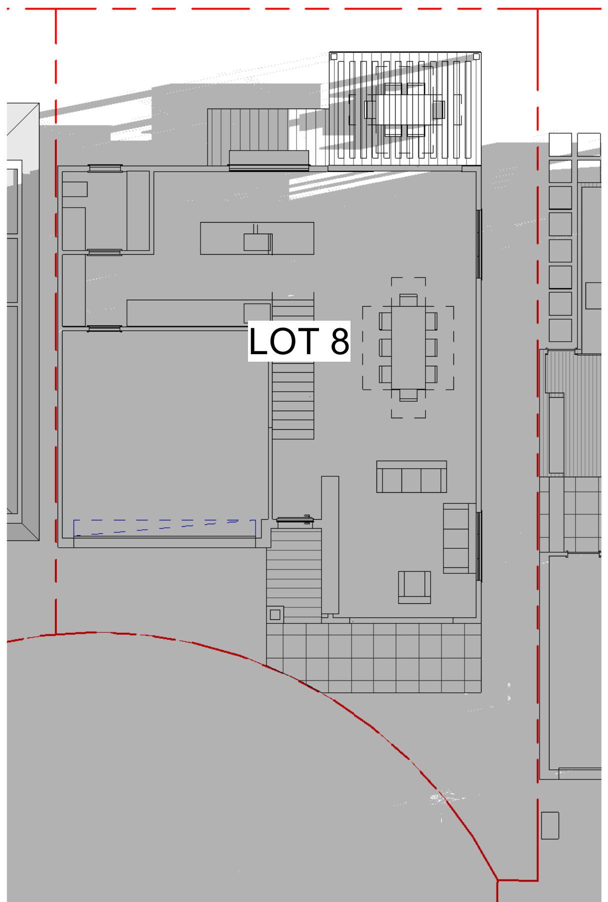

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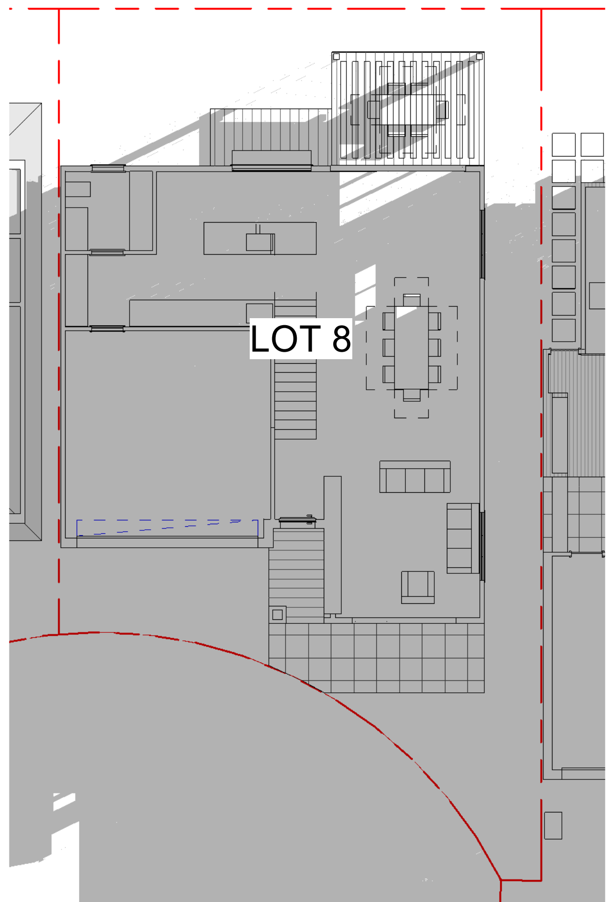

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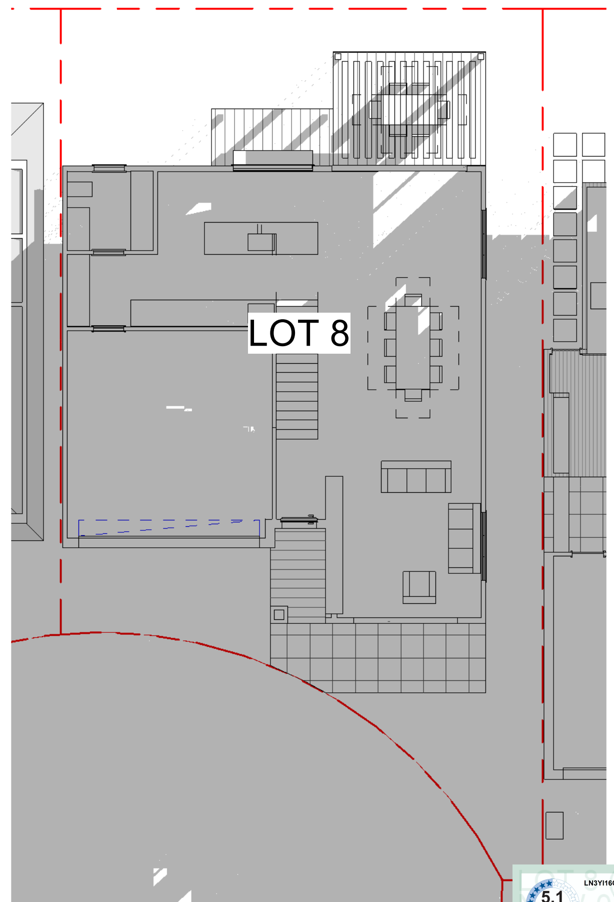

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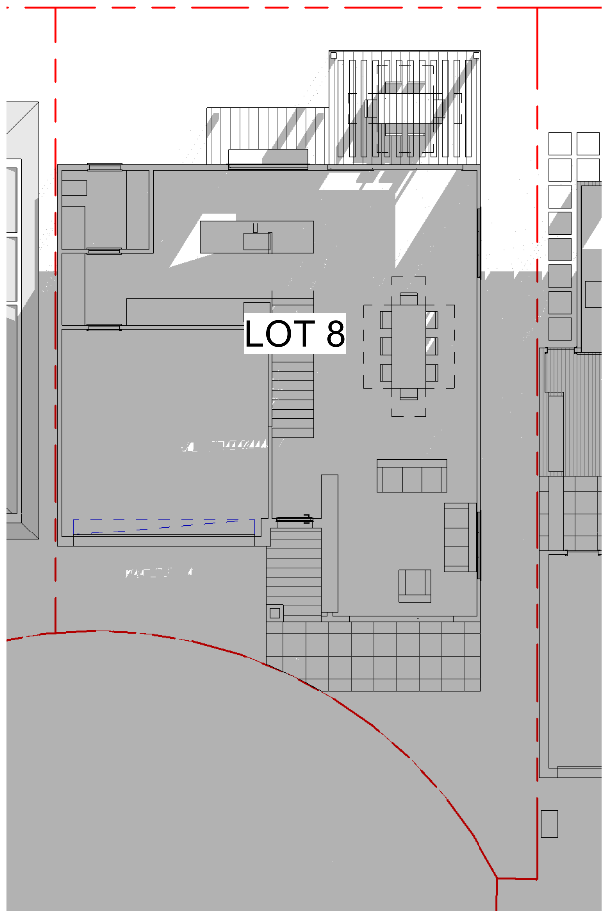

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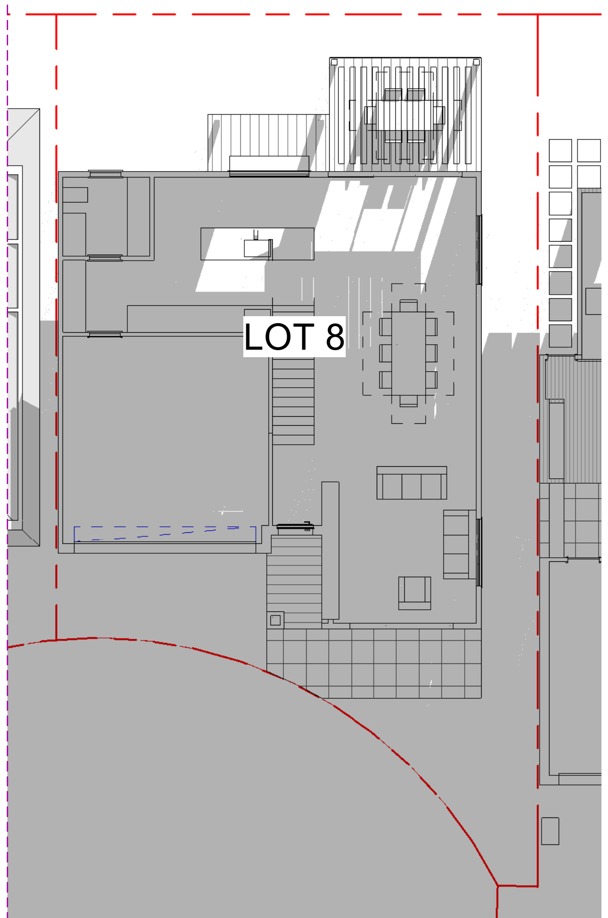

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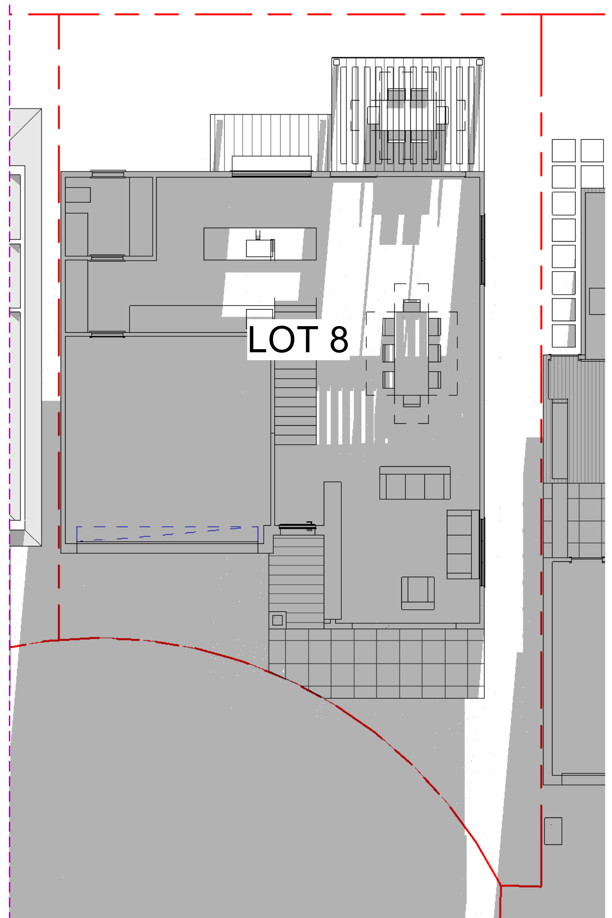

7 GF 21/JUN 3PM

Date	REV	Description
27/05/22	A	FOR DA LODGEMENT

RISE PROJECTS

ADDRESS:
57/6-8 Herbert Street, St Leonards NSW 2065

PH: (02) 8094 1209
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DRAWN BY: G.P | CHECKED: A.S

ADDRESS:

LOT 08 - 53B WARRIEWOOD ROAD, WARRIEWOOD

VIEW:

SHADOW STUDY GROUND FLOOR

JOB No : **RP 225**

SCALE : A1/

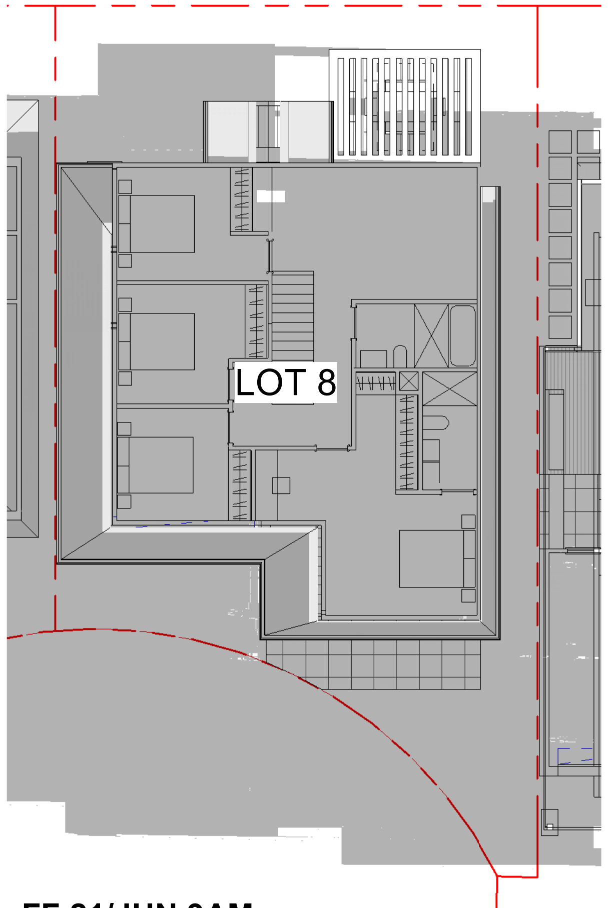
DATE: 27/05/22

NORTH:

DW No. **DA08.05.1**

REV: A

BIM 360://Warriewood - 53B Warriewood Rd/DA_CENTRAL.rvt



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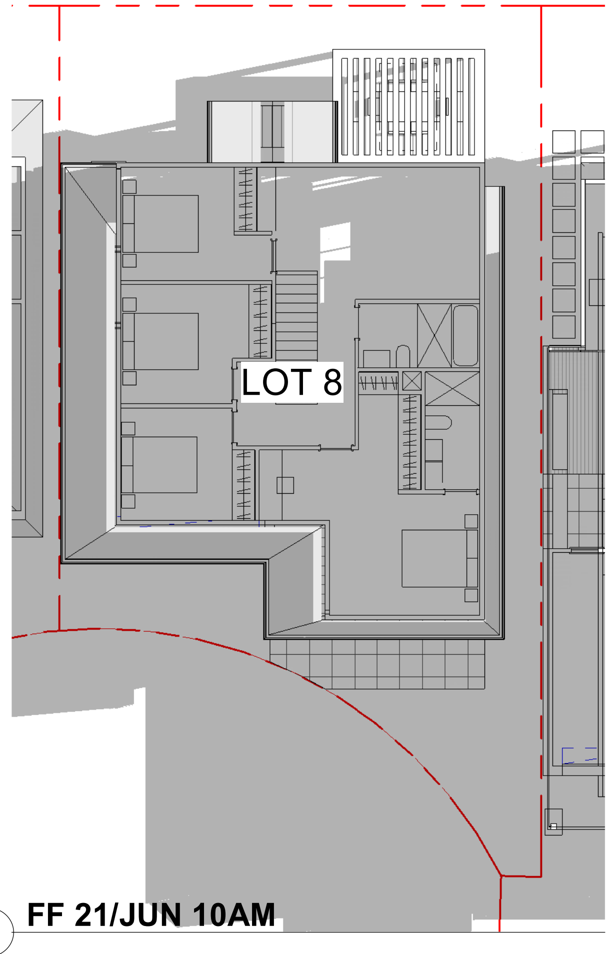

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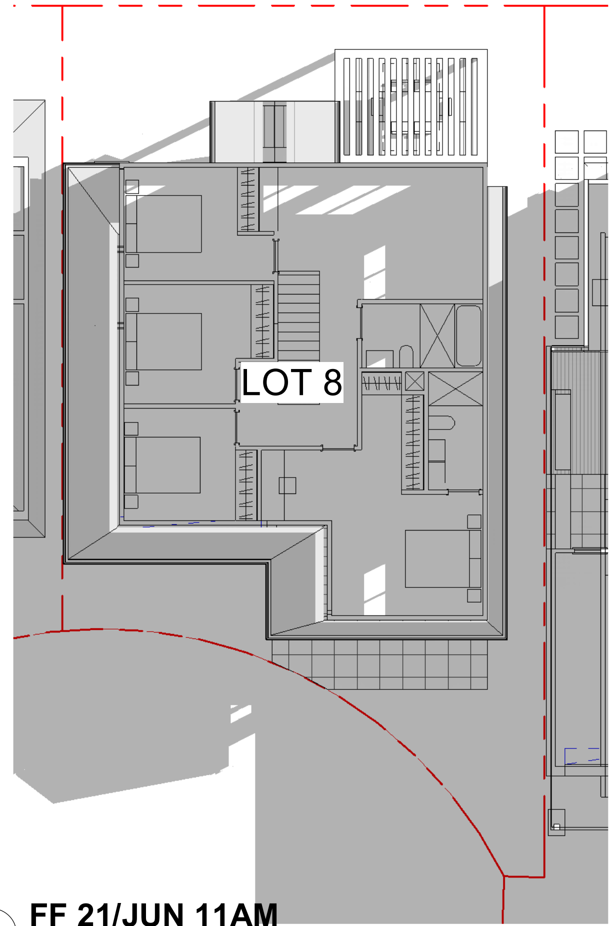

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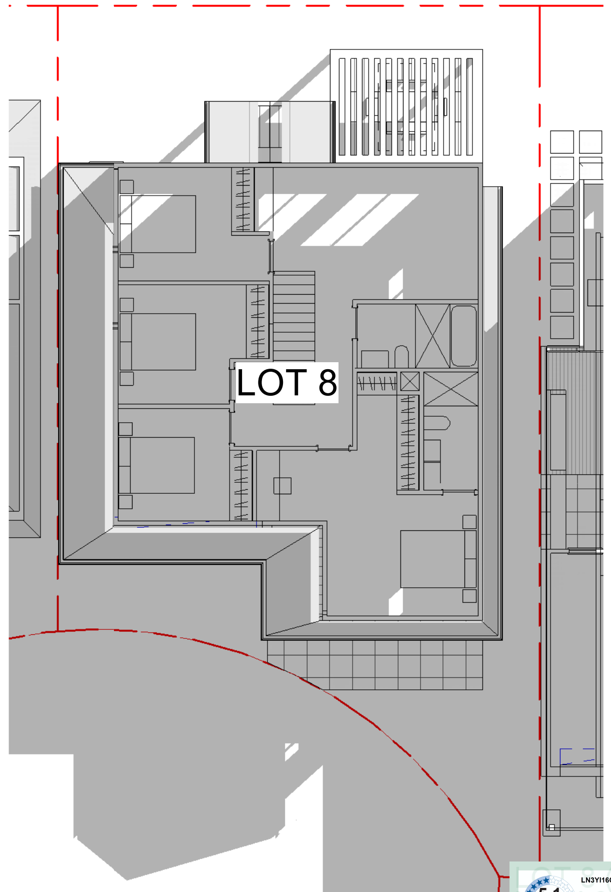

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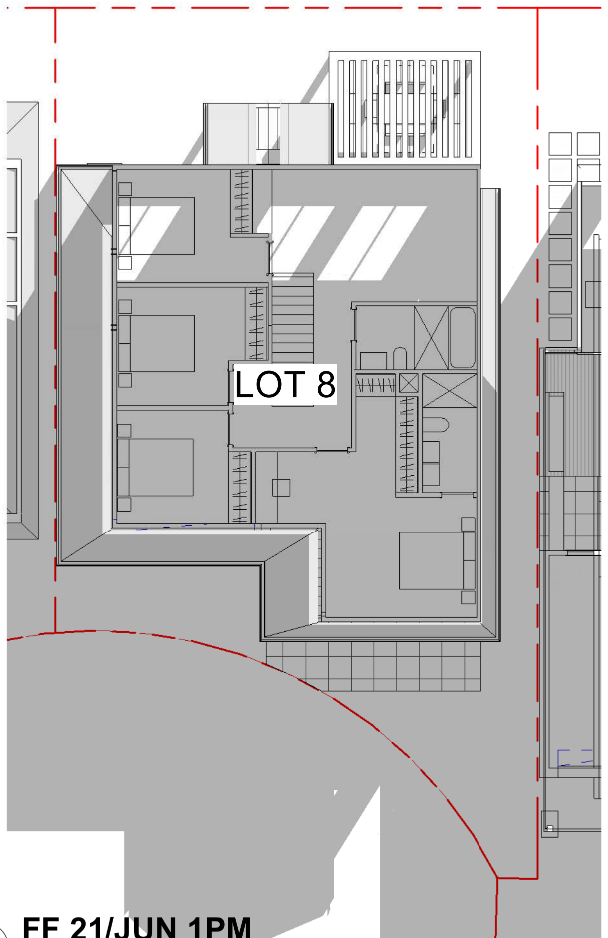

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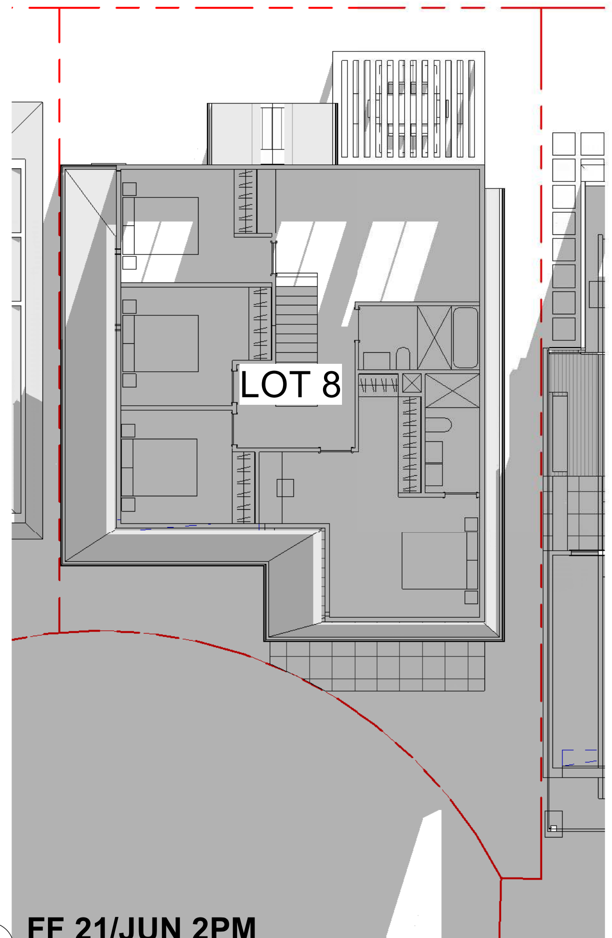

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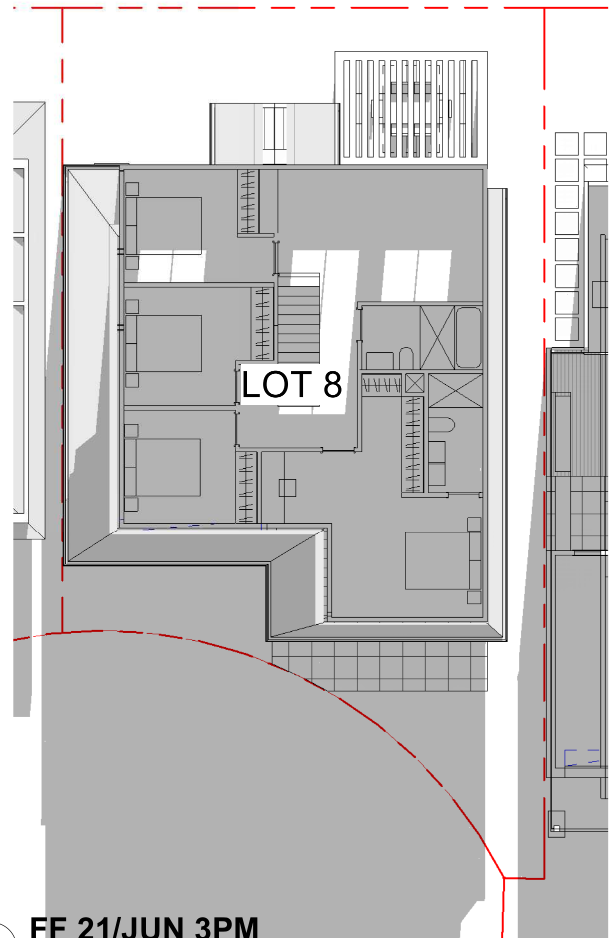

7 FF 21/JUN 3PM

Date	REV	Description
27/05/22	A	FOR DA LODGEMENT

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DRAWN BY: G.P CHECKED: A.S

ADDRESS:

LOT 08 - 53B WARRIEWOOD ROAD, WARRIEWOOD

VIEW:

SHADOW STUDY FIRST FLOOR

JOB No : **RP 225**

SCALE : A1/

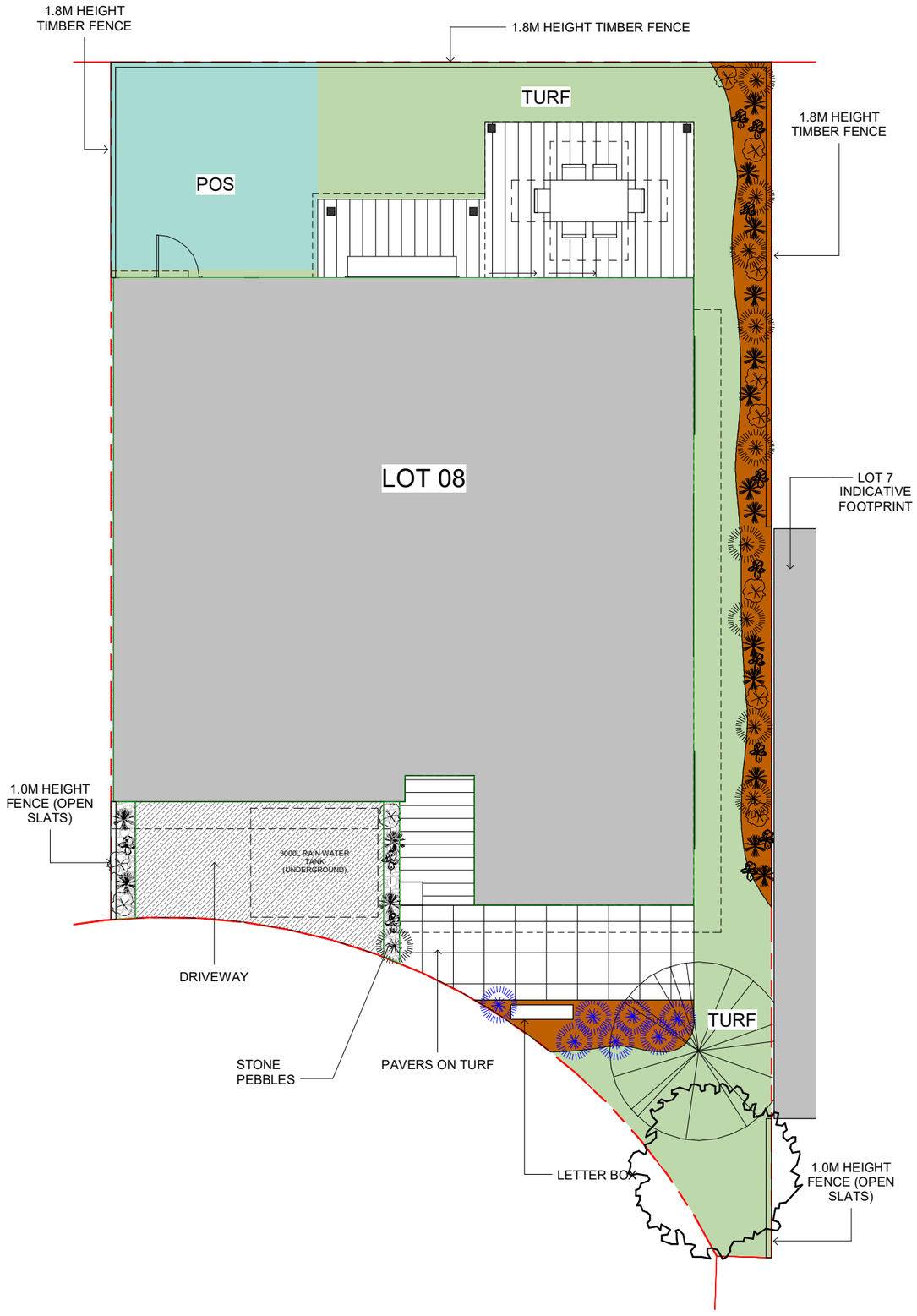
DATE: 27/05/22

NORTH:

DW No. **DA08.05.2**

REV: A

BIM 360://Warriewood - 53B Warriewood Rd/DA_CENTRAL.rvt



1 LANDSCAPE PLAN - LOT 08

1 : 50

LOMANDRA 'SMALL CULTIVARS'

DIANELLA CAERULEA

CARPOBROTUS GLAUCESCENS

DILLWYNIA RETORTA

WHITE STONE PEBBLES

MURRAYA PANICULATA

INDICATIVE PAVERS ON TURF

1.8M HEIGHT TIMBER FENCE

ANGOPHORA FLORIBUNDA

CERATOPETALUM GUMIFERA

1.0M HEIGHT TIMBER FENCE (OPEN SLATS)

INDICATIVE LETTER BOX

LANDSCAPE SCHEDULE - LOT 08			
LOT NO.	LANDSCAPE	LOT AREA	%
LOT 08	83 m²	237 m²	35.13%

LEGEND

- DRIVEWAY
- TURF
- MULCH
- PROPOSED BUILDING
- PAVERS ON TURF
- HARD PAVING
- STONE PEBBLES
- ANGOPHORA FLORIBUNDA
- CERATOPETALUM GUMMIFERA
- MURRAYA PANICULATA
- LOMANDRA 'SMALL CULTIVARS'
- DIANELLA CAERULEA
- CARPOBROTUS GLAUCESCENS
- DILLWYNIA RETORTA

Date	REV	Description
27/05/22	A	FOR DA LODGEMENT

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ADDRESS:

LOT 08 - 53B WARRIEWOOD ROAD, WARRIEWOOD

VIEW:

LANDSCAPE PLAN

JOB No : **RP 225**

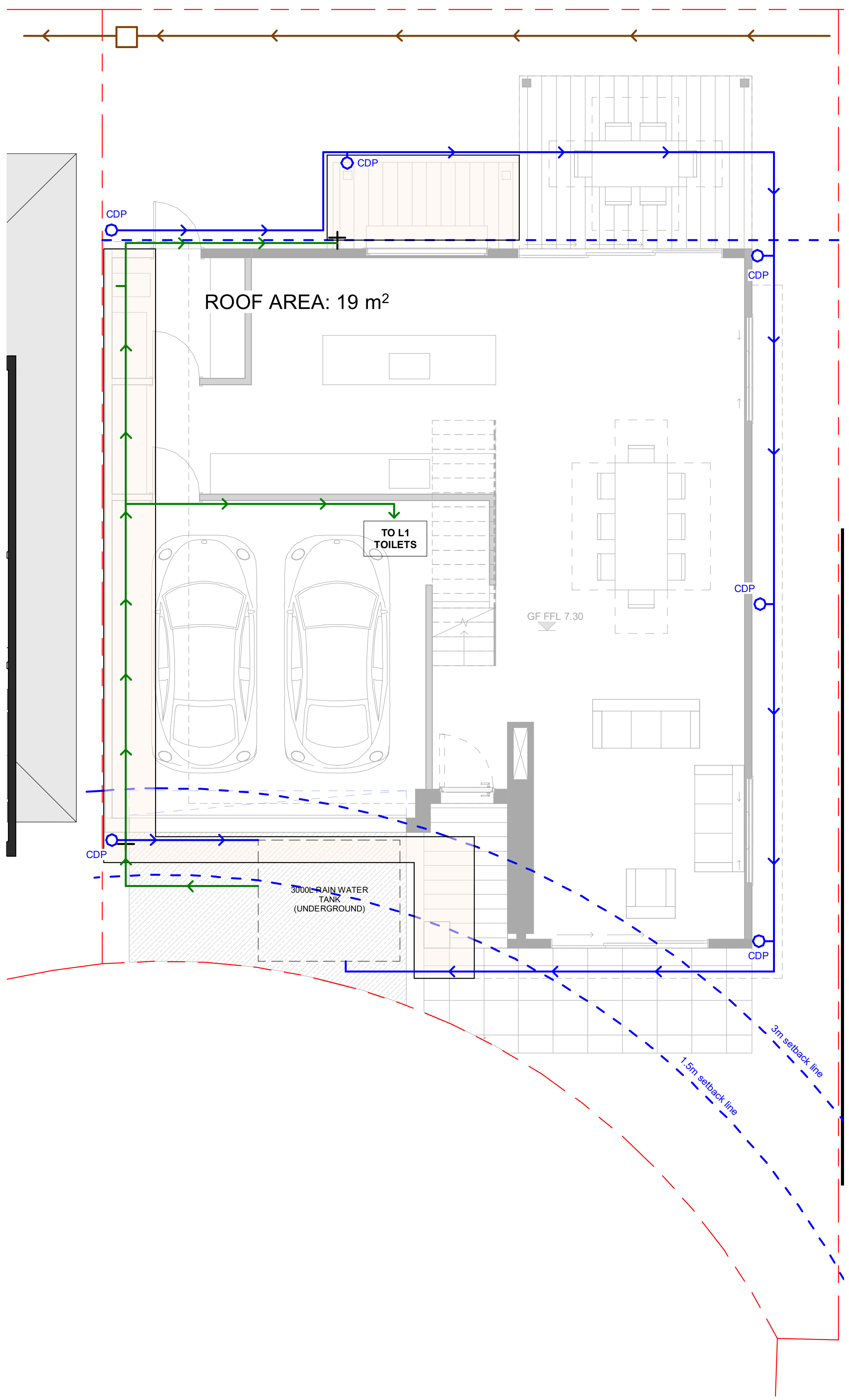
SCALE : A1/ 1 : 50

DATE: 27/05/22

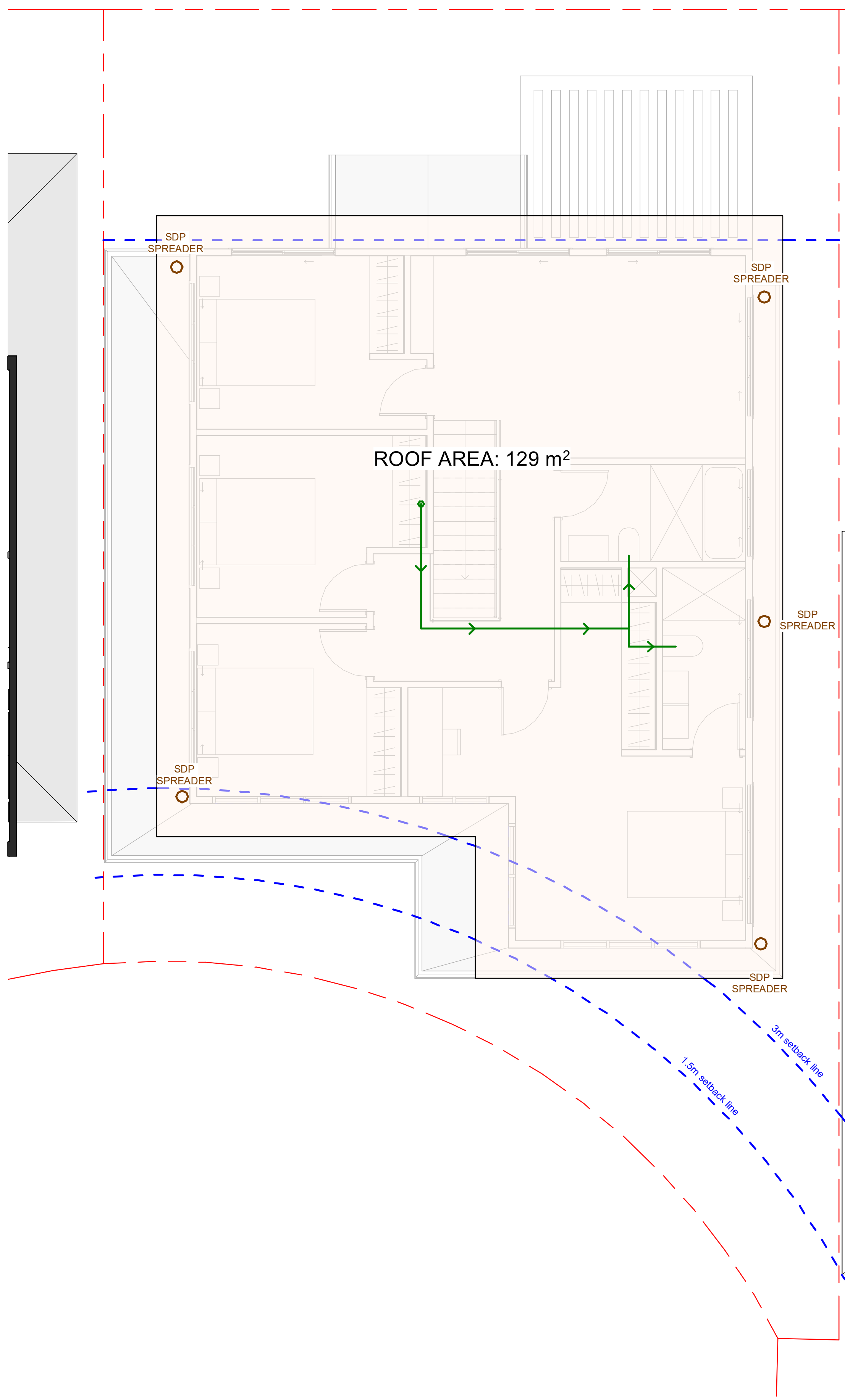
NORTH:

DW No. **DA08.06**

REV: **A**



1 **GROUND FLOOR**
1 : 50



2 **FIRST FLOOR**
1 : 50

Date	REV	Description
27/05/22	A	FOR DA LODGEMENT

RISE PROJECTS

ADDRESS:
57/6-8 Herbert Street, St Leonards NSW 2065

PH: (02) 8094 1209
ABN: 79 160 683 929
WEBSITE: www.riseprojects.com.au

DRAWN BY: G.P CHECKED: A.S

ADDRESS:

LOT 08 - 53B WARRIEWOOD ROAD, WARRIEWOOD

VIEW:

STORMWATER MANAGEMENT PLANS

JOB No: **RP 225**
NORTH:
SCALE: A1 / 1 : 50
DATE: 27/05/22
DW No. **DA08.07**
REV: A