LEADING ENERGY

NCC 2019 Volume 2 - Amendment 1
Building Classification : Class 1 and Class 10

NATIONWIDE HOUSE ENERGY RATING SCHEME (NatHERS) COMPLIANCE REPORT

CLIENT:	Solar Dwellings
PROJECT ADDRESS:	Lot 3022 #6 Karijini Loop Clarkson WA 6030
JOB NUMBER:	87623
REVISION:	A
DATE:	26/08/2024
PREPARED BY:	Hayley Smith

LEADING ENERGY | ESD

Part 3.12.0(a)(i) Compliance Requirements

To comply with Part 3.12.0 (a) (i) the modelled energy loads of the proposed building must not exceed three separate load limits. Heating and cooling loads are based on MJ/m² per annum.

(a) the total load limit corresponding to the applicable NatHERS star rating
(b) the heating load limit; and
(b) the cooling load limit

NCC Climate Zone	5	NatHERS Climate Zone	52
Building Class	1a	ABCB Load Limit Floor Type	Slab on Ground

(a)	Compliant with Part 3.12.0(a) (i)	ABCB NatHERS Compliant Star Rating Result	
		10	Stars

ABCB Compliant Individual Cooling & Heating Loads

ABCB Proposed Individual Cooling Load limit	19	MJ/m2	ABCB Proposed Individual Heating Load limit	32	MJ/m2
Application of this requirement is not mandatory in WA in accordance with DMIRS Industry Bulletin 128					
Proposed Individual Cooling Load Limits	6.6	MJ/m2	Proposed Individual Heating Load Limits	3.6	MJ/m2

NatHERS Accredited

NCC 2019 Volume 2 Part A5.2 Evidence of Suitability (1) (b); A Certificate of Accreditation

Leading Energy | ESD | General Manager - Hayley Smith	Design Matters National Accredited NatHERS Assessor
Email: admin@leadingenergyesd.com.au	Accreditation Number: DMN/18/1861

NCC Deemed to Satisfy House Energy Rating Requirements

Part 3.12.0 Application of Part 3.12 of the NCC States:

(a) Performance Requirement P2.6.1 for the thermal performance of the building is satisfied by—
  (i) complying with—
    (A) 3.12.0.1 for reducing the heating and cooling loads; and
    (B) 3.12.1.1 for building fabric thermal insulation; and
    (C) 3.12.1.2(c) and 3.12.1.4(d) for thermal breaks; and
    (D) 3.12.1.2(e) for compensating for a loss of ceiling insulation, other than where the house energy rating software used can automatically compensate for a loss of ceiling insulation; and
    (E) 3.12.1.5(c) and 3.12.1.5(d) for floor edge insulation; and
    (F) Part 3.12.3 for building sealing
(b) Performance Requirement P2.6.2 for reducing greenhouse gas emissions is satisfied by complying with Part 3.12.5

O2.6 Energy Objective

The objective is to reduce greenhouse gas emissions.

F2.6 Energy Functional Statements

To reduce greenhouse gas emissions, to the degree necessary—
(a) a building, including its domestic services, is to be capable of efficiently using energy; and
(b) a building's domestic services for heating are to obtain their energy from—
  (i) a low greenhouse gas intensity source; or
  (ii) an on-site renewable energy source; or
  (iii) another process as reclaimed energy.

3.12.0.1 Heating and cooling loads

(a) A building must achieve an energy rating, including the separate heating and cooling load limits, using house energy rating software, of greater then or equal to—
  (i) 6 stars; or
  (ii) for a building in climates zones 1 or 2, 5.5 stars if the building has an outdoor living area as described in (c) if the outdoor living area
    (A) is fully covered with an impervious roof having a Total R-Value greater than or equal to 1.5 (for downward heat flow; or
    (B) has at least one permanently installed ceiling fan; or
  (iii) for a building in climates zones 1 or 2, 5 stars if the building has an outdoor living area as described in (c) if the outdoor living area
    (A) is fully covered with an impervious roof having a Total R-Value greater than or equal to 1.5 (for downward heat flow); and
    (B) has at least one permanently installed ceiling fan; or
(b) The heating and cooling loads limits in (a) are specified in the ABCB Standard for NatHERS Heating and Cooling Load Limits.
(c) An outdoor living area in (a)(ii) and (a)(iii) is a space that—
  (i) is directly adjoining, and directly accessible from, a vernal purpose living area of a Class 1 building such as a lounge, kitchen, dining or family room, which is not a room for sleeping or specialist tasks such as a study or home theatre; and

3.12.0.1 Heating and cooling loads (continued)

(ii) has a floor area greater that or equal to 12.0m2, and
(iii) has length and width dimensions greater than or equal to 2.5m each; and
(iv) has a opening height above floor level greater than or equal to 2.1m; and
(v) has one side permanently open with a second side either—
(A) permanently open; or
(B) readily open

(d) The sides referred to in (c) (v) must be greater than or equal to 900mm from an allotment boundary or 900mm from an obstruction to the breeze path such as a building, fence or other structure.

(e) Where a ceiling fan is required as part of the compliance with (a) (ii) or (a) (iii), the fan must comply with 3.12.4.3.

Ceiling fans required to comply with 3.12.0.1, Tables 3.12.2.1a or 3.12.2.1h as appropriate or Table 3.12.4.1 must—

(a) be permanently installed; and
(b) have a speed controller; and
(c) for ceiling fans, serve the whole room, with the floor area that a single from serves not exceeding—
(i) 15m² if it has a blade rotation diameter of greater than or equal to 900mm; and
(ii) 25m² if it has a blade rotation diameter of greater than or equal to 1200mm.

P2.6.1 Building Requirements

A building must have, to the degree necessary, a level of thermal performance to facilitate the efficient use of energy for artificial heating and cooling appropriate to—

(a) the function and use of the building; and
(b) the internal environment; and
(c) the geographic location of the building; and
(d) the effects of nearby permanent features such as topography, structures and buildings: and
(e) solar radiation being—
(i) utilised for heating; and
(f) the sealing of the building envelope against air leakage; and
(g) the utilisation of air movement to assist cooling.

Domestic services, including any associated distribution system and components must, to the degree necessary—

(a) (i) have features that facilitate the efficient use of energy appropriate to—
(ii) the geographic location of the building; and
(iii) the location of the domestic service; and
(iv) the energy source; and

(b) (i) a source that has a greenhouse gas intensity that does not exceed 100 g CO2-e/MJ of thermal energy load: or
(ii) an on-site renewable energy source; or
(iii) another process such as reclaimed energy

Applicable Performance Requirements

Performance Requirement P2.6.1 for Thermal Performance

The builder is responsible for constructing the Proposed Building in accordance with NCC Volume 2 2019 P2.6.1 Performance Requirement

B) Part 3.12.1.1	for building fabric thermal insulation
C) Part 3.12.1.1 (c) & 3.12.1.4 (d)	for thermal breaks; and
D) Part 3.12.1.2 (e)	for compensating for a loss of ceiling insulation other than where the house energy rating software used can automatically compensate for a loss of ceiling insulation; and
	All ceiling penetrations have been automatically compensated within the NatHERS software calculations.
F) Part 3.12.3	for Building Sealing
Part 3.12.3.1	Chimney & Flues
Part 3.12.3.2	Roof lights / Skylights
Part 3.12.3.3	External Windows and Doors
Part 3.12.3.1	Chimney & Flues
Part 3.12.3.2	Roof lights / Skylights
Part 3.12.3.3	External Windows and Doors
(a)	An external door, internal door between a Class 1 building and an unconditioned Class 10a building, openable window and other such opening must be sealed when serving a conditioned space or habitable room in Climates Zones 4 to 8.
(b)	A seal to restrict air infiltration (i) for the bottom edge of a door, must be a draft protection device; and (ii) for the other edges of a door or the edges of an openable window or other such opening, may be a foam or rubber compressible strip, fibrous seal or the like.
Part 3.12.3.4	Exhaust Fans
Part 3.12.3.5	Construction of Ceilings, Walls & Floors
Part 3.12.3.6	Evaporative Coolers

Performance Requirement P2.6.2 for Services

The builder is responsible for constructing the Proposed Building in accordance with NCC 2019 Volume 2 P2.6.2 Performance Requirement

Part 3.12.5	Services
Part 3.12.5.5	The lamp power density of the artificial lighting, excluding heaters that emit light, must not exceed the maximum allowance wattage for a Class 1 building, verandah or balcony or Class 10 building.

W/m2	Space Type	MAXIMUM wattage per Space Type	Area of Space - m2
5	for a Class 1 building	921.45	184.29
4	for a Alfresco / Balcony or the like	70.24	17.56
3	for a Class 10 building	106.23	35.41

WA Additions

WA 2.3.1 (a) (b) & (c)	All taps (other than bath outlets and garden taps) & flushing systems must be a minimum or 4 stars WELS rates. Showerheads a minimum of 3 stars WELS rated.
WA 3.2.3	An outdoor private swimming pool or spa associated with a Class 1 building must be supplied with a cover, blanket of the like (a) is designed to reduce water evaporation; and (b) is accredited under the Smart Approved Watermark Scheme governed by the Australian Water the Nursery and Garden Australia and the Water Services Association of Australia.
WA 2.3.3	All internal water outlets (such as taps, showers and washing machine water supply fittings) must be connected to a heated water system or a re-circulating heated water systems with pipes installed in accordance with AS/NZS 3500: Plumbing & Drainage, Part 4 heated water system or re-circulating heated water system the furthest heated water outlet must not be more than 20m in length or 2 litres of internal volume.

...use Energy Rating Scheme®
...tificate No. 0009308032-01

Generated on 25 Aug 2024 using BERS Pro v5.1.9 (3.23)

27/08/2024

Property

Address	Karijini Loop, Clarkson , WA , 6030
Lot/DP	Lot 3022 DP -
NCC class*	1a
Floor/all Floors	G of 1 floors
Type	New Home

Plans

Main plan	Catalina - 240307
Prepared by	Solar Dwellings

Construction and environment

Assessed floor area [m²]*	
Conditioned*	159.9
Unconditioned*	14.1
Total	208.4
Garage	34.4

Exposure type
Suburban

NatHERS climate zone
52 Swanbourne

Accredited assessor

Name	Hayley Smith
Business name	Leading Energy | ESD
Email	admin@leadingenergyesd.com.au
Phone	1300 374 043
Accreditation No.	DMN/18/1861
Assessor Accrediting Organisation	Design Matters National
Declaration Of Interest	Declaration completed: no conflicts

NCC Requirements

NCC provisions	Volume Two
Strate/Territory variation	Yes

National Construction Code (NCC) requirements

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

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

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

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

Thermal performance Star rating

Thermal performance [MJ/m²]

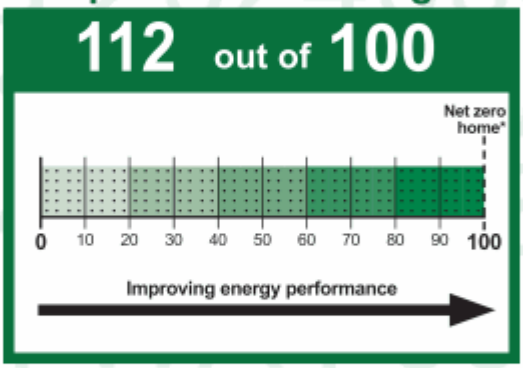
Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	3.6	6.6
Load limits	26.0	33.0

Features determining load limits

Floor Type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

Whole of Home performance rating



Verification

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

* Refer to glossary

Thermal performance rating

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

Whole of Home performance rating

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

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

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

NCC Climate Zone 1 or 2:

Yes
No
NA – Not Applicable

Outdoor Living Area:

Yes
No
NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes
No
NA – Not Applicable

Predicted onsite renewable energy impact

Your Whole of Home performance rating without onsite renewable energy generation is **66.0 out of 100**.

This home's annual greenhouse emissions :
-4.5 kg CO2e (with solar)
3.0 kg CO2e (without solar)

Predicted annual electricity generated: 12499.6 kWh

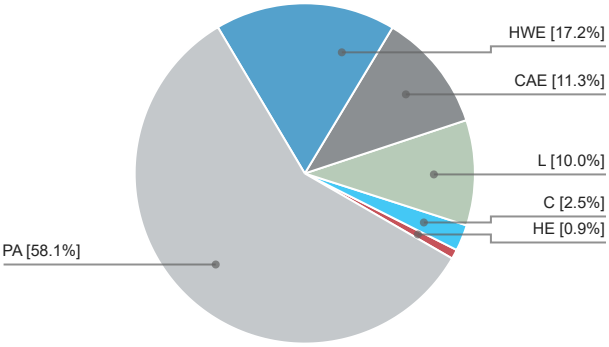
Exported to the grid: -61.9 %

Used by the home: -38.1 %

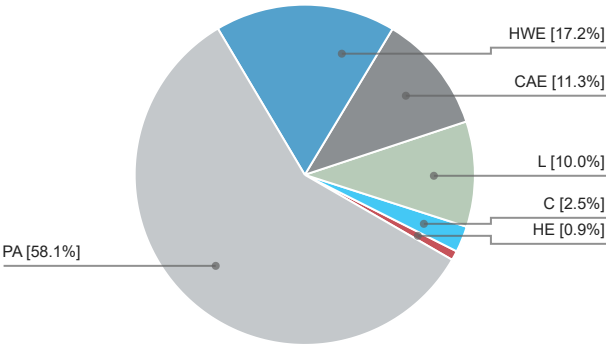
Predicted Whole of Home annual impact by appliance

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

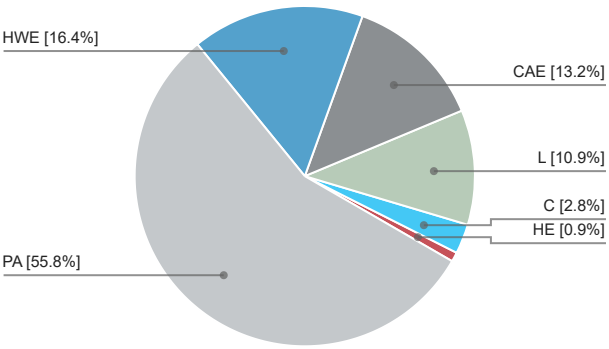
Energy use:



Greenhouse gas emissions:



Cost:



Graph Key:

Colour:	Code:	Name:	Fuel type:
	HE	Heating	electric
	HG	Heating	gas
	HW	Heating	wood
	C	Cooling	electric
	HWE	Hot water	electric
	HWG	Hot water	gas
	L	Lights	electric
	P	Pool/Spa equipment	electric
	PA	Plug-in appliances	electric
	CAE	Cooking appliances	electric
	CAG	Cooking appliances	gas
	SG	Supply charge	gas
	SE	Supply charge	electric

* Refer to glossary.

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

Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.

	Approval Stage		Construction Stage		
	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown	☐	☐	☐	☐	☐

* Refer to glossary.

Certificate check

27/08/2024

Continued

	Approval Stage		Construction Stage		
	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	☐	☐			

Other NCC requirements

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

Additional notes

This design achieves 10 star in NCC 2019 software and NCC 2022 software. The ESD consultant has used expert judgement to sign this off using NCC 2022 software to future proof this project by adopting the new NCC 2022 and Whole of Home energy effieicnt requirements. Adopting the new NCC 2022 requriements provide no advantage to thermal complaince

* Refer to glossary.

e design to incorpate WoH requirements with the final certificate. The DEC window codes for the Entry Hinged Door and Sliding Doors is currently not available in WERS which means the DEC units installed must have a U value equal to or less and a SHGC within 5% tolerance of the values detailed to maintain compliance.

Room *schedule*

Room	Zone Type	Area [m^2]
Kitchen/Living	Kitchen/Living	76.26
Garage	Garage	34.42
Entry	Daytime	6.02
Bedroom 2	Bedroom	12.05
Bath	Unconditioned	7.97
WC	Daytime	2.24
Bedroom 3	Bedroom	17.29
Corridor 1	Daytime	3.06
Study Nook	Daytime	4.91
Corridor 2	Daytime	7.58
Laundry	Unconditioned	6.1
Bedroom 1	Bedroom	18.82
Ensuite	Nighttime	7.29
B1 WIR	Nighttime	4.41

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
TIM-001-01 W	Timber A SG Clear	5.4	0.56	0.53	0.59

Custom windows*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
DEC-001-13 W	uPVC Awning Window DG LightBridge_ClrSI_638-12-4	1.7	0.31	0.29	0.33
DEC-003-11 W	uPVC Sliding Window DG LightBridge_ClrSI_638-10-5	1.9	0.36	0.34	0.38

* Refer to glossary.

d door *schedule*

27/08/2024

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	DEC-003-11 W	W18	2400	1810	Sliding	30	N	Yes
Kitchen/Living	DEC-003-11 W	W15	2400	1810	Sliding	30	N	Yes
Kitchen/Living	DEC-003-11 W	W19	2400	2410	Sliding	30	N	Yes
Kitchen/Living	DEC-003-11 W	W16	2400	1910	Sliding	30	E	Yes
Kitchen/Living	DEC-003-11 W	W22	686	910	Sliding	45	S	No
Kitchen/Living	DEC-003-11 W	W29	514	2110	Sliding	45	S	No
Entry	DEC-001-13 W	W25	2400	920	Casement	90	W	No
Bedroom 2	DEC-001-13 W	W23	1200	610	Awning	90	S	No
Bedroom 2	DEC-001-13 W	W1	1372	1330	Awning	45	W	No
Bath	DEC-001-13 W	W3	2143	810	Awning	70	S	No
Bedroom 3	DEC-003-11 W	W27	2143	1910	Sliding	45	S	No
Study Nook	DEC-003-11 W	W8	1457	1510	Sliding	45	N	Yes
Laundry	TIM-001-01 W	W26	1072	920	Casement	90	N	No
Bedroom 1	DEC-003-11 W	W10	2400	1910	Sliding	45	N	No
Bedroom 1	DEC-001-13 W	W21	514	1210	Awning	90	S	No
Bedroom 1	TIM-001-01 W	W20	2143	920	Casement	90	S	No
Ensuite	DEC-001-13 W	W17	2229	810	Awning	70	N	Yes

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					

* Refer to glossary.

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	Skylight shaft reflectance
No Data Available		

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m^2]	Orientation	Outdoor shade	Diffuser
No Data Available							

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2143	920	90	E
Garage	2400	5200	90	W
Laundry	1072	920	90	N

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Fibro Timber Stud Frame Panel on Battens	0.50		Anti-glare foil with bulk no gap R2.7	No
EW-2	Reverse Timber Stud Frame Brick Veneer	0.50		Anti-glare foil with bulk no gap R2.7	No

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	2657	8000	N	700	Yes
Kitchen/Living	EW-1	2657	3901	E	3100	Yes
Kitchen/Living	EW-2	2400	1100	E	6900	No
Kitchen/Living	EW-1	2400	2700	S	150	No
Kitchen/Living	EW-1	2400	1100	W	12500	No

* Refer to glossary.

		Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-2	2400	300	S	1250	No
Kitchen/Living	EW-2	2657	5300	S	1250	No
Garage	EW-2	2657	6550	N	0	No
Garage	EW-1	2657	1795	E	100	No
Garage	EW-1	2657	1750	S	5100	No
Garage	EW-1	2657	5550	W	100	No
Entry	EW-1	2657	1740	W	2400	Yes
Bedroom 2	EW-1	2657	2100	N	7300	No
Bedroom 2	EW-1	2657	1501	S	0	No
Bedroom 2	EW-1	2657	650	W	0	No
Bedroom 2	EW-1	2657	1700	S	100	No
Bedroom 2	EW-1	2657	3250	W	300	Yes
Bath	EW-1	2400	600	E	18750	No
Bath	EW-1	2400	2700	S	650	No
Bath	EW-1	2400	1300	W	650	No
Bath	EW-2	2400	550	W	650	No
Bedroom 3	EW-1	2657	3345	S	1250	No
Study Nook	EW-1	2400	1750	N	700	No
Laundry	EW-1	2657	2450	N	650	No
Laundry	EW-1	2657	1745	E	650	No
Bedroom 1	EW-1	2657	2500	N	4700	No
Bedroom 1	EW-1	2657	4146	S	1250	No
Ensuite	EW-1	2657	2050	N	650	Yes
Ensuite	EW-1	2657	3645	E	700	No
B1 WIR	EW-1	2400	2345	E	700	No
B1 WIR	EW-1	2400	1950	S	150	No
B1 WIR	EW-1	2400	1100	W	19450	No

Internal wall *type*

Wall ID	Wall type	Area [m^2]	Bulk insulation
IW-001	Single Skin Brick	21.33	No insulation

* Refer to glossary.

		Area [m²]	Bulk insulation
		29.21	No insulation
IW-003	Timber Stud Frame, Direct Fix Plasterboard	58.50	Bulk Insulation, No Air Gap R2
IW-004	Timber Stud Frame, Direct Fix Plasterboard	20.33	Bulk Insulation, No Air Gap R5
IW-005	Timber Stud Frame, Direct Fix Plasterboard	0.00	Bulk Insulation, No Air Gap R2.5
IW-006	Timber Stud Frame, Direct Fix Plasterboard	0.00	No insulation
IW-007	Timber Stud Frame, Direct Fix Plasterboard	0.00	Bulk Insulation, No Air Gap R4

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab on Ground 100mm	76.26	None	No Insulation	Ceramic Tiles 8mm
Garage	Concrete Slab on Ground 100mm	34.42	None	No Insulation	Bare
Entry	Concrete Slab on Ground 100mm	6.02	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 100mm	12.05	None	No Insulation	Cork Tiles or Parquetry 8mm
Bath	Concrete Slab on Ground 100mm	7.97	None	No Insulation	Ceramic Tiles 8mm
WC	Concrete Slab on Ground 100mm	2.24	None	No Insulation	Ceramic Tiles 8mm
Bedroom 3	Concrete Slab on Ground 100mm	17.29	None	No Insulation	Cork Tiles or Parquetry 8mm
Corridor 1	Concrete Slab on Ground 100mm	3.06	None	No Insulation	Ceramic Tiles 8mm
Study Nook	Concrete Slab on Ground 100mm	4.91	None	No Insulation	Ceramic Tiles 8mm
Corridor 2	Concrete Slab on Ground 100mm	7.58	None	No Insulation	Ceramic Tiles 8mm
Laundry	Concrete Slab on Ground 100mm	6.10	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 100mm	18.82	None	No Insulation	Cork Tiles or Parquetry 8mm
Ensuite	Concrete Slab on Ground 100mm	7.29	None	No Insulation	Ceramic Tiles 8mm
B1 WIR	Concrete Slab on Ground 100mm	4.41	None	No Insulation	Cork Tiles or Parquetry 8mm

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R3.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R3.5	
Garage	Plasterboard on Timber	Bulk Insulation R5	
Garage	Plasterboard on Timber	Bulk Insulation R3.5	
Entry	Plasterboard on Timber	Bulk Insulation R5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R3.5	
Bath	Plasterboard on Timber	Bulk Insulation R5	
Bath	Plasterboard on Timber	Bulk Insulation R3.5	
WC	Plasterboard on Timber	Bulk Insulation R5	
Bedroom 3	Plasterboard on Timber	Bulk Insulation R5	
Corridor 1	Plasterboard on Timber	Bulk Insulation R5	
Study Nook	Plasterboard on Timber	Bulk Insulation R5	
Study Nook	Plasterboard on Timber	Bulk Insulation R3.5	
Corridor 2	Plasterboard on Timber	Bulk Insulation R5	
Laundry	Plasterboard on Timber	Bulk Insulation R5	
Laundry	Plasterboard on Timber	Bulk Insulation R3.5	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R5	
Ensuite	Plasterboard on Timber	Bulk Insulation R5	
Ensuite	Plasterboard on Timber	Bulk Insulation R3.5	
B1 WIR	Plasterboard on Timber	Bulk Insulation R5	
B1 WIR	Plasterboard on Timber	Bulk Insulation R3.5	

Ceiling *penetrations**

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	160	Sealed
Bath	1	Exhaust Fans	300	Sealed
WC	1	Exhaust Fans	300	Sealed
Laundry	1	Exhaust Fans	300	Sealed

* Refer to glossary.

Quantity	Type	Diameter [mm]	Sealed/unsealed
1	Exhaust Fans	300	Sealed

27/08/2024

Ceiling *fans*

Location	Quantity	Diameter [mm]
Kitchen/Living	2	1400
Bedroom 2	1	1200
Bedroom 3	1	1200
Bedroom 1	1	1200

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.33	Light

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

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

Note: A flat assumption of 5W/m^2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
Unknown or None (Default AC)	WC / STUDY NOOK / KITCHEN/LIVING / ENTRY / ENSUITE / CORRIDOR 2 / CORRIDOR 1 / BEDROOM 3 / BEDROOM 2 / BEDROOM 1 / B1 WIR	Electricity	N/A	N/A

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
Unknown or None (Default AC)	WC / STUDY NOOK / KITCHEN/LIVING / ENTRY / ENSUITE / CORRIDOR 2 / CORRIDOR 1 / BEDROOM 3 / BEDROOM 2 / BEDROOM 1 / B1 WIR	Electricity	N/A	N/A

Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC	Zone 3 Substitution tolerance ranges		Assessed daily load [litres]
					lower limit	upper limit	
Heat pump	Electricity	3	19	19	N/A	25	133

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available			

Onsite Renewable Energy *Schedule*

System Type	Orientation	System Size Or Generation Capacity
Solar PV	N	8.00

Battery *Schedule*

System Type	Size [Battery Storage Capacity]
Li Ion	8

About this report

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

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

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

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

Accredited assessors

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

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

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

Disclaimer

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

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

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

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

Glossary

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

CONTENTS:

Certificate No. 0009308032-01
Scan QR code or follow website link for rating details.
Assessor name Hayley Smith
Accreditation No. DMN/18/1861
Property Address Karijini Loop,Clarkson WA,6030
www.hstar.com.au/QR/Generate?p=vxKplanvQ

plans dated
22/08/2024

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Unit 4, 511 Wanneroo Road
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EMAIL info@nulookhomes.com.au
SOLAR DWELLINGS
SMARTER SUSTAINABLE HOMES

NOTES
CONFIRM ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK.
REFER ENGINEER'S DRAWINGS FOR STRUCTURAL AND CONCRETE WORK.
CONTRUCTION DETAILS MAY VARY ON SITE AT THE BUILDER'S OR OWNER'S DISCRETION.
DO NOT SCALE FROM DRAWINGS.

REV.	VARIATION	DRN	DATE
		J.E.	19/04/2024

client
SOLAR DWELLINGS

address
LOT 3022 (#6)
KARIJINI LOOP, CLARKSON

job no.
PD_24018

sheet no.
- of 14

scale N/A @ A2

drawing name:
COVER PAGE

design subject to council approval

COTTAGE SURVEYS
LICENSED SURVEYORS

87-89 Guthrie St
Osborne Park
WA 6017

PO Box 1611
Osborne Park BC
WA 6917

P: (08) 9446 7361
E: perth@cottage.com.au
W: www.cottage.com.au

JOB: 583831 **DATE:** 06 Aug 24 **DRAWN:** T. Gill

LOT	Lot 3022 (DP 423739)
ADDRESS	#6 Karijini Loop, Clarkson
LGA	CITY OF WANNEROO

SSA	Yes	**AREA**	432m²
VOL.	4237	**FOL.**	39
GPS	Lat: -31.695865 Long: 115.732345		

⚠ NOTE:
RESTRICTIVE COVENANT.
REFER TO SEC 136D T.L.A.
SEE DOCUMENT

LOT MISCLOSE
0.001 m

LEGEND	
⊕	POWER DOME
⊙	POWER POLE
T C	PHONE PITS
W	WATER CONN.
TP=10.00	TOP PILLAR/POST
TW=10.00	TOP WALL
TR=10.00	TOP RETAINING
TF=10.00	TOP FENCE

VACANT LOT

NAIL FOUND OFFSET0.1m

PEG FOUND NUMBERED

PEG NOT FOUND

NAIL & PLATE FOUND

15

30

90°0'0"

135°0'0"

23.99

8.99

8.5

13.5

13.0

LIMESTONE RET. WALL

CONCRETE PATH

SEMI-MOUNT

MOUNTABLE

BITUMEN

SEWER M/H APPROX. 41.9m (12.68)

SEWER I.O.

WATER CONN.

GAS POST

COMMS CONN.

SEWER JUNCTION
IN: 3.6 UP: 1.3
INV: 11.4 DEPTH: 0.9
NOTE: UP

HYDRANT (METAL)

SEWER M/S (13.15)

REFERENCE NAIL AT BASE OF KERB APPROX. A.H.D 13.39m (ESTABLISHED FROM WATER CORPORATION S.M.H AF5552)

KARIJINI LOOP
BITUMEN

⚠ DISCLAIMER:
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REV.	VARIATION	DRN	DATE
		J.E.	09/08/2024

client: SOLAR DWELLINGS

address: LOT 3022 (#6) KARIJINI LOOP, CLARKSON

job no. PD_24018

sheet no. 1 of 14

scale 1 : 100 @ A2

drawing name: SITE SURVEY

design subject to council approval

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LOT	Lot 3022 (DP 423739)
ADDRESS	#6 Karijini Loop, Clarkson
LGA	CITY OF WANNEROO

SSA	Yes	**AREA**	432m²
VOL.	4237	**FOL.**	39
GPS	Lat: -31.695865 Long: 115.732345		

stormwater drainage calculations:

SITE AREA: 432m²
LANDSCAPED AREA: 154.844m²
IMPERVIOUS AREA TO BE SEALED: 277.156m²
SIZE OF SOAKWELLS USED:
(1x) 1200mm dia. x 1200mm deep
(1x) 1500mm dia. x 1200mm deep

NUMBER OF SOAKWELLS USED: 2
EACH SOAKWELL CATERS FOR:
1200mm dia. x 1200mm = 111.3m²
1500mm dia. x 1200mm = 173.8m²

TOTAL AREA CATERED FOR:
= 111.3 + 173.8 = 285.1m²

- stormwater note:

All rwp's to be reticulated by 90mm PVC pipe into selected soakwells. Final size & position of soakwells to be determined by engineer drawings or contractor.

- termite treatment:

termite treatment to comply with BCA 3.1.3 & AS 3660.1 - 2014
- reticulated spray system to be used to house

- plumber note:

Confirm depth and position of invert position prior pouring of concrete slab.

NOTE: REFER TO SLAB SETOUT PLAN TO CONFIRM EXTERNAL DIMENSIONS

NOTE:
RESTRICTIVE COVENANT.
REFER TO SEC 136D T.L.A.
SEE DOCUMENT

LOT MISCLOSE
0.001 m

LEGEND

⊕	POWER DOME
⊖	POWER POLE
T C	PHONE PITS
W	WATER CONN.
TP=10.00	TOP PILLAR/POST
TW=10.00	TOP WALL
TR=10.00	TOP RETAINING
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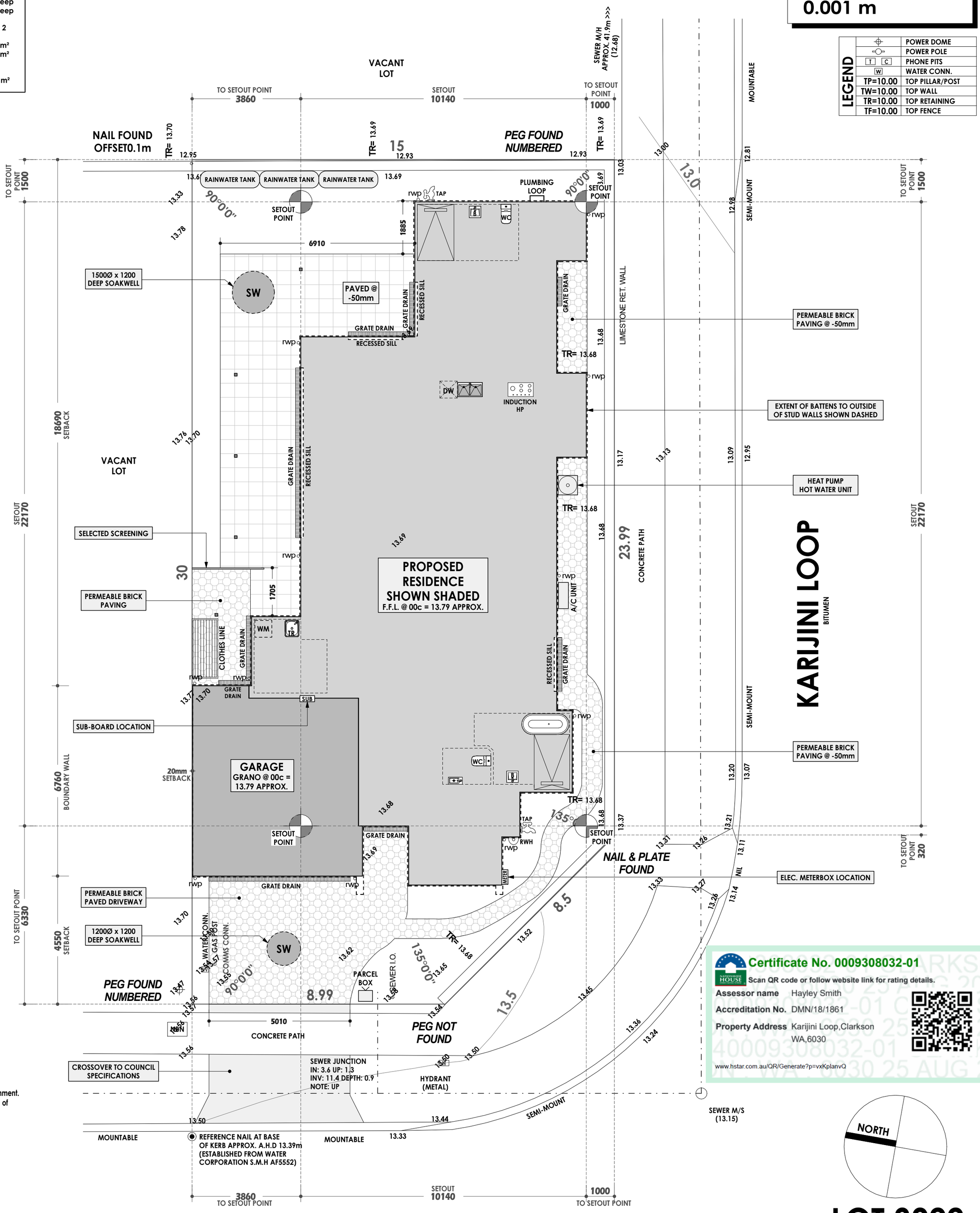

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NORTH

LOT 3022
432m²

KARIJINI LOOP
BITUMEN

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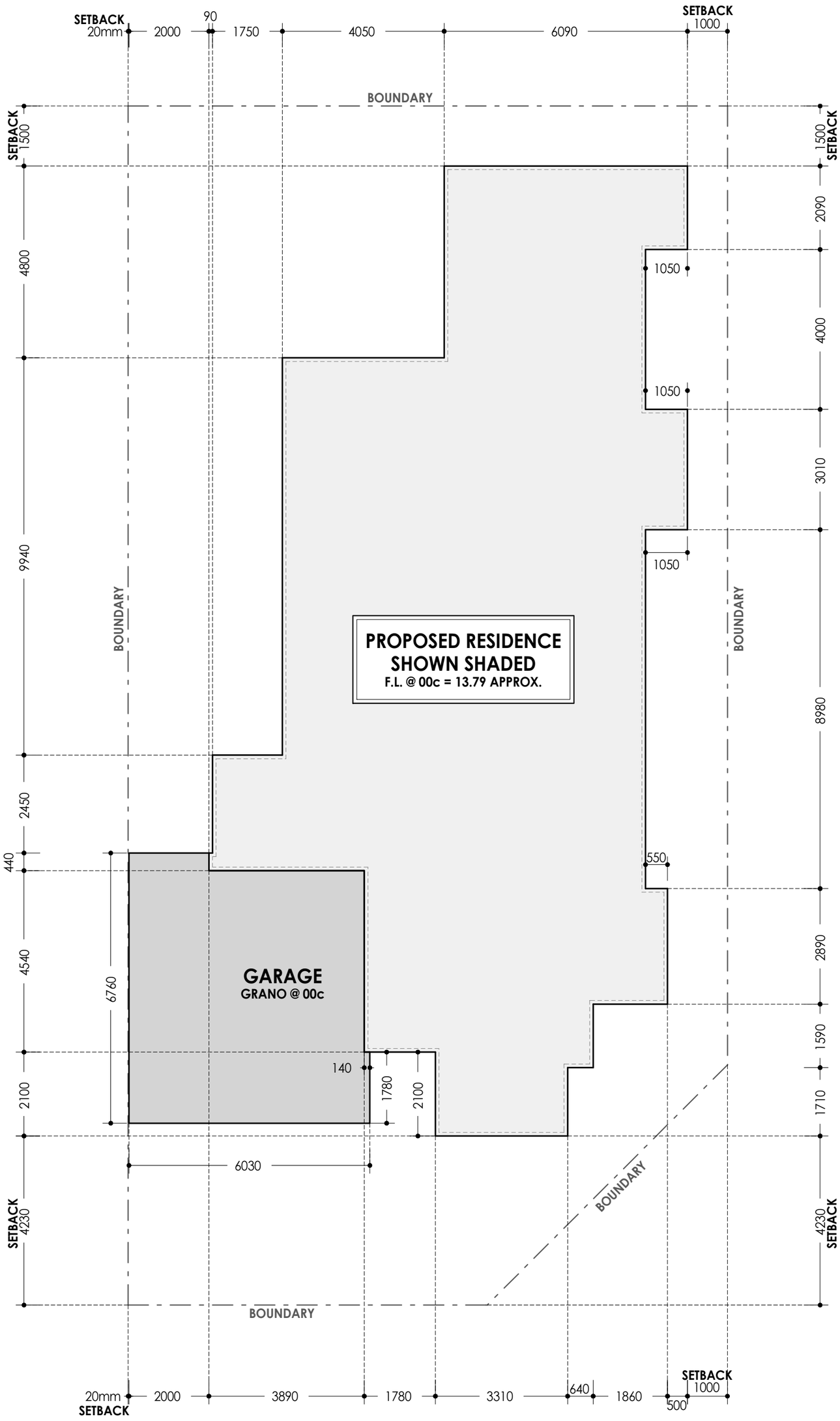
REV.	VARIATION	DRN	DATE
		J.E.	09/08/2024

client: SOLAR DWELLINGS
address: LOT 3022 (#6) KARIJINI LOOP, CLARKSON
job no.: PD_24018
drawing name: SITE PLAN
sheet no.: 2 of 14
scale 1 : 100 @ A2
design subject to council approval

27/08/2024

DESIGN NOTES:

- ALL DIMENSIONS STATED RELATE TO SLAB & TIMBER STUD SETOUT ONLY. NO ALLOWANCE IS MADE FOR ADDITION OF BATTENS OR WALL FINISH. CARE SHOULD BE TAKEN TO INCLUDE SUCH ALLOWANCE IN CALCULATION REQUIRED FOR INSTALLED FITTINGS.



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REV.	VARIATION	DRN	DATE
		J.E.	09/08/2024

client
SOLAR DWELLINGS

address
LOT 3022 (#6)
KARIJINI LOOP, CLARKSON

job no.
PD_24018

sheet no.
3 of 14

scale 1 : 100 @ A2

drawing name:
SLAB SETOUT PLAN

design subject to council approval

NOTES:

ings
-Class 1 thermally broken from Class 10 - if applicable
-Timber flooring to Bedrooms, Garage as Bare
-All remaining flooring as tiles
-R2.5 HD 90mm batts to all external walls with additional R0.2 for Aircell Glareshield
-200mm rammed earth walls - as per plans
-Double solid brick walls - as per plans
-Minimum R2.5 HD above garage internal entry door
-2 x R2.5 HD to remaining garage and part Bed 3 internal walls
-No insulation to Entry sliding door section
-Minimum R2.0 90mm bulk to all remaining internal walls - includes all vertical walls adjacent to roof space create by bulk heads or dropped ceilings
-R5.0 to all ceilings - includes Alfresco and Porch
-SA of 0.33 or lower
-Anticon 60 throughout
-2 x 1400mm ceiling fans to KLD - 2 units
-1200mm to remaining Bedrooms - 3 units
-Sealed exhaust fans throughout
-IC/ICF rated LED downlights : insulation above and over fittings
-Entry doors weatherproofed
-Insulated Garage door tR1.8
-90% shading sails for summer sun control
-All internal doors 2400 high
-Master & Ldry doors as single glazed timber frame
-Remaining glazing as Arco with U & SHGC values as per NatHERS certificate

Certificate No. 0009308032-01

Scan QR code or follow website link for rating details.

Assessor name Hayley Smith
Accreditation No. DMN/18/1861
Property Address Karijini Loop,Clarkson WA,6030

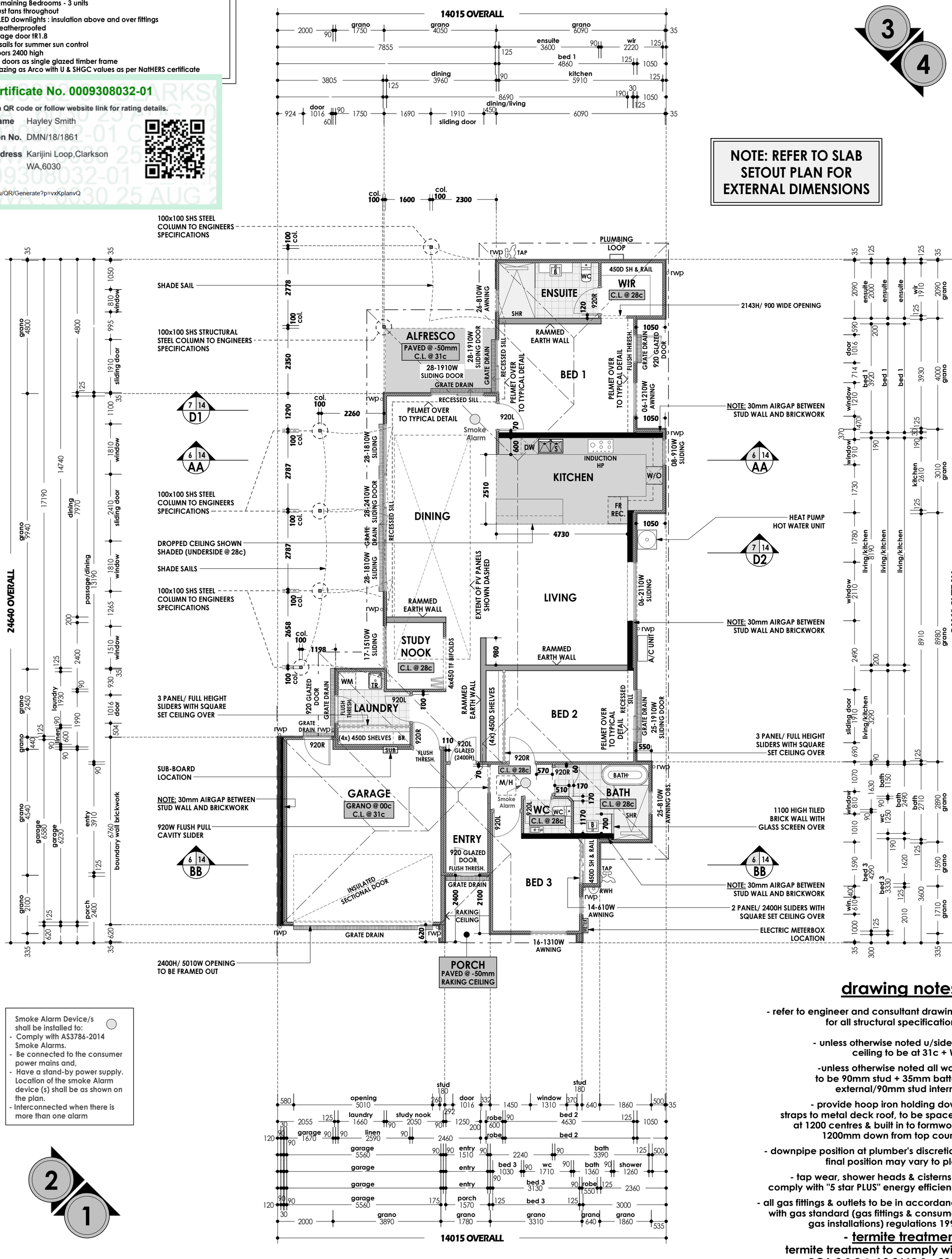
www.hstar.com.au/QR/Generate?p=vxKplanvQ

DESIGN NOTES:

- ALL DIMENSIONS STATED RELATE TO WALL SETOUT ONLY. NO ALLOWANCE IS MADE FOR ADDITION OF PLASTER OR WALL FINISH. CARE SHOULD BE TAKEN TO INCLUDE SUCH ALLOWANCE IN CALCULATION REQUIRED FOR INSTALLED FITTINGS.

3 / 4

NOTE: REFER TO SLAB SETOUT PLAN FOR EXTERNAL DIMENSIONS



Smoke Alarm Device/s shall be installed to:
- Comply with AS3786-2014 Smoke Alarms.
- Be connected to the consumer power mains and,
- Have a stand-by power supply. Location of the smoke Alarm device (s) shall be as shown on the plan.
- Interconnected when there is more than one alarm

2 / 1

drawing notes:

- refer to engineer and consultant drawings for all structural specifications.
- unless otherwise noted u/side of ceiling to be at 31c + WP
-unless otherwise noted all walls to be 90mm stud + 35mm batten external/90mm stud internal
- provide hoop iron holding down straps to metal deck roof, to be spaced at 1200 centres & built in to formwork 1200mm down from top course
- downpipe position at plumber's discretion. final position may vary to plan
- tap wear, shower heads & cisterns to comply with "5 star PLUS" energy efficiency
- all gas fittings & outlets to be in accordance with gas standard (gas fittings & consumer gas installations) regulations 1999.
- **termite treatment:** termite treatment to comply with BCA 3.1.3 & AS 3660.1 - 2014 & manufacturers specifications

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NOTES
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CONTRUCTION DETAILS MAY VARY ON SITE AT THE BUILDER'S OR OWNER'S DISCRETION.
DO NOT SCALE FROM DRAWINGS.

REV.	VARIATION	DRN	DATE
		J.E.	09/08/2024

client: SOLAR DWELLINGS

address: LOT 3022 (#6) KARIJINI LOOP, CLARKSON

job no.: PD_24018

sheet no.: 4 of 14

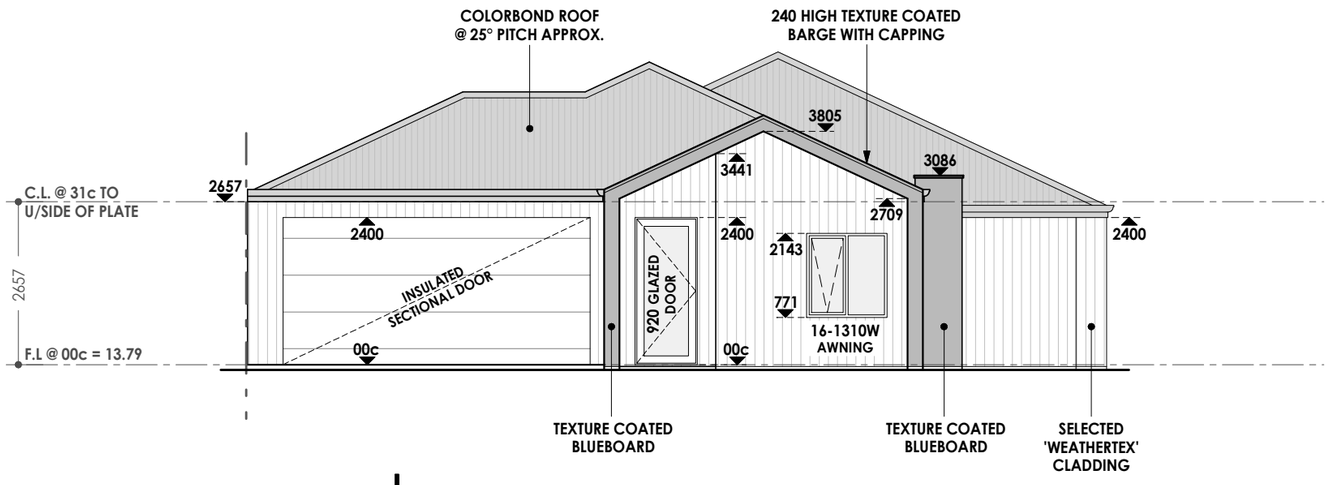
scale 1 : 100 @ A2

drawing name: FLOOR PLAN

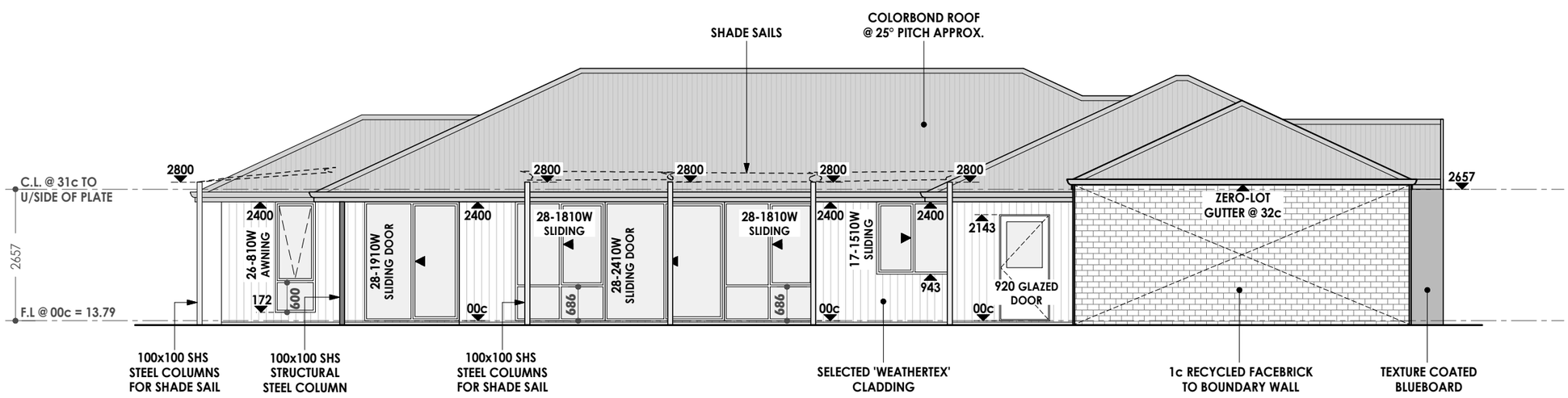
design subject to council approval

proposed areas:

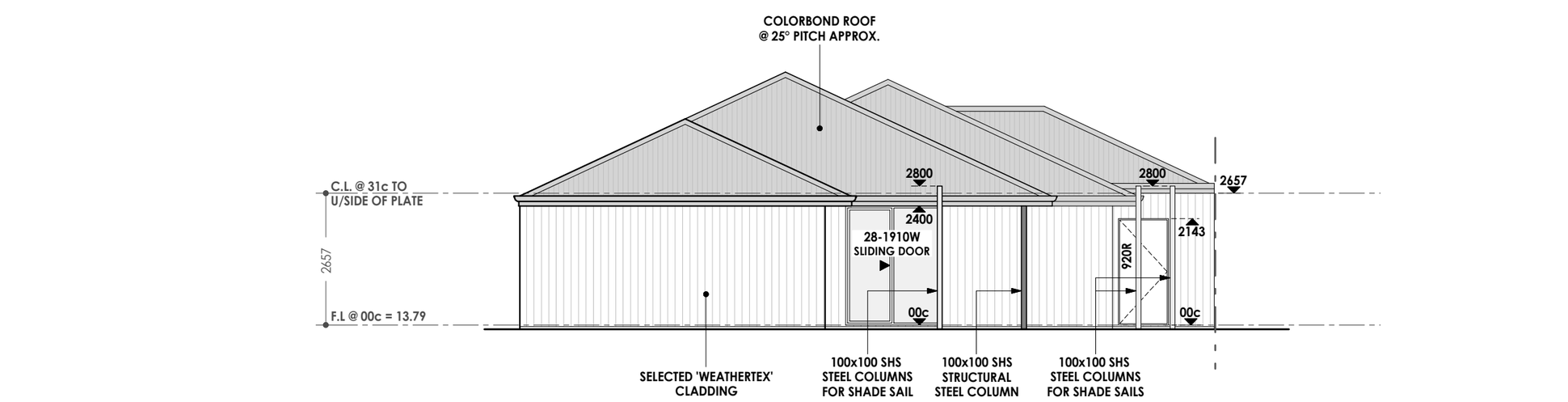
HOUSE:	190.417m²
GARAGE:	38.354m²
PORCH:	3.993m²
ALFFRESCO:	13.565m²
TOTAL	246.329m²
PERIMETER:	75.70m



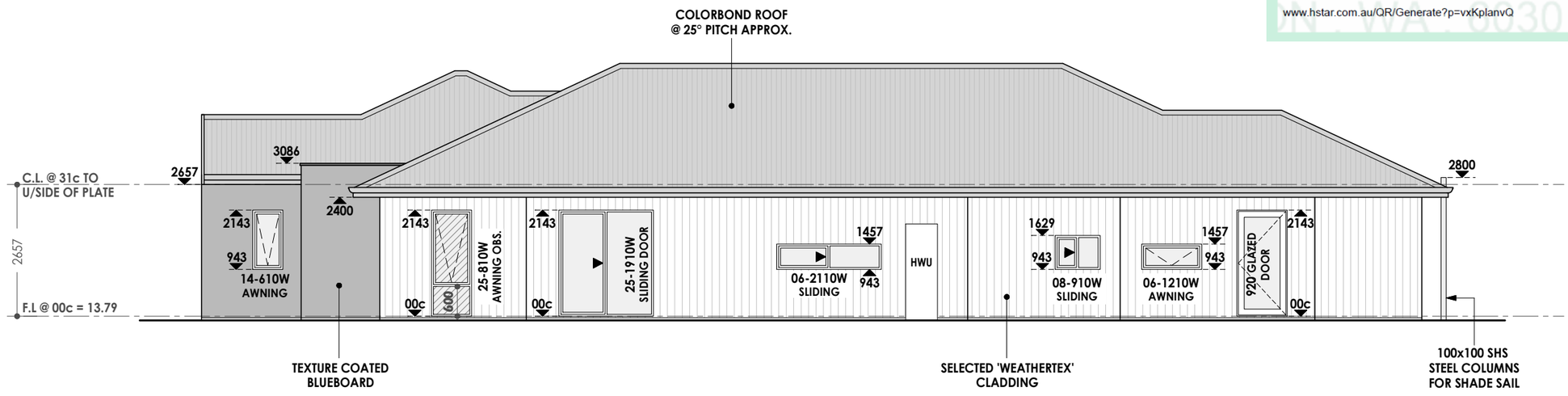
karijini loop - ELEVATION 1
scale 1:100



side view - ELEVATION 2
scale 1:100



rear view - ELEVATION 3
scale 1:100



side view - ELEVATION 4
scale 1:100

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REV.	VARIATION	DRN	DATE
		J.E.	09/08/2024

client
SOLAR DWELLINGS

address
LOT 3022 (#6)
KARIJINI LOOP, CLARKSON

job no.
PD_24018

sheet no.
5 of 14

scale 1 : 100 @ A2

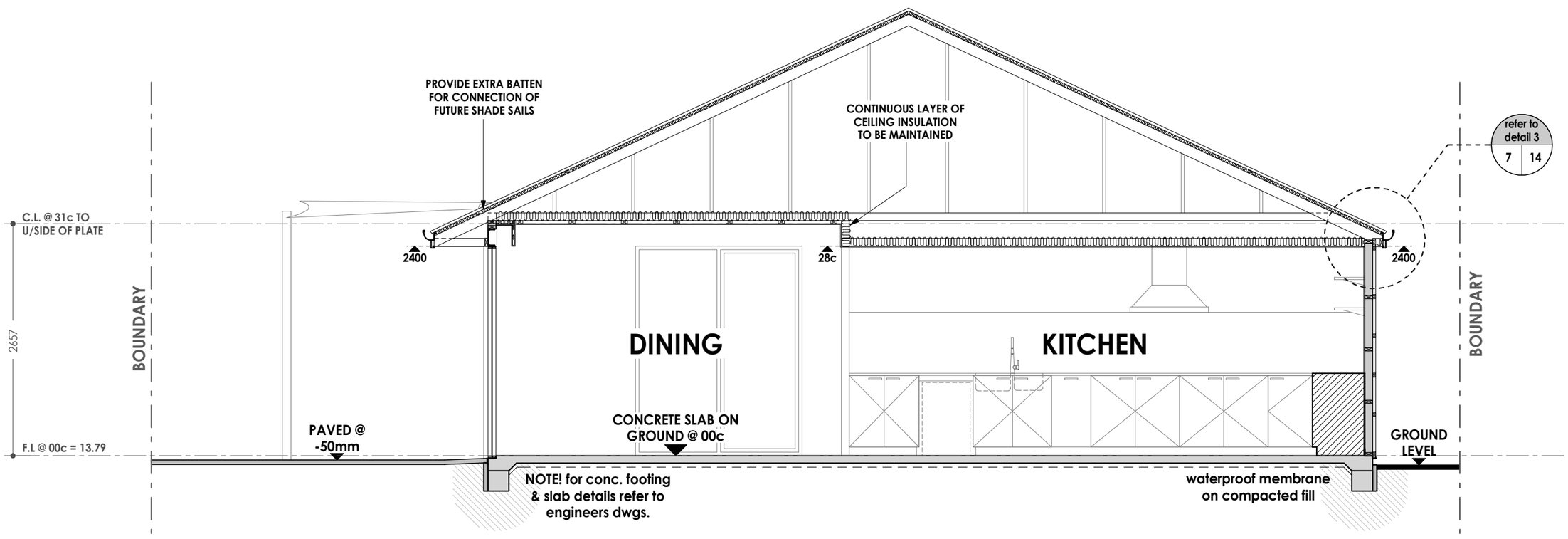
drawing name:
ELEVATIONS

design subject to council approval

NOTE: 120x35 RAFTERS TO BE USED WHERE POSSIBLE

ROOF CONSTRUCTION TO AS 1684 & BCA
NOTE: ROOF TIMBER DIAGRAMATIC ONLY

NOTE! for roof timber or steel sizes & spacings refer to std specification and engineers details

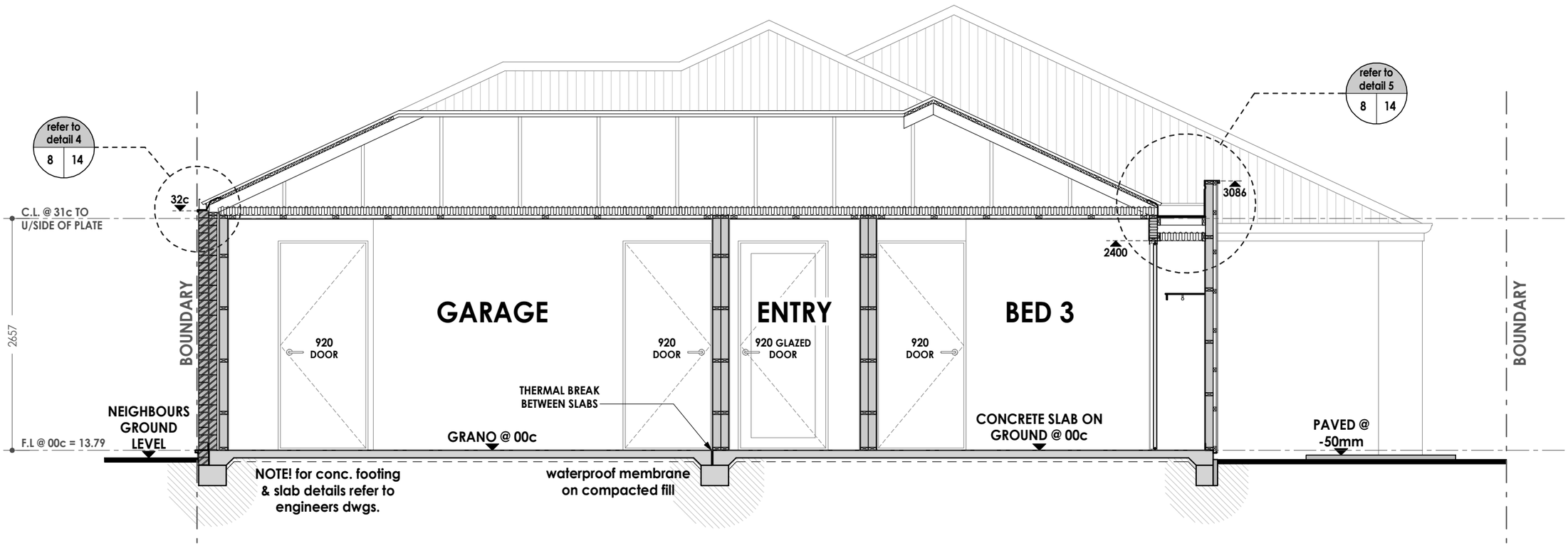


SECTION A-A
SCALE 1 : 50

NOTE: 120x35 RAFTERS TO BE USED WHERE POSSIBLE

ROOF CONSTRUCTION TO AS 1684 & BCA
NOTE: ROOF TIMBER DIAGRAMATIC ONLY

NOTE! for roof timber or steel sizes & spacings refer to std specification and engineers details



SECTION B-B
SCALE 1 : 50

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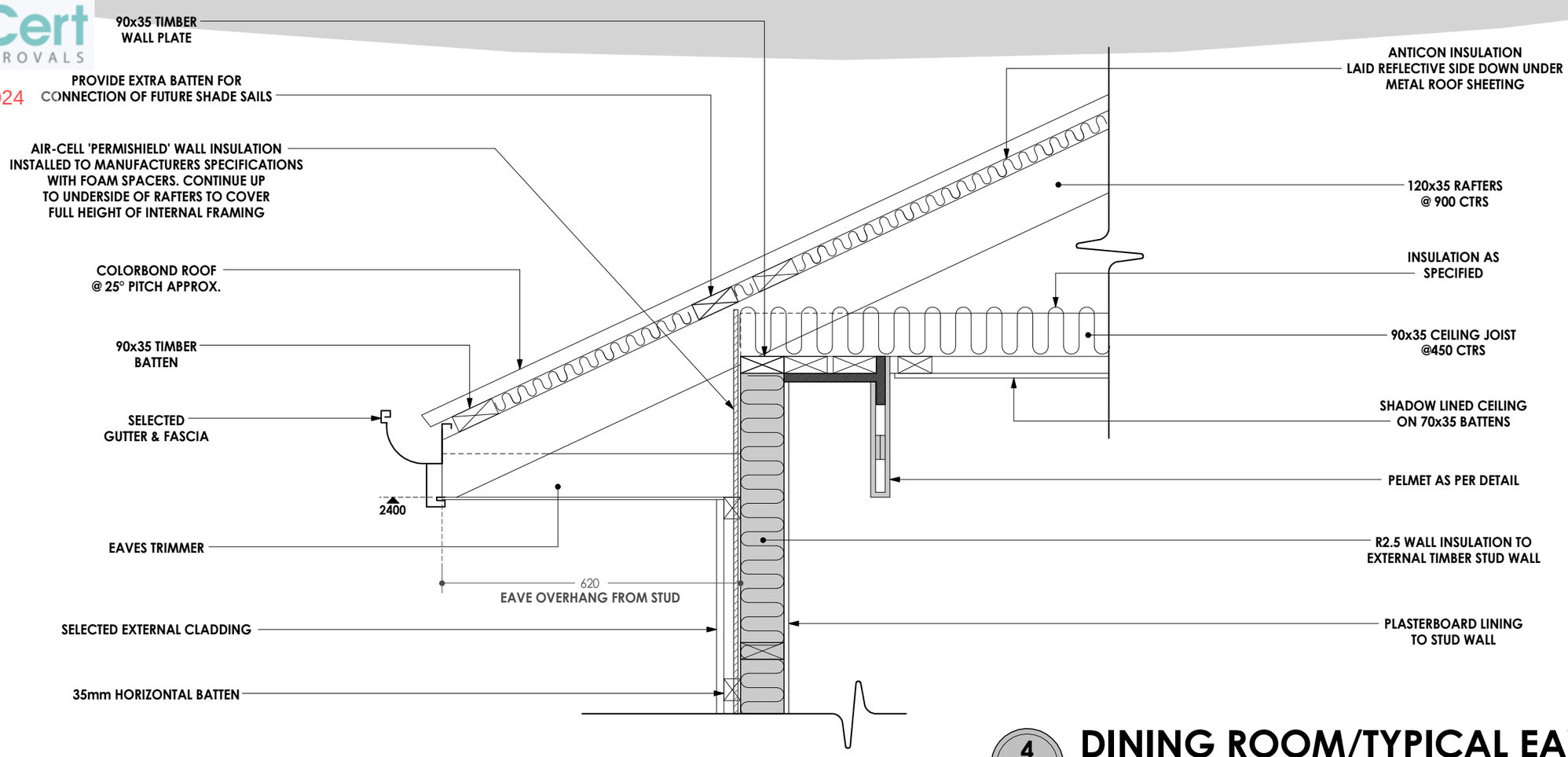
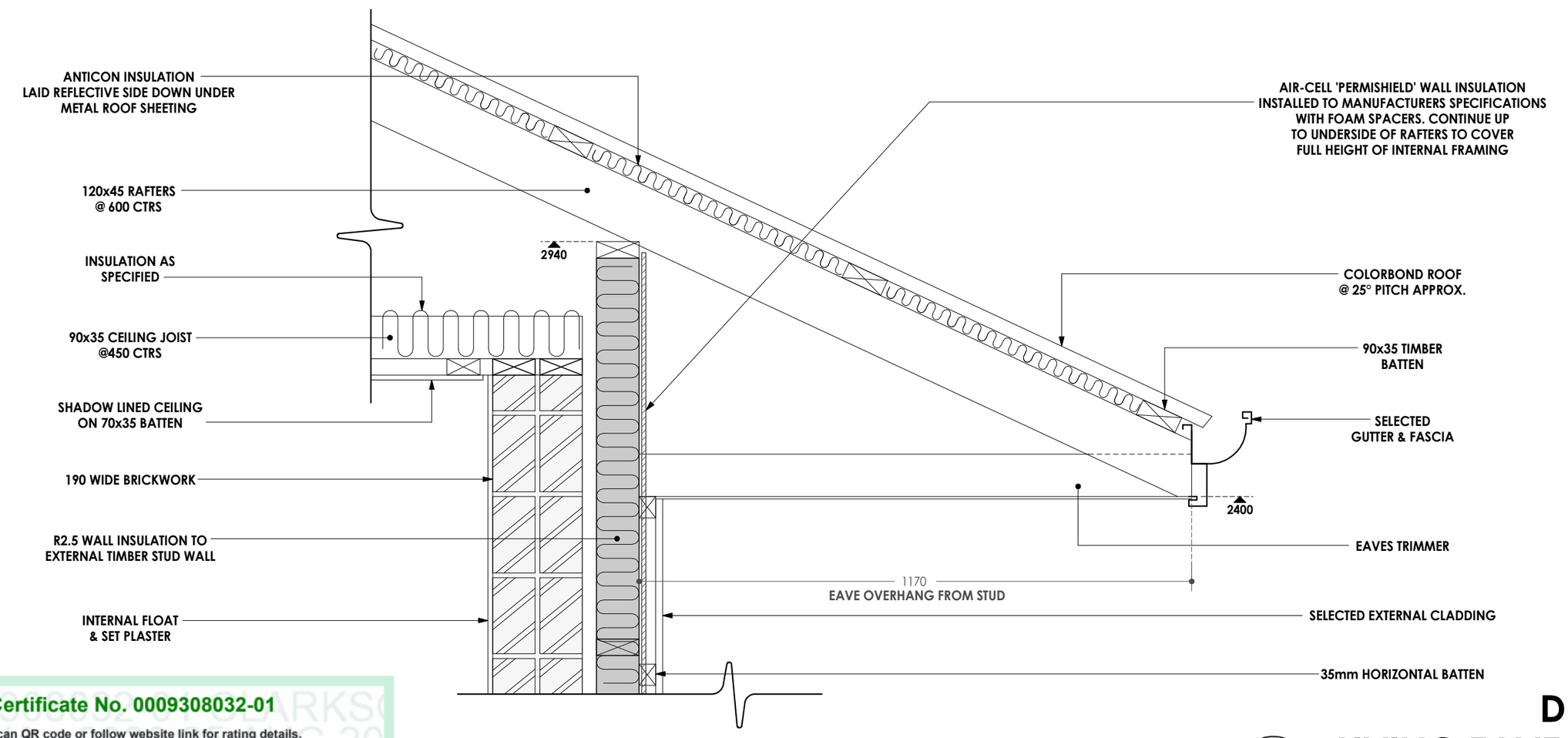
REV.	VARIATION	DRN	DATE
		J.E.	30/07/2024

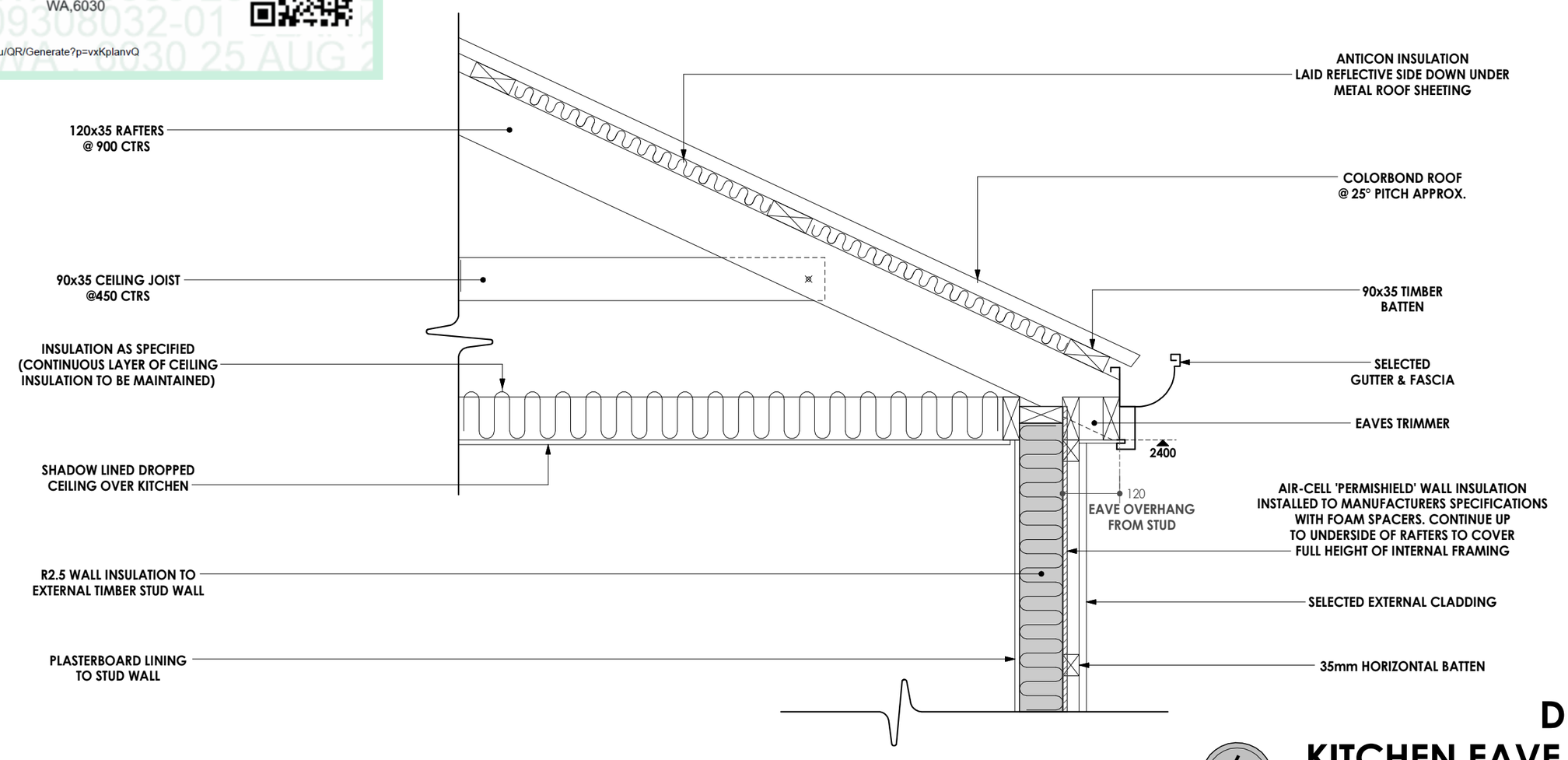
client: SOLAR DWELLINGS
address: LOT 3022 (#6) KARIJINI LOOP, CLARKSON
job no. PD_24018
sheet no. 6 of 14
scale 1 : 50 @ A2
drawing name: SECTION A-A & B-B
design subject to council approval



DETAIL 1
4/14 DINING ROOM/TYPICAL EAVE DETAIL
scale 1:10



DETAIL 2
4/14 LIVING EAVE DETAIL
scale 1:10



DETAIL 3
6/14 KITCHEN EAVE DETAIL
scale 1:10

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REV.	VARIATION	DRN	DATE
		J.E.	09/08/2024

client: SOLAR DWELLINGS

address: LOT 3022 (#6) KARIJINI LOOP, CLARKSON

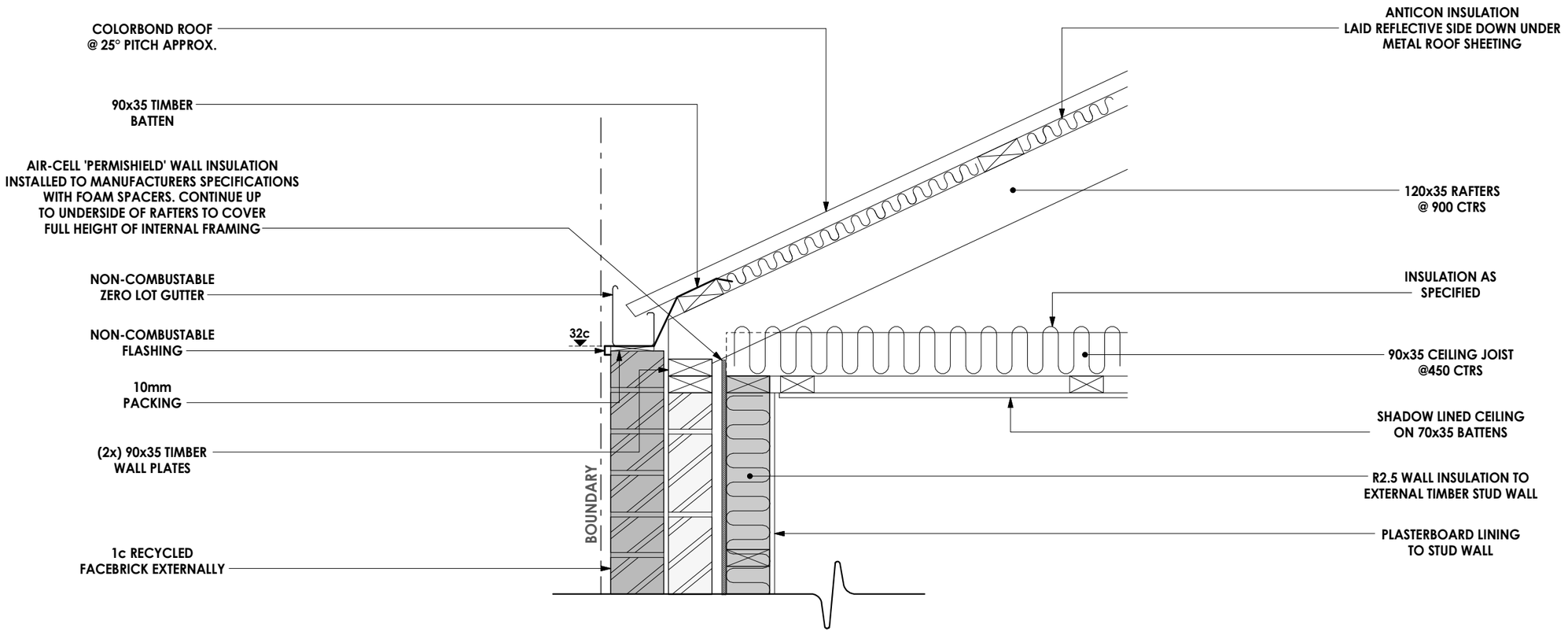
job no.: PD_24018

sheet no.: 7 of 14

scale: AS NOTED @ A2

drawing name: CONSTRUCTION DETAILS 1, 2 & 3

design subject to council approval



DETAIL 4
GARAGE BOUNDARY WALL DETAIL
6/14

scale 1:10

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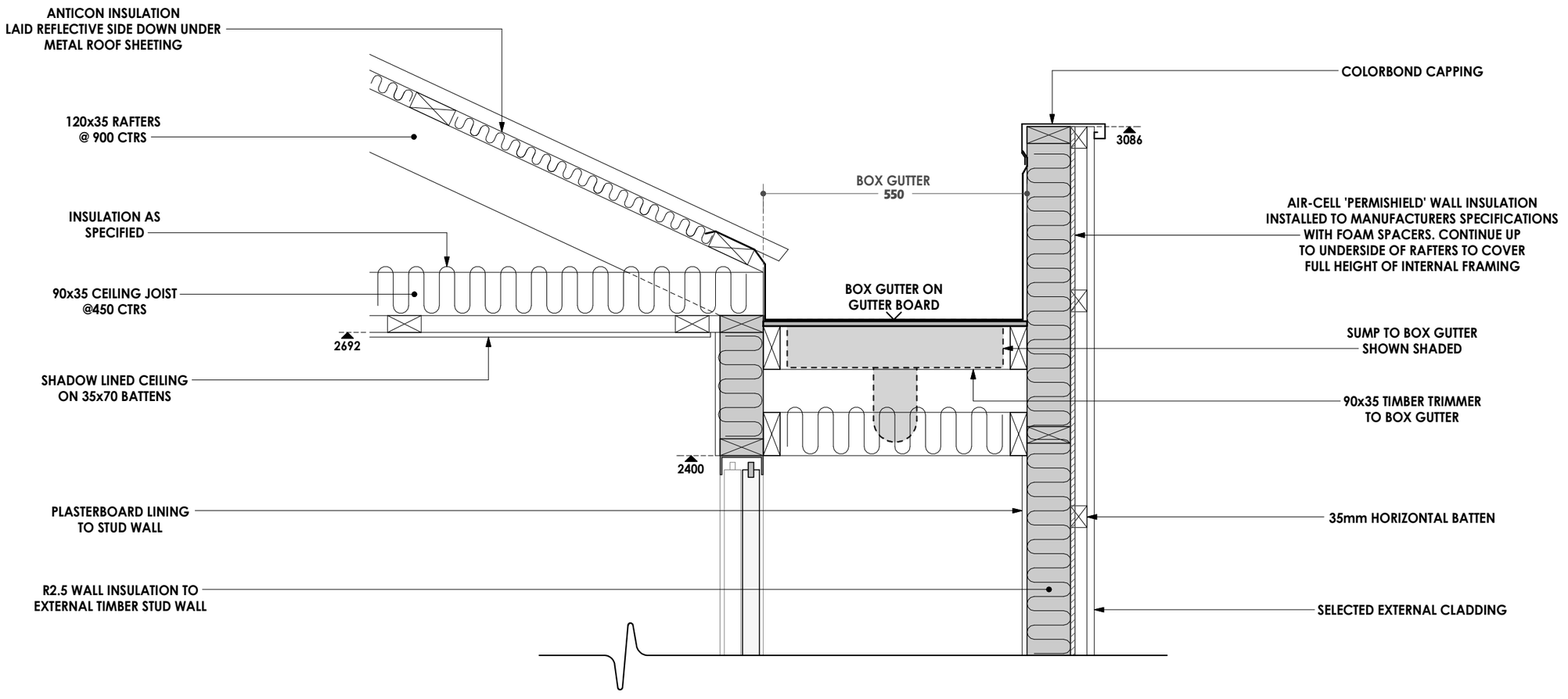

DETAIL 5
ROBE BOX GUTTER DETAIL
6/14

scale 1:10

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		J.E.	09/08/2024

client
SOLAR DWELLINGS

address
LOT 3022 (#6)
KARIJINI LOOP, CLARKSON

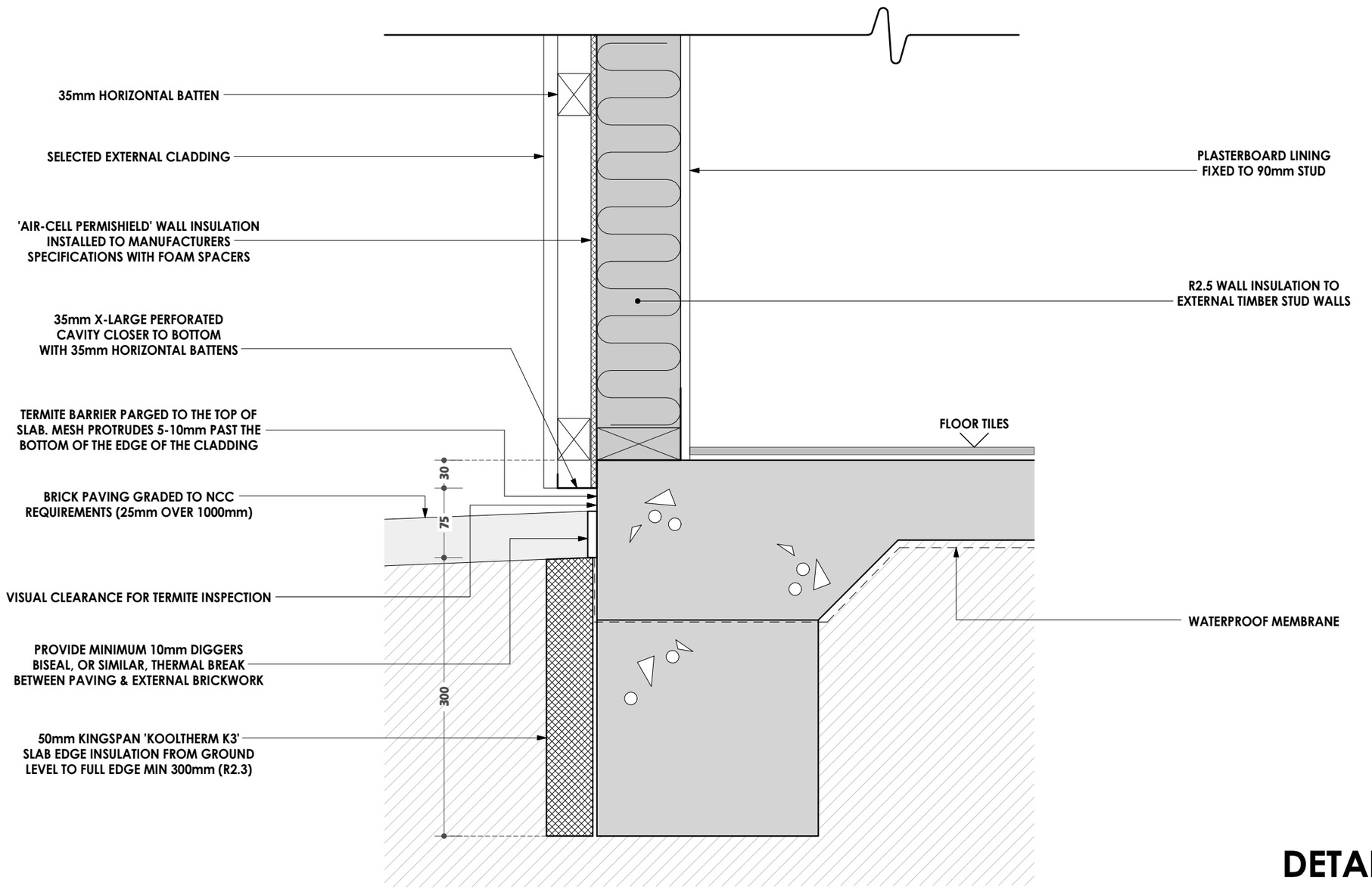
job no.
PD_24018

sheet no.
8 of 14

scale AS NOTED @ A2

drawing name:
CONSTRUCTION DETAILS 4 & 5

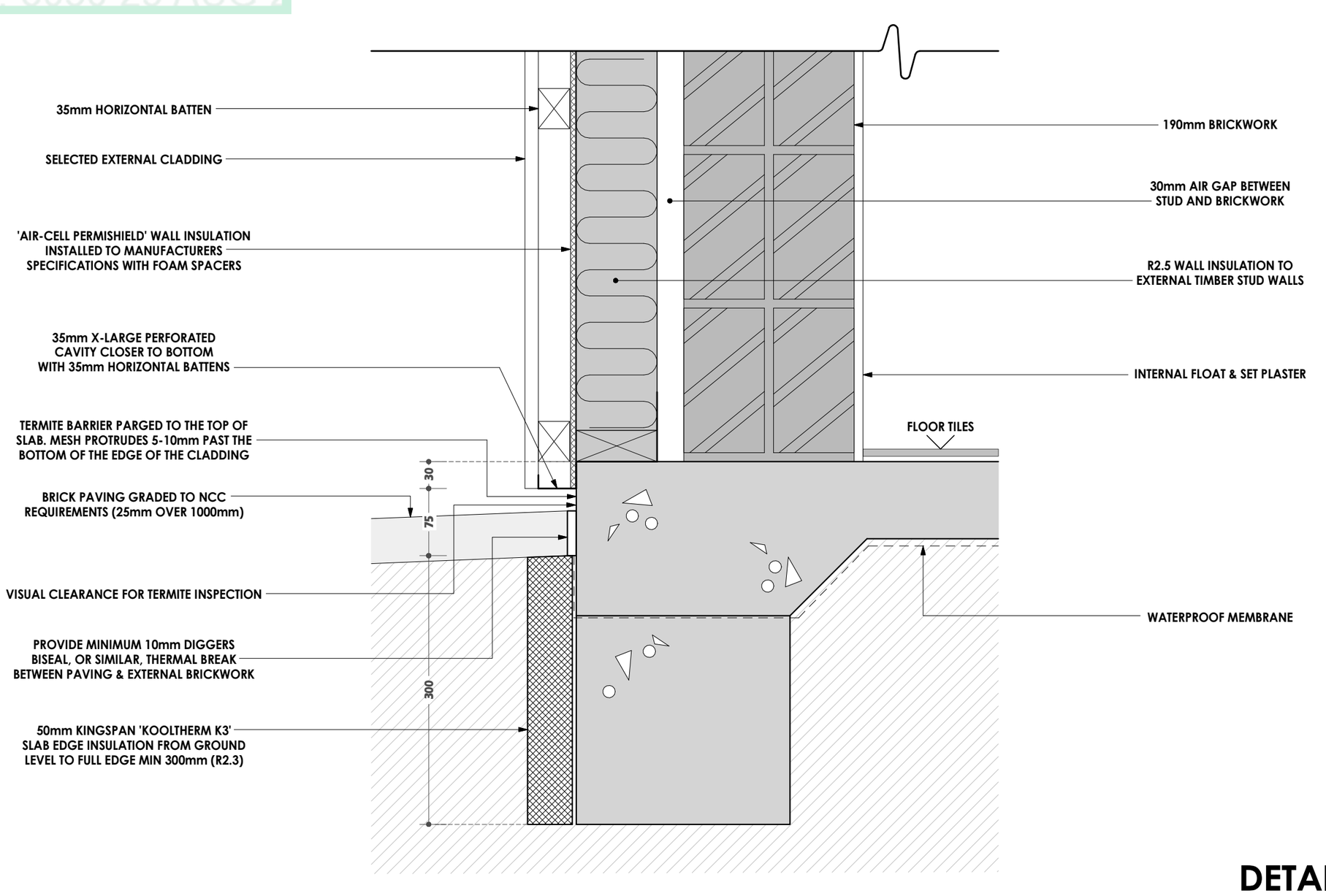
design subject to council approval



DETAIL 6
SLAB EDGE - TIMBER FRAMED EXTERNAL WALL DETAIL

4/14

scale 1:10



DETAIL 7
SLAB EDGE - REVERSE DOUBLE BRICK VENEER EXTERNAL WALL DETAIL

4/14

scale 1:10

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		J.E.	09/08/2024

client: SOLAR DWELLINGS

address: LOT 3022 (#6) KARIJINI LOOP, CLARKSON

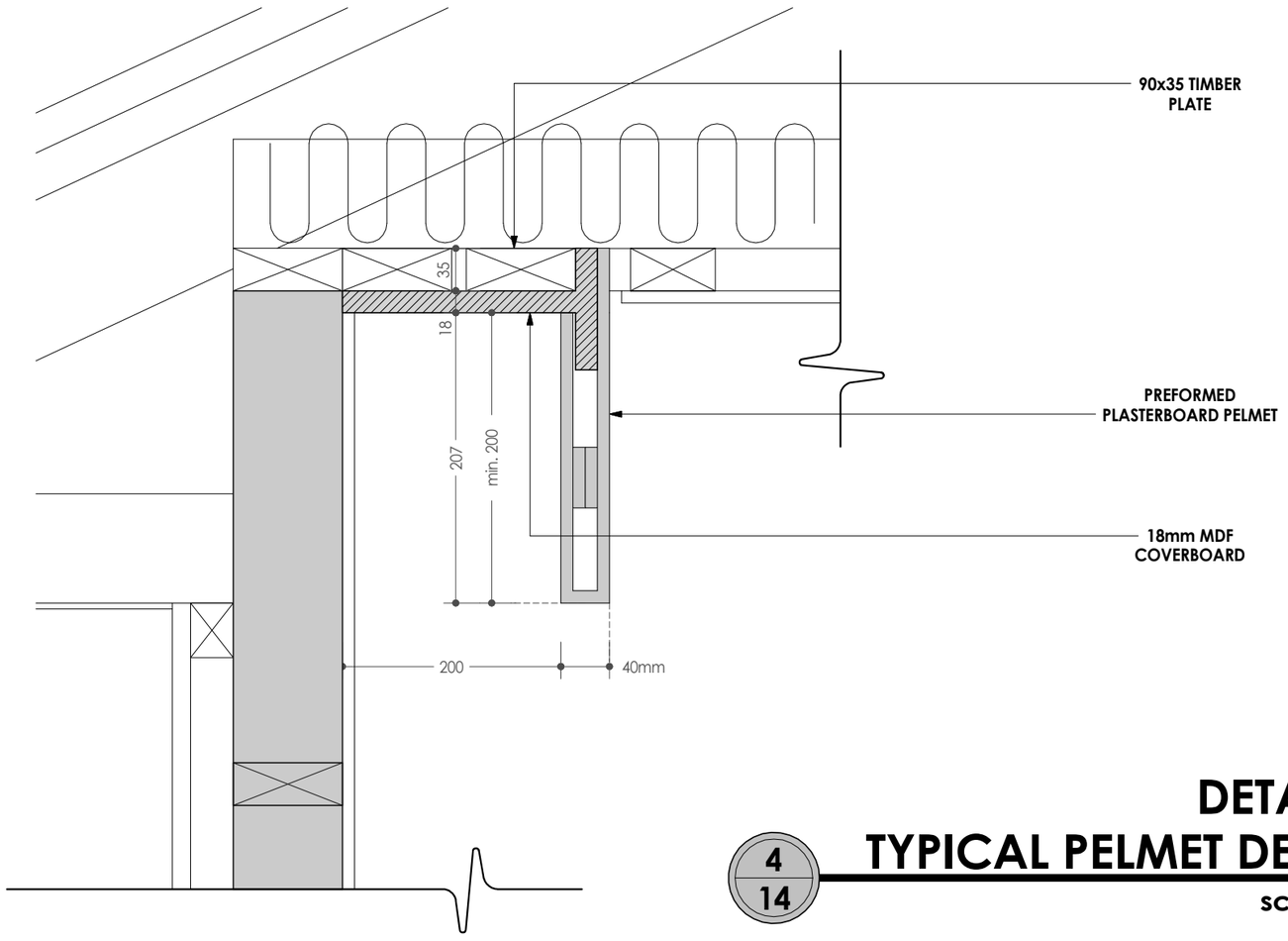
job no. PD_24018

sheet no. 9 of 14

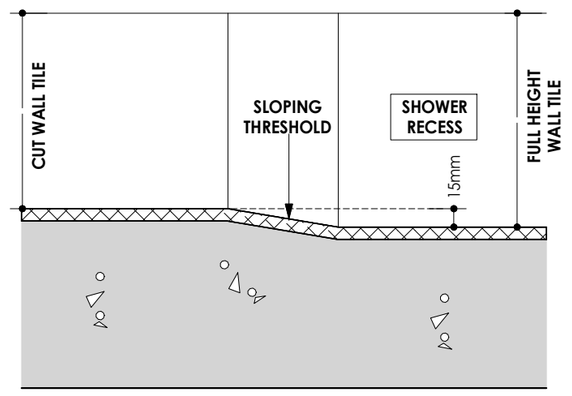
scale AS NOTED @ A2

drawing name: CONSTRUCTION DETAILS 6 & 7

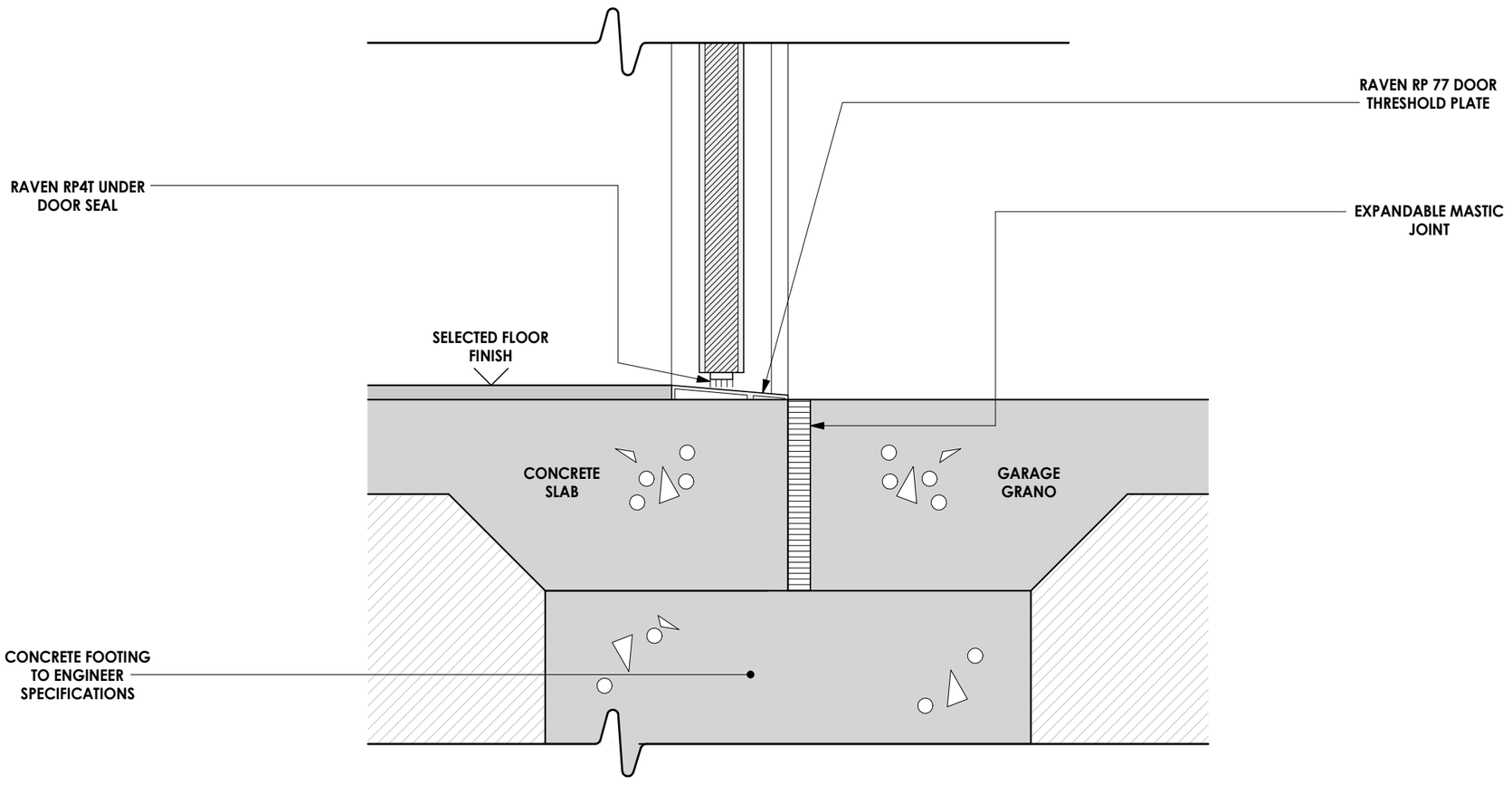
design subject to council approval



DETAIL 8
TYPICAL PELMET DETAIL
4/14
scale 1:5



DETAIL 9
SLOPING SHOWER THRESHOLD DETAIL
4/14
scale 1:5



DETAIL 10
FLUSH THRESHOLD DETAIL
INTERNAL GARAGE DOOR
4/14
scale 1:5

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REV.	VARIATION	DRN J.E.	DATE 09/08/2024

client
SOLAR DWELLINGS

address
LOT 3022 (#6)
KARIJINI LOOP, CLARKSON

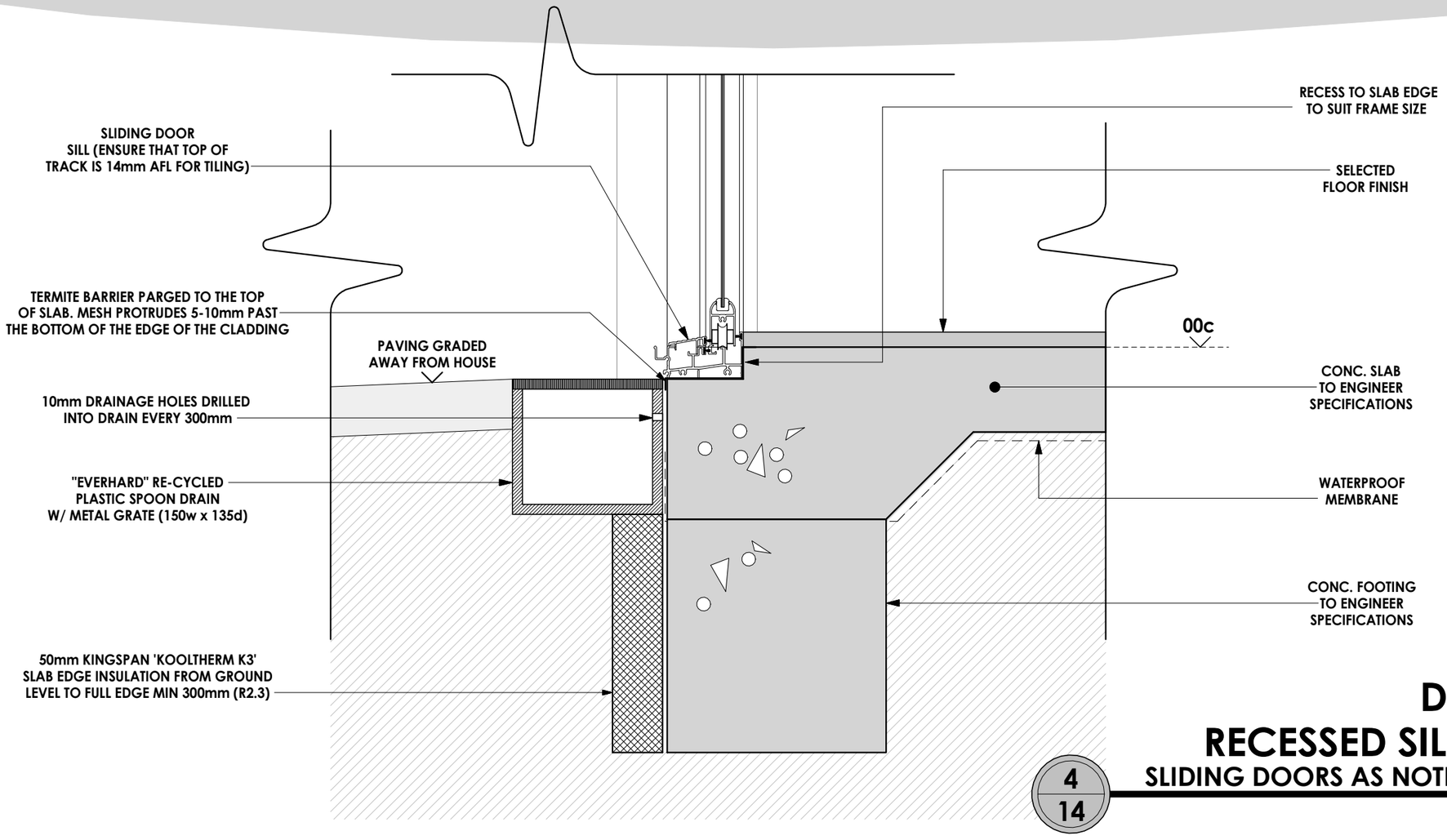
job no.
PD_24018

sheet no.
10 of 14

scale AS NOTED @ A2

drawing name:
CONSTRUCTION DETAILS 8, 9 & 10

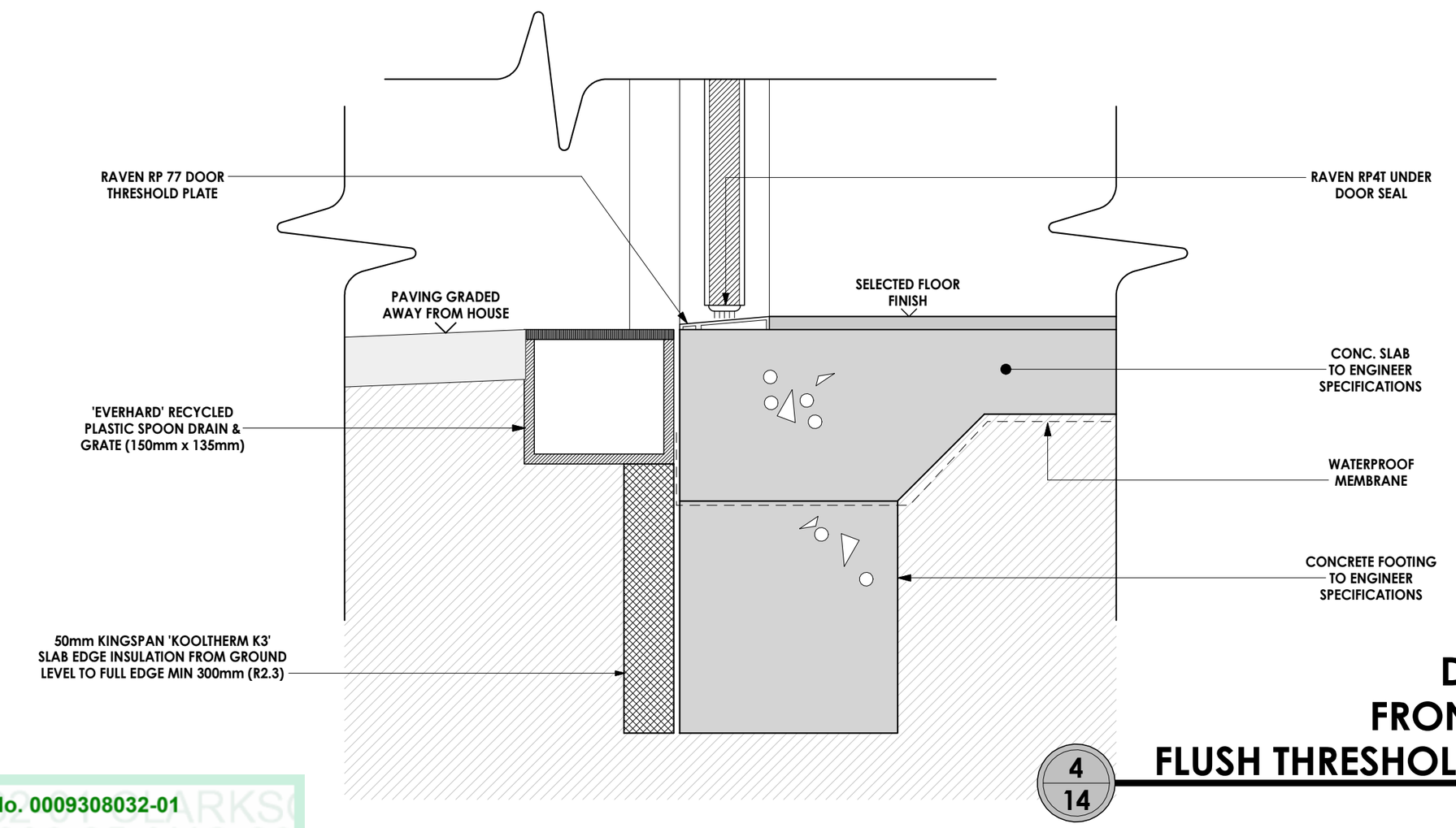
design subject to council approval



DETAIL 11
RECESSED SILL DETAIL
SLIDING DOORS AS NOTED ON PLAN

4/14

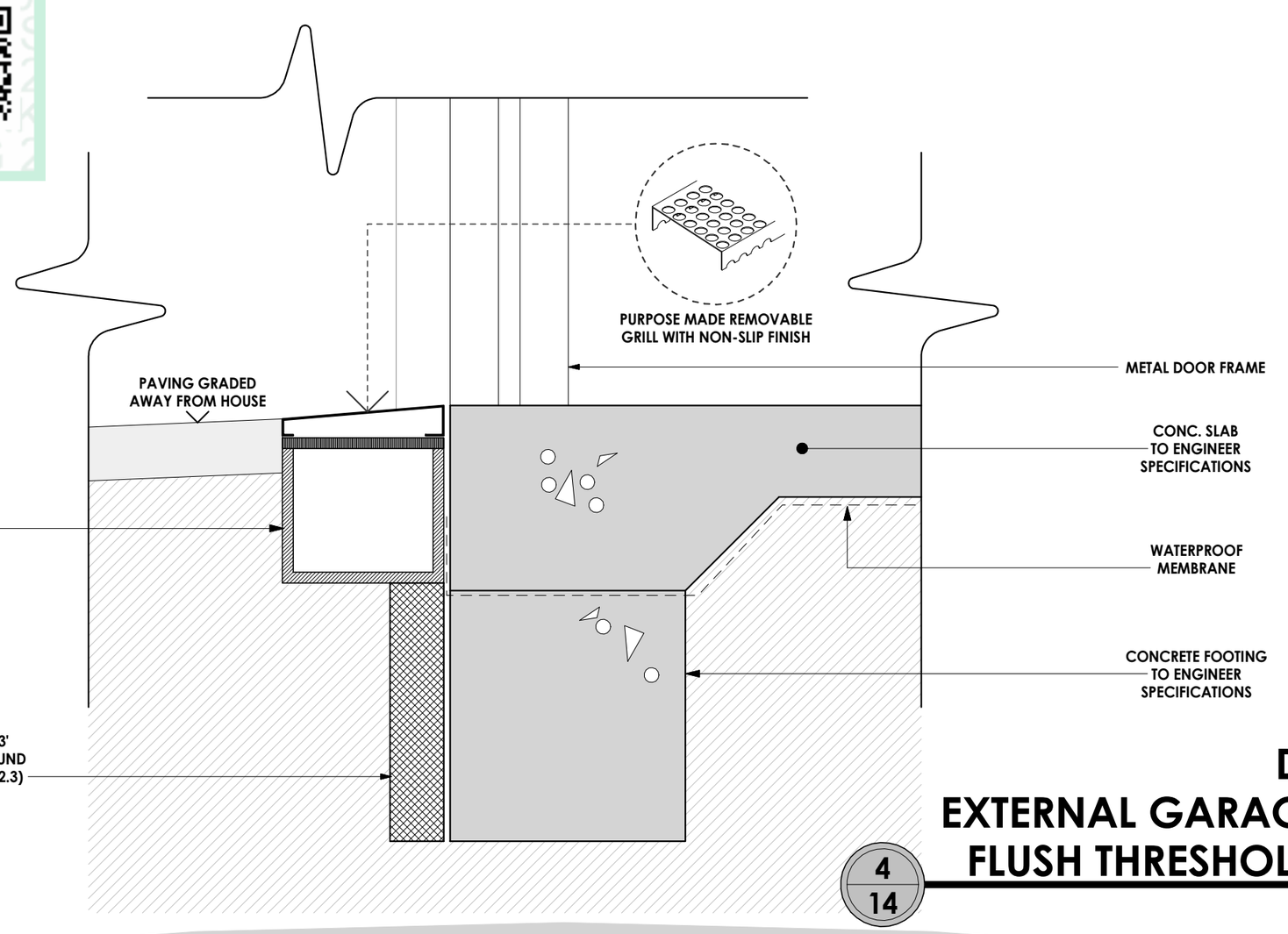
scale 1:5



DETAIL 12
FRONT DOOR
FLUSH THRESHOLD DETAIL

4/14

scale 1:5



DETAIL 13
EXTERNAL GARAGE DOOR
FLUSH THRESHOLD DETAIL

4/14

scale 1:5

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REV.	VARIATION	DRN J.E.	DATE 09/08/2024

client: SOLAR DWELLINGS

address: LOT 3022 (#6) KARIJINI LOOP, CLARKSON

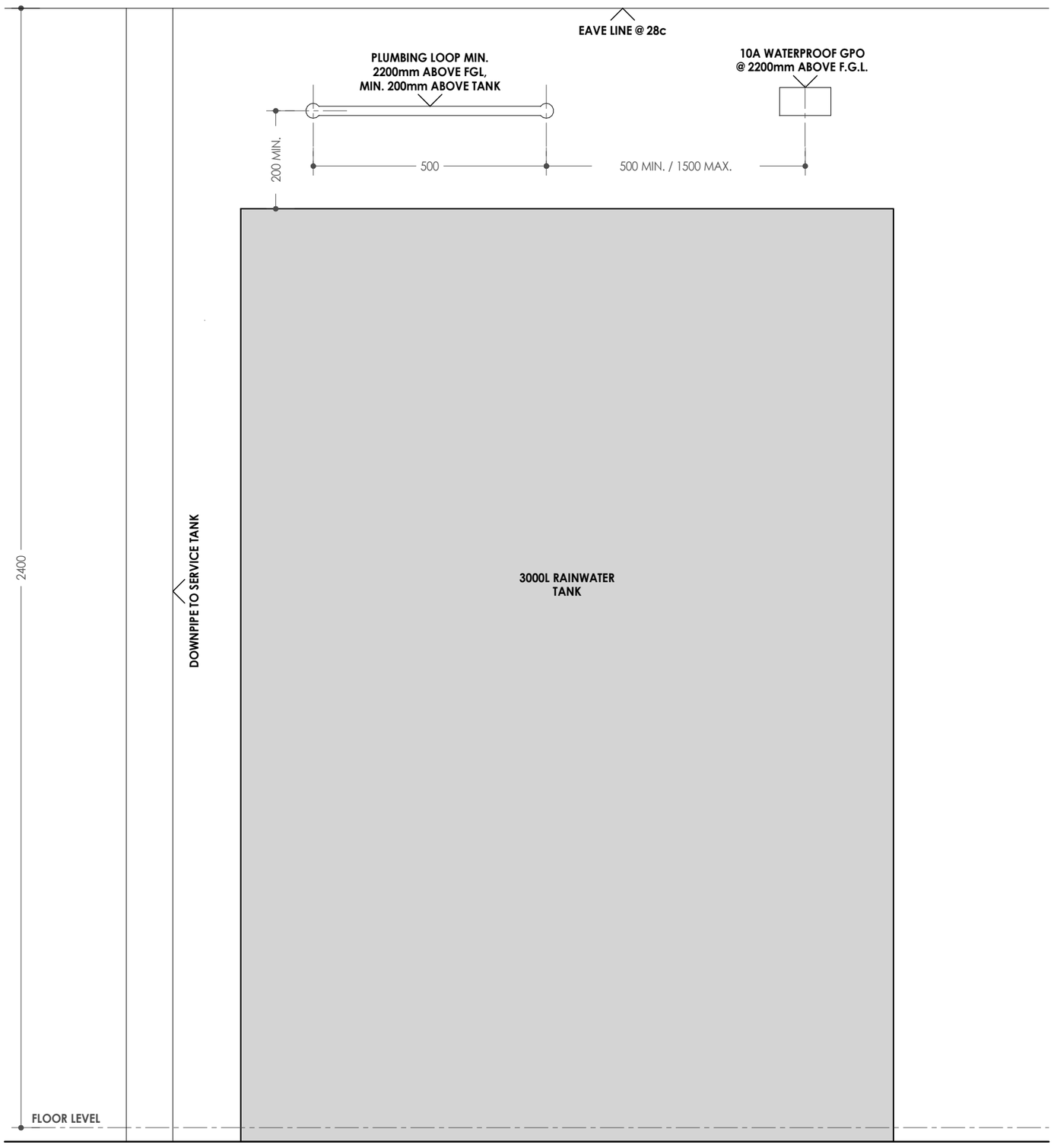
job no. PD_24018

sheet no. 11 of 14

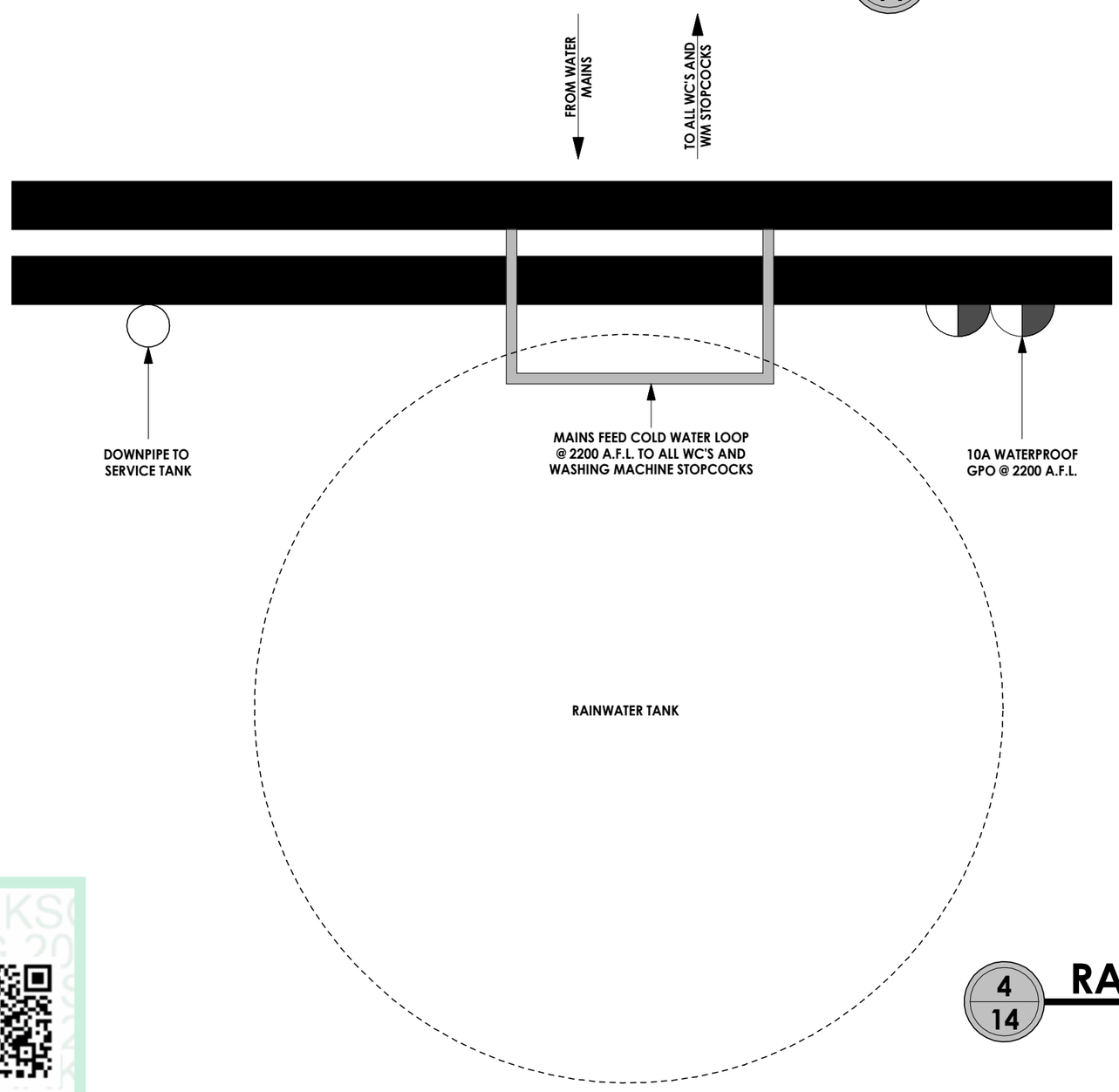
scale AS NOTED @ A2

drawing name: CONSTRUCTION DETAILS 11, 12 & 13

design subject to council approval



DETAIL 14
4/14 RAINWATER TANK ELEVATION
scale 1:10



DETAIL 15
4/14 RAINWATER TANK PLAN
scale 1:10

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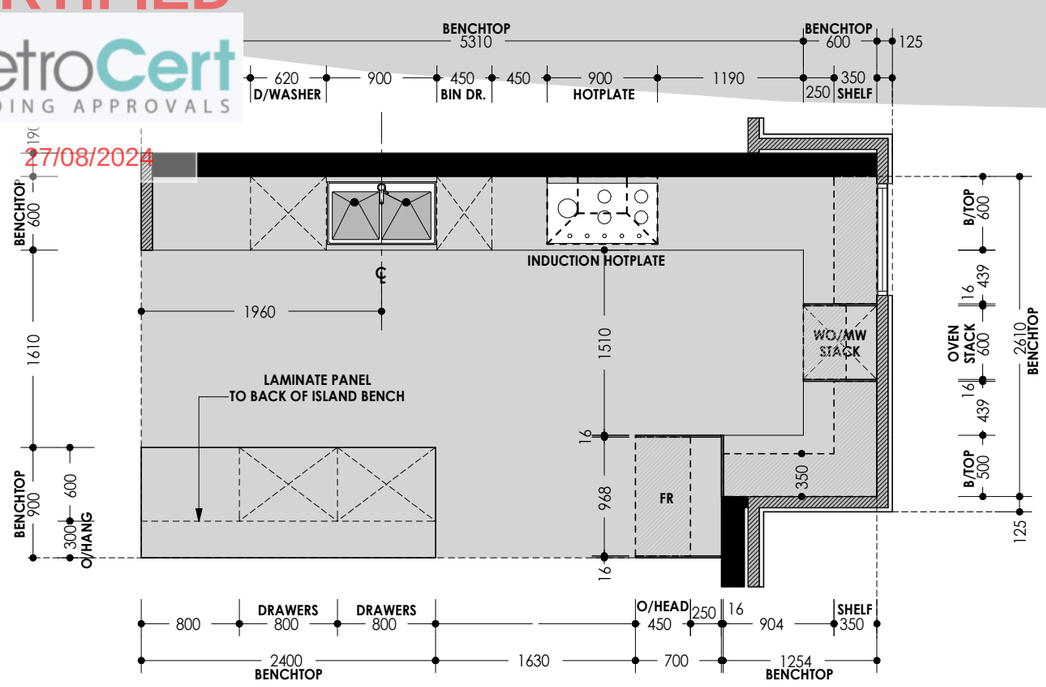
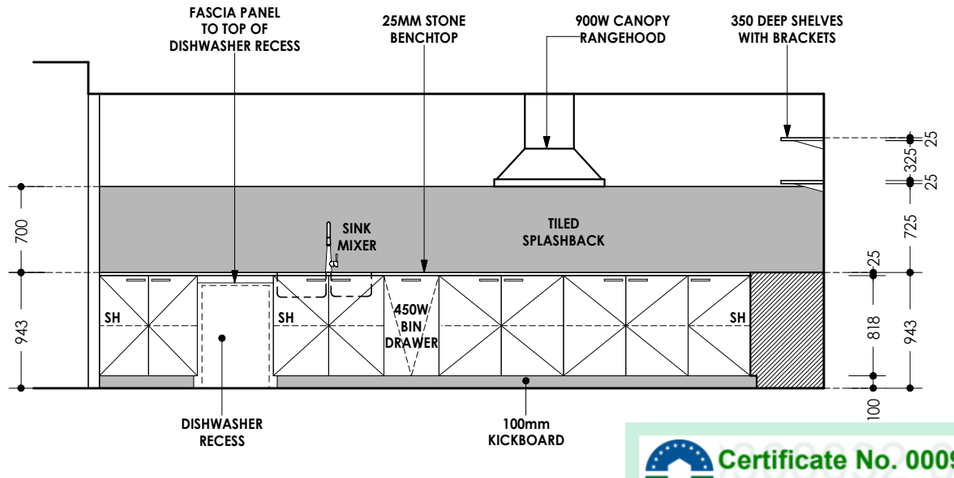
REV.	VARIATION	DRN	DATE
		J.E.	09/08/2024

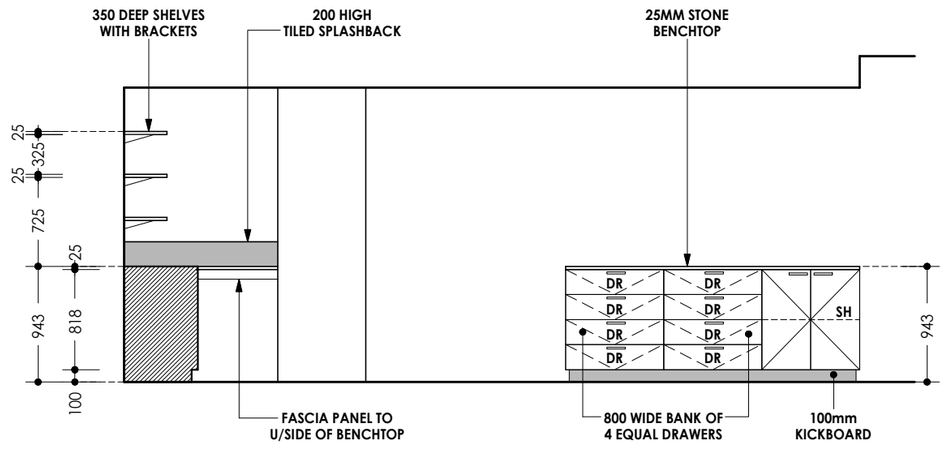
client: SOLAR DWELLINGS
address: LOT 3022 (#6) KARIJINI LOOP, CLARKSON
job no.: PD_24018
sheet no.: 12 of 14
scale: AS NOTED @ A2
drawing name: CONSTRUCTION DETAILS 14 & 15
design subject to council approval



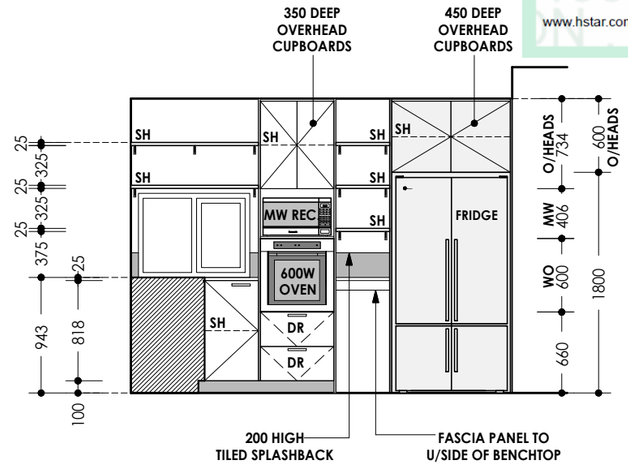
KITCHEN



KITCHEN 1



KITCHEN 3



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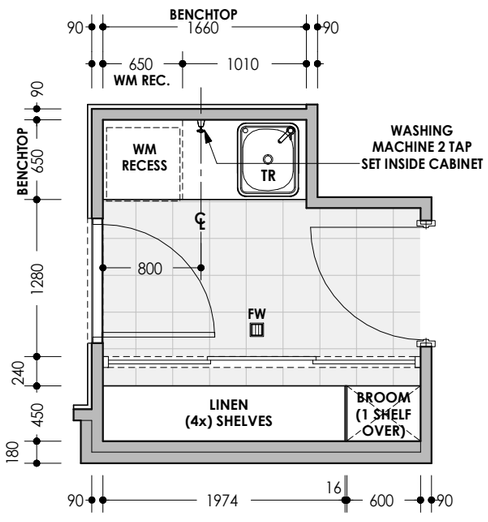
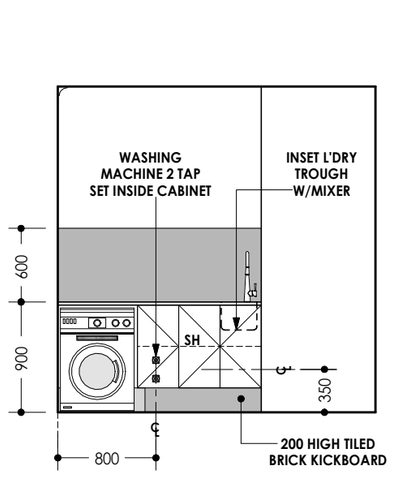
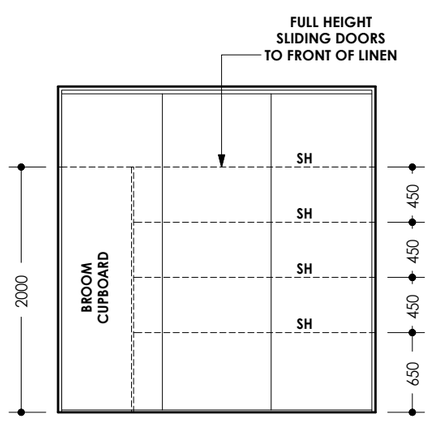


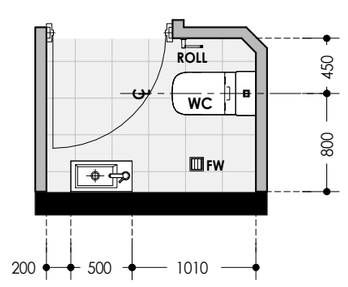
LAUNDRY



LAUNDRY 1



LAUNDRY 3



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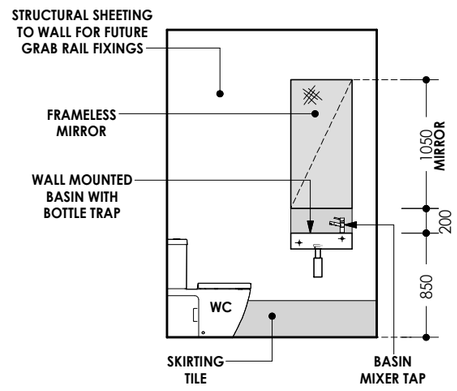

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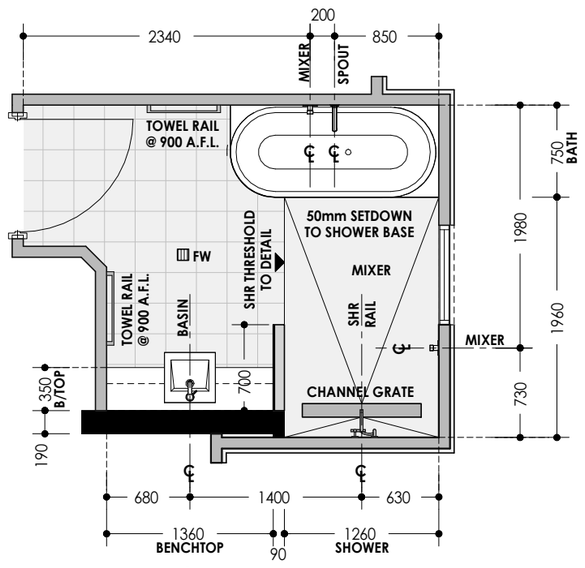
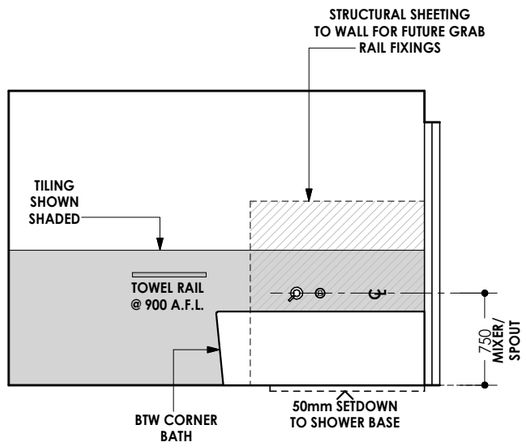


BATH



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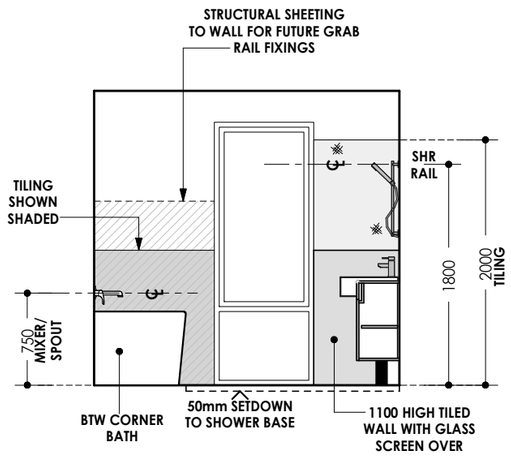

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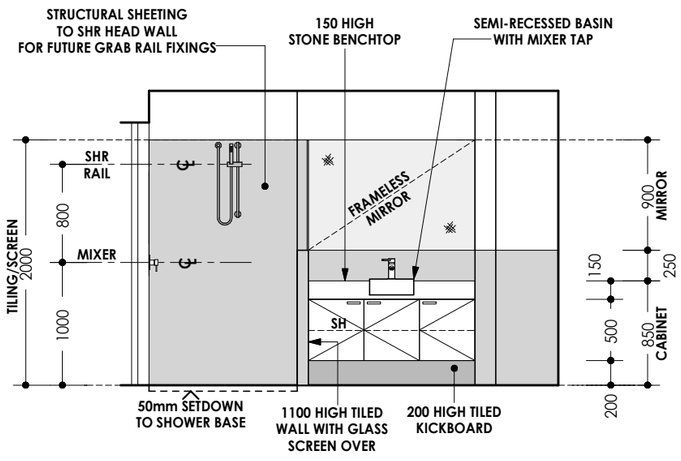
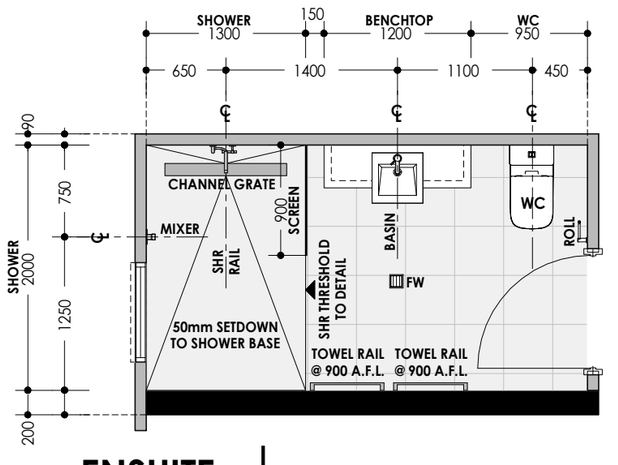
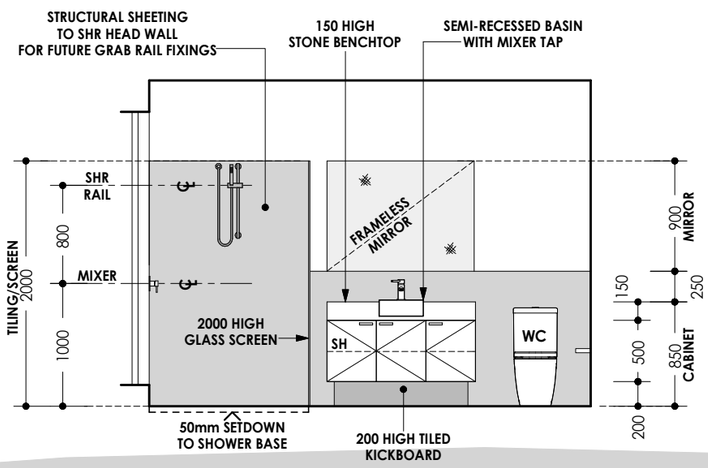


BATH 3



ENSUITE



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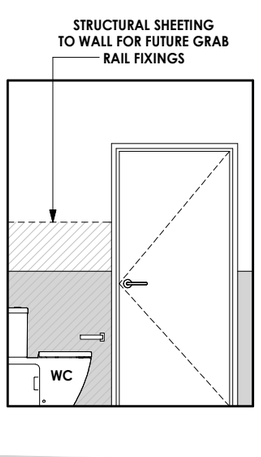

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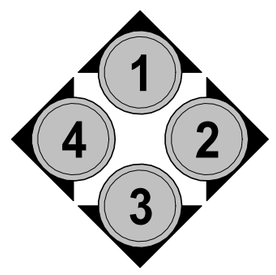

nulook HOMES
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SOLAR DWELLINGS
SMARTER SUSTAINABLE HOMES

NOTES
CONFIRM ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK.
REFER ENGINEER'S DRAWINGS FOR STRUCTURAL AND CONCRETE WORK.
CONTRUCTION DETAILS MAY VARY ON SITE AT THE BUILDER'S OR OWNER'S DISCRETION.
DO NOT SCALE FROM DRAWINGS.

REV.	VARIATION	DRN	DATE
		D.F.	07/08/2024

client
SOLAR DWELLINGS

address
LOT 7 (#1) MOTTEE ROAD, CLARKSON

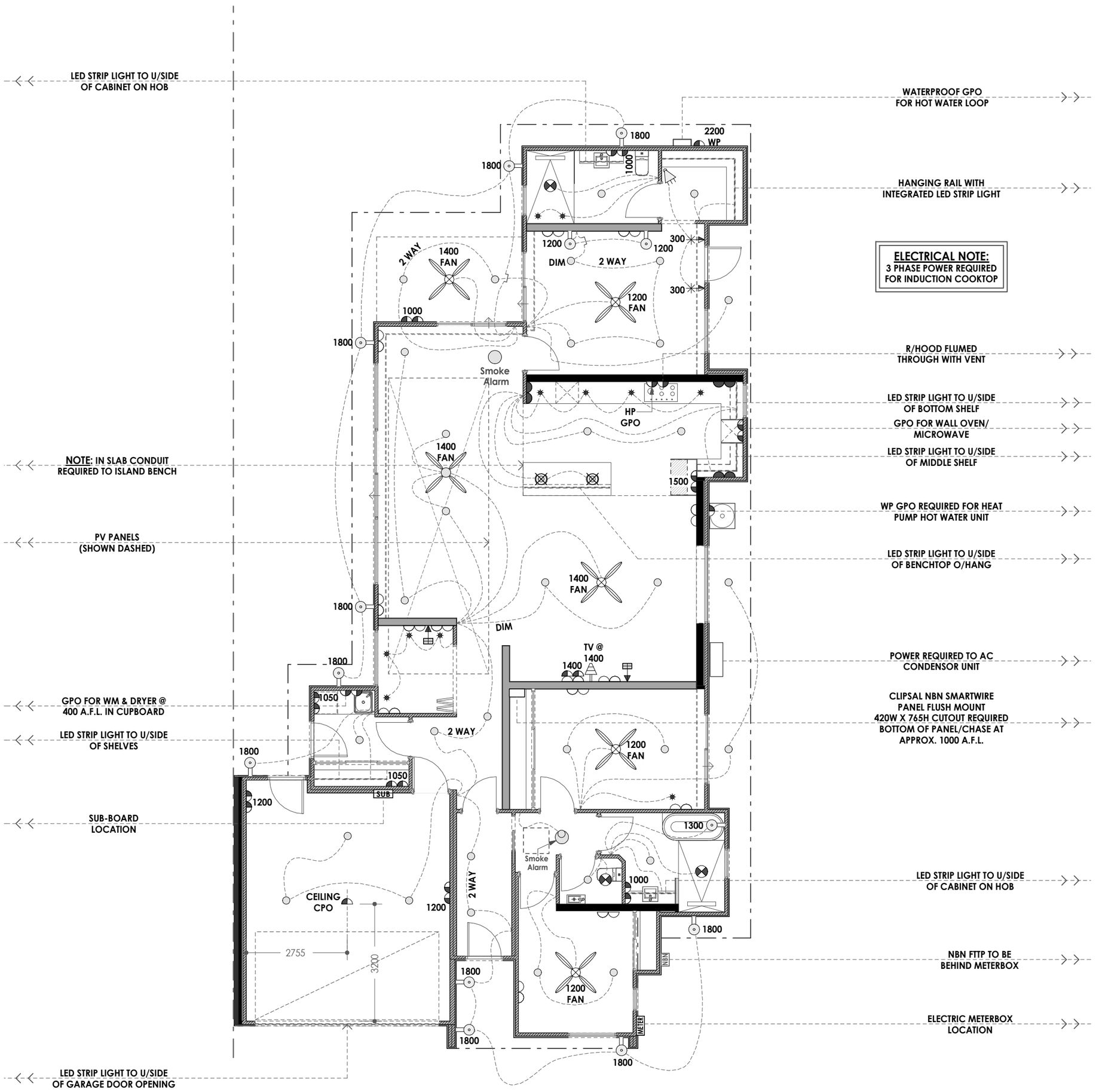
job no.
PD_24018

sheet no.
13 of 14

scale 1 : 50 @ A2

drawing name:
ROOM LAYOUTS

design subject to council approval



Smoke Alarm Device/s shall be installed to:
- Comply with AS3786-2014 Smoke Alarms.
- Be connected to the consumer power mains and,
- Have a stand-by power supply. Location of the smoke Alarm device (s) shall be as shown on the plan.
- Interconnected when there is more than one alarm

ELECTRICAL LEGEND

○	Ceiling light	◗	Single GPO at nominated height
✳▸	In Wall Step Light	◡◡	Double GPO 300 above floor level
▬	Flourescent Light	◗◗	Double GPO 1090 above floor level
○	LED Down Light	◡◗	Double GPO at nominated height
◎	Low Voltage LED Down Light	▯▸	Data Point @ nom. height (CAT6 CABLE)
⊠	Pendant Light	◁	Sensor
✸	Mini Downlight	METER	Elec m/box with RCD unit
⊙	Wall Light	2 WAY	Two way switch
✳	Adjustable Spike Spotlight Uplighter	DIM	Dimmer Switch
◭	Up/Down Wall Directional Light	▣	IXL (F.L.H.) comb.
✳	Marine Grade Submersible Pond Light	▣	Fan/Light comb.
⊗	Exhaust fan	✕	Ceiling fan
⚷	Gas bayonet point	✕	Ceiling fan with light
TV◁	T.V point	○	Smoke Alarm
☎	Telephone point	WP	Waterproof
◗	Single GPO 1090 above floor level	All light switches to be at 1200 AFL to centre	

NOTE: ALL EXHAUST FANS TO BE VENTED THROUGH ROOF CAVITY TO EXTERNAL AIR

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REV.	VARIATION	DRN	DATE
		J.E.	09/08/2024

client
SOLAR DWELLINGS

address
LOT 3022 (#6)
KARIJINI LOOP, CLARKSON

job no. PD_24018

sheet no. 14 of 14

scale 1 : 100 @ A2

drawing name:
ELECTRICAL PLAN

design subject to council approval