LINCOLN PEARCE

BASIX AND NCC 2022 SECTION J DtS REPORT

481-487 Swift Street, Albury, NSW 2640

1049-BASIX-B Date 08 May 2025

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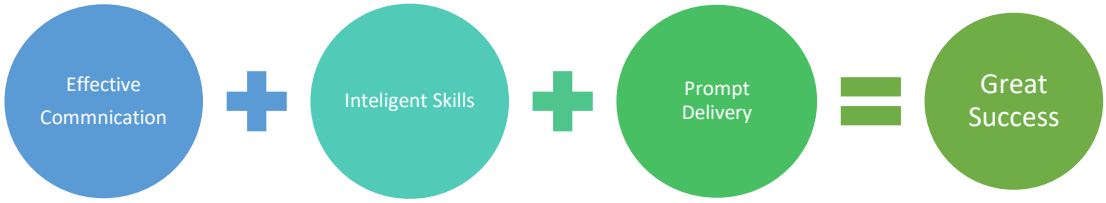

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	NatHERS Rating	**Section J DtS**
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LINCOLN PEARCE

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Table of Contents

Revision Schedule

Issue	Date	Description	Author
A	20/02/2025	Client Review	Komal Teni
B	08/05/2025	Issuing Finalised BASIX Certificate	Komal Teni

1 Project Introduction

Site Location, Master Plan and Staging

The project is a mixed-use development located in Albury, New South Wales. It includes a total of 26 apartments (10 x 2-bedroom and 16 x 3-bedroom) spread across levels 1 to 7. Additionally, the development features 2 commercial spaces, a gym, an activity/meeting room, an indoor swimming pool, an underground car park, and 10 bike parking spaces.

For specific construction details for the Project, refer to the Project Documentation inclusive of Architectural and Structural Engineering documents and associated Specifications.

The following documents have been provided to establish the development parameters on which this report is based.

Scope and Intention of Documents

The following report presents the outcomes of the BASIX and NCC 2022 Section J DTS assessment for the proposed mixed-use development in Albury, New South Wales. Outlined within this document are relevant energy efficient design features of the building, and how compliance is achieved with applicable Section J provisions.

Stakeholder Confirmation

This document is Lincoln Pearce's recommendations given the information provided and requires the Client, Architect and other Stakeholders to review and confirm their methodology and understanding is in agreeance with our Section J DTS report. If no comments are raised on the Section J DTS report, then Lincoln Pearce shall continue to develop these methodologies into Design Documentation and Tender Documentation.

Please provide comments within 5 working days of this report and drawings.

Authorities and Standards

All Building Services requirements shall be in accordance with:

a) The requirements of the Statutory Authorities having Jurisdiction over the Project.
b) Regulations, Codes, Standards and Documents having Jurisdiction over the Project.
c) The requirements of the Building Regulations covering the Project

Project Documentation

The Design Team Members shall make themselves aware of the contents of all Project Documents and Project Requirements. Project Documentation includes:

a) Building Service Documentation for Mechanical, Electrical, Hydraulic, Fire and Vertical Transportation Services inclusive of Drawings, Specifications and Reports.
b) Sustainability Documentation inclusive of Reports, alternate solutions, and advice
c) Architectural Documentation inclusive of Drawings and Specifications.
d) Structural Documentation.
e) Civil Documentation
f) Project Fire Engineering and Acoustic Documentation inclusive of Reports, Briefs and Correspondence
g) Reports and all other related Project Documentation forming part of the Project's Contractual Documentation.

Disclaimer

The documents outline the Project requirements inclusive of the finishes and the performance of the systems documented. Whilst every care has been taken in preparation of the information, no liability is assumed for the material contained herein. No warranty is provided or implied as to the accuracy of the whole or any part relative to the documentation.

Design Team Members

The following is a list of the design team members;

Role	Member
Client/ Principal:	**Joss Construction** www.jossgroup.com.au
Client Representative / Project Manager:	**Martin Reid** Martin.Reid@jossgroup.com.au
Building Services Engineer	**Lincoln Pearce** www.lincolnpearce.com.au
Sustainability Engineer	**Lincoln Pearce** www.lincolnpearce.com.au
Architect	**CohenLeigh Architects** www.cohenleigh.com

2 Project Details and Documentation

Project Detail

Project Name	Proposed mixed-use development
Project Address	481-487 Swift Street, Albury, NSW 2640
Building Class	2 - Apartments, 5 – commercial offices
NCC Climate Zone	4
NatHERS Climate Zone	20

Assessors Details

Contact Name	Komal Teni
Company Name	Lincoln Pearce
Postal Address	Suite 2.03, 11 Queens Road, Melbourne 3004
Telephone Number	0431325991
Email Address	komal.teni@lincolnpearce.com.au

Documentation Reviewed

The BASIX and section J assessment is based on the following documents and drawings:

Architectural Drawings and Plans by: CohenLeigh Architects, **Issue**: B, **Date**: 30.10.2024

3 Introduction

Lincoln Pearce has been commissioned to undertake a BASIX and Section J DtS for the proposed mixed-use development located at 481-487 Swift Street, Albury, NSW.

This development will be evaluated using the BASIX framework, which is designed to assess the sustainability and environmental performance of all components of the building classified as apartments. This thorough assessment ensures that the project meets high standards of efficiency and ecological responsibility. The BASIX assessment result can be found in Appendix A.

BASIX identifies the following key categories :

BASIX Categories	Compliance Requirement	Scores Achieved
Energy	Minimum score of 55	57
Water	Minimum score of 40	48
Thermal Performance	Pass/Fail score	Pass
Materials	Pass/Fail score	Pass

For compliance with NCC 2022 Section J, Volume 1, Class 2 buildings must meet the following mandatory requirements using approved NatHERS software:

NCC Section J –Apartments	Compliance Requirement	Scores Achieved
Minimum Individual dwelling star rating	6.0	6.3
Average star rating	7.0	8.1
Individual dwelling-maximum heating load	117.2 MJ/m^2/year	85.0 MJ/m^2/year
Individual dwelling-maximum cooling load	47.3MJ/m^2/year	39.4 MJ/m^2/year
Average Heating Load	90 MJ/m^2/year	47.6 MJ/m^2/year
Average Cooling Load	40.9 MJ/m^2/year	12.8MJ/m^2/year

The results for NatHERS assessment can be found under **Appendix B**.

Compliance for the Class 9b and Class 5 portions of the buildings under NCC 2022 Section J Volume 1 has been demonstrated using the Deemed-to-Satisfy (DtS) pathway for Building Fabric and Building Sealing. Compliance with Part J4 (Walls and Glazing) has been verified using the approved NCC Façade Calculator provided in **Appendix C**. The thermal performance and construction requirements for the remaining building fabric are detailed in the report.

4 BASIX

Energy

The preliminary Energy section of the BASIX assessment indicates a **57% compliance score**. To achieve this score, the following assumptions and parameters have been input into the assessment sections.

Building Central systems	
Systems	**Type and Specifications**
Central hot water system	Electric Heat Pump Piping external to building: No Insulation Piping internal to Building: R0.3(13MM) Unit Efficiency: 2.0<COP<=2.5
Lift bank	Geared Traction with VVVF Motor Number of lifts: 2 Lift load capacity: >= 1001 kg but <= 1500kg
Swimming Pool	Electric Heat Pump The pump will be controlled by a timer
Building system Manager	BMS will be installed for the development
Solar Photovoltaic System	40kW

Common Areas	Ventilation system & Efficiency Measures	Lighting type & Efficiency Measures
Gym	Air conditioning system	
Meeting/Activity Room	Time clock or BMS	
Ground Floor lobby		
Swimming Pool	Air conditioning system None i.e. continuous	
Undercover car park area-Basement	Ventilation exhaust Only None i.e. continuous	Light-emitting diode Time Clocks/Motion Sensors BMS controlled
Ground Floor parking		
Garbage room/ Services (GF-Level 7)	Ventilation exhaust Only	
Lift		
Services (G-L7)	No Mechanical Ventilation	
Stairs (G-L7)		
Lobby (Level 1 – Level 7)		
Switch Room		
Plant and Service room (B-L7)		

Individual Dwelling Systems	Type and Specifications
Hot Water System	Central Hot Water system
Bathroom ventilation & Operational control	Individual fan, ducted to façade or roof Manual switch on/off
Kitchen ventilation & Operational control	Individual fan, ducted to façade or roof Manual switch on/off
Laundry ventilation and Operational control	Individual fan, ducted to façade or roof Manual switch on/off
Cooling and Heating system	1-phase air conditioning ducted / 5 Star (Cold ZONE)
Lighting type	Light-emitting diode
Appliances	Electric Cooking top & Electric Oven Dishwasher – Minimum 3-Star Clothes dryer – Minimum 3-Star

Thermal Comfort

The following modelling assumptions have been used in the Thermal Comfort assessment, which has resulted in a pass for this section:

- A DMN assessor will be used for the project.

- No dwellings within the project will have in-slab heating or ceiling fans.

Additionally, the NatHERS preliminary assessment included in Appendix B has been utilized to ensure compliance with the allowable heating and cooling loads for the project.

Material

The materials section has been updated to include the types of floors, external walls, internal walls, ceilings, roof types, and glazing types, along with their respective areas. This update appears to ensure a pass on the BASIX assessment.

Water

The following assumptions have been entered into the Water section of BASIX to achieve a compliant score of **48%**. These inputs will need to be confirmed by the Landscape Architect/Architect.

Individual Dwelling Systems	Type and Specifications
Swimming Pool	81,000L The pool will be shaded
Common Area Sanitary Fixtures Efficiency	Showers - 4 star (> 6 but <= 7.5 L/min) Toilets – 5 Star Taps – 5 star
Individual Dwelling Sanitary Fixtures Efficiency	Showers - 4 star (> 6 but <= 7.5 L/min) Toilets – 5 Star Taps (Kitchen & bathroom) – 5 Star Dishwashers – 5 Star

5 Preliminary NatHERS Assessment

A preliminary energy rating has been prepared for 26 dwellings determine how the dwellings will achieve the 7.0 Star average commitments.

All the preliminary NatHERS certificates have been attached under Appendix B.

The results are as follows:

Dwelling	Star Rating	Energy use (MJ/m2)	Heating Energy (MJ/m2)	Cooling Energy (MJ/m2)
Dwelling 01	6.3	124.5	85	39.4
Dwelling 02	9.4	18.4	12.6	5.9
Dwelling 03	9.4	16.4	10.6	5.8
Dwelling 04	7.8	73	61.5	11.5
Dwelling 05	7.3	90.3	62.6	27.7
Dwelling 06	9.2	23.1	17.7	5.4
Dwelling 07	9.2	23.2	17.8	5.4
Dwelling 08	7.6	78.4	67.2	11.2
Dwelling 09	7.3	90.7	63.2	27.6
Dwelling 10	9.1	25.8	21.2	4.6
Dwelling 11	9.2	24.8	20.1	4.7
Dwelling 12	7.5	81.3	67.5	13.7
Dwelling 13	7.2	91.7	68.5	23.2
Dwelling 14	9	29.2	25.3	3.9
Dwelling 15	9.2	25.3	21.5	3.8
Dwelling 16	7.4	84	75.4	8.7
Dwelling 17	7.1	96.8	70.9	25.9
Dwelling 18	9.1	26.1	21.9	4.2
Dwelling 19	9.1	27.6	23.8	3.8
Dwelling 20	7.4	85.5	76.1	9.4
Dwelling 21	7.4	85	66.2	18.8
Dwelling 22	9.2	24.8	20.9	3.9
Dwelling 23	8.3	52.2	45	7.2
Dwelling 24	6.4	118.8	91.2	27.6
Dwelling 25	8.4	51.9	40.3	11.6
Dwelling 26	6.9	100.3	82.4	17.9

This result has been achieved with the following building fabric:

CEILINGS

- R4.0 insulation to ceiling areas with a roof above.

FLOORS

- R2.0 insulation to the first floor throughout as there is commercial and common space on the ground floor.
- R2.0 insulation to floor area between unconditioned and conditioned spaces.

WALLS

- All external walls to have R2.5 insulation.
- Note: insulation cannot be compressed to fit cavity; cavity must accommodate the specified thickness of insulation given below

WINDOWS

- All the windows in the apartment will be aluminium double-glazed clear glass with a minimum U- value & SHGC as listed below

WINDOW TYPE	U-VALUE	SHGC
Sliding	3.30	0.43
Casement	3.73	0.50

AIR LEAKAGE

- All doors, windows, exhaust fans and openings will be sealed to not allow for air infiltration into the townhouses.

LIGHTS

- All recessed down light fittings that have openings allowing air to pass through to a ceiling cavity (e.g. Adjustable down lights) shall be fitted with a cover that allows for ceiling insulation to closely enclose the sides and top of the down light.

Please note that the building fabric described above may change as the full building rating is prepared and plans are updated for building approval, however a minimum energy rating performance average of 7.0 Stars will be maintained as a minimum for the development.

6 NCC Section J DtS compliance

NCC 2022 Section J Compliance

Section J of the NCC 2022 sets regulations for energy efficiencies for all types of buildings with respect to the building's construction, design and activity. The NCC 2022 offers several compliance methods that differ in complexity and flexibility. The compliance methods are:

- DTS – Deem to satisfy
- J1V1 – NABERS Energy
- J1V2 – Green Star
- J1V3 – Verification using a reference building
- J1V4 – Verification of building envelope sealing
- J1V5 – Verification using a reference building for a Class 2 sole-occupancy unit

This section of the report represents the findings of assessment and recommendations according to DTS provisions.

Building class & Climate zone

The commercial part is classified as Class 5 and the gym/meeting room as Class 9b under the NCC 2022.

The development is located in Albury, NSW which falls under the NCC 2022 climate zone 4.

Building Envelope

The envelope is defined by the NCC 2022 as parts of a building's fabric that separates a conditioned space or habitable room from the exterior of the building or a non-conditioned space. See Appendix D for details of the envelope for the proposed development.

NCC 2022 Part J4 Building Fabric and Part J5 Building Sealing are only applicable to elements which form part of the envelope, subject to certain exceptions.

Section J – NCC 2022

The below outlines the suggested Section J – NCC 2022 requirements.

Objective

The objective of this section is to –

a. Reduce energy consumption and energy peak demand; and
b. Reduce greenhouse gas emissions; and
c. Improve occupant health and amenity.

Performance Requirements:

J1P1 – Energy Use

A building, including its services, must have, features that facilitate the efficient use of energy appropriate to –

a. The function and use of the building; and
b. The level of human comfort required for the building use; and
c. Solar radiation being –
    - Utilised for heating; and
    - Controlled to minimise energy for cooling; and
d. The energy source of the services; and
e. The sealing of the building envelope against air leakage; and
f. For a conditioned space, achieving an hourly regulated energy consumption, averaged over the annual hours of operation, of not more than –
    - For a Class 6 building, 80 kJ/m2.hr; and
    - For a Class 5, 7b, 8 or 9a building other than a ward area, or a Class 9b School, 43kJ/m2.hr; and
    - For all other building classification, other than a sole-occupancy unit of a Class 2 Building or a Class 4 part of a building, 15 kJ/m2.hr.

J1P4 – Renewable Energy and Electric Vehicle Charging

A building must have features that facilitate the future installation of on-site renewable energy generation and storage and electric vehicle charging equipment.

Compliance Summary

Reference	Title	Compliance Achieved
Part J4	Building Fabric	Yes
Part J5	Building Sealing	Yes
Part J6	Air-conditioning and Ventilation system	Refer to Mechanical Engineer's drawings, specifications and documentation
Part J7	Artificial Lighting and Power	Refer to Electrical Engineer's drawings, specifications and documentation
Part J8	Heated Water Supply and Swimming Pool and Spa Pool Plant	Yes
Part J9	Facilities For Monitoring	Yes

Part J4 – Building Fabric

J4D2. Application of Part

Compliance data / Permit condition	Compliance Status
Building fabric requirements apply to building elements forming part of the thermal envelope. The ground tenancies, meeting/activity room and gym will be deemed as conditioned space. All fabrics elements which enclose these areas from outside spaces or other non-conditioned spaces form part of the thermal envelope. See Appendix D for a diagram showing the perimeter of the thermal envelope.	APPLICABLE

J4D3. Thermal construction – general

Compliance data / Permit condition	Compliance Status

All insulation must comply with AS/NZ 4859.1 and be installed so that it:
• abuts or overlaps adjoining insulation other than at supporting members such as studs, noggings, joists, furring channels and the like where the insulation must be against the member; and
• forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; and
• does not affect the safe or effective operation of a service or fitting.
 	
Reflective insulation must be installed with:
• the necessary airspace to achieve the required R-Value between a reflective side of the reflective insulation and a building lining or cladding; and
• the reflective insulation closely fitted against any penetration, door or window opening; and
• the reflective insulation adequately supported by framing members; and
• each adjoining sheet of roll membrane being—
  ○ overlapped not less than 50 mm; or
  ○ taped together.
 	
Bulk insulation must be installed so that:
• it maintains its position and thickness, other than where it is compressed between cladding and supporting members, water pipes, electrical cabling or the like; and
• in a ceiling, where there is no bulk insulation or reflective insulation in the wall beneath, it overlaps the wall by not less than 50 mm.
	APPLICABLE

J4D4. Roof and ceiling construction

Compliance data / Permit condition	Compliance Status
Installation of R3.5 insulation to all ceilings forming part of the thermal envelope makes the total systems value of more than R3.7. **Solar absorptance of the roof is no more than 0.45**. This is required to achieve compliance with J4D4 (1) and J4D4 (2) for Climate Zone 4. The roof and ceiling constructions have properties as listed below:	APPLICABLE

Office Roof/Ceiling	R-Value
Outdoor air film (7m/s)	0.04
Metal Cladding	0.00
Roof airspace	0.21
Additional insulation (R3.5)	***3.50***
Plasterboard	0.06
Indoor air film (still air)	0.16
Total R-Value	3.97

J4D5. Roof lights

Compliance data / Permit condition	Compliance Status
No roof lights are proposed for the warehouse which forms part of the thermal envelope.	N/A

J4D6. Walls and Glazing

Compliance data / Permit condition	Compliance Status
As per J4D6, wall component of a wall glazing construction must achieved a minimum total R-Value of R1.0 where the wall is less than 80% of the area of the wall-glazing construction or R1.4 where the wall is more than 80% of the area of the wall-glazing construction. **R2.0 insulation will be installed for all external walls and R1.5 on all internal walls forming part of the thermal envelope meeting requirement from J4D6 (4).** Wall-glazing construction U-Value must not be greater than U2.0 and solar admittance must not be greater than values specified in table J4D6b or J4D6c. Wall -glazing construction have been assessed using the NCC 2019 façade calculator. The NCC 2019 façade calculator establish a DTS glazing specification to match the proposed building fabric using the most basic satisfactory glazing type. (Calculations can be viewed in Appendix C). All external glazing units which form part of the thermal envelope must meet the U-Value and SHGC values listed by the Façade Calculator in Appendix C and in the table below:	PASS

Compliance Method 2 – Multiple Aspect

Windows & Glazed Doors	Required U-Value	Required SHGC
All Glazing	2.48 or lower	0.17 or lower

J4D7. Floors

Compliance data / Permit condition	Compliance Status
Floor (including concrete slab on ground) without in-slab heating or cooling system for climate zone 4 will require to achieved minimum total R-Value of 2.0 in accordance with Table J4D7 for Climate Zone 6. No insulation is proposed for the CSOG and R-Value of soil is calculated to be R2.6 based on Table S39C2b or specification J4D7.	PASS

Floor	R-Value
Indoor air film (still air)	0.16
Concrete 150mm	0.10
Soil R-Value	2.6
Total R-Value	2.7

Part J5 – Building Sealing

J5D2. Application of Part

Compliance data / Permit condition	Compliance Status
This part applies to elements forming the envelope of a Class 2 to 9 building, other than- a) a building in climate zone 1,2,3 and 5 where the only means of air-conditioning is by using an evaporative cooler; or b) 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 a building or space where the mechanical ventilation required by Part F6 provides sufficient pressurisation to prevent infiltration.	APPLICABLE

J5D3. Chimneys and Flues

Compliance data / Permit condition	Compliance Status
The Provisions is Not Applicable – no open solid fuel-burning appliance proposed for the development. See Floor Plan for confirmation.	N/A

J5D4. Roof Lights

Compliance data / Permit condition	Compliance Status
The Provision is Not Applicable - No roof lights are proposed for the development which forms part of the thermal envelope.	N/A

J5D5. Windows and doors

Compliance data / Permit condition	Compliance Status
A door, openable window or the like must be sealed - • when forming part of the envelope; or • in climate zones 4,5,6,7 or 8; The requirements of this part do not apply to – • a window complying with AS 2047; or • a fire door or smoke door; or • a roller shutter door, roller shutter grille or other security door or device installed only for out-of-hours security. A seal to restrict air infiltration must be installed: • for the bottom edge of a door, must be a draft protection device; and • for the other edges of a door or the edges of an openable window or other such opening, may be a foam or rubber compression strip, fibrous seal or the like. An entrance to a building, if leading to a conditioned space must have an airlock, self-closing door, rapid roller door, revolving door or the like, other than— • where the conditioned space has a floor area of not more than 50m2; or • where a café, restaurant, open front shop or the like has— ○ a 3 m deep un-conditioned zone between the main entrance, including an open front, and the conditioned space; and ○ at all other entrances to the café, restaurant, open front shop or the like, self-closing doors. A loading dock entrance, if leading to a conditioned space, must be fitted with a rapid roller door or the like.	PASS(Subject to architect's nomination on the architectural drawings)

J5D6. Exhaust fans

Compliance data / Permit condition	Compliance Status
An exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving- • a conditioned space; or • a habitable room in climate zone 4,5,6,7 or 8	PASS

J5D7. Construction of roofs, walls and floors

Compliance data / Permit condition	Compliance Status
All roof, ceilings, walls, floors and any openings such as doors and windows must be constructed to minimise air-leakage. Construction described above must be: • enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or • sealed at junctions and penetrations with— ○ close fitting architrave, skirting or cornice; or ○ expanding foam, rubber compressible strip, caulking or the like. The requirements above do not apply to openings, grill or the like required for smoke hazard management.	PASS

J5D8. Evaporative coolers

Compliance data / Permit condition	Compliance Status
This provision is Not Applicable – no evaporative cooling will be proposed for the development.	N/A

PART J8 – Hot Water Supply and Pool Plants

J8D2. Hot Water Supply

Compliance data / Permit condition	Compliance Status
A heated water supply for food preparation and sanitary purposes must be designed and installed in accordance with Part B2 of the NCC Volume 3 – Plumbing Code of Australia.	PASS

J8D3. Swimming Pool Heating and Pumping

Compliance data / Permit condition	Compliance Status
No Swimming Pool is proposed.	N/A

J8D4. Spa Pool Heating and Pumping

Compliance data / Permit condition	Compliance Status
No Spa Pool is proposed.	N/A

Part 9 – Energy Monitoring and On-site Distributed Energy Resources

J9D2. Application of Part

Compliance data / Permit condition	Compliance Status
The development is required to be assessed against requirements of this section.	APPLICABLE

J9D3. Facilities for Energy Monitoring

Compliance data / Permit condition	Compliance Status
This development has a floor area of more than 500m². Facility to record the consumption of gas and electricity is required.	PASS

7 Appendix A – BASIX Report

BASIX™ Certificate

Building Sustainability Index
www.planningportal.nsw.gov.au/development-and-assessment/basix

Multi Dwelling

Certificate number: 1794595M

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

Secretary
Date of issue: Thursday, 08 May 2025
To be valid, this certificate must be submitted with a development application or lodged with a complying development certificate application within 3 months of the date of issue.

When submitting this BASIX certificate with a development application or complying development certificate application, it must be accompanied by NatHERS certificate To be Added.

Project summary	
Project name	Swift Street, Albury
Street address	481-487 SWIFT STREET ALBURY 2640
Local Government Area	-
Plan type and plan number	Deposited Plan -
Lot no.	-
Section no.	-
No. of residential flat buildings	1
Residential flat buildings: no. of dwellings	26
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0

Project score		
Water	✔ 48	Target 40
Thermal Performance	✔ Pass	Target Pass
Energy	✔ 57	Target 55
Materials	✔ -100	Target n/a

Certificate Prepared by
Name / Company Name: The Trustee for Lincoln Pearce Unit Trust
ABN (if applicable):

Description of project

Project address	
Project name	Swift Street, Albury
Street address	481-487 SWIFT STREET ALBURY 2640
Local Government Area	-
Plan type and plan number	Deposited Plan -
Lot no.	-
Section no.	-

Project type	
No. of residential flat buildings	1
Residential flat buildings: no. of dwellings	26
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0

Site details	
Site area (m²)	2023
Roof area (m²)	1195
Non-residential floor area (m²)	734
Residential car spaces	51
Non-residential car spaces	6

Common area landscape	
Common area lawn (m²)	0.0
Common area garden (m²)	400
Area of indigenous or low water use species (m²)	0

Assessor details and thermal loads	
Assessor number	TobeAdded
Certificate number	To be Added
Climate zone	20

Project score			
Water	✔	48	Target 40
Thermal Performance	✔	Pass	Target Pass
Energy	✔	57	Target 55
Materials	✔	-100	Target n/a

Description of project

The tables below describe the dwellings and common areas within the project

Residential flat buildings - Albury - Swift Street, 26 dwellings, 8 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
101	3	150.9	16.6	0	0
201	3	150.1	16.5	0	0
301	3	150.1	16.5	0	0
401	3	150.1	16.5	0	0
501	3	150.1	16.5	0	0
601	3	182.1	17	0	0
702	3	151	12	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
102	2	103.8	9.5	0	0
202	2	103.3	9.5	0	0
302	2	103.3	9.5	0	0
402	2	103.3	9.5	0	0
502	2	103.3	9.5	0	0
602	3	151	12	0	0
703	3	185	16.9	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
103	2	103.4	9.5	0	0
203	2	103.0	9.4	0	0
303	2	103	9.4	0	0
403	2	103	9.4	0	0
503	2	103	9.4	0	0
603	3	185	16.9	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
104	3	152	16.7	0	0
204	3	151.5	16.5	0	0
304	3	151.5	16.5	0	0
404	3	151.5	16.5	0	0
504	3	100	16.5	0	0
701	3	182.1	17	0	0

Description of project

The tables below describe the dwellings and common areas within the project

Common areas of unit building - Albury - Swift Street

Common area	Floor area (m²)
Lift bank (No. 1)	-
Basement Car park	1871
Switch room	22
Stairs (G-L7)	70
Ground floor lobby type (No. 1)	16

Common area	Floor area (m²)
Indoor swimming pool and/or spa area (No. 1)	54
Ground Floor car park	277
Garbage room and Services (GF-L7)	67
Meeting / Activity Room	22
Hallway/lobby type (No. 1)	211

Common area	Floor area (m²)
Gym area	52
Lift	99
Services (G-L7)	48
Plant and service room (B-L7)	71

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Albury - Swift Street

(a) Buildings

(i) Materials

(b) Dwellings

(i) Water

(ii) Energy

(iii) Thermal Performance

(c) Common areas and central systems/facilities

(i) Water

(ii) Energy

2. Commitments for common areas and central systems/facilities for the development (non-building specific)

(b) Common areas and central systems/facilities

(i) Water

(ii) Energy

Schedule of BASIX commitments

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

1. Commitments for Residential flat buildings - Albury - Swift Street

(a) Buildings

(i) Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the “Floor types”, “External wall types”, “Internal wall types”, “Ceiling and roof types”, “Frames” and “Glazing” tables below.			✔
(b) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all specifications included in the tables below.		✔	
(c) The applicant must construct the floors, walls, roof, ceiling and roof, windows, glazed doors and skylights of the development in accordance with the specifications listed in the tables below. In the case of glazing, a 5% variance from the area values listed in the “Frames” and “Glazing” tables is permitted.	✔	✔	✔
(d) The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the below tables.			✔

Floor types			
Floor type	**Area (m2)**	**Insulation**	**Low emissions option**
suspended floor above enclosed subfloor, frame: suspended concrete slab	3930.5	fibreglass batts or roll	-

External wall types				
External wall type	**Construction type**	**Area (m2)**	**Low emissions option**	**Insulation**
External wall type 1	framed (fibre cement sheet or boards),frame:heavy steel post and beam frame	1508	-	fibreglass batts or roll

Internal wall types			
Internal wall type	**Construction type**	**Area (m2)**	**Insulation**
Internal wall type 1	cavity brick wall, frame:light steel frame	734	fibreglass batts or roll

Internal wall types			
Internal wall type	**Construction type**	**Area (m2)**	**Insulation**
Internal wall type 2	plasterboard, frame:heavy steel post and beam frame	2770	fibreglass batts or roll

Reinforcement concrete frames/columns		
Building has reinforced concrete frame/columns?	**Volume (m³)**	**Low emissions option**
no	-	-

Ceiling and roof types			
Ceiling and roof type	**Area (m²)**	**Roof Insulation**	**Ceiling Insulation**
concrete - bare internal, frame: heavy steel post and beam frame	3930.5	foil/sarking	fibreglass batts or roll

Glazing types			Frame types				
Single glazing (m²)	**Double glazing (m²)**	**Triple glazing (m²)**	**Aluminium frames (m²)**	**Timber frames (m²)**	**uPVC frames (m²)**	**Steel frames (m²)**	**Composite frames (m²)**
-	1294.8	-	1294.8	-	-	-	-

(b) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✔	✔	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✔	✔
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✔	✔
(e) The applicant must install:			
(aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and		✔	✔
(bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		✔	✔
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✔	✔	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✔	
(g) The pool or spa must be located as specified in the table.	✔	✔	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✔	✔	✔

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 6 but <= 7.5 L/min)	5 star	5 star	5 star	-	5 star	5 star	-	-	-	-	0.0	no	no

	Alternative water source							
Dwelling no.	**Alternative water supply systems**	**Size**	**Configuration**	**Landscape connection**	**Toilet connection (s)**	**Laundry connection**	**Pool top-up**	**Spa top-up**
All dwellings	No alternative water supply	-	-	-	-	-	-	-

(ii) Energy	**Show on DA plans**	**Show on CC/CDC plans & specs**	**Certifier check**
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✔	✔	✔
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✔	✔
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✔	✔
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✔	✔
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✔	✔	✔
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must:			
(aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and		✔	
(bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✔	
(h) The applicant must install in the dwelling:			
(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below;		✔	

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✔ ✔	✔
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✔	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	Central hot water system (No. 1)	individual fan, open to façade	manual on / timer off	individual fan, open to façade	manual on / timer off	individual fan, open to façade	manual on / timer off

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
102, 103, 202, 203, 302, 303, 402, 403, 502, 503, 602, 702	1-phase airconditioning - ducted / 5 star (cold zone)	1-phase airconditioning - ducted / 5 star (cold zone)	1-phase airconditioning - ducted / 5 star (cold zone)	1-phase airconditioning - ducted / 5 star (cold zone)	0	no
All other dwellings	1-phase airconditioning - ducted / 5 star (cold zone)	1-phase airconditioning - ducted / 5 star (cold zone)	1-phase airconditioning - ducted / 5 star (cold zone)	1-phase airconditioning - ducted / 5 star (cold zone)	2	yes

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	electric cooktop & electric oven	3 star	3 star	no	no

(iii) Thermal Performance	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✔		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✔	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✔	✔
(g) Where there is an in-slab heating or cooling system, the applicant must: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✔	✔	✔
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✔	✔	✔
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✔		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✔	

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m²/yr)	Area adjusted cooling load (in MJ/m²/yr)	Area adjusted total load (in MJ/m²/yr)
101	85	39.4	124.400
102	12.6	5.9	18.500
103	10.6	5.8	16.400
104	61.5	11.5	73.000

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m²/yr)	Area adjusted cooling load (in MJ/m²/yr)	Area adjusted total load (in MJ/m²/yr)
201	62.6	27.7	90.300
202	17.7	5.4	23.100
203	17.8	5.4	23.200
204	67.2	11.2	78.400
301	63.2	27.6	90.800
302	21.2	4.6	25.800
303	20.1	4.7	24.800
304	67.5	13.7	81.200
401	68.5	23.2	91.700
402	25.3	3.9	29.200
403	21.5	3.8	25.300
404	75.4	8.7	84.100
501	70.9	25.9	96.800
502	21.9	4.2	26.100
503	23.8	3.8	27.600
504	76.1	9.4	85.500
601	66.2	18.8	85.000
602	20.9	3.9	24.800
603	45	7.2	52.200
701	91.2	27.6	118.800
702	40.3	11.6	51.900
All other dwellings	82.4	17.9	100.300

(c) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✔	✔
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✔	✔	✔
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✔	✔	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✔	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✔	✔
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✔	✔

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	4 star (> 6 but <= 7.5 L/min)	5 star	5 star	no common laundry facility

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✔	✔
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✔	✔
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✔	✔	✔

	Common area ventilation system		Common area lighting		
Common area	**Ventilation system type**	**Ventilation efficiency measure**	**Primary type of artificial lighting**	**Lighting efficiency measure**	**Lighting control system/ BMS**
Lift bank (No. 1)	-	-	light-emitting diode	connected to lift call button	yes
Indoor swimming pool and/or spa area (No. 1)	air conditioning system	none i.e., continuous	light-emitting diode	time clocks	yes
Gym area	air conditioning system	time clock or BMS controlled	light-emitting diode	time clocks	yes
Basement Car park	ventilation exhaust only	none i.e., continuous	light-emitting diode	time clocks	yes
Ground Floor car park	ventilation exhaust only	none i.e., continuous	light-emitting diode	time clocks	yes
Lift	no mechanical ventilation	-	light-emitting diode	none	yes
Switch room	no mechanical ventilation	-	light-emitting diode	motion sensors	yes
Garbage room and Services (GF-L7)	ventilation exhaust only	-	light-emitting diode	motion sensors	yes
Services (G-L7)	no mechanical ventilation	-	light-emitting diode	motion sensors	yes
Stairs (G-L7)	no mechanical ventilation	-	light-emitting diode	motion sensors	yes
Meeting / Activity Room	air conditioning system	time clock or BMS controlled	light-emitting diode	motion sensors	yes
Plant and service room (B-L7)	no mechanical ventilation	-	light-emitting diode	motion sensors	yes
Ground floor lobby type (No. 1)	air conditioning system	time clock or BMS controlled	light-emitting diode	motion sensors	yes
Hallway/lobby type (No. 1)	no mechanical ventilation	-	light-emitting diode	time clocks	yes

Central energy systems	Type	Specification
Swimming pool (No. 1)	Heating source: electric heat pump	Pump controlled by timer: yes
Lift bank (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 7 number of levels from the bottom of the lift shaft to the top of the lift shaft: 9 number of lifts: 2 lift load capacity: >= 1001 kg but <= 1500kg
Central hot water system (No. 1)	electric heat pump – air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: no external pipework; (b) Piping internal to building: R0.3 (~13 mm) (c) Unit Efficiency: 2.0 < COP <= 2.5

2. Commitments for common areas and central systems/facilities for the development (non-building specific)

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✔	✔
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✔	✔	✔
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✔	✔	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✔	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✔	✔
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✔	✔

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	4 star (> 6 but <= 7.5 L/min)	5 star	5 star	no common laundry facility

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✔	✔
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✔	✔
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✔	✔	✔

Central energy systems	Type	Specification
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 40 peak kW
Other	Building management system installed?: yes	-

Notes

1. In these commitments, "applicant" means the person carrying out the development.
2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate.
3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes.
4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building).
5. If a star or other rating is specified in a commitment, this is a minimum rating.
6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply.

Legend

1. Commitments identified with a "✔" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
2. Commitments identified with a "✔" in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
3. Commitments identified with a "✔" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).

8 Appendix B – Preliminary NatHERS certificates

Residential Class 2 Energy Rating Summary — Non-Accredited

Generated on 20 Feb 2025 using Hero 4.1

This rating report has been completed by a rater (non-accredited assessor)* . For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au

Average star rating 8.1

Property

481-487 Swift Street, Albury, NSW, 2640
Lot/DP
NatHERS climate zone 20 - Wagga AMO

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Completed by*

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Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m².yr)	Cooling load (MJ/m².yr)	Total load (MJ/m².yr)	Star rating
	101	85.0 (147)	39.4 (57)	124.5	6.3
	102	12.6 (147)	5.9 (57)	18.4	9.4
	103	10.6 (147)	5.8 (57)	16.4	9.4
	104	61.5 (147)	11.5 (57)	73.0	7.8
	201	62.6 (147)	27.7 (57)	90.3	7.3
	202	17.7 (147)	5.4 (57)	23.1	9.2

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

* Raters (non-accredited assessors) are not required to have any formal qualifications, insurance, ongoing professional development or quality assurance checks on their ratings. This is distinct from NatHERS accredited assessors who are required to have qualifications, ongoing professional development and have quality assurance checks on their ratings.

Energy Rating Summary — Non-Accredited document number: # Average Star Rating: 8.1

Certificate number and link	Unit Number	Heating load (MJ/m².yr)	Cooling load (MJ/m².yr)	Total load (MJ/m².yr)	Star rating
	203	17.8 (147)	5.4 (57)	23.2	9.2
	204	67.2 (147)	11.2 (57)	78.4	7.6
	301	63.2 (147)	27.6 (57)	90.7	7.3
	302	21.2 (147)	4.6 (57)	25.8	9.1
	303	20.1 (147)	4.7 (57)	24.8	9.2
	304	67.5 (147)	13.7 (57)	81.3	7.5
	401	68.5 (147)	23.2 (57)	91.7	7.2
	402	25.3 (147)	3.9 (57)	29.2	9.0
	403	21.5 (147)	3.8 (57)	25.3	9.2
	404	75.4 (147)	8.7 (57)	84.0	7.4
	501	70.9 (147)	25.9 (57)	96.8	7.1
	502	21.9 (147)	4.2 (57)	26.1	9.1
	503	23.8 (147)	3.8 (57)	27.6	9.1
	504	76.1 (147)	9.4 (57)	85.5	7.4
	601	66.2 (147)	18.8 (57)	85.0	7.4
	602	20.9 (147)	3.9 (57)	24.8	9.2
	603	45.0 (147)	7.2 (57)	52.2	8.3
	701	91.2 (147)	27.6 (57)	118.8	6.4
	702	40.3 (147)	11.6 (57)	51.9	8.4
	703	82.4 (147)	17.9 (57)	100.3	6.9
Average		47.6	12.8	60.3	8.1

Explanatory Notes

About this report

This summary rating is the average rating of all NCC Class 2 dwellings in a development. The individual dwellings' ratings are a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate the 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. For more details about an individual dwelling's assessment, refer to the individual rating report (accessible via the link in the table above)

Raters

Raters (non-accredited assessors) may not have completed a recognised software training course, do not have quality assurance checks conducted through NatHERS processes, do not have any ongoing training requirements and **are not supported or recognised under NatHERS.**

Any questions or concerns about this report should be directed to the rater in the first instance. If the rater is unable to address these questions or concerns, the state or territory building code authority should be contacted.

Disclaimer

The format of the energy rating report was developed by the NatHERS Administrator. However the content of each individual rating report is entered and created by the rater. It is the responsibility of the rater who prepared this rating report to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce the rating report.

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 6.3

Annual thermal performance

Total 124.5 MJ/m², **Heating** 85.0 MJ/m², **Cooling** 39.4 MJ/m²

Property

Address 101, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #	**Exposure type**
Conditioned* 150.9	Suburban
Unconditioned* 16.6	**NatHERS climate zone**
Total 167.5	20 - Wagga AMO
Garage 0.0	

Rater*

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Declaration of interest No Conflict of Interest

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.

*Raters (non-accredited assessors) are not required to have any formal qualifications, insurance, ongoing professional development or quality assurance checks on their ratings. This is distinct from NatHERS accredited assessors who are required to have qualifications, ongoing professional development and have quality assurance checks on their ratings.

Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					
Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
A&L-016-09 A	Al Casement DG 4/10/4	3.73	0.50	0.47	0.53
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bathroom	A&L-016-09 A	W08	450	2100	Casement	45	S	None
Bedroom 1	ALS-074-09 A	W05	2700	3300	Sliding	45	W	None
Bedroom 2	ALS-074-09 A	W06	2700	2450	Sliding	45	W	None
Bedroom 3	ALS-074-09 A	W07	2700	3385	Sliding	45	W	None
Ensuite	A&L-016-09 A	W09	1000	450	Casement	90	S	None
Living /Kitchen	ALS-074-09 A	W04	2700	2400	Sliding	45	W	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living /Kitchen	ALS-074-09 A	W03	2700	1150	Sliding	45	N	None
Living /Kitchen	ALS-074-09 A	W02	2700	7300	Sliding	45	W	None
Living /Kitchen	ALS-074-09 A	W01	2700	4100	Sliding	45	N	None

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
None					

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Corridor	2040	1000	90	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bathroom	CONCBLOCK-190-FCF-PB-B	2700	2019	E		No
Bathroom	CONCBLOCK-190-FCF-PB-A	2700	3677	S		Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3376	W	1734	Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	260	S		Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3429	W	1994	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3524	S	1620	Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3426	E		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	499	ESE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	424	SE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	227	SE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	661	SSE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	319	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	2878	S		No
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3514	W	1431	Yes
Corridor	CONCBLOCK-190-FCF-PB-B	2700	1745	E		No
Ensuite	CONCBLOCK-190-FCF-PB-A	2700	2332	S	3300	Yes
Laundry	CONCBLOCK-190-FCF-PB-B	2700	2504	E		No
Laundry	CONCBLOCK-190-FCF-PB-B	2700	1364	N		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	769	E	3703	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	4183	W		Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	1266	N		Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	7436	W	1529	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	4116	N		Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	1721	S	7031	Yes

* Refer to glossary.

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	47.6	0.00
INT-PB	Internal Plasterboard Stud Wall	121.6	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	22.0	N/A	2.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	14.7	N/A	2.00	Timber (12mm)
Bedroom 3	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.6	N/A	2.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	20.6	N/A	2.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.1	N/A	2.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.2	N/A	0.00	Timber (12mm)
Living/Kitchen	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	56.1	N/A	0.00	Timber (12mm)
Walk in Robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.0	N/A	2.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Living/Kitchen	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

A residential energy 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.

Raters

Raters (non-accredited assessors) may not have completed a recognised software training course, do not have quality assurance checks conducted through NatHERS processes, do not have any ongoing training requirements and **are not supported or recognised under NatHERS.**

Any questions or concerns about this report should be directed to the rater in the first instance. If the rater is unable to address these questions or concerns, the state or territory building code authority should be contacted.

Disclaimer

The format of the energy rating report was developed by the NatHERS Administrator. However the content of each individual rating report is entered and created by the rater. It is the responsibility of the rater who prepared this rating report to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce the rating report.

The predicted annual energy load in this rating report is an estimate based on an assessment of the building by the rater. 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 rater who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the rater while using the NatHERS accredited software tool, are presented in this report. Further details or data files may be available from the rater.

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.

* Refer to glossary.

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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 9.4

Annual thermal performance

Total 18.4 MJ/m², **Heating** 12.6 MJ/m², **Cooling** 5.9 MJ/m²

Property

Address 102, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #	**Exposure type**
Conditioned* 103.8	Suburban
Unconditioned* 9.5	**NatHERS climate zone**
Total 113.3	20 - Wagga AMO
Garage 0.0	

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

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Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					
Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALS-074-09 A	W04	2700	3400	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W03	2700	3000	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W01	2700	2800	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W02	2700	3477	Sliding	45	N	None

* Refer to glossary.

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
None					

Custom* roof windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2040	1000	90	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3546	N	2688	Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	1124	E		Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	318	N		Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3042	N	2533	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	2898	N	2710	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	2192	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	421	E		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	2878	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	3477	N	2229	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	481	E	459	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	304	W	380	Yes

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	68.7	0.00
INT-PB	Internal Plasterboard Stud Wall	68.5	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.3	N/A	2.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	23.6	N/A	2.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.5	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.0	N/A	2.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.9	N/A	0.00	Timber (12mm)
FLR 12	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.2	N/A	2.00	Timber (12mm)
Kitchen/Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	53.8	N/A	2.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

A residential energy 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.

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The predicted annual energy load in this rating report is an estimate based on an assessment of the building by the rater. 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 rater who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the rater while using the NatHERS accredited software tool, are presented in this report. Further details or data files may be available from the rater.

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.

* Refer to glossary.

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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 9.4

Annual thermal performance

Total 16.4 MJ/m², **Heating** 10.6 MJ/m², **Cooling** 5.8 MJ/m²

Property

Address 103, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 103.4

Unconditioned* 9.5

Total 112.9

Garage 0.0

Exposure type

Suburban

NatHERS climate zone

20 - Wagga AMO

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

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Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					
Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 2	ALS-074-09 A	W02	2700	3000	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W01	2700	3450	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W04	2700	2800	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W03	2700	3450	Sliding	45	N	None

* Refer to glossary.

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
None					

Custom* roof windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2040	1000	90	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	308	N		Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3042	N	2533	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3491	N	2688	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	1124	W		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	2907	N	2710	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	481	W	406	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	3479	N	2229	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	304	E	2189	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	421	W		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	2206	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	2661	S		No

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	68.5	0.00
INT-PB	Internal Plasterboard Stud Wall	69.0	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.4	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	36.7	N/A	2.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.0	N/A	2.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.8	N/A	2.00	Timber (12mm)
Kitchen /Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	53.9	N/A	2.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.1	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

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Explanatory Notes

About this report

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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 windowâ€™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).

Residential Energy Rating - Non-Accredited

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About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 7.8

Annual thermal performance

Total 73.0 MJ/m², **Heating** 61.5 MJ/m², **Cooling** 11.5 MJ/m²

Property

Address 104, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 152.0

Unconditioned* 16.7

Total 168.6

Garage 0.0

Exposure type

Suburban

NatHERS climate zone

20 - Wagga AMO

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

National Construction Code (NCC) requirements

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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.

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Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-016-09 A	Al Casement DG 4/10/4	3.73	0.50	0.47	0.53
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bathroom	A&L-016-09 A	W08	450	2100	Casement	45	S	None
Bedroom 1	ALS-074-09 A	W03	2700	3300	Sliding	45	E	None
Bedroom 2	ALS-074-09 A	W02	2700	2500	Sliding	45	E	None
Bedroom 3	ALS-074-09 A	W01	2700	3200	Sliding	60	E	None
Ensuite	A&L-016-09 A	W09	1000	450	Casement	90	S	None
Kitchen /Living	ALS-074-09 A	W05	2700	7200	Sliding	45	E	None

* 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	ALS-074-09 A	W06	2700	1200	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W04	2100	2400	Sliding	45	E	None
Kitchen /Living	ALS-074-09 A	W07	2700	4000	Sliding	45	N	None

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
None					

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Corridor	2040	1000	90	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bathroom	CONCBLOCK-190-FCF-PB-A	2700	3682	S		Yes
Bathroom	CONCBLOCK-190-FCF-PB-B	2700	2019	W		No
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3376	E	1653	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3429	E	1653	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3785	S	3300	Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	2828	S		No
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	299	SSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	234	SSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	177	SW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	247	SW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	243	SW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	205	WSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	196	WSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	229	WSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	163	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	191	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3443	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3514	E	1375	Yes
Corridor	CONCBLOCK-190-FCF-PB-B	2700	1745	W		No
Ensuite	CONCBLOCK-190-FCF-PB-A	2700	2348	S	3300	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	7436	E	1609	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	1245	N	9345	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	4183	E		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	1698	S	7031	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	4084	N	1919	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	769	W	3612	Yes
Laundry	CONCBLOCK-190-FCF-PB-B	2700	1158	N		No
Laundry	CONCBLOCK-190-FCF-PB-B	2700	2504	W		No

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	48.0	0.00
INT-PB	Internal Plasterboard Stud Wall	122.7	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	22.0	N/A	2.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	15.5	N/A	2.00	Timber (12mm)
Bedroom 3	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.6	N/A	2.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	20.9	N/A	2.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.7	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.5	N/A	2.00	Timber (12mm)
Kitchen /Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	55.7	N/A	2.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.2	N/A	0.00	Timber (12mm)
Walk in robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.1	N/A	2.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	2	Exhaust Fan	250	Sealed

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Kitchen/Living	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

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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.

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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.

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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.
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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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 7.3

Annual thermal performance

Total 90.3 MJ/m², **Heating** 62.6 MJ/m², **Cooling** 27.7 MJ/m²

Property

Address 201, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 150.1

Unconditioned* 16.5

Total 166.6

Garage 0.0

Exposure type

Suburban

NatHERS climate zone

20 - Wagga AMO

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

*Raters (non-accredited assessors) are not required to have any formal qualifications, insurance, ongoing professional development or quality assurance checks on their ratings. This is distinct from NatHERS accredited assessors who are required to have qualifications, ongoing professional development and have quality assurance checks on their ratings.

Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-016-09 A	Al Casement DG 4/10/4	3.73	0.50	0.47	0.53
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bathroom	A&L-016-09 A	W01	450	2100	Casement	45	S	None
Bedroom 1	ALS-074-09 A	W06	2700	3300	Sliding	45	W	None
Bedroom 2	ALS-074-09 A	W07	2700	2500	Sliding	45	W	None
Bedroom 3	ALS-074-09 A	W08	2700	3200	Sliding	45	W	None
Ensuite	A&L-016-09 A	W09	1000	445	Casement	90	S	None
Living /Kitchen	ALS-074-09 A	W05	2100	1845	Sliding	45	W	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living /Kitchen	ALS-074-09 A	W04	2700	1150	Sliding	45	N	None
Living /Kitchen	ALS-074-09 A	W03	2700	7262	Sliding	45	W	None
Living /Kitchen	ALS-074-09 A	W02	2700	4091	Sliding	45	N	None

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
None					

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Corridor	2040	1000	90	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bathroom	CONCBLOCK-190-FCF-PB-B	2700	2015	E		No
Bathroom	CONCBLOCK-190-FCF-PB-A	2700	3674	S		Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3381	W	1739	Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	271	S		Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3427	W	2010	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3511	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3505	W	1433	Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3409	E		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	495	ESE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	434	SE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	226	SE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	650	SSE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	315	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	2883	S		No
Corridor	CONCBLOCK-190-FCF-PB-B	2700	1731	E		No
Ensuite	CONCBLOCK-190-FCF-PB-A	2700	2325	S	3438	Yes
Laundry	CONCBLOCK-190-FCF-PB-B	2700	2482	E		No
Laundry	CONCBLOCK-190-FCF-PB-B	2700	1368	N		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	766	E		Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	4174	W		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	1268	N	9365	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	7432	W	1478	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	4091	N	1942	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	1708	S	6977	Yes

* Refer to glossary.

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	47.6	0.00
INT-PB	Internal Plasterboard Stud Wall	121.2	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	22.0	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	14.6	N/A	0.00	Timber (12mm)
Bedroom 3	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.5	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	20.4	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.0	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.1	N/A	0.00	Timber (12mm)
Living/Kitchen	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	55.6	N/A	0.00	Timber (12mm)
Walk In robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.9	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	2	Exhaust Fan	250	Sealed
Living/Kitchen	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

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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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 9.2

Annual thermal performance

Total 23.1 MJ/m², **Heating** 17.7 MJ/m², **Cooling** 5.4 MJ/m²

Property

Address 202, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 103.3

Unconditioned* 9.5

Total 112.8

Garage 0.0

Exposure type

Suburban

NatHERS climate zone

20 - Wagga AMO

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

*Raters (non-accredited assessors) are not required to have any formal qualifications, insurance, ongoing professional development or quality assurance checks on their ratings. This is distinct from NatHERS accredited assessors who are required to have qualifications, ongoing professional development and have quality assurance checks on their ratings.

Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					
Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALS-074-09 A	W03	2700	3039	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W04	2700	3535	Sliding	45	N	None
Living /Kitchen	ALS-074-09 A	W02	2700	3472	Sliding	45	N	None
Living /Kitchen	ALS-074-09 A	W01	2700	2780	Sliding	45	N	None

* Refer to glossary.

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
None					

Custom* roof windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Living/Kitchen	2040	1000	90	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	CONCBLOCK-190-FCF-PB-B	2700	308	N		Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-B	2700	3039	N	898	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-B	2700	3535	N	2708	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 2	CONCBLOCK-190-FCF-PB-B	2700	1127	E		Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	2203	S		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	412	E		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	2871	S		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	3472	N	2090	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	482	E	1035	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	2898	N	878	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	308	W	997	Yes

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	68.7	0.00
INT-PB	Internal Plasterboard Stud Wall	68.0	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.3	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.4	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	23.5	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	3.9	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.9	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.2	N/A	0.00	Timber (12mm)
Living/Kitchen	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	53.6	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Living/Kitchen	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

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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.

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The predicted annual energy load in this rating report is an estimate based on an assessment of the building by the rater. 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 rater who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the rater while using the NatHERS accredited software tool, are presented in this report. Further details or data files may be available from the rater.

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.

* Refer to glossary.

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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 9.2

Annual thermal performance

Total 23.2 MJ/m², **Heating** 17.8 MJ/m², **Cooling** 5.4 MJ/m²

Property

Address 203, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 103.0

Unconditioned* 9.4

Total 112.5

Garage 0.0

Exposure type

Suburban

NatHERS climate zone

20 - Wagga AMO

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

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Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					
Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALS-074-09 A	W02	2700	3045	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W01	2700	3484	Sliding	45	N	None
Living / Kitchen	ALS-074-09 A	W03	2700	3468	Sliding	45	N	None
Living / Kitchen	ALS-074-09 A	W04	2700	2780	Sliding	45	N	None

* Refer to glossary.

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
None					

Custom* roof windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Living / Kitchen	2040	1000	90	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3045	N	2398	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3484	N	2752	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	1127	W		Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	482	W	937	Yes
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	3468	N	2090	Yes
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	308	E	971	Yes
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	143	S		Yes
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	119	E		Yes
Living / Kitchen	CONCBLOCK-190-FCF-PB-B	2700	412	W		No
Living / Kitchen	CONCBLOCK-190-FCF-PB-B	2700	2208	S		No
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	2908	N	878	Yes
Living / Kitchen	CONCBLOCK-190-FCF-PB-B	2700	2660	S		No

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	68.4	0.00
INT-PB	Internal Plasterboard Stud Wall	68.3	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.3	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.4	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	23.2	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	3.9	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.8	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.1	N/A	0.00	Timber (12mm)
Living / Kitchen	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	53.8	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Living / Kitchen	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

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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.

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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.

* Refer to glossary.

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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 7.6

Annual thermal performance

Total 78.4 MJ/m², **Heating** 67.2 MJ/m², **Cooling** 11.2 MJ/m²

Property

Address 204, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 151.5

Unconditioned* 16.5

Total 168.0

Garage 0.0

Exposure type

Suburban

NatHERS climate zone

20 - Wagga AMO

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

*Raters (non-accredited assessors) are not required to have any formal qualifications, insurance, ongoing professional development or quality assurance checks on their ratings. This is distinct from NatHERS accredited assessors who are required to have qualifications, ongoing professional development and have quality assurance checks on their ratings.

Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					

Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
A&L-016-09 A	Al Casement DG 4/10/4	3.73	0.50	0.47	0.53
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bathroom	A&L-016-09 A	W08	450	2100	Casement	45	S	None
Bedroom 1	ALS-074-09 A	W03	2700	3375	Sliding	45	E	None
Bedroom 2	ALS-074-09 A	W02	2700	2614	Sliding	45	E	None
Bedroom 3	ALS-074-09 A	W01	2700	3220	Sliding	45	E	None
Ensuite	A&L-016-09 A	W09	1000	450	Casement	90	S	None
Living /Kitchen	ALS-074-09 A	W06	2700	4083	Sliding	45	N	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living /Kitchen	ALS-074-09 A	W07	2700	7342	Sliding	45	E	None
Living /Kitchen	ALS-074-09 A	W05	2700	1160	Sliding	45	N	None
Living /Kitchen	ALS-074-09 A	W04	2100	1895	Sliding	45	E	None

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
None					

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Corridor	2040	1000	90	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bathroom	CONCBLOCK-190-FCF-PB-A	2700	3679	S		Yes
Bathroom	CONCBLOCK-190-FCF-PB-B	2700	2015	W		No
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3376	E	1708	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3427	E	1708	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3770	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	2834	S		No
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	272	SSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	250	SSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	176	SW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	255	SW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	243	SW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	198	WSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	204	WSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	233	WSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	159	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	223	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3409	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3505	E	1334	Yes
Corridor	CONCBLOCK-190-FCF-PB-B	2700	1731	W		No
Ensuite	CONCBLOCK-190-FCF-PB-A	2700	2334	S	3438	Yes
Laundry	CONCBLOCK-190-FCF-PB-B	2700	1162	N		No
Laundry	CONCBLOCK-190-FCF-PB-B	2700	2482	W		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	4083	N	1986	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	7433	E	1586	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	1242	N	9409	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	4174	E		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	1703	S	7030	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	766	W	3751	Yes

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	48.6	0.00
INT-PB	Internal Plasterboard Stud Wall	121.7	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	22.0	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	15.4	N/A	0.00	Timber (12mm)
Bedroom 3	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.6	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	20.7	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.2	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.1	N/A	0.00	Timber (12mm)
Living/Kitchen	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	55.6	N/A	0.00	Timber (12mm)
Walk In Robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.1	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	2	Exhaust Fan	250	Sealed
Living/Kitchen	1	Exhaust Fan	250	Sealed

* Refer to glossary.

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

A residential energy 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.

Raters

Raters (non-accredited assessors) may not have completed a recognised software training course, do not have quality assurance checks conducted through NatHERS processes, do not have any ongoing training requirements and **are not supported or recognised under NatHERS.**

Any questions or concerns about this report should be directed to the rater in the first instance. If the rater is unable to address these questions or concerns, the state or territory building code authority should be contacted.

Disclaimer

The format of the energy rating report was developed by the NatHERS Administrator. However the content of each individual rating report is entered and created by the rater. It is the responsibility of the rater who prepared this rating report to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce the rating report.

The predicted annual energy load in this rating report is an estimate based on an assessment of the building by the rater. 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 rater who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the rater while using the NatHERS accredited software tool, are presented in this report. Further details or data files may be available from the rater.

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.
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Residential Energy Rating - Non-Accredited

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About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 7.3

Annual thermal performance

Total 90.7 MJ/m², **Heating** 63.2 MJ/m², **Cooling** 27.6 MJ/m²

Property

Address 301, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 150.1

Unconditioned* 16.5

Total 166.6

Garage 0.0

Exposure type

Suburban

NatHERS climate zone

20 - Wagga AMO

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

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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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					

Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
A&L-016-09 A	Al Casement DG 4/10/4	3.73	0.50	0.47	0.53
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bathroom	A&L-016-09 A	W01-f	450	2100	Casement	45	S	None
Bedroom 1	ALS-074-09 A	W06-d	2700	3300	Sliding	45	W	None
Bedroom 2	ALS-074-09 A	W07-d	2700	2500	Sliding	45	W	None
Bedroom 3	ALS-074-09 A	W08-b	2700	3200	Sliding	45	W	None
Ensuite	A&L-016-09 A	W09	1000	450	Casement	90	S	None
Living /Kitchen	ALS-074-09 A	W05-e	2100	1845	Sliding	45	W	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living /Kitchen	ALS-074-09 A	W04-g	2700	1150	Sliding	45	N	None
Living /Kitchen	ALS-074-09 A	W03-g	2700	7262	Sliding	45	W	None
Living /Kitchen	ALS-074-09 A	W02-g	2700	4091	Sliding	45	N	None

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
None					
Custom* roof windows					
Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Corridor	2040	1000	90	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bathroom	CONCBLOCK-190-FCF-PB-A	2700	2015	E		No
Bathroom	CONCBLOCK-190-FCF-PB-B	2700	3674	S		Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-B	2700	3381	W	1687	Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-B	2700	271	S		Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-B	2700	3427	W	1958	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-B	2700	3511	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	3505	W	1419	Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	3409	E		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	495	ESE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	434	SE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	226	SE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	650	SSE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	315	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	2883	S		No
Corridor	CONCBLOCK-190-FCF-PB-A	2700	1731	E		No
Ensuite	CONCBLOCK-190-FCF-PB-B	2700	2325	S	3389	Yes
Laundry	CONCBLOCK-190-FCF-PB-A	2700	2482	E		No
Laundry	CONCBLOCK-190-FCF-PB-A	2700	1368	N		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	766	E	3800	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	4174	W		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	1268	N		Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	7432	W	1493	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	4091	N	1983	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	1708	S	6911	Yes
Walk In robe	CONCBLOCK-190-FCF-PB-B	2700	224	N		Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Walk In robe	CONCBLOCK-190-FCF-PB-B	2700	148	W		Yes

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	47.6	0.00
INT-PB	Internal Plasterboard Stud Wall	120.2	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	22.0	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	14.6	N/A	0.00	Timber (12mm)
Bedroom 3	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.5	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	20.5	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.0	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.2	N/A	0.00	Timber (12mm)
Living /Kitchen	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	55.6	N/A	0.00	Timber (12mm)
Walk In robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.0	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	2	Exhaust Fan	250	Sealed
Living/Kitchen	1	Exhaust Fan	250	Sealed

* Refer to glossary.

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

A residential energy 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.

Raters

Raters (non-accredited assessors) may not have completed a recognised software training course, do not have quality assurance checks conducted through NatHERS processes, do not have any ongoing training requirements and **are not supported or recognised under NatHERS.**

Any questions or concerns about this report should be directed to the rater in the first instance. If the rater is unable to address these questions or concerns, the state or territory building code authority should be contacted.

Disclaimer

The format of the energy rating report was developed by the NatHERS Administrator. However the content of each individual rating report is entered and created by the rater. It is the responsibility of the rater who prepared this rating report to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce the rating report.

The predicted annual energy load in this rating report is an estimate based on an assessment of the building by the rater. 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 rater who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the rater while using the NatHERS accredited software tool, are presented in this report. Further details or data files may be available from the rater.

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.

* Refer to glossary.

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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 9.1

Annual thermal performance

Total 25.8 MJ/m², **Heating** 21.2 MJ/m², **Cooling** 4.6 MJ/m²

Property

Address 302, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #	**Exposure type**
Conditioned* 103.3	Suburban
Unconditioned* 9.5	**NatHERS climate zone**
Total 112.8	20 - Wagga AMO
Garage 0.0	

Rater*

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Business name Lincoln Pearce

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Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

*Raters (non-accredited assessors) are not required to have any formal qualifications, insurance, ongoing professional development or quality assurance checks on their ratings. This is distinct from NatHERS accredited assessors who are required to have qualifications, ongoing professional development and have quality assurance checks on their ratings.

Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					
Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALS-074-09 A	W03-f	2700	3039	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W04-f	2700	3535	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W02-e	2700	3472	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W01-d	2700	2780	Sliding	45	N	None

* Refer to glossary.

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
None					

Custom* roof windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2040	1000	90	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	CONCBLOCK-190-FCF-PB-B	2700	308	N		Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-B	2700	3039	N	2465	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-B	2700	3535	N	2749	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 2	CONCBLOCK-190-FCF-PB-B	2700	1127	E		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	2203	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	412	E		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	2871	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	109	S		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	3472	N	2157	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	482	E	1114	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	2898	N	2639	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	119	W		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	308	W	943	Yes

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	68.1	0.00
INT-PB	Internal Plasterboard Stud Wall	68.0	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.3	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.4	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	23.5	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	3.9	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.9	N/A	0.00	Timber (12mm)
Kitchen /Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	53.7	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.2	N/A	0.00	Timber (12mm)

* Refer to glossary.

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

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Glossary

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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.
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Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.

* Refer to glossary.

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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 9.2

Annual thermal performance

Total 24.8 MJ/m², **Heating** 20.1 MJ/m², **Cooling** 4.7 MJ/m²

Property

Address 303, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #	**Exposure type**
Conditioned* 103.0	Suburban
Unconditioned* 9.4	**NatHERS climate zone**
Total 112.5	20 - Wagga AMO
Garage 0.0	

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

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Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					
Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALS-074-09 A	W02-f	2700	3045	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W01-g	2700	3484	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W03-d	2700	3468	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W04-d	2700	2780	Sliding	45	N	None

* Refer to glossary.

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
None					

Custom* roof windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2040	1000	90	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3045	N	730	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3484	N	2749	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	1127	W		Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	482	W	904	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	3468	N	2157	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	308	E	1081	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	412	W		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	2208	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	2908	N	2639	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	2660	S		No

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	69.1	0.00
INT-PB	Internal Plasterboard Stud Wall	68.3	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.3	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.4	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	23.2	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	3.9	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.8	N/A	0.00	Timber (12mm)
Kitchen /Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	53.8	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.1	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

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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.

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Not all assumptions that may have been made by the rater while using the NatHERS accredited software tool, are presented in this report. Further details or data files may be available from the rater.

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.

* Refer to glossary.

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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 7.5

Annual thermal performance

Total 81.3 MJ/m², **Heating** 67.5 MJ/m², **Cooling** 13.7 MJ/m²

Property

Address 304, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 151.5

Unconditioned* 16.5

Total 168.0

Garage 0.0

Exposure type

Suburban

NatHERS climate zone

20 - Wagga AMO

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

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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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					

Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
A&L-016-09 A	Al Casement DG 4/10/4	3.73	0.50	0.47	0.53
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bathroom	A&L-016-09 A	W08	450	2100	Casement	45	S	None
Bedroom 1	ALS-074-09 A	W03-e	2700	3375	Sliding	45	E	None
Bedroom 2	ALS-074-09 A	W02-d	2700	2614	Sliding	45	E	None
Bedroom 3	ALS-074-09 A	W01-e	2700	3220	Sliding	45	E	None
Ensuite	A&L-016-09 A	W09	1000	450	Casement	90	S	None
Living / Kitchen	ALS-074-09 A	W06-c	2700	4083	Sliding	45	N	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living / Kitchen	ALS-074-09 A	W07-c	2700	7342	Sliding	45	E	None
Living / Kitchen	ALS-074-09 A	W05-d	2700	1160	Sliding	45	N	None
Living / Kitchen	ALS-074-09 A	W04-e	2100	1895	Sliding	45	E	None

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
None					

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Corridor	2040	1000	90	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bathroom	CONCBLOCK-190-FCF-PB-A	2700	3679	S		Yes
Bathroom	CONCBLOCK-190-FCF-PB-B	2700	2015	W		No
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3376	E	1715	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3427	E	1715	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3770	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	2834	S		No
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	522	SSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	431	SW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	440	WSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	437	WSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	159	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	223	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3409	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3505	E	1405	Yes
Corridor	CONCBLOCK-190-FCF-PB-B	2700	1731	W		No
Ensuite	CONCBLOCK-190-FCF-PB-A	2700	2334	S	3309	Yes
Laundry	CONCBLOCK-190-FCF-PB-B	2700	1162	N		No
Laundry	CONCBLOCK-190-FCF-PB-B	2700	2482	W		No
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	4083	N	1983	Yes
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	7433	E		Yes
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	1242	N	9406	Yes
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	4174	E		No
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	1703	S	6994	Yes
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	766	W		Yes
Walk In Robes	CONCBLOCK-190-FCF-PB-A	2700	121	N		Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Walk In Robes	CONCBLOCK-190-FCF-PB-A	2700	148	E		Yes

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	47.9	0.00
INT-PB	Internal Plasterboard Stud Wall	121.7	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	22.0	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	15.4	N/A	0.00	Timber (12mm)
Bedroom 3	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.6	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	20.7	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.0	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.2	N/A	0.00	Timber (12mm)
Living / Kitchen	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	55.6	N/A	0.00	Timber (12mm)
Walk In Robes	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.2	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	2	Exhaust Fan	250	Sealed
Living / Kitchen	1	Exhaust Fan	250	Sealed

* Refer to glossary.

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

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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.

* Refer to glossary.

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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 7.2

Annual thermal performance

Total 91.7 MJ/m², **Heating** 68.5 MJ/m², **Cooling** 23.2 MJ/m²

Property

Address 401, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 150.1

Unconditioned* 16.5

Total 166.6

Garage 0.0

Exposure type

Open

NatHERS climate zone

20 - Wagga AMO

Rater*

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Business name Lincoln Pearce

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Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

*Raters (non-accredited assessors) are not required to have any formal qualifications, insurance, ongoing professional development or quality assurance checks on their ratings. This is distinct from NatHERS accredited assessors who are required to have qualifications, ongoing professional development and have quality assurance checks on their ratings.

Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-016-09 A	Al Casement DG 4/10/4	3.73	0.50	0.47	0.53
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bathroom	A&L-016-09 A	W01-f	450	2100	Casement	45	S	None
Bedroom 1	ALS-074-09 A	W06-d	2700	3300	Sliding	45	W	None
Bedroom 2	ALS-074-09 A	W07-d	2700	2500	Sliding	45	W	None
Bedroom 3	ALS-074-09 A	W08-b	2700	3200	Sliding	45	W	None
Ensuite	A&L-016-09 A	W09	1000	450	Casement	90	S	None
Living /Kitchen	ALS-074-09 A	W05-e	2100	1845	Sliding	45	W	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living /Kitchen	ALS-074-09 A	W04-g	2700	1150	Sliding	45	N	None
Living /Kitchen	ALS-074-09 A	W03-g	2700	7262	Sliding	45	W	None
Living /Kitchen	ALS-074-09 A	W02-g	2700	4091	Sliding	45	N	None

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
None					
Custom* roof windows					
Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Corridor	2040	1000	90	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bathroom	CONCBLOCK-190-FCF-PB-A	2700	2015	E		No
Bathroom	CONCBLOCK-190-FCF-PB-B	2700	3674	S		Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-B	2700	3381	W	1674	Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-B	2700	271	S		Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-B	2700	3427	W	1945	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-B	2700	3511	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	3505	W	1406	Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	3409	E		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	495	ESE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	434	SE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	226	SE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	650	SSE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	315	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	2883	S		No
Corridor	CONCBLOCK-190-FCF-PB-A	2700	1731	E		No
Ensuite	CONCBLOCK-190-FCF-PB-B	2700	2325	S	3427	Yes
Laundry	CONCBLOCK-190-FCF-PB-A	2700	2482	E		No
Laundry	CONCBLOCK-190-FCF-PB-A	2700	1368	N		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	766	E	3813	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	4174	W		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	1268	N		Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	7432	W	1479	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	4091	N	1970	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	1708	S	6924	Yes

* Refer to glossary.

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	47.6	0.00
INT-PB	Internal Plasterboard Stud Wall	121.2	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	21.9	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	14.6	N/A	0.00	Timber (12mm)
Bedroom 3	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.5	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	20.4	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.1	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.1	N/A	0.00	Timber (12mm)
Living /Kitchen	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	55.6	N/A	0.00	Timber (12mm)
Walk In robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.9	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	2	Exhaust Fan	250	Sealed
Living/Kitchen	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

A residential energy 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.

Raters

Raters (non-accredited assessors) may not have completed a recognised software training course, do not have quality assurance checks conducted through NatHERS processes, do not have any ongoing training requirements and **are not supported or recognised under NatHERS.**

Any questions or concerns about this report should be directed to the rater in the first instance. If the rater is unable to address these questions or concerns, the state or territory building code authority should be contacted.

Disclaimer

The format of the energy rating report was developed by the NatHERS Administrator. However the content of each individual rating report is entered and created by the rater. It is the responsibility of the rater who prepared this rating report to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce the rating report.

The predicted annual energy load in this rating report is an estimate based on an assessment of the building by the rater. 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 rater who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the rater while using the NatHERS accredited software tool, are presented in this report. Further details or data files may be available from the rater.

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.
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Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.

* Refer to glossary.

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).
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Exposure category - suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
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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 â€˜mediumâ€™ must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
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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 windowâ€™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).

Residential Energy Rating - Non-Accredited

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About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 9.0

Annual thermal performance

Total 29.2 MJ/m², **Heating** 25.3 MJ/m², **Cooling** 3.9 MJ/m²

Property

Address 402, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #	**Exposure type**
Conditioned* 103.3	Open
Unconditioned* 9.5	**NatHERS climate zone**
Total 112.8	20 - Wagga AMO
Garage 0.0	

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

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Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					
Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALS-074-09 A	W03-f	2700	3039	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W04-f	2700	3535	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W02-e	2700	3472	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W01-d	2700	2780	Sliding	45	N	None

* Refer to glossary.

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
None					

Custom* roof windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2040	1000	90	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	CONCBLOCK-190-FCF-PB-B	2700	308	N		Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-B	2700	3039	N	1038	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-B	2700	3535	N	2736	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 2	CONCBLOCK-190-FCF-PB-B	2700	1127	E		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	2203	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	412	E		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	2871	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	109	S		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	3472	N	2144	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	482	E	1127	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	2898	N	2626	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	119	W		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	308	W	930	Yes

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	68.1	0.00
INT-PB	Internal Plasterboard Stud Wall	68.0	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.3	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.4	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	23.5	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.0	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.9	N/A	0.00	Timber (12mm)
Kitchen /Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	53.6	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.2	N/A	0.00	Timber (12mm)

* Refer to glossary.

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

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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.

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Not all assumptions that may have been made by the rater while using the NatHERS accredited software tool, are presented in this report. Further details or data files may be available from the rater.

Glossary

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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.

* Refer to glossary.

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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 9.2

Annual thermal performance

Total 25.3 MJ/m², **Heating** 21.5 MJ/m², **Cooling** 3.8 MJ/m²

Property

Address 403, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #	**Exposure type**
Conditioned* 103.0	Open
Unconditioned* 9.4	**NatHERS climate zone**
Total 112.5	20 - Wagga AMO
Garage 0.0	

Rater*

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Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

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Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					
Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALS-074-09 A	W02-f	2700	3045	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W01-g	2700	3484	Sliding	45	N	None
Kitchen /Living 6	ALS-074-09 A	W03-d	2700	3468	Sliding	45	N	None
Kitchen /Living 6	ALS-074-09 A	W04-d	2700	2780	Sliding	45	N	None

* Refer to glossary.

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
None					

Custom* roof windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living 6	2040	1000	90	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3045	N	2452	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3484	N	2736	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	1127	W		Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living 6	CONCBLOCK-190-FCF-PB-A	2700	482	W	891	Yes
Kitchen/Living 6	CONCBLOCK-190-FCF-PB-A	2700	3468	N	2144	Yes
Kitchen/Living 6	CONCBLOCK-190-FCF-PB-A	2700	308	E	1094	Yes
Kitchen/Living 6	CONCBLOCK-190-FCF-PB-A	2700	143	S		Yes
Kitchen/Living 6	CONCBLOCK-190-FCF-PB-A	2700	119	E		Yes
Kitchen/Living 6	CONCBLOCK-190-FCF-PB-B	2700	412	W		No
Kitchen/Living 6	CONCBLOCK-190-FCF-PB-B	2700	2208	S		No
Kitchen/Living 6	CONCBLOCK-190-FCF-PB-A	2700	2908	N	891	Yes
Kitchen/Living 6	CONCBLOCK-190-FCF-PB-B	2700	2660	S		No

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	68.4	0.00
INT-PB	Internal Plasterboard Stud Wall	68.3	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.4	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	23.1	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	3.9	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.8	N/A	0.00	Timber (12mm)
Kitchen/Living 6	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	53.7	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.1	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Kitchen/Living 6	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

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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).
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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.
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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 windowâ€™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).

Residential Energy Rating - Non-Accredited

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About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 7.4

Annual thermal performance

Total 84.0 MJ/m², **Heating** 75.4 MJ/m², **Cooling** 8.7 MJ/m²

Property

Address 404, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 151.5

Unconditioned* 16.5

Total 168.0

Garage 0.0

Exposure type

Open

NatHERS climate zone

20 - Wagga AMO

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

National Construction Code (NCC) requirements

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

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Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					

Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
A&L-016-09 A	Al Casement DG 4/10/4	3.73	0.50	0.47	0.53
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bathroom	A&L-016-09 A	W08	450	2100	Casement	45	S	None
Bedroom 1	ALS-074-09 A	W03-e	2700	3375	Sliding	45	E	None
Bedroom 2	ALS-074-09 A	W02-d	2700	2614	Sliding	45	E	None
Bedroom 3	ALS-074-09 A	W01-e	2700	3220	Sliding	45	E	None
Ensuite	A&L-016-09 A	W09	1000	450	Casement	90	S	None
Living / Kitchen	ALS-074-09 A	W06-c	2700	4083	Sliding	45	N	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living / Kitchen	ALS-074-09 A	W07-c	2700	7342	Sliding	45	E	None
Living / Kitchen	ALS-074-09 A	W05-d	2700	1160	Sliding	45	N	None
Living / Kitchen	ALS-074-09 A	W04-e	2100	1895	Sliding	45	E	None

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
None					
Custom* roof windows					
Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Corridor	2040	1000	90	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bathroom	CONCBLOCK-190-FCF-PB-A	2700	3679	S		Yes
Bathroom	CONCBLOCK-190-FCF-PB-B	2700	2015	W		No
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3376	E	1728	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3427	E	1728	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3770	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	2834	S		No
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	522	SSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	431	SW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	440	WSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	437	WSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	159	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	223	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3409	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3505	E	1418	Yes
Corridor	CONCBLOCK-190-FCF-PB-B	2700	1731	W		No
Ensuite	CONCBLOCK-190-FCF-PB-A	2700	2334	S	3322	Yes
Laundry	CONCBLOCK-190-FCF-PB-B	2700	1162	N		No
Laundry	CONCBLOCK-190-FCF-PB-B	2700	2482	W		No
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	4083	N	1970	Yes
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	7433	E	1650	Yes
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	1242	N	9393	Yes
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	4174	E		No
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	1703	S	7007	Yes
Living / Kitchen	CONCBLOCK-190-FCF-PB-A	2700	766	W	3725	Yes
Walk In Robe	CONCBLOCK-190-FCF-PB-A	2700	121	N		Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Walk In Robe	CONCBLOCK-190-FCF-PB-A	2700	148	E		Yes

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	47.9	0.00
INT-PB	Internal Plasterboard Stud Wall	121.7	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	22.0	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	15.4	N/A	0.00	Timber (12mm)
Bedroom 3	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.6	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	20.7	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.2	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.1	N/A	0.00	Timber (12mm)
Living / Kitchen	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	55.5	N/A	0.00	Timber (12mm)
Walk In Robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.2	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	2	Exhaust Fan	250	Sealed
Living / Kitchen	1	Exhaust Fan	250	Sealed

* Refer to glossary.

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

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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.

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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.

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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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 7.1

Annual thermal performance

Total 96.8 MJ/m², **Heating** 70.9 MJ/m², **Cooling** 25.9 MJ/m²

Property

Address 501, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 150.1

Unconditioned* 16.5

Total 166.6

Garage 0.0

Exposure type

Open

NatHERS climate zone

20 - Wagga AMO

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

*Raters (non-accredited assessors) are not required to have any formal qualifications, insurance, ongoing professional development or quality assurance checks on their ratings. This is distinct from NatHERS accredited assessors who are required to have qualifications, ongoing professional development and have quality assurance checks on their ratings.

Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					

Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
A&L-016-09 A	Al Casement DG 4/10/4	3.73	0.50	0.47	0.53
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bathroom	A&L-016-09 A	W01-f	450	2100	Casement	45	S	None
Bedroom 1	ALS-074-09 A	W06-d	2700	3300	Sliding	45	W	None
Bedroom 2	ALS-074-09 A	W07-d	2700	2500	Sliding	45	W	None
Bedroom 3	ALS-074-09 A	W08-b	2700	3200	Sliding	45	W	None
Ensuite	A&L-016-09 A	W09	1000	450	Casement	90	S	None
Living /Kitchen	ALS-074-09 A	W05-e	2100	1845	Sliding	45	W	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living /Kitchen	ALS-074-09 A	W04-g	2700	1150	Sliding	45	N	None
Living /Kitchen	ALS-074-09 A	W03-g	2700	7262	Sliding	45	W	None
Living /Kitchen	ALS-074-09 A	W02-g	2700	4091	Sliding	45	N	None

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
None					
Custom* roof windows					
Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Corridor	2040	1000	90	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bathroom	CONCBLOCK-190-FCF-PB-A	2700	2015	E		No
Bathroom	CONCBLOCK-190-FCF-PB-B	2700	3674	S		Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-B	2700	3381	W	1663	Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-B	2700	271	S		Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-B	2700	3427	W	1934	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-B	2700	3511	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	3505	W	1395	Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	3409	E		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	495	ESE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	434	SE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	226	SE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	650	SSE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	315	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-B	2700	2883	S		No
Corridor	CONCBLOCK-190-FCF-PB-A	2700	1731	E		No
Ensuite	CONCBLOCK-190-FCF-PB-B	2700	2325	S	3435	Yes
Laundry	CONCBLOCK-190-FCF-PB-A	2700	2482	E		No
Laundry	CONCBLOCK-190-FCF-PB-A	2700	1368	N		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	766	E	3824	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	4174	W		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	1268	N	9385	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	7432	W	1468	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	4091	N	1962	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-B	2700	1708	S	6932	Yes

* Refer to glossary.

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	48.6	0.00
INT-PB	Internal Plasterboard Stud Wall	120.2	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	22.0	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	14.6	N/A	0.00	Timber (12mm)
Bedroom 3	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.4	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	20.5	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.1	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.1	N/A	0.00	Timber (12mm)
Living /Kitchen	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	55.6	N/A	0.00	Timber (12mm)
Walk In robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.9	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
Living /Kitchen	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Ensuite	2	Exhaust Fan	250	Sealed
Living/Kitchen	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	0.00	0.50	Medium

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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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 9.1

Annual thermal performance

Total 26.1 MJ/m², **Heating** 21.9 MJ/m², **Cooling** 4.2 MJ/m²

Property

Address 502, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 103.3

Unconditioned* 9.5

Total 112.8

Garage 0.0

Exposure type

Open

NatHERS climate zone

20 - Wagga AMO

Rater*

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Business name Lincoln Pearce

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Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

*Raters (non-accredited assessors) are not required to have any formal qualifications, insurance, ongoing professional development or quality assurance checks on their ratings. This is distinct from NatHERS accredited assessors who are required to have qualifications, ongoing professional development and have quality assurance checks on their ratings.

Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					
Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALS-074-09 A	W03-f	2700	3039	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W04-f	2700	3535	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W02-e	2700	3472	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W01-d	2700	2780	Sliding	45	N	None

* Refer to glossary.

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
None					

Custom* roof windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2040	1000	90	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	CONCBLOCK-190-FCF-PB-B	2700	308	N		Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-B	2700	3039	N	1030	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-B	2700	3535	N	2728	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 2	CONCBLOCK-190-FCF-PB-B	2700	1127	E		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	2203	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	412	E		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	2871	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	3472	N	2136	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	482	E	1138	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	2898	N	883	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	308	W	919	Yes

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	68.7	0.00
INT-PB	Internal Plasterboard Stud Wall	68.0	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.3	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.4	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	23.4	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	3.9	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.9	N/A	0.00	Timber (12mm)
Kitchen /Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	53.6	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.2	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

A residential energy 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.

Raters

Raters (non-accredited assessors) may not have completed a recognised software training course, do not have quality assurance checks conducted through NatHERS processes, do not have any ongoing training requirements and **are not supported or recognised under NatHERS.**

Any questions or concerns about this report should be directed to the rater in the first instance. If the rater is unable to address these questions or concerns, the state or territory building code authority should be contacted.

Disclaimer

The format of the energy rating report was developed by the NatHERS Administrator. However the content of each individual rating report is entered and created by the rater. It is the responsibility of the rater who prepared this rating report to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce the rating report.

The predicted annual energy load in this rating report is an estimate based on an assessment of the building by the rater. 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 rater who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the rater while using the NatHERS accredited software tool, are presented in this report. Further details or data files may be available from the rater.

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.

* Refer to glossary.

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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 9.1

Annual thermal performance

Total 27.6 MJ/m², **Heating** 23.8 MJ/m², **Cooling** 3.8 MJ/m²

Property

Address 503, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 103.0

Unconditioned* 9.4

Total 112.5

Garage 0.0

Exposure type

Open

NatHERS climate zone

20 - Wagga AMO

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

*Raters (non-accredited assessors) are not required to have any formal qualifications, insurance, ongoing professional development or quality assurance checks on their ratings. This is distinct from NatHERS accredited assessors who are required to have qualifications, ongoing professional development and have quality assurance checks on their ratings.

Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					
Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALS-074-09 A	W02-f	2700	3045	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W01-g	2700	3484	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W03-d	2700	3468	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W04-d	2700	2780	Sliding	45	N	None

* Refer to glossary.

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
None					

Custom* roof windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2040	1000	90	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3045	N	2444	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3484	N	2728	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	1127	W		Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	482	W	880	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	3468	N	2136	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	308	E	1105	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	143	S		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	119	E		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	412	W		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	2208	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	2908	N	2618	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	2660	S		No

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	68.4	0.00
INT-PB	Internal Plasterboard Stud Wall	68.3	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	13.4	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	23.1	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	3.9	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.8	N/A	0.00	Timber (12mm)
Kitchen /Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	53.7	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.1	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

A residential energy 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.

Raters

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Glossary

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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.
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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.
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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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 7.4

Annual thermal performance

Total 85.5 MJ/m², **Heating** 76.1 MJ/m², **Cooling** 9.4 MJ/m²

Property

Address 504, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 151.5

Unconditioned* 16.5

Total 168.0

Garage 0.0

Exposure type

Open

NatHERS climate zone

20 - Wagga AMO

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

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Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					
Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
A&L-016-09 A	Al Casement DG 4/10/4	3.73	0.50	0.47	0.53
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bathroom	A&L-016-09 A	W08	450	2100	Casement	45	S	None
Bedroom 1	ALS-074-09 A	W03-e	2700	3375	Sliding	45	E	None
Bedroom 2	ALS-074-09 A	W02-d	2700	2614	Sliding	45	E	None
Bedroom 3	ALS-074-09 A	W01-e	2700	3220	Sliding	45	E	None
Ensuite	A&L-016-09 A	W09	1000	450	Casement	90	S	None
Living /Kitchen	ALS-074-09 A	W06-c	2700	4083	Sliding	45	N	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living /Kitchen	ALS-074-09 A	W07-c	2700	7342	Sliding	45	E	None
Living /Kitchen	ALS-074-09 A	W05-d	2700	1160	Sliding	45	N	None
Living /Kitchen	ALS-074-09 A	W04-e	2100	1895	Sliding	45	E	None

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
None					
Custom* roof windows					
Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Corridor	2040	1000	90	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bathroom	CONCBLOCK-190-FCF-PB-A	2700	3679	S		Yes
Bathroom	CONCBLOCK-190-FCF-PB-B	2700	2015	W		No
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3376	E	1739	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3427	E	1739	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3770	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	2834	S		No
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	522	SSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	431	SW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	440	WSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	437	WSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	159	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	223	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3409	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3505	E	1429	Yes
Corridor	CONCBLOCK-190-FCF-PB-B	2700	1731	W		No
Ensuite	CONCBLOCK-190-FCF-PB-A	2700	2334	S	3330	Yes
Laundry	CONCBLOCK-190-FCF-PB-B	2700	1162	N		No
Laundry	CONCBLOCK-190-FCF-PB-B	2700	2482	W		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	4083	N	1962	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	7433	E	1660	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	1242	N	9385	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	4174	E		No
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	1703	S	7015	Yes
Living/Kitchen	CONCBLOCK-190-FCF-PB-A	2700	766	W	3714	Yes

* Refer to glossary.

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	48.6	0.00
INT-PB	Internal Plasterboard Stud Wall	121.7	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	22.0	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	15.3	N/A	0.00	Timber (12mm)
Bedroom 3	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.6	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	20.8	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.5	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.7	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.1	N/A	0.00	Timber (12mm)
Living/Kitchen	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	55.6	N/A	0.00	Timber (12mm)
Walk In Robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.1	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
Living /Kitchen	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

* Refer to glossary.

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	0.00	0.50	Medium

* Refer to glossary.

Explanatory Notes

About this report

A residential energy 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.

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Verification

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Main plan
Prepared by

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Unconditioned* 17.0

Total 199.1

Garage 0.0

Exposure type

Open

NatHERS climate zone

20 - Wagga AMO

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

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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 rating report.

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?

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
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-016-09 A	Al Casement DG 4/10/4	3.73	0.50	0.47	0.53
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALS-074-09 A	W01	2100	3400	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W07	2100	2500	Sliding	45	W	None
Bedroom 3	ALS-074-09 A	W08	2100	3139	Sliding	45	W	None
Ensuite	A&L-016-09 A	W10	1000	450	Casement	90	S	None
Kitchen /Living	ALS-074-09 A	W02	2100	4200	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W05	2100	2400	Sliding	45	W	None

* 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	ALS-074-09 A	W04	2100	1000	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W03	2100	9450	Sliding	45	W	None
Kitchen /Living	ALS-074-09 A	W06	2100	1500	Sliding	45	S	None
Powder	A&L-016-09 A	W09	450	2100	Casement	45	S	None

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
None					
Custom* roof windows					
Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Corridor	2040	1020	90	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3472	N	2740	Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	1081	E		Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	684	W		Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3785	S	3402	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3472	W	1738	Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3650	E		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	262	ESE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	538	SE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	275	SE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	530	SSE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	275	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3042	S		No
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3219	W	1329	Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	93	N		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	338	W		Yes
Corridor	CONCBLOCK-190-FCF-PB-B	2700	1783	E		No
Ensuite	CONCBLOCK-190-FCF-PB-A	2700	2365	S	3402	Yes
Ensuite	CONCBLOCK-190-FCF-PB-A	2700	202	E		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	4340	N	3424	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	4072	W		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	1276	N	13023	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	9604	W	1482	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	1741	S	3396	Yes
Laundry	CONCBLOCK-190-FCF-PB-B	2700	2552	E		No
Laundry	CONCBLOCK-190-FCF-PB-B	2700	1360	N		No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Powder	CONCBLOCK-190-FCF-PB-B	2700	2036	E		No
Powder	CONCBLOCK-190-FCF-PB-A	2700	3709	S		Yes

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	36.2	0.00
INT-PB	Internal Plasterboard Stud Wall	170.2	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	15.1	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	18.0	N/A	0.00	Timber (12mm)
Bedroom 3	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.2	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	22.9	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	15.9	N/A	0.00	Timber (12mm)
Kitchen/Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	66.5	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.5	N/A	0.00	Timber (12mm)
Pantry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.8	N/A	0.00	Timber (12mm)
Powder	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.6	N/A	0.00	Timber (12mm)
Walk In Robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.7	N/A	0.00	Timber (12mm)
Walk in Robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	6.5	N/A	0.00	Timber (12mm)
Walk in Robes	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.4	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Ensuite	2	Exhaust Fan	250	Sealed

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Kitchen/Living	1	Exhaust Fan	250	Sealed
Powder	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

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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.
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Exposure category - suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
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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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 9.2

Annual thermal performance

Total 24.8 MJ/m², **Heating** 20.9 MJ/m², **Cooling** 3.9 MJ/m²

Property

Address 602, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #	**Exposure type**
Conditioned* 151.0	Open
Unconditioned* 12.0	**NatHERS climate zone**
Total 163.0	20 - Wagga AMO
Garage 0.0	

Rater*

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Business name Lincoln Pearce

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Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

*Raters (non-accredited assessors) are not required to have any formal qualifications, insurance, ongoing professional development or quality assurance checks on their ratings. This is distinct from NatHERS accredited assessors who are required to have qualifications, ongoing professional development and have quality assurance checks on their ratings.

Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					

Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bed 3 /Study	ALS-074-09 A	W02	2100	3400	Sliding	45	N	None
Bedroom 1	ALS-074-09 A	W05	2100	3000	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W01	2100	3000	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W04	2100	3450	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W03	2100	5400	Sliding	45	N	None

* Refer to glossary.

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
None					

Custom* roof windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2040	1020	90	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bed 3/Study	CONCBLOCK-190-FCF-PB-A	2700	3549	N	2115	Yes
Bed 3/Study	CONCBLOCK-190-FCF-PB-A	2700	296	E	954	Yes
Bed 3/Study	CONCBLOCK-190-FCF-PB-A	2700	456	W	950	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3067	N	997	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3068	N	2411	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	3456	N	2115	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	456	E	1059	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	5932	N	2571	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	5416	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	423	W		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	2045	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	296	W		Yes
Walk In Robes	CONCBLOCK-190-FCF-PB-B	2700	1360	S		No
Walk In Robes	CONCBLOCK-190-FCF-PB-B	2700	423	E		No

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	73.6	0.00
INT-PB	Internal Plasterboard Stud Wall	106.9	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.3	N/A	0.00	Timber (12mm)
Bed 3/Study	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	14.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.6	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	14.3	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.7	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.7	N/A	0.00	Timber (12mm)
Kitchen/Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	74.4	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.8	N/A	0.00	Timber (12mm)

* Refer to glossary.

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Walk In Robes	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.1	N/A	0.00	Timber (12mm)
Walk in Robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.7	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

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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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 8.3

Annual thermal performance

Total 52.2 MJ/m², **Heating** 45.0 MJ/m², **Cooling** 7.2 MJ/m²

Property

Address 603, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #	**Exposure type**
Conditioned* 185.0	Open
Unconditioned* 16.9	**NatHERS climate zone**
Total 201.9	20 - Wagga AMO
Garage 0.0	

Rater*

Name Komal Teni
Business name Lincoln Pearce
Email komal.teni@lincolnpearce.com.au
Phone +61 431325991
Declaration of interest No Conflict of Interest

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.

*Raters (non-accredited assessors) are not required to have any formal qualifications, insurance, ongoing professional development or quality assurance checks on their ratings. This is distinct from NatHERS accredited assessors who are required to have qualifications, ongoing professional development and have quality assurance checks on their ratings.

Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-016-09 A	Al Casement DG 4/10/4	3.73	0.50	0.47	0.53
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALS-074-09 A	W07	2100	3400	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W02	2100	2500	Sliding	45	E	None
Bedroom 3	ALS-074-09 A	W01	2100	3200	Sliding	45	E	None
Ensuite	A&L-016-09 A	W09	1000	450	Casement	90	S	None
Kitchen /Living	ALS-074-09 A	W06	2100	4300	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W05	2100	9500	Sliding	45	E	None

* 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	ALS-074-09 A	W04	2100	1090	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W03	2100	2400	Sliding	45	E	None
Powder	A&L-016-09 A	W08	450	2100	Casement	45	S	None

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
None					

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Corridor	2040	1020	90	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bathroom	CONCBLOCK-190-FCF-PB-B	2700	2552	W		No
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3473	N		Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	673	E	6058	Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	1071	W		Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	2577	E	1608	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	246	S	698	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	895	E	1854	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3550	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3194	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	529	SSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	294	SW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	649	WSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	328	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3582	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	93	N		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3219	E	1225	Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	333	E		Yes
Corridor	CONCBLOCK-190-FCF-PB-B	2700	1783	W		No
Corridor	CONCBLOCK-190-FCF-PB-A	2700	317	W		Yes
Ensuite	CONCBLOCK-190-FCF-PB-A	2700	2311	S	3297	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	4379	N		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	9605	E	1479	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	1248	N		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	4072	E		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	1688	S	3394	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Powder	CONCBLOCK-190-FCF-PB-A	2700	3684	S		Yes
Powder	CONCBLOCK-190-FCF-PB-B	2700	2036	W		No

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	37.7	0.00
INT-PB	Internal Plasterboard Stud Wall	159.0	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	15.2	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	17.8	N/A	0.00	Timber (12mm)
Bedroom 3	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	23.3	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	25.1	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.3	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	10.3	N/A	0.00	Timber (12mm)
Kitchen /Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	67.2	N/A	0.00	Timber (12mm)
Pantry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.7	N/A	0.00	Timber (12mm)
Powder	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.5	N/A	0.00	Timber (12mm)
Walk In Robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.4	N/A	0.00	Timber (12mm)
Walk In robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.6	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Ensuite	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed
Powder	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None			

* Refer to glossary.

Explanatory Notes

About this report

A residential energy 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.

Raters

Raters (non-accredited assessors) may not have completed a recognised software training course, do not have quality assurance checks conducted through NatHERS processes, do not have any ongoing training requirements and **are not supported or recognised under NatHERS.**

Any questions or concerns about this report should be directed to the rater in the first instance. If the rater is unable to address these questions or concerns, the state or territory building code authority should be contacted.

Disclaimer

The format of the energy rating report was developed by the NatHERS Administrator. However the content of each individual rating report is entered and created by the rater. It is the responsibility of the rater who prepared this rating report to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce the rating report.

The predicted annual energy load in this rating report is an estimate based on an assessment of the building by the rater. 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 rater who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the rater while using the NatHERS accredited software tool, are presented in this report. Further details or data files may be available from the rater.

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.

* Refer to glossary.

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 â€˜mediumâ€™ 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 windowâ€™s SHGC, the less solar heat it transmits.
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U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
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Residential Energy Rating - Non-Accredited

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About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 6.4

Annual thermal performance

Total 118.8 MJ/m², **Heating** 91.2 MJ/m², **Cooling** 27.6 MJ/m²

Property

Address 701, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #

Conditioned* 182.1

Unconditioned* 17.0

Total 199.1

Garage 0.0

Exposure type

Open

NatHERS climate zone

20 - Wagga AMO

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

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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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-016-09 A	Al Casement DG 4/10/4	3.73	0.50	0.47	0.53
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALS-074-09 A	W01-a	2100	3400	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W07-a	2100	2500	Sliding	45	W	None
Bedroom 3	ALS-074-09 A	W08-a	2100	3139	Sliding	45	W	None
Ensuite	A&L-016-09 A	W10	1000	450	Casement	90	S	None
Kitchen /Living	ALS-074-09 A	W02-a	2100	4200	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W05-a	2100	2400	Sliding	45	W	None

* 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	ALS-074-09 A	W04-a	2100	1000	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W03-a	2100	9450	Sliding	45	W	None
Kitchen /Living	ALS-074-09 A	W06-a	2100	1500	Sliding	45	S	None
Powder	A&L-016-09 A	W09	450	2100	Casement	45	S	None

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
None					

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Corridors	2040	1020	90	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3472	N	2739	Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	1081	E		Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	684	W	6087	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3785	S		Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3472	W	1752	Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3650	E		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	262	ESE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	538	SE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	275	SE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	530	SSE		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	275	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3042	S		No
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3219	W	1343	Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	93	N		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	338	W		Yes
Corridors	CONCBLOCK-190-FCF-PB-B	2700	1783	E		No
Ensuite	CONCBLOCK-190-FCF-PB-A	2700	2365	S	3403	Yes
Ensuite	CONCBLOCK-190-FCF-PB-A	2700	202	E		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	4340	N	3423	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	4072	W		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	1276	N	13022	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	9604	W	1496	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	1741	S	3397	Yes
Laundry	CONCBLOCK-190-FCF-PB-B	2700	2552	E		No
Laundry	CONCBLOCK-190-FCF-PB-B	2700	1360	N		No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Powder	CONCBLOCK-190-FCF-PB-B	2700	2036	E		No
Powder	CONCBLOCK-190-FCF-PB-A	2700	3709	S		Yes

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	36.2	0.00
INT-PB	Internal Plasterboard Stud Wall	170.7	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	15.1	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	18.0	N/A	0.00	Timber (12mm)
Bedroom 3	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.3	N/A	0.00	Timber (12mm)
Corridors	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	22.9	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	15.9	N/A	0.00	Timber (12mm)
Kitchen /Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	66.6	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.5	N/A	0.00	Timber (12mm)
Pantry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.8	N/A	0.00	Timber (12mm)
Powder	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.5	N/A	0.00	Timber (12mm)
Walk In Robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.7	N/A	0.00	Timber (12mm)
Walk in Robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.4	N/A	0.00	Timber (12mm)
Walk in Robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	6.6	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
Bedroom 1	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Bedroom 2	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Bedroom 3	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No

* Refer to glossary.

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
Corridors	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Ensuite	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Kitchen /Living	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Laundry	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Pantry	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Powder	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Walk In Robe	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
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Walk in Robe	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Ensuite	2	Exhaust Fan	250	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed
Powder	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	0.00	0.50	Medium

* Refer to glossary.

Explanatory Notes

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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.

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Glossary

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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.

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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 â€˜mediumâ€™ 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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 8.4

Annual thermal performance

Total 51.9 MJ/m², **Heating** 40.3 MJ/m², **Cooling** 11.6 MJ/m²

Property

Address 702, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #	**Exposure type**
Conditioned* 151.0	Open
Unconditioned* 12.0	**NatHERS climate zone**
Total 163.0	20 - Wagga AMO
Garage 0.0	

Rater*

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Business name Lincoln Pearce
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Phone +61 431325991
Declaration of interest No Conflict of Interest

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.

*Raters (non-accredited assessors) are not required to have any formal qualifications, insurance, ongoing professional development or quality assurance checks on their ratings. This is distinct from NatHERS accredited assessors who are required to have qualifications, ongoing professional development and have quality assurance checks on their ratings.

Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					
Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bed 3 /Study	ALS-074-09 A	W02-b	2100	3400	Sliding	45	N	None
Bedroom 1	ALS-074-09 A	W05-b	2100	3000	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W01-b	2100	3000	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W04-b	2100	3450	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W03-b	2100	5400	Sliding	45	N	None

* Refer to glossary.

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
None					

Custom* roof windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
None					

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2040	1020	90	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bed 3/Study	CONCBLOCK-190-FCF-PB-A	2700	3549	N	2114	Yes
Bed 3/Study	CONCBLOCK-190-FCF-PB-A	2700	296	E	3249	Yes
Bed 3/Study	CONCBLOCK-190-FCF-PB-A	2700	456	W	942	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3067	N	996	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3068	N	675	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	3456	N	2114	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	456	E	1067	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	5932	N	2570	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	5416	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	423	W		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-B	2700	2045	S		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	296	W	1006	Yes
Walk In Robe	CONCBLOCK-190-FCF-PB-B	2700	1360	S		No
Walk In Robe	CONCBLOCK-190-FCF-PB-B	2700	423	E		No

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	73.8	0.00
INT-PB	Internal Plasterboard Stud Wall	106.9	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.3	N/A	0.00	Timber (12mm)
Bed 3/Study	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	14.5	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.6	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	14.3	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.6	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.8	N/A	0.00	Timber (12mm)
Kitchen /Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	74.5	N/A	0.00	Timber (12mm)
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.8	N/A	0.00	Timber (12mm)

* Refer to glossary.

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Walk In Robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.2	N/A	0.00	Timber (12mm)
Walk in Robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	8.6	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
Bathroom	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Bed 3 /Study	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Bedroom 1	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Bedroom 2	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Corridor	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
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Laundry	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
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Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	0.00	0.50	Medium

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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 windowâ€™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).

Residential Energy Rating - Non-Accredited

This rating report has been completed by a **rater (non-accredited assessor)***. For more details see the NatHERS House Energy Rating Scheme (NatHERS) website www.nathers.gov.au.

About the rating NatHERS software models expected thermal energy loads using information on 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.

Star rating 6.9

Annual thermal performance

Total 100.3 MJ/m², **Heating** 82.4 MJ/m², **Cooling** 17.9 MJ/m²

Property

Address 703, 481-487 Swift Street, Albury, NSW, 2640

Lot/DP

NCC Class* 2

Type New

Verification

DRAFT PREVIEW ISSUE - NOT TO BE USED FOR CERTIFICATION

Plans

Main plan
Prepared by

Construction and environment

Assessed floor area (m²) #	**Exposure type**
Conditioned* 185.0	Open
Unconditioned* 16.9	**NatHERS climate zone**
Total 201.9	20 - Wagga AMO
Garage 0.0	

Rater*

Name Komal Teni

Business name Lincoln Pearce

Email komal.teni@lincolnpearce.com.au

Phone +61 431325991

Declaration of interest No Conflict of Interest

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.

*Raters (non-accredited assessors) are not required to have any formal qualifications, insurance, ongoing professional development or quality assurance checks on their ratings. This is distinct from NatHERS accredited assessors who are required to have qualifications, ongoing professional development and have quality assurance checks on their ratings.

Rating report check

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

Genuine rating report

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

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 rating report?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this rating report? 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 rating report.

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?

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
None					

Custom* windows					
Window ID	**Window Description**	**Maximum U-value***	**SHGC***	**Substitution tolerance ranges**	
				SHGC lower limit	SHGC upper limit
A&L-016-09 A	Al Casement DG 4/10/4	3.73	0.50	0.47	0.53
ALS-074-09 A	ProGlide Ultra Flat Sliding Door DG 6mmEVAnClr-12Ar-6mmClr	3.30	0.43	0.41	0.45

Window and glazed door *schedule*

Location	Window ID	Window No.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALS-074-09 A	W07-b	2100	3400	Sliding	45	N	None
Bedroom 2	ALS-074-09 A	W02-c	2100	2500	Sliding	45	E	None
Bedroom 3	ALS-074-09 A	W01-c	2100	3200	Sliding	45	E	None
Ensuite	A&L-016-09 A	W09	1000	450	Casement	90	S	None
Kitchen /Living	ALS-074-09 A	W06-b	2100	4300	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W05-c	2100	9500	Sliding	45	E	None

* 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	ALS-074-09 A	W04-c	2100	1090	Sliding	45	N	None
Kitchen /Living	ALS-074-09 A	W03-c	2100	2400	Sliding	45	E	None
Powder	A&L-016-09 A	W08	450	2100	Casement	45	S	None

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
None					

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor Shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Corridor	2040	1020	90	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall-wrap*
CONCBLOCK-190-FCF-PB-A	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.30	Light	2.50	No
CONCBLOCK-190-FCF-PB-B	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.50	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Bathroom	CONCBLOCK-190-FCF-PB-B	2700	2552	W		No
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	3473	N	2751	Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	1071	W		Yes
Bedroom 1	CONCBLOCK-190-FCF-PB-A	2700	760	E	6212	Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	2577	E		Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	246	S		Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	895	E		Yes
Bedroom 2	CONCBLOCK-190-FCF-PB-A	2700	3550	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3194	S		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	529	SSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	294	SW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	649	WSW		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	328	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3582	W		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	93	N		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	3219	E		Yes
Bedroom 3	CONCBLOCK-190-FCF-PB-A	2700	333	E		Yes
Corridor	CONCBLOCK-190-FCF-PB-B	2700	1783	W		No
Corridor	CONCBLOCK-190-FCF-PB-A	2700	317	W		Yes
Ensuite	CONCBLOCK-190-FCF-PB-A	2700	2311	S		Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	4388	N	3511	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	9604	E	1481	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	1248	N	13110	Yes
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	4072	E		No
Kitchen/Living	CONCBLOCK-190-FCF-PB-A	2700	1688	S		Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature (yes/no)
Powder	CONCBLOCK-190-FCF-PB-A	2700	3684	S		Yes
Powder	CONCBLOCK-190-FCF-PB-B	2700	2036	W		No

Internal wall *type*

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	37.9	0.00
INT-PB	Internal Plasterboard Stud Wall	158.8	0.00

Floor *type*

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.4	N/A	0.00	Timber (12mm)
Bedroom 1	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	15.1	N/A	0.00	Timber (12mm)
Bedroom 2	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	17.8	N/A	0.00	Timber (12mm)
Bedroom 3	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	23.3	N/A	0.00	Timber (12mm)
Corridor	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	25.2	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.3	N/A	0.00	Timber (12mm)
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	10.2	N/A	0.00	Timber (12mm)
Kitchen /Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	67.2	N/A	0.00	Timber (12mm)
Pantry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.7	N/A	0.00	Timber (12mm)
Powder	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	7.5	N/A	0.00	Timber (12mm)
Walk In Robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.4	N/A	0.00	Timber (12mm)
Walk In robe	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.6	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
Bathroom	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Bedroom 1	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Bedroom 2	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No

* Refer to glossary.

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value	Reflective wrap*
Bedroom 3	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Corridor	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Ensuite	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Ensuite	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Kitchen /Living	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Pantry	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Powder	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Walk In Robe	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No
Walk In robe	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.00	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed /unsealed
Bathroom	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed
Powder	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	0.00	0.50	Medium

* Refer to glossary.

Explanatory Notes

About this report

A residential energy 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.

Raters

Raters (non-accredited assessors) may not have completed a recognised software training course, do not have quality assurance checks conducted through NatHERS processes, do not have any ongoing training requirements and **are not supported or recognised under NatHERS.**

Any questions or concerns about this report should be directed to the rater in the first instance. If the rater is unable to address these questions or concerns, the state or territory building code authority should be contacted.

Disclaimer

The format of the energy rating report was developed by the NatHERS Administrator. However the content of each individual rating report is entered and created by the rater. It is the responsibility of the rater who prepared this rating report to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce the rating report.

The predicted annual energy load in this rating report is an estimate based on an assessment of the building by the rater. 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 rater who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the rater while using the NatHERS accredited software tool, are presented in this report. Further details or data files may be available from the rater.

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.

* Refer to glossary.

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 â€˜mediumâ€™ 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 windowâ€™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).

9 Appendix C – DtS Façade calculator

ABCB

Façade

Report

National Construction Code Calculator

Project Summary

Date
14/02/2025

Name
Komal Teni

Company
Lincoln Pearce

Position
Engineer - Sustainability

Building Name / Address
481-487 Swift Street
Albury

Building State
NSW

Climate Zone
Climate Zone 4 - Hot dry summer, cool winter

Building Classification
Class 5 - office building

Storeys Above Ground
8

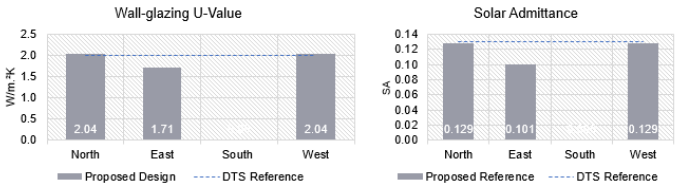
Tool Version
1.2 (June 2020)

The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Apects).

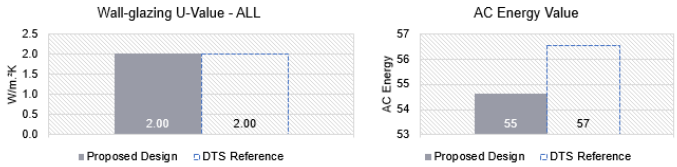
Compliant Solution =
Non-Compliant Solution =

	Method 1				Method 2
	North	East	South	West	All
Wall-glazing U-Value (W/m².K)	2.04	1.71		2.04	2.00
Solar Admittance	0.13	0.10		0.13	
AC Energy Value					55

Method 1

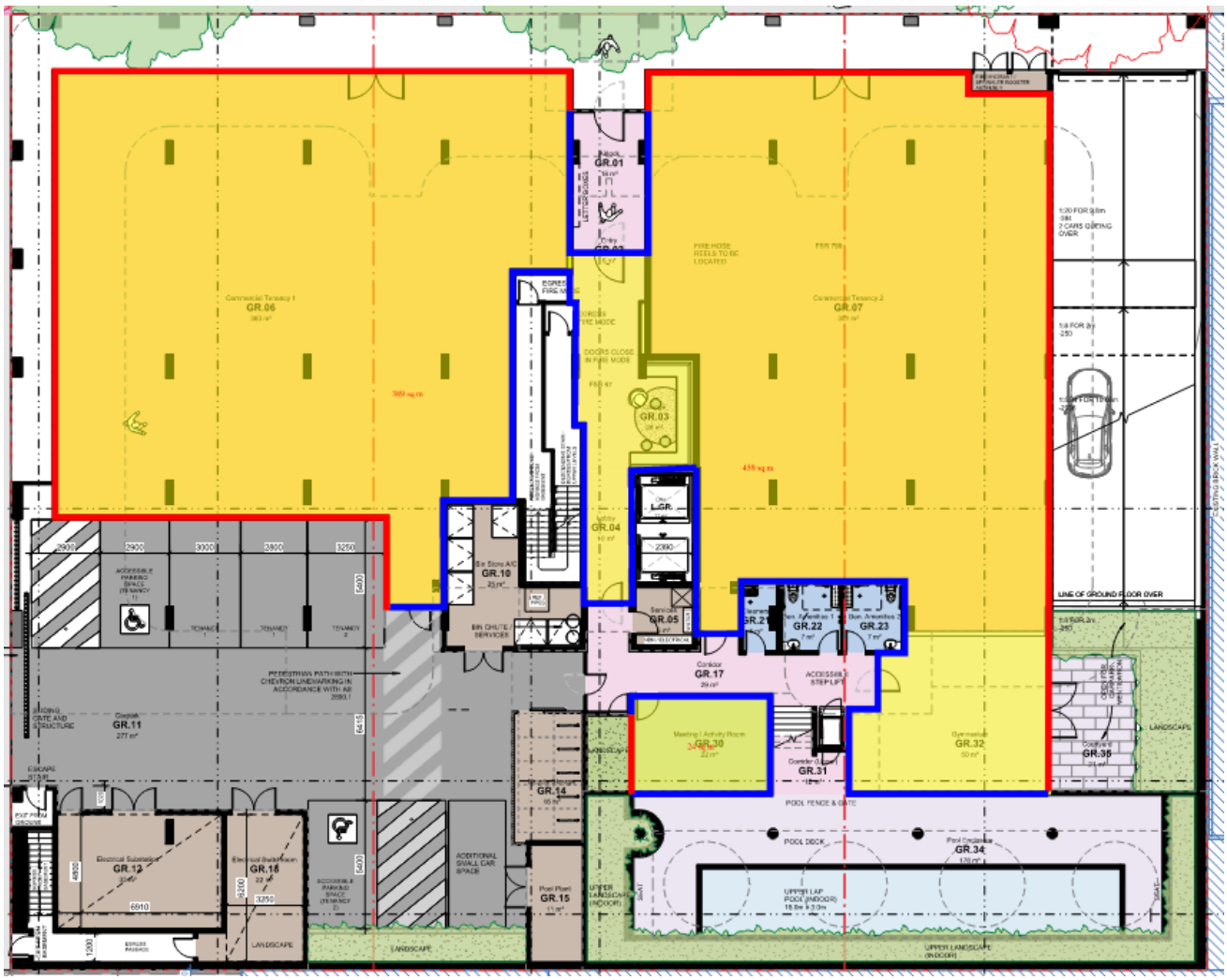


Method 2



Average Glazing U-Value (W/m².K)	2.48	2.48		2.48
Average Glazing SHGC	0.17	0.17	0.00	0.17
Average Wall R-value (m².K/W)	2.00	2.00		2.00
Solar Absorptance	0.6	0.6	0.6	0.6

10 Appendix D – Envelope Diagram



The coloured rooms are the conditioned spaces within the development. External walls forming part of the envelope are highlighted in red whilst internal walls forming part of the envelope are highlighted in blue.