

TELOPEA SUSTAINABILITY REPORT

Sean Kahn Sustainability Advisor, Residential



1 Introduction

This report has been prepared by *Frasers Property Telopea Developer Pty Ltd* (Frasers) and accompanies a State Significant Development Application (SSDA) submitted to the NSW Department of Planning, Industry and Environment (DPIE). The SSDA seeks Concept Approval, in accordance with Division 4.4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), for the staged redevelopment of the **Telopea 'Concept Plan Area'** (CPA), as well as a detailed proposal for the first stage of development, known as **'Stage 1A'**.

The purpose of this report is to provide the proposed sustainability outcomes.

Background

The Telopea CPA forms part of the **Telopea Precinct Master Plan** (endorsed by Council in March 2017), which was prepared by NSW Land and Housing Corporation (LAHC) and Parramatta City Council to facilitate the rezoning of the precinct gazetted in December 2018. The Master Plan seeks to revitalise the Telopea Precinct through the redevelopment of LAHC's social housing assets, as well as sites under private ownership, to deliver an integrated community with upgraded public domain and community facilities – and to capitalise on access to the new Parramatta Light Rail network.

The Telopea CPA is the land identified in Figure 1 and is currently owned by LAHC. The proposed redevelopment of the CPA is part of the NSW Government *Communities Plus* program, which seeks to deliver new communities where social housing blends with private and affordable housing with good access to transport, employment, improved community facilities and open space. The program seeks to leverage the expertise and capacity of the private and non-government sectors.

In December 2019, the NSW Government announced that the Affinity consortium, comprising Frasers and Hume Community Housing, were awarded the contract to redevelop the Telopea CPA. The SSDA represents the first step in the delivery of the planned redevelopment of the Telopea CPA and the Stage 1A works will provide housing development on the site, as well as a new arrival plaza for the Parramatta Light Rail.

Site Description

Telopea is located in the Parramatta Local Government Area (LGA). It is approximately 4km northeast of the Parramatta Central Business District (CBD), 6km south-west of Macquarie Park Strategic Centre, and 17km from Sydney CBD.

The Telopea CPA site is approximately 13.4 (ha) and comprises 99 individual allotments (refer Figure 1). It currently accommodates 486 social housing dwellings, across a mix of single dwelling, townhouse, and 3-9 storey residential flat buildings, as well as the Dundas Community Centre, Dundas Branch Library, Community Health Centre, Hope Connect Church, and Telopea Christian Centre

The immediate surrounds comprise predominantly residential properties within an established landscape setting. The broader Precinct contains the Telopea Public School, a neighbourhood centre known as the Waratah Shops, and two large Council parks known as Sturt Park and Acacia Park.



Proposed Development

The SSDA seeks Concept Approval for the staged redevelopment of the Telopea CPA, as well as a detailed proposal for the first stage of development. The Concept Proposal sets out the maximum building envelopes and GFA that can be accommodated across the CPA, and identifies the land uses and public infrastructure upgrades to be provided. The Concept Proposal will establish the planning and development framework by which any future development application will be assessed.

The Telopea CPA proposal comprises:

- A mixed-use development including:
 - Approximately 4700 dwellings, including a mix of social, affordable and market dwellings
 - Inclusion of a new retail precinct with a new supermarket, food and beverage, and speciality retail
 - Proposed childcare facility
 - Proposed combined library and community centre
 - Proposed combined Church, Residential Aged Care Facility and Independent living unit's facility
- Delivery of new public open space, including:
 - A new light rail plaza
 - Hill top park
 - Eyles pedestrian link
 - Open space associated with the proposed library
- Retention of existing significant trees
- Road and intersection upgrades
- Cycle way upgrades
- Upgrade of utility services

The Telopea CPA is divided into four precincts known as Core, North, South and East incorporating a total of 29 development parcels. The Concept Proposal is further detailed in the Urban Design Report prepared by Bates Smart and Hassell.

Figure 1 - Telopea Estate Concept Plan





Source: Bates Smart and Hassell



The first stage of works to be delivered (known as 'Stage 1A') are located within the Core Precinct adjacent to the Parramatta Light Rail Station and will include:

- Site establishment works, including demolition of all existing buildings and structures, tree removal, site preparation, excavation, and services augmentation
- Construction of a new arrival plaza for the Parramatta Light Rail, incorporating a Community Pavilion
- Construction of the Sturt Street extension, Light Rail crossing including Adderton Road intersection works and cycleway connection
- Part demolition and upgrade of Sturt and Shortland streets including new kerb-realignment, new footpaths and landscaping, new parking bays, bus zones, line marking and crossing
- Construction of a new public park surrounding the existing significant trees
- Construction of residential flat buildings, up to 10-storeys in height, including studio, one, two and three bedroom apartments
- Construction of two basement levels, with access / egress via Sturt Street and Winter Street, including waste and loading facilities
- Associated open space and landscaping works, including retention of existing significant trees, ground and rooftop communal open space, and a publicly accessible through site link.

The Stage 1A proposal is further detailed in the Urban Design Report prepared by Plus Architecture and Landscape Report prepared by Hassell.



2 FRASERS PROPERTY SUSTAINABILITY PHILOSPHY AND APPROACH

Philosophy

At Frasers Property Australia, we believe that Sustainability isn't just about the environment. It's about creating communities and places that help real people live, play, shop and work in better ways. It's about being a resilient and responsible business, creating more diverse opportunities for our employees and customers, efficient spaces that allow businesses to thrive, and communities that genuinely serve the needs of residents - as well as the planet. It's about minimising our environmental impact in everything we do, and maximising the social and economic benefits for all.

This philosophy is underpinned by "A Different Way", our sustainability strategy launched in 2016. A Different Way is our real commitment to creating places where resources are reused, recycled and restored, where new ideas are fostered for everyone's benefit, and where people can lead better, healthier lives.

Approach

Our approach for Telopea addresses the broader definition of sustainability. It acknowledges that a sustainable organisation not only addresses its environmental impact, but also addresses the communities it develops and interacts with, its people and the marketplace. We believe we are well placed to design and deliver an exemplary community that will achieve in a range of leading sustainability performance indicators. Our recent sustainability achievements include:

- Eleven Registered Green Star Communities projects, the most of any organisation. These include the Fairwater community in Blacktown NSW, which is on track to be one of Australia's most sustainable master planned communities and has already received UDIA and Green Globe awards.
- Over 19,000 homes that will be Green Star Certified or located within Green Star Certified Communities
- Frasers Property is perusing the Living Building Challenge for the Burwood East Brickworks Retail Centre which, when completed, will be the worlds' most sustainable retail centre.
- Supporting Resilient Communities in partnership with the City of Melbourne and the global 100 Resilient Cities movement at Mambourin (VIC)
- Ongoing commitment to supporting the environment and disadvantaged youth through the Frasers Property Foundation. Turning 10 years old this year, the Foundation provides a bank of 500 staff volunteering days per annum and is matched with a donation budget of approximately \$150,000 per annum to identify and support charities and activities in which staff can participate.
- Industry support Frasers Property has supported the Green Building Council of Australia through involvement in technical and advisory groups as well as sponsorship of several Green Star rating tools. We are also represented on the GBCA's Green Star Steering Committee, the Property Council of Australia's National Sustainability Roundtable and provide board leadership at the Living Future Institute of Australia.
- We have committed to achieving Green Star Communities and Design and As Built certification on all new developments and buildings.



As recognition of our leadership in sustainability and demonstrated ability to implement sustainability principles,

Frasers Property has been named as **Overall Global Sector Leader among developers in the 2019 Global Real Estate Sustainability Benchmark (GRESB) Developer Assessment**, the international property market's most prestigious and credible measure of commitment to sustainability performance.



3 FRASERS SUSTAINABILITY COMMITMENTS

The four key sustainability commitments for Telopea are:

Commitment 1

Deliver 5 Star Green Star Design & As Built v1.2 minimum for all residential buildings

Commitment 2

Deliver 6 Star Green Star Communities v1.1 for the precinct

Commitment 3

Deliver a carbon neutral integrated infrastructure solution via 'Real Utilities'

Commitment 4

Deliver a WELL Community certification for the precinct

4 SUSTAINABILITY COMMITMENT 1

Commitment: Deliver 5 Star Green Star Design & As Built minimum for all buildings

Method: Using the Green Building Council of Australia's current rating tool "Green

Star – Design & As Built v1.2" and subsequent releases as appropriate

Our built environment is currently the world's single largest contributor to greenhouse gas emissions, and also consumes around a third of our water, and generates 40 per cent of our waste. From individual buildings to entire communities, Green Star is transforming the way our built environment is designed, constructed and operated. Launched by the Green Building Council of Australia in 2003, Green Star is Australia's only national and voluntary rating system for buildings and communities. Green Star is helping to improve environmental efficiencies in our buildings, while boosting productivity, creating jobs and improving the health and well-being of our communities.

Green Star – Design & As Built assesses the sustainability outcomes from the design and construction of new buildings or major refurbishments, across nine holistic impact categories. An indicative strategy to deliver a 5 Star Design & As Built rating is included in Appendix B, and will be further developed as the project progresses.

Telopea aims to set new Benchmarks in Sustainability under these categories as follows:

Management

Telopea will utilise practices and processes that support best practice sustainability outcomes throughout the different phases of a project's design, construction and ongoing operation. These practices will include exploring amongst others:

- A comprehensive Occupants User Manual
- Building Operations namely Performance, Commissioning and Tuning
- Building Specific Climate Resilience Strategies

Indoor Environmental Quality



Through initiatives that enhance the comfort and well-being of occupants the Telopea CPA will look to address issues such as air quality, thermal comfort and acoustic comfort. Areas of comfort being investigated include:

- Thermal comfort via NatHERS and BASIX commitments
- Visual comfort via extensive landscaping and visual connection
- Indoor Air Quality via ventilation and the provision of outdoor air to apartments

Energy

Built Form within the Telopea CPA will be designed and constructed to reduce overall greenhouse emissions from operations by addressing energy demand reduction, use efficiency and generation from alternative sources. Multiple proposed initiatives will be investigated to address this including, but not limited to:

- Commitments around NatHERS and BASIX targets for all residential buildings
- Commitments around NABERS Energy and NABERS Water for all non-residential uses
- Inclusion of an integrated infrastructure solution (Real Utilities)
- Efficient building systems and Carbon Neutrality in operations

Transport

Telopea will look to reduce the dependency of private car use as an important means of reducing overall greenhouse gas emissions, as well as encouraging the provision of alternative forms of transportation. Some of the initiatives being explored include:

- Provision of "GoGet" car sharing facilities for residents
- Extensive end of trip facilities for residents
- Provisions for future Electric Vehicle infrastructure

Water

Built form at Telopea will aim to reduce the consumption of potable water through measures such as the incorporation of water efficient fixtures and building systems and water re-use. Some of these initiatives maybe achieved through:

- Commitments around NABERS and BASIX targets for all residential buildings

Materials

Telopea will aim to address the consumption of resources for the project, by encouraging the selection of low-impact materials. Areas of investigation to support this include:

- Utilisation of sustainable materials
- 1% construction waste to landfill

Land Use and Ecology

A key focus of Telopea is to reduce the negative impacts on the ecological value at the CPA as a result of the development. We aim to minimise harm and enhance the quality of local ecology, particularly through the retention of existing trees, and maximising deep soil zones.

Emissions

Telopea aims to reduce its environmental impacts from 'point source' pollution and reduce their effects on the atmosphere, watercourse and native animals. We are currently exploring a number of enablers for this including:



- Ensuring WSUD (Water Sensitive Urban Design) principles are applied throughout the precinct
- Reducing the impacts of light pollution from up-lighting

Innovation

Implementation of innovative practices, processes and strategies that promote sustainability in the built environment will occur throughout the lifetime of the development ensuring that the Telopea CPA is recognised as one of the most progressive projects in the country. A number of innovative concepts currently being explored on the project include;

- Transparent financial reporting on sustainability initiatives
- Nominal to no cost heating for social housing residents
- Carbon Neutral buildings in operations
- A strong focus on community health and wellbeing



As part of Telopea Sustainability Commitment 1 we will look to incorporate the following initiatives:

5 Sta	5 Star Green Star Design & As-Built v1.2 Initiatives								
Initiatives to improve occupant health and comfort and reduce operational costs									
1	BASIX Energy 30 and Water 40 (on average)								
2	NatHERS 7-Star Minimum (on average)								
3	NABERS 6 Star Energy and 5 Star Water Rating for all non-residential uses								



5 SUSTAINABILITY COMMITMENT 2

Commitment: Deliver 6 Star Green Star Communities for the Telopea CPA

Method: Using the Green Building Council of Australia's current rating tool "Green

Star - Communities v1.1" and subsequent releases as appropriate

Green Star Communities assesses the planning, design and construction of large scale development projects at a precinct, neighbourhood and/or community scale. It provides a rigorous and holistic rating across five impact categories.

Telopea aims to set new Benchmarks in Sustainability under these categories as follows:

Governance

The Telopea CPA will look to demonstrate leadership within the industry by establishing and maintaining strong governance practices. This will occur through engagement, transparency, as well as community and industry capacity building. We will look to ensure that the Telopea CPA development is resilient to a changing climate. Some of the initiatives being explored include:

- Transparency via design reviews with independent sustainability experts
- Inclusive and comprehensive stakeholder engagement process
- Site Specific Climate Resilience Strategies

Liveability

We aim to deliver a safe, accessible and culturally rich community at the Telopea CPA. Accordingly we will focus on the development of healthy and active lifestyles, and look to create a community with a high level of amenity, activity, and inclusiveness. Areas of investigation currently include:

- Health and Fitness classes for all residents
- A safe, walkable and accessible community
- Dedicated Community Development Managers

Economic Prosperity

The Telopea CPA will look to promote prosperity and productivity through the creation of equitable living and housing, through investment in education and skills development, and through community capacity building. Current initiatives being explored include:

- Provision of digital infrastructure
- On site energy generation
- Community infrastructure investment

Environment

Reducing the impact of urban development on the local ecosystem is an important objective for the Telopea CPA. Resource management and efficiency will be carefully considered through promoting infrastructure, transport, and buildings that have reduced ecological footprints. Accordingly, we will seek to reduce the impacts of this project on the local land and aquatic environments. Ideas currently under consideration include:

- Ensuring WSUD (Water Sensitive Urban Design) principles are applied throughout the precinct



- Urban Heat Island reduction and mitigation strategies
- Waste management strategies
- Life Cycle impacts analyses of materials used on site
- Maximising the ecological value of site to be close to or exceeding existing

Innovation

Implementation of innovative practices, processes and strategies that promote sustainability in the built environment will occur throughout the lifetime of the development ensuring that the Telopea CPA is recognised as one of the most progressive projects in the country. A number of innovative concepts are being currently explored on this project including;

- Transparent financial reporting on sustainability initiatives
- Contractor education on sustainability
- Innovative use of technology through an integrated infrastructure solution (Real Utilities)



As part of Telopea Sustainability Benchmark 2 we will look to incorporate the following initiatives:

6 Sta	6 Star Green Star Communities v1.1 Initiatives							
	nunity health and wellbeing initiatives to provide an environment, infrastructure and proactive support work to strengthen the community at Telopea							
1	Healthy public domain, that encourages active living including target initiatives such as: - Free Live Life Get Active Fitness programs for residents - Dedicated community development manager for community building and development							
2	Biophilic buildings and places that connect people to nature and place including target initiatives such as: - the balance of roof space (after PV prioritisation) will be green roof and open space							
3	Provide alternatives to private car ownership through target initiatives such as: - Provision of car share spaces - A connected and permeable site to encourage active transport and use of public transport - At least one bicycle parking space to be provided for each dwelling - At least 300 bicycle parking spaces provided for visitors							
4	Development reduces average living costs for households, and average operating costs for businesses, compared with business as usual justified through CCAP Precinct report modelling							
5	Adopted Frasers Reconciliation Action Plan to engage with Indigenous Australians and Traditional Owners							
6	300 hours per annum dedicated local staff volunteer hours to the establishment of the Telopea Community Program until development completion.							



6 SUSTAINABILITY COMMITMENT 3

Commitment: Deliver a carbon neutral integrated infrastructure solution via 'Real

Utilities'

Method: Aspire will develop and deliver a private embedded electrical and

hot water network to supply all users across the precinct. On the back of these embedded networks we will improve their

efficiencies by incorporating the following strategies:

1. Installation of solar PV to reduce electrical peak demand and greenhouse emissions;

- 2. Use of high efficiency centralised hot water;
- 3. Installation of smart metering technology to allow efficient demand management;
- 4. Minimise use of onsite gas;
- 5. Provision of low-cost heating to the social housing;
- 6. Acquire certified carbon offsets (if required) to ensure that 100% of energy supplied through Real Utilities is Certified Carbon Neutral by Climate Active

Community Energy Networks

Private – or "Embedded" – energy networks are increasingly commonplace on new retail, residential and mixed-use developments in Australia. While the distinguishing feature of a Private Network is the establishment of a gate – or "parent" – meter that separates energy users within a new development from the external grid, Private Networks come in many flavours.

Traditional providers of energy have a clear profit motive – the more energy consumed, the more revenue they receive – with little attention to energy efficiency. Increasingly they are participating in the Private Network market, but with little benefit to end-users.

Frasers Property Community Energy Network

In recently establishing an embedded network division, Real Utilities, Frasers Property has the ambition to be the leading provider of energy on new developments in Australia. In addition to a commitment to establishing Private Networks on all its new retail, residential and mixed-use developments, Real Utilities is also in the process of obtaining a Retail Electricity license.

This capability will allow Frasers Property to provide a real difference for the Telopea CPA development with the potential for the following benefits to the people who live and work in those developments to be realised:

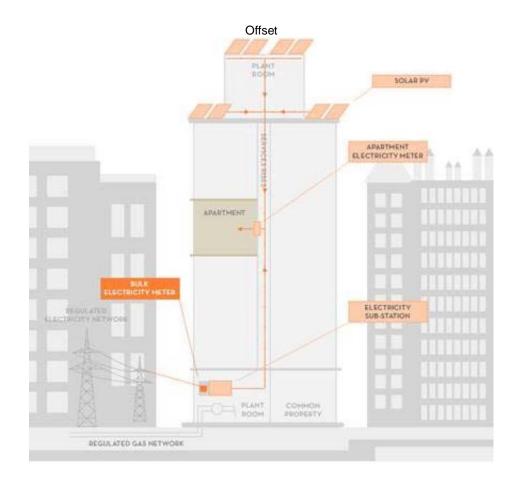
- Lower cost energy. Real Utilities will match or better the lowest prices of the major electricity retailers. Moreover, it will ensure this is an enduring benefit by constantly resetting prices to be below the best discounted tariff of the three major electricity retailers in the area, without lock-in contracts or honeymoon periods
- Carbon neutral power. Frasers property and Real Utilities will supply certified carbon neutral power through maximising solar PV installation to the available roof-space, and acquiring certified carbon offsets for 100% of the grid sourced electricity and greenhouse



gas emissions within its Private Networks. The power will be certified carbon neutral under the Australian Governments Carbon Neutral Program by Climate Active.

Greater demand management by end-users. Frasers Property and Real Utilities will
install the latest smart meter technology within its Private Networks to provide residents
with usable access to their energy consumption data and to time of use energy tariffs

These benefits will have greatest impact on reducing energy demand and the costs of energy consumed will contribute to a reduction in the financial stress that underlies utility disconnections.







As part of Telopea's Sustainability Benchmark 3 we will look to incorporate the following initiatives;

Integrated Infrastruct	ure Solution (Real Utilities) Targets							
Provide an optimised in	tegrated infrastructure solution							
Private wire electricity supply	Real Utilities will establish the precinct with one or more private wire networks by installing gate meters							
	These private networks allow for: 1. The purchase of grid electricity at bulk, with savings passed on to the residents and businesses 2. The optimal integration of renewable energy generation on site 3. Implementation of energy efficiency measures at scale 4. 100% of power supplied by Real Utilities will be Certified Carbon Neutral by Climate Active 5. Continued Government concessions and subsidies to Social housing residents by Real Utilities							
Smart metering and energy monitoring	Without charge to any of the CPA residents, Frasers Property and Real Utilities will install the latest smart meter technology which will give residents access to: 1. Time of use energy tariffs 2. Their energy consumption data so they may make better energy use decisions							
On-site renewable energy	Ensure that on-site renewable energy generation from Solar PV is maximised wherever possible Based on the current site density and restricted roof space available, this is estimated to be near 2.6 MW, which will be increased wherever feasible							
100% Carbon Neutral power	Without charge to any of the precinct's residents, Real Utilities will supply 100% certified carbon neutral power. The energy will be Certified Carbon Neutral by Climate Active							
Affordability	Real Utilities will provide all residents with electricity cost savings, at tariffs which better those of the 3 major electricity retailers in the area.							
	The benefit delivered by Real Utilities will be achieved by constantly resetting prices at below the best discounted rate of the major electricity retailers, without lock-in contracts or honeymoon periods.							
	Real Utilities will provide affordable heating to the social housing residents via a radiant heating system, which will be provided at a nominal to zero cost							
Centralised hot	Frasers Property will provide residents with centralised hot water							
water	The energy component of hot water will be invoiced by Real Utilities, while the water component of the hot water will be invoiced by the water provider							
	Hot water tariffs will set at below standard tariffs							
Electric/ induction	Frasers Property will provide electric / induction cooktops for residents							
cooktops	Electric cooktops are preferred by Frasers Property's social housing partner							
Energy efficient cooling and heating	Frasers Property will procure energy efficient split air-conditioning systems for the non-Social housing dwellings							
	The base solution for Social housing residents is ceiling fans and provisions for future spilt system air conditioners							
	Heating will be provided to social housing residents via a radiant heating system, which will be provided at a nominal to zero cost							



7 SUSTAINABILITY COMMITMENT 4

Commitment: Deliver a WELL Community certification for the precinct

Method: Using the International WELL Building Institute's current pilot rating tool

"WELL COMMUNITY" and subsequent releases as appropriate.

The WELL Community Standard is designed to support health and wellbeing across all aspect and areas of community life. The vision for a WELL community is to be inclusive, integrated and resilient, with a strong community identity fostering high levels of social interaction and engagement.

Telopea aim to be one of the first WELL Community certified in Australia. It will set a new benchmark for health and wellbeing with strategies in line with the following categories:

- **Air**: ambient air quality; strategies to reduce traffic pollution; strategies to reduce exposure to pollution.
- Water: drinking water quality and strategies to promote drinking water access.
- Nourishment: fruit and vegetable access, nutrition education and strategies to support breastfeeding.
- **Light:** maintained illuminance levels for roads and walkways; strategies for limiting light pollution and light trespass; glare and discomfort avoidance.
- **Movement:** mixed land use and connectivity; walkability; cyclist infrastructure; infrastructure to encourage active transportation; strategies to promote daily physical activity and exercise.
- **Thermal comfort:** strategies to reduce heat island effect and policies to deal with extreme temperatures.
- Sound: noise exposure assessment.
- Materials: strategies to limit use of hazardous chemicals in landscaping and outdoor structures.
- Mind: access to mental health care and access to green spaces.
- **Community:** health promotion programming; policies that foster social cohesion, community identity and empowerment and crime prevention through environmental design.



APPENDICES



A. GREEN STAR COMMUNITIES INDICATIVE SCORECARD



B. GREEN STAR DESIGN AND AS BUILT INDICATIVE SCORECARD

MEMORANDUM

Memorandum of: Expert Sustainability Certificate - Telopea

Date: 06 July 2020

To: Integral Group

From: Richard Palmer

Principal

Project Name: **TELOPEA**

Project No: 610107.000



Integral Group Consulting Engineers Pty Ltd ABN 27 618 557 672 Level 7, 16 Spring Street Sydney NSW 2000 Tel: +61 2 9053 6730 sydney@integralgroup.com www.integralgroup.com

Dear Scott,

This letter provides a certificate of review for the Telopea Sustainability Report (June 2020) against the Sustainability Benchmarks identified within the Telopea PDA.

It confirms that the requirements of the Sustainability Plan have been (and continue to be) complied with for the masterplan DA and stage 1A DA submissions (July 2020).

The sustainability report identifies that the benchmarks have been addressed in the following way:

- Benchmark 1: Certification pathways for Green Star Design and As-built, Green Star Communities and NABERS;
- Benchmark 2: Real Utilities service for electrical and thermal energy;
- Benchmark 3: Addressed through the Green Star Communities strategy.

The Sustainability Report demonstrates the approach to compliance for the Green Star benchmarks, supported by other masterplan and development application reports and the following documents:

- Green Star D&AB Scorecard;
- Green Star Communities Scorecard.

Subject to the implementation of the stated initiatives within the report that correspond with the stated benchmarks and these scorecards the benchmark commitments can be considered to achieved for this stage of design.

Kind regards

Richard Palmer

fed Me



NatHERS Thermal Comfort Assessment



Frasers Property Proposed Residential Development

To be built at Lot 5-7 Telopea 2117

Issue	File Ref	Description	Author	Date
Α	20-0598	NatHERS and BASIX Assessment	HE/AM/FM/NB	13/08/2020
В	20-0844	Update to reflect plan changes	HE	21/08/2020
С	-	Update unit 1B.1.10 and 1B.1.1	HE	28/08/2020
D	21-2016	NatHERS Thermal Comfort Assessment	FM/HE/AA/DO/JJ/SF/PJC	13/07/2021

This report has been prepared by Efficient Living Pty Ltd on behalf of our client Integral Group. Efficient Living prepares all reports in accordance with the BASIX Thermal Comfort Protocol and is backed by professional indemnity insurance. This report takes into account our Client's instructions and preferred building inclusions.





13 July 2021

Frasers Property Telopea

Report Contact:Franklyn MuorahLicense Holder:Tracey CoolsEmail:franklyn@efficientliving.com.auAccreditation Number:HERA10033

Prepared For:

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Introduction

Efficient Living has investigated the estimated thermal comfort, water and energy usage of the proposed development to be built at Lot 5-7 Telopea 2117 Stage 1A residential.

Heating and cooling loads for the development have been determined using BERS Pro Plus 4.4 thermal comfort simulation software. The report is based on the architectural drawings provided by Integral Group. For further details refer to the individual BASIX Certificate(s) and Efficient Living's inclusions summary respectively.

This report is based on the following plans prepared by Plus Architecture. Job No: 20320, Revision 6 Drawing No: PLA-AR-DA0097 - PLA-AR-DA0110, PLA-AR-DA0201 - PLA-AR-DA0208 & PLA-AR-DA0250 - PLA-AR-DA0254

Thermal Comfort

Thermal Comfort targets are set by the Department of Planning in the form of heating and cooling caps. The buildings thermal physics are measured using BERS Pro Plus V4.4 Thermal Comfort Simulation Software. This calculates the expected level of energy required to heat and cool each dwelling per annum, expressed in megajoules per square metre of floor area (MJ/m²).

Each unit has individual heating and cooling caps applied. Accompanying these individual caps are average heating and cooling caps applied to the whole development. The average caps are lower, or harder to comply with than the individual unit caps.

Inclusions Summary

The inclusions as outlined below have been incorporated in each unit to allow them to reach their BASIX thermal comfort targets.

Glazing Doors/Windows

Glazed windows and doors:

Group A - awning + bifold + casement windows + hinged glazed doors

U-value: 5.40 (equal to or lower than) SHGC: 0.49 (±5%)

Group B - sliding doors/windows + fixed glazing + louvred windows

U-value: 5.40 (equal to or lower than) SHGC: 0.58 (±5%)



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Upgrade as per thermal comfort upgrade table

Group A - awning + bifold + casement windows + hinged glazed doors

U-value: 4.10 (equal to or lower than) SHGC: 0.47 (±5%)

Group B - sliding doors/windows + fixed glazing + louvred windows

U-value: 4.10 (equal to or lower than) SHGC: 0.52 (±5%)

Given values are AFRC total window system values (glass and frame)

Roof and ceiling

Concrete roof, no insulation to top of slab

Plasterboard ceiling with R3.0 insulation (insulation only value) to soffit of concrete where roof, balcony or plant is over Plasterboard ceiling, no insulation where neighbouring units are above

External Colour

Light (SA < 0.75)

Ceiling Penetrations

Sealed LED downlights at a maximum of one every 2.5m². Once lighting plan has been developed NatHERS modelling can be updated to improve specification.

External Wall

Brick veneer with R2.0 insulation (insulation only value)

230mm Concrete wall with R2.0 insulation (insulation only value)

230mm Concrete columns with R1.2 insulation (insulation only value) to concrete columns

Lightweight cladding on frame with R2.0 insulation (insulation only value)

External Colour

Default medium modelled

Inter-tenancy walls

230mm concrete with plasterboard lining to walls adjacent to neighbours, no insulation required

230mm concrete with plasterboard lining to hallways, no insulation required

230mm concrete with plasterboard with R2.0 insulation to basement and plant rooms

230mm concrete with furring channel and plasterboard lining to all walls adjacent to lift shafts and fire stairs. No insulation required

Walls within dwellings

Plasterboard on studs - no insulation



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Frasers Property Telopea

Floors

230mm thick concrete slab with a minimum R2.0 insulation (insulation only value) required to units with garage and part subfloor below

Concrete between levels, no insulation required

Floor coverings

Default floor coverings modelled

External Shading

Shading screens, fins and eave lines modelled as per NatHERS stamped plans

Screens are operable with perforated area of 30%

External operable venetian blinds





Telopea Stage 1 and 2

			Issue	d in acco	rdance with BAS	SIX Thermal Co	omfort Simulation Method
Cert	ificate # 000	51513	30				Accreditation # HERA10033
					Thermal perfo	rmance speci	ifications
Unit	Number of	Floor	area (M²)		dict. loads MJ/M²/y)	Star Rating	Thermal Comfort Upgrades
number	Bedrooms	Con.	Uncon.	Heat	Cool (Sens & Lat)		
					E	Building A	
A.B2.01	3	98	0	6	17	8.3	None
A.B1.01	1	66	0	16.7	28.4	6.4	Glazing Upgrade Change study to bedroom
A.B1.02	1	49	0	11.5	15.1	7.9	None
A.B1.03	3	98	0	5.9	25	7.6	None
A.LG.01	2	67	0	22.4	23.9	6.4	Glazing Upgrade
A.LG.02	1	49	0	25.6	16.1	6.8	None
A.LG.03	3	108	0	12.9	13.6	7.9	None
A.LG.04	3	98	0	6.3	24.2	7.6	None
A.UG.01	2	67	0	23.3	22	6.4	Glazing Upgrade
A.UG.02	1	49	0	25.9	14.5	6.9	None
A.UG.03	1	49	0	29	13.9	6.7	None
A.UG.04	3	108	0	9.8	13.8	8.2	None
A.UG.05	3	98	0	6.5	23.5	7.7	None
A.01.01	2	67	0	23.4	21.9	6.4	Glazing Upgrade
A.01.02	1	49	0	25.7	14.8	6.9	None
A.01.03	1	49	0	15.7	14.8	7.6	None
A.01.04	3	108	0	11.7	13.6	8.1	None
A.01.05	3	98	0	16.4	17.1	7.4	None
A.02.01	2	67	0	23.7	10	7.4	Glazing Upgrade
A.02.02	1	49	0	18.6	15.9	7.3	None
A.02.03	1	49	0	11.3	16.7	7.8	None
A.02.04	3	101	0	9.7	22.5	7.4	None
					E	Building B	
B.LG.01	1	60	0	16.9	17.2	7.4	None
B.LG.02	1	67	0	8.7	22.6	7.6	None
B.LG.03	2	81	0	19.3	19.6	7	None
B.LG.04	2	76	0	27.2	18.4	6.4	None
B.LG.05	2	89	0	40.5	21.1	5.3	None
B.UG.01	2	91	0	11.2	14.7	8	None
B.UG.02	2	100	0	12.2	20.7	7.4	None
B.UG.03	2	100	0	13.3	13.3	7.9	None
B.UG.04	1	100	0	13.4	20	7.4	None
B.UG.05	2	94	0	24.3	14.4	7	None
B.UG.06	2	74	0	24.1	28.4	5.9	Glazing upgrade
B.UG.07	1	64	0	21.9	29.1	6	Glazing upgrade





Telopea Stage 1 and 2

	Issued in accordance with BASIX Thermal Comfort Simulation Method										
Certi	Certificate # 0005151380 Accreditation # HERA10033 Thermal performance specifications										
Unit number	Number of Bedrooms	Floor	area (M²)		dict. loads MJ/M²/y)	Star Rating	Thermal Comfort Upgrades				
namber	Beardonis	Con.	Uncon.	Heat	Cool (Sens & Lat)						
B.UG.08	1	64	0	14.6	23.7	7.1	Glazing upgrade				
B.UG.09	3	95	0	31.8	22.3	5.8	None				
B.UG.10	3	99	0	3.2	20.1	8.2	None				
B.UG.11	1	60	0	4.1	22.6	7.9	Glazing upgrade				
B.UG.12	2	81	0	19.9	14.2	7.4	None				
B.UG.13	2	81	0	20.3	14.2	7.3	None				
B.UG.14	1	60	0	0.3	26.8	7.9	Glazing upgrade				
B.UG.15	1	62	0	14.5	11.2	8	None				
B.UG.16	2	81	0	11.1	23.2	7.3	None				
B.UG.17	1	49	0	16.2	18.4	7.3	None				
B.UG.18	1	63	0	21.5	10.6	7.4	None				
B.UG.19	1	63	0	31.9	13.7	6.4	None				
B.UG.20	2	113	0	39	19.8	5.4	None				
B.UG.21	2	100	0	17.9	16.6	7.3	None				
B.UG.23	2	100	0	14.9	19.6	7.3	None				
B.UG.24	2	94	0	15.7	11.4	7.9	None				
B.01.01	1	59	0	9.3	24.3	7.4	Glazing upgrade				
B.01.02	1	51	0	16.6	16.8	7.4	None				
B.01.03	2	70	0	13.4	18.9	7.4	None				
B.01.04	1	53	0	7.2	26.7	7.4	None				
B.01.05	1	55	0	1.3	12.7	9	None				
B.01.06	1	75	0	5.4	10.5	8.8	None				
B.01.07	2	81	0	12.4	13.6	8	None				
B.01.08	2	81	0	12.8	14.5	7.9	None				
B.01.09	1	52	0	2	27	7.8	None				
B.01.10	2	76	0	17	17.3	7.3	None				
B.01.11	2	77	0	6.6	25.4	7.5	Glazing upgrade				
B.01.12	1	49	0	16.1	20.1	7.2	None				
B.02.01	2	100	0	10.6	12.1	8.3	None				
B.02.02	2	100	0	7.8	22.4	7.7	None				
B.02.03	2	100	0	8.7	16.7	8	None				
B.02.04	2	100	0	7.9	22.3	7.7	None				
B.02.05	2	103	0	29.1	13.5	6.7	None				
B.02.06	2	72	0	12.1	25	7.1	Glazing upgrade				
B.02.07	1	64	0	7	27.5	7.3	Glazing upgrade				
B.02.08	1	64	0	6.2	21.5	7.9	Glazing upgrade				
B.02.09	2	77	0	15.1	18.4	7.4	None				





Telopea Stage 1 and 2

			Issue	d in acco	rdance with BAS	SIX Thermal Co	omfort Simulation Method
Certi	ficate # 000	515138	30				Accreditation # HERA10033
					Thermal perfo	rmance speci	fications
Unit number	Number of Bedrooms	Floor	area (M²)		dict. loads MJ/M²/y)	Star Rating	Thermal Comfort Upgrades
number	bearooms	Con.	Uncon.	Heat	Cool (Sens & Lat)		
B.02.10	2	70	0	12.1	18.6	7.6	None
B.02.11	1	52	0	7.3	28.3	7.2	None
B.02.12	1	55	0	2.9	10.8	9	None
B.02.13	1	75	0	5.9	10.4	8.8	None
B.02.14	2	81	0	12.9	13.4	7.9	None
B.02.15	2	81	0	13.5	14.3	7.9	None
B.02.16	1	75	0	2.4	26.3	7.8	None
B.02.17	2	76	0	20.4	13.7	7.4	None
B.02.18	2	77	0	19.1	27.8	6.3	None
B.02.19	1	49	0	16.7	20	7.2	None
B.02.20	1	63	0	20.8	12.6	7.4	None
B.02.21	1	63	0	38.5	13.3	5.9	None
B.02.22	2	110	0	34.3	19.7	5.8	None
B.02.23	2	100	0	11	16.4	7.9	None
B.02.24	2	100	0	10.8	14.9	8	None
B.02.25	2	100	0	12.1	19.3	7.6	None
B.03.01	1	59	0	14.9	22	7.1	None
B.03.02	1	51	0	18.6	19.8	7	None
B.03.03	2	70	0	15.2	19.2	7.3	None
B.03.04	1	50	0	3.1	25.9	7.8	Glazing upgrade Add 10% opening to the north facing bedroom fixed window
B.03.05	1	55	0	4.1	10.4	8.9	None
B.03.06	1	75	0	19.8	7.1	7.9	None
B.03.07	2	81	0	27.8	10.3	7.1	None
B.03.08	2	81	0	28.1	10.6	7	None
B.03.09	1	75	0	12.8	20.6	7.4	None
B.03.10	2	77	0	20.9	13.4	7.3	None
B.03.11	2	77	0	19.7	27.1	6.4	None
B.03.12	1	48	0	16.9	12.9	7.7	None
B.04.01	1	49	0	15.7	15.2	7.6	None
B.04.02	2	76	0	23.6	15.2	7	None
B.04.03	2	76	0	18.5	21.2	6.9	None
B.04.04	2	75	0	18.6	22.7	6.8	None
B.04.05	1	61	0	9.4	24.6	7.4	None
B.04.06	3	95	0	27.4	27.6	5.7	None
B.04.07	2	86	0	17.7	26.9	6.5	None





Telopea Stage 1 and 2

	Issued in accordance with BASIX Thermal Comfort Simulation Method										
Certi	Certificate # 0005151380 Accreditation # HERA10033										
	Thermal performance specifications										
Unit number	Number of Bedrooms	Floor	area (M²)		dict. loads MJ/M²/y)	Star Rating	Thermal Comfort Upgrades				
		Con.	Uncon.	Heat	Cool (Sens & Lat)						
B.04.08	2	77	0	21.8	12.9	7.3	None				
B.04.09	2	77	0	20.1	26.4	6.4	None				
B.04.10	1	49	0	20.6	14.2	7.3	None				
B.04.11	1	49	0	21.7	15.3	7.1	None				
B.04.12	2	80	0	21.5	16.8	7.1	Glazing Upgrade				
B.04.13	2	80	0	35.6	17.9	5.8	Glazing Upgrade				
B.04.14	1	49	0	34.4	10.8	6.4	None				
B.05.01	1	49	0	15.7	15	7.6	None				
B.05.02	2	76	0	25.2	18.1	6.6	None				
B.05.03	2	76	0	25.3	25.4	6	None				
B.05.04	2	75	0	17.6	24.3	6.8	None				
B.05.05	1	61	0	9.6	24.5	7.4	None				
B.05.06	3	95	0	27.7	27.3	5.7	None				
B.05.07	2	86	0	18.1	27.4	6.4	None				
B.05.08	2	77	0	20.3	13.6	7.4	None				
B.05.09	2	77	0	20.6	26.1	6.4	None				
B.05.10	1	49	0	21.1	14	7.3	None				
B.05.11	1	49	0	19.3	14.8	7.4	None				
B.05.12	2	80	0	22.1	16.3	7	Glazing Upgrade				
B.05.13	2	80	0	26.1	12.9	7	Glazing Upgrade				
B.05.14	1	49	0	34.7	11.1	6.4	None				
B.06.01	1	49	0	15.4	15.4	7.6	None				
B.06.02	2	76	0	23.6	18.3	6.8	None				
B.06.03	2	76	0	26.2	25.5	5.9	None				
B.06.04	2	75	0	18.1	24.2	6.7	None				
B.06.05	1	61	0	9.6	24.5	7.4	None				
B.06.06	3	95	0	30.2	22.8	5.9	None				
B.06.07	2	86	0	18.2	27.9	6.4	None				
B.06.08	2	77	0	20.6	13.9	7.3	None				
B.06.09	2	77	0	20.9	25.7	6.4	None				
B.06.10	1	49	0	21.5	14	7.3	None				
B.06.11	1	49	0	19.6	14.4	7.4	None				
B.06.12	2	80	0	24.8	14.7	6.9	Glazing Upgrade				
B.06.13	2	80	0	26.6	12.7	6.9	Glazing Upgrade				
B.06.14	1	49	0	33.8	11.1	6.5	None				
B.07.01	1	49	0	26	12.9	7	None				
B.07.02	2	76	0	23	18.6	6.8	None				





Telopea Stage 1 and 2

Number of Number of Redrooms	RA10033
Unit number Number of Bedrooms Floor area (M²) Predict. loads (MJ/M²/y) Star Rating Thermal Comfort Upgrades B.07.03 2 76 0 26 25.5 5.9 None B.07.04 2 75 0 18.1 23.8 6.7 None B.07.05 1 61 0 9.5 23.9 7.4 None B.07.06 3 95 0 30.3 22.8 5.9 None B.07.07 2 86 0 18.3 27.4 6.4 None B.07.08 2 77 0 25.5 12.6 7.1 None B.07.10 1 49 0 23.3 19.3 6.7 None B.07.11 1 49 0 31.4 12.2 6.6 None B.07.12 2 80 0 30.5 13 6.6 Glazing Upgrade B.07.14 1 49 0 33.	
Unit number Number of Bedrooms Floor area (M⁻) (MJ/M²/y) Star Rating Thermal Comfort Upgrades B.07.03 2 76 0 26 25.5 5.9 None B.07.04 2 75 0 18.1 23.8 6.7 None B.07.05 1 61 0 9.5 23.9 7.4 None B.07.06 3 95 0 30.3 22.8 5.9 None B.07.07 2 86 0 18.3 27.4 6.4 None B.07.08 2 77 0 25.5 12.6 7.1 None B.07.09 2 77 0 26.7 22.9 6.1 None B.07.10 1 49 0 23.3 19.3 6.7 None B.07.12 2 80 0 30.5 13 6.6 Glazing Upgrade B.07.14 1 49 0 33.5	
B.07.03 2 76 0 26 25.5 5.9 None B.07.04 2 75 0 18.1 23.8 6.7 None B.07.05 1 61 0 9.5 23.9 7.4 None B.07.06 3 95 0 30.3 22.8 5.9 None B.07.07 2 86 0 18.3 27.4 6.4 None B.07.08 2 77 0 25.5 12.6 7.1 None B.07.09 2 77 0 26.7 22.9 6.1 None B.07.10 1 49 0 23.3 19.3 6.7 None B.07.11 1 49 0 31.4 12.2 6.6 None B.07.12 2 80 0 30.5 13 6.6 Glazing Upgrade B.07.14 1 49 0 33.5 11.4	
B.07.04 2 75 0 18.1 23.8 6.7 None B.07.05 1 61 0 9.5 23.9 7.4 None B.07.06 3 95 0 30.3 22.8 5.9 None B.07.07 2 86 0 18.3 27.4 6.4 None B.07.08 2 77 0 25.5 12.6 7.1 None B.07.09 2 77 0 26.7 22.9 6.1 None B.07.10 1 49 0 23.3 19.3 6.7 None B.07.11 1 49 0 31.4 12.2 6.6 None B.07.12 2 80 0 30.5 13 6.6 Glazing Upgrade B.07.14 1 49 0 33.5 11.4 6.5 None	
B.07.05 1 61 0 9.5 23.9 7.4 None B.07.06 3 95 0 30.3 22.8 5.9 None B.07.07 2 86 0 18.3 27.4 6.4 None B.07.08 2 77 0 25.5 12.6 7.1 None B.07.09 2 77 0 26.7 22.9 6.1 None B.07.10 1 49 0 23.3 19.3 6.7 None B.07.11 1 49 0 31.4 12.2 6.6 None B.07.12 2 80 0 30.5 13 6.6 Glazing Upgrade B.07.13 2 80 0 23.1 8.8 7.5 Glazing Upgrade B.07.14 1 49 0 33.5 11.4 6.5 None	
B.07.06 3 95 0 30.3 22.8 5.9 None B.07.07 2 86 0 18.3 27.4 6.4 None B.07.08 2 77 0 25.5 12.6 7.1 None B.07.09 2 77 0 26.7 22.9 6.1 None B.07.10 1 49 0 23.3 19.3 6.7 None B.07.11 1 49 0 31.4 12.2 6.6 None B.07.12 2 80 0 30.5 13 6.6 Glazing Upgrade B.07.13 2 80 0 23.1 8.8 7.5 Glazing Upgrade B.07.14 1 49 0 33.5 11.4 6.5 None	
B.07.07 2 86 0 18.3 27.4 6.4 None B.07.08 2 77 0 25.5 12.6 7.1 None B.07.09 2 77 0 26.7 22.9 6.1 None B.07.10 1 49 0 23.3 19.3 6.7 None B.07.11 1 49 0 31.4 12.2 6.6 None B.07.12 2 80 0 30.5 13 6.6 Glazing Upgrade B.07.13 2 80 0 23.1 8.8 7.5 Glazing Upgrade B.07.14 1 49 0 33.5 11.4 6.5 None	
B.07.08 2 77 0 25.5 12.6 7.1 None B.07.09 2 77 0 26.7 22.9 6.1 None B.07.10 1 49 0 23.3 19.3 6.7 None B.07.11 1 49 0 31.4 12.2 6.6 None B.07.12 2 80 0 30.5 13 6.6 Glazing Upgrade B.07.13 2 80 0 23.1 8.8 7.5 Glazing Upgrade B.07.14 1 49 0 33.5 11.4 6.5 None	
B.07.09 2 77 0 26.7 22.9 6.1 None B.07.10 1 49 0 23.3 19.3 6.7 None B.07.11 1 49 0 31.4 12.2 6.6 None B.07.12 2 80 0 30.5 13 6.6 Glazing Upgrade B.07.13 2 80 0 23.1 8.8 7.5 Glazing Upgrade B.07.14 1 49 0 33.5 11.4 6.5 None	
B.07.10 1 49 0 23.3 19.3 6.7 None B.07.11 1 49 0 31.4 12.2 6.6 None B.07.12 2 80 0 30.5 13 6.6 Glazing Upgrade B.07.13 2 80 0 23.1 8.8 7.5 Glazing Upgrade B.07.14 1 49 0 33.5 11.4 6.5 None	
B.07.11 1 49 0 31.4 12.2 6.6 None B.07.12 2 80 0 30.5 13 6.6 Glazing Upgrade B.07.13 2 80 0 23.1 8.8 7.5 Glazing Upgrade B.07.14 1 49 0 33.5 11.4 6.5 None	
B.07.12 2 80 0 30.5 13 6.6 Glazing Upgrade B.07.13 2 80 0 23.1 8.8 7.5 Glazing Upgrade B.07.14 1 49 0 33.5 11.4 6.5 None	
B.07.13 2 80 0 23.1 8.8 7.5 Glazing Upgrade B.07.14 1 49 0 33.5 11.4 6.5 None	
B.07.14 1 49 0 33.5 11.4 6.5 None	
B.08.01 1 49 0 15.4 15.1 7.6 None	
B.08.02 2 76 0 22.8 18.6 6.8 None	
B.08.03 2 76 0 25.8 25.7 5.9 None	
B.08.04 2 75 0 18.8 23.4 6.7 None	
B.08.05 1 61 0 9.6 23.7 7.4 None	
B.08.06 3 95 0 30.4 22.9 5.8 None	
B.08.07 2 86 0 18.4 27 6.4 None	
B.09.01 1 49 0 15.7 15.2 7.6 None	
B.09.02 2 76 0 22.7 18.5 6.8 None	
B.09.03 2 76 0 25.7 25.3 6 None	
B.09.04 2 75 0 19 23.5 6.7 None	
B.09.05 1 61 0 9.9 23.3 7.4 None	
B.09.06 3 95 0 30.6 22.7 5.8 None	
B.09.07 2 86 0 18.7 26.4 6.4 None	
B.10.01 1 49 0 15.9 15 7.6 None	
B.10.02 2 76 0 24.4 15.8 6.9 None	
B.10.03 2 76 0 27.5 21.8 6.1 None	
B.10.04 2 75 0 20.9 21 6.8 None	
B.10.05 1 61 0 11.1 21.7 7.4 None	
B.10.06 3 95 0 31 22.6 5.8 None	
B.10.07 2 86 0 18.9 26.1 6.4 None	
B.11.01 1 49 0 16.2 14.9 7.6 None	
B.11.02 2 76 0 24.7 15.9 6.9 None	
B.11.03 2 76 0 27.8 21.5 6.1 None	



Thermal Comfort Upgrades

Proposed Residential Development



Telopea Stage 1 and 2

Issued in accordance with BASIX Thermal Comfort Simulation Method

Corti	ficate # 000	E1E120		d in acco	rdance with BAS	SIX Thermal Co	omfort Simulation Method Accreditation # HERA10033
Certi	incate # 000	1313130	3U		Th		
	1				Thermal perfo	rmance speci	rications
Unit number	Number of Bedrooms		area (M²)		dict. loads MJ/M²/y)	Star Rating	Thermal Comfort Upgrades
Humber	Beardonis		Uncon.	Heat	Cool (Sens & Lat)		
B.11.04	2	75	0	21.1	20.9	6.8	None
B.11.05	1	61	0	11.4	21.2	7.4	None
B.11.06	3	95	0	31.1	22.6	5.8	None
B.11.07	2	86	0	19.1	25.9	6.5	None
B.12.01	1	49	0	16.4	14.9	7.6	None
B.12.02	2	76	0	24.8	15.9	6.9	None
B.12.03	2	76	0	27.9	21.2	6.2	None
B.12.04	2	75	0	21.2	20.7	6.8	None
B.12.05	1	61	0	11.5	21.1	7.4	None
B.12.06	3	95	0	31.4	22.1	5.8	None
B.12.07	2	86	0	19.3	25.8	6.4	None
B.13.01	1	49	0	27.3	12.4	6.9	None
B.13.02	2	76	0	34.1	14	6.2	None
B.13.03	2	76	0	36.4	17.6	5.8	None
B.13.04	2	75	0	31.1	16.5	6.3	None
B.13.05	1	61	0	21.2	17.6	7	None
B.13.06	3	95	0	37.5	20.1	5.5	None
B.13.07	2	86	0	27.9	21	6.2	None
		1	1			Building C	
C.UG.01	1	59	0	15.4	19.6	7.3	Glazing Upgrade
C.UG.02	1	53	0	29.4	20.5	6.1	Glazing Upgrade
C.UG.03	1	51	0	27.5	11.3	7	None
C.UG.04	3	94	0	18.5	14.3	7.4	None
C.UG.05	1	36	0	24.6	19.3	6.6	None
C.UG.06	1	36	0	34	17.8	5.9	None
C.01.01	1	59	0	14.8	21.2	7.2	Glazing Upgrade
C.01.02	1	53	0	26	10.8	7.2	None
C.01.03	1	51	0	20.7	11.8	7.2	None
C.01.04	2	75	0	13.5	12.9	7.9	None
C.01.05	2	74	0	8.7	17	8	None
C.01.06	1	54 76	0	2.1	24.4	7.9	None
C.01.07 C.01.08	2	76 47	0	19.2 22.7	15.8 24.6	7.3 6.3	None None
C.01.08	1	59	0	13.7	24.5	7.1	None Glazing Upgrade
C.02.01	1	53	0	26.3	10.3	7.1	None
C.02.03	1	51	0	20.9	12.3	7.2	None
C.UZ.UJ	1 1	71	U	20.5	14.5	/.1	NOTIC





Telopea Stage 1 and 2

	Issued in accordance with BASIX Thermal Comfort Simulation Method										
Certi	Certificate # 0005151380 Accreditation # HERA10033										
	Thermal performance specifications										
Unit number	Number of Bedrooms	Floor	area (M²)		dict. loads MJ/M²/y)	Star Rating	Thermal Comfort Upgrades				
a	2001001110	Con.	Uncon.	Heat	Cool (Sens & Lat)						
C.02.04	2	75	0	13.8	12.6	7.9	None				
C.02.05	2	74	0	9.1	16.8	8	None				
C.02.06	1	54	0	2.3	24	7.9	None				
C.02.07	2	76	0	16.7	16.8	7.4	None				
C.02.08	1	47	0	18.8	27.1	6.4	None				
C.03.01	1	59	0	16.9	18.4	7.3	Glazing Upgrade				
C.03.02	1	53	0	27.9	12.8	6.9	None				
C.03.03	1	51	0	19.1	11.9	7.6	None				
C.03.04	2	75	0	18.1	9.7	7.9	None				
C.03.05	2	74	0	11.5	13.5	8.1	None				
C.03.06	1	54	0	4.4	20.5	8.1	None				
C.03.07	2	76	0	32	11	6.7	None				
C.03.08	1	47	0	27.1	21.8	6.2	None				
C.04.01	1	59	0	16.6	21.5	7.1	Glazing Upgrade				
C.04.02	1	53	0	27.9	13.1	6.8	None				
C.04.03	1	51	0	24.7	10.4	7.3	None				
C.04.04	2	75	0	18.3	9.7	7.8	None				
C.04.05	2	74	0	11.8	13.3	8.1	None				
C.05.01	1	59	0	16.5	21.5	7.1	Glazing Upgrade				
C.05.02	1	53	0	27.5	13.5	6.8	None				
C.05.03	1	51	0	24.8	10.8	7.2	None				
C.05.04	2	75	0	18.6	10	7.8	None				
C.05.05	2	74	0	12.1	13.1	8.1	None				
C.06.01	1	59	0	12	24.1	7.2	Glazing Upgrade				
C.06.02	1	53	0	26.2	10.9	7.1	None				
C.06.03	1	51	0	24	11	7.3	None				
C.06.04	2	75	0	18.4	10.3	7.8	None				
C.06.05	2	74	0	12.3	12.9	8.1	None				
C.07.01	1	59	0	17	21.1	7.1	Glazing Upgrade				
C.07.02	1	53	0	27.5	13.7	7	None				
C.07.03	1	51	0	25.7	10.3	7.3	None				
C.07.04	2	57	0	19.2	10.1	7.8	None				
C.07.05	2	74	0	12.8	13.2	8	None				
C.08.01	1	59	0	28.6	17.1	6.4	None				
C.08.02	1	53	0	28.8	12.8	6.9	None				
C.08.03	1	51	0	37.5	8.7	6.4	None				
C.08.04	2	75	0	37.4	28.9	7.2	None				

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Telopea Stage 1 and 2

			Issue	d in acco	ordance with BAS	SIX Thermal Co	omfort Simulation Method
Certi	ficate # 000	515138	30				Accreditation # HERA10033
					Thermal perfo	rmance speci	fications
Unit	Number of	Floor	area (M²)		dict. loads MJ/M²/y)	Star Rating	Thermal Comfort Upgrades
number	Bedrooms	Con.	Uncon.	Heat	Cool (Sens & Lat)		
C.08.05	2	74	0	21.5	11.1	7.4	None
					E	Building D	
D.LG.01	2	77	0	22.9	27.9	6	Glazing Upgrade Provide an awning/projection minimum of 500mm to Bedroom 1 and Living areas Provide external shading screens for the sliding door to Bedroom 1 and Living areas
D.LG.02	1	73	0	32.3	16	6.2	None
D.LG.03	2	93	0	29.6	25.4	5.7	None
D.LG.04	1	62	0	28.9	20.5	6.1	None
D.LG.05	2	76	0	14.9	23	7.1	None
D.LG.06	1	46	0	0.9	27.6	7.8	None
D.UG.01	2	68	0	9.7	26.5	7.2	None
D.UG.02	3	93	0	14.5	15.2	7.7	None
D.UG.03	2	76	0	19.4	11.5	7.6	None
D.UG.04	1	50	0	18.1	21	6.9	None
D.UG.05	1	50	0	14.6	24.7	6.9	None
D.UG.06	2	74	0	35.8	23.3	5.4	None
D.UG.07	2	86	0	20.7	14.7	7.3	None
D.UG.08	2	93	0	20.6	21.2	6.8	None
D.UG.09	1	62	0	16.2	14.6	7.6	None
D.UG.10	2	76	0	6.6	25.3	7.5	None
D.UG.11	1	49	0	3.8	18.8	8.3	None
D.01.01	2	68	0	8.8	25.5	7.3	None
D.01.02	3	93	0	7.7	17.2	8.1	None
D.01.03	2	76	0	11.6	15.7	7.9	None
D.01.04	1	50	0	16	12.9	7.8	None
D.01.05	2	74	0	15.3	16.3	7.5	None
D.01.06	2	74	0	28.2	20	6.2	None
D.01.07	2	86	0	20.4	14.9	7.3	None
D.01.08	2	93	0	21.7	20.6	6.7	None
D.01.09	1	62	0	17.3	13.9	7.6	None
D.01.10	2	76	0	8.5	21.7	7.7	None
D.01.11	1	49	0	4.5	18	8.3	None
D.02.01	2	68	0	8.7	25.3	7.4	None
D.02.02	3	93	0	7.9	16	8.2	None
D.02.03	2	76	0	14.7	17.4	7.5	None
D.02.04	1	50	0	16.6	13.4	7.7	None

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Telopea Stage 1 and 2

Issued in accordance with BASIX Thermal Comfort Simulation Method												
Certificate # 0005151380 Accreditation # HERA10033												
Thermal performance specifications												
Unit number	Number of Bedrooms	Floor area (M ²)		(IVIO/IVI /y)		Star Rating	Thermal Comfort Upgrades					
		Con.	Uncon.	Heat	Cool (Sens & Lat)							
D.02.05	2	74	0	18.3	16.2	7.3	None					
D.02.06	2	74	0	29.1	18.6	6.3	None					
D.02.07	2	86	0	20.8	14.6	7.3	None					
D.02.08	2	93	0	22.1	20.2	6.7	None					
D.02.09	1	62	0	17.9	13.4	7.6	None					
D.02.10	2	76	0	8.9	21.8	7.6	None					
D.02.11	1	49	0	4.7	17.7	8.3	None					
D.03.01	2	68	0	10.7	20	7.6	None					
D.03.02	3	93	0	9.1	11.9	8.4	None					
D.03.03	2	76	0	17.7	12.9	7.6	None					
D.03.04	1	50	0	20.3	12.4	7.4	None					
D.03.05	2	74	0	21.2	12.8	7.4	None					
D.03.06	2	74	0	32.3	15	6.3	None					
D.03.07	2	86	0	24.1	11.4	7.3	None					
D.03.08	2	93	0	25.4	14.2	6.9	None					
D.03.09	1	62	0	21.2	10.9	7.4	None					
D.03.10	2	76	0	11.6	15.4	7.9	None					
D.03.11	1	49	0	7	13	8.4	None					
D.04.01	2	68	0	11	19.1	7.7	None					
D.04.02	3	93	0	10.1	12.2	8.3	None					
D.04.03	2	76	0	17.1	13.5	7.6	None					
D.04.04	1	50	0	20.4	12.2	7.4	None					
D.04.05	2	74	0	21.1	13.2	7.3	None					
D.04.06	2	74	0	31.8	15.7	6.3	None					
D.04.07	2	86	0	24.5	11.2	7.2	None					
D.04.08	2	93	0	25.8	14.1	6.9	None					
D.04.09	1	62	0	21.7	11	7.4	None					
D.04.10	2	76	0	11.8	15.3	7.9	None					
D.04.11	1	49	0	7.3	12.9	8.4	None					
D.05.01	2	68	0	11.3	18.3	7.7	None					
D.05.02	3	93	0	8.5	11.7	8.4	None					
D.05.03	2	76	0	14.5	13.6	7.8	None					
D.05.04	1	50	0	20.9	13	7.4	None					
D.05.05	2	74	0	20.8	13.7	7.3	None					
D.05.06	2	74	0	29.1	15.9	6.5	None					
D.05.07	2	86	0	25	11.1	7.2	None					
D.05.08	2	93	0	26.4	13.9	6.9	None					

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Telopea Stage 1 and 2

Issued in accordance with BASIX Thermal Comfort Simulation Method												
Certi	ficate # 000	515138	30				Accreditation # HERA10033					
Thermal performance specifications												
Unit number	Number of Bedrooms	Floor area (M ²)		(1010/101 / y)		Star Rating	Thermal Comfort Upgrades					
		Con.	Uncon.	Heat	Cool (Sens & Lat)							
D.05.09	1	62	0	22.3	10.9	7.4	None					
D.05.10	2	76	0	12.2	14.7	7.9	None					
D.05.11	1	49	0	7.6	12.7	8.4	None					
D.06.01	2	68	0	11.5	18.3	7.7	None					
D.06.02	3	93	0	8.9	12.4	8.4	None					
D.06.03	2	76	0	13.5	13.8	7.9	None					
D.06.04	1	50	0	20.8	12.4	7.4	None					
D.06.05	2	74	0	20.2	14.2	7.3	None					
D.06.06	2	74	0	28.2	15.9	6.6	None					
D.06.07	2	86	0	32.3	10.1	6.7	None					
D.06.08	2	93	0	36.3	13.3	6.1	None					
D.06.09	1	62	0	28	10.8	7	None					
D.06.10	2	76	0	13.8	13.8	7.9	None					
D.06.11	1	49	0	7.8	12.6	8.4	None					
D.07.01	2	68	0	11.8	18.8	7.6	None					
D.07.02	3	93	0	8	11.8	8.5	None					
D.07.03	2	76	0	13.3	14.4	7.9	None					
D.07.04	1	50	0	20.9	12.7	7.4	None					
D.07.05	2	74	0	18.4	14.4	7.4	None					
D.07.06	2	74	0	25.8	15.8	6.8	None					
D.07.07	2	90	0	23.3	15.5	7	None					
D.07.08	3	98	0	30.4	19.1	6.1	None					
D.07.09	3	102	0	16.6	20.6	7.1	None					
D.07.10	2	79	5	12.6	7.5	8.4	None					
D.08.01	2	68	0	21.2	16	7.1	None					
D.08.02	3	93	0	13.7	11.4	8.1	None					
D.08.03	2	76	0	18.1	13.6	7.5	None					
D.08.04	1	50	0	29.7	10.5	6.9	None					
D.08.05	2	74	0	26	13.1	6.9	None					
D.08.06	2	74	0	32.6	14.4	6.3	None					
	Building E											
E.LG.01	3	106	0	17.3	14.9	7.4	None					
E.LG.02	2	73	0	36.8	18.9	5.7	None					
E.LG.03	2	96	0	24.8	10	7.3	None					
E.UG.01	2	86	0	21.6	15.9	7.2	None					
E.UG.02	2	72	0	14	16.3	7.7	None					
E.UG.03	2	74	0	4.2	15.2	8.6	None					



Thermal Comfort Upgrades

Proposed Residential Development



Telopea Stage 1 and 2

Issued in accordance with BASIX Thermal Comfort Simulation Method

Corti	Issued in accordance with BASIX Thermal Comfort Simulation Method Certificate # 0005151380 Accreditation # HERA10033								
Certi									
Thermal performance specifications									
Unit number	Number of Bedrooms	Floor	area (M²)		dict. loads MJ/M²/y)	Star Rating	Thermal Comfort Upgrades		
number	Beardonis	Con.	Uncon.	Heat	Cool (Sens & Lat)				
E.UG.04	2	83	0	7	18.4	8.1	None		
E.UG.05	1	50	0	21.7	19.5	6.9	None		
E.UG.06	2	83	0	12.6	16.1	7.8	None		
E.UG.07	2	70	0	33.7	19.1	5.9	None		
E.UG.08	1	50	0	39.7	17	5.6	None		
E.UG.09	2	83	0	16.8	25.6	6.7	None		
E.UG.10	2	73	0	21.7	17.7	6.9	None		
E.UG.11	2	73	0	19.6	16.9	7.2	None		
E.01.01	2	86	0	12.1	17.5	7.8	None		
E.01.02	3	102	0	9.9	27.1	7.2	None		
E.01.03	2	74	0	3.4	19.7	8.3	None		
E.01.04	2	73	0	4.8	17.5	8.4	None		
E.01.05	1	50	0	12.2	19.4	7.6	None		
E.01.06	1	50	0	17.3	15.3	7.4	None		
E.01.07	1	50	0	9.3	20.6	7.7	None		
E.01.08	2	70	0	24	27	5.9	None		
E.01.09	1	50	0	27.7	18.4	6.4	None		
E.01.10	2	83	0	17.5	25	6.7	None		
E.01.11	2	73	0	22.7	15.8	7.1	None		
E.01.12	2	73	0	23.4	21.6	6.5	None		
E.02.01	2	86	0	12.9	15.3	7.9	None		
E.02.02	3	102	0	5.9	26.8	7.4	None		
E.02.03	2	74	0	4.8	17.5	8.4	None		
E.02.04	2	73	0	7	22.8	7.7	None		
E.02.05	1	50	0	20.2	16.2	7.2	None		
E.02.06	1	50	0	17.6	15.7	7.4	None		
E.02.07	1	50	0	14.8	16.2	7.6	None		
E.02.08	2	68	0	24.7	19	6.7	None		
E.02.09	2	76	0	25.1	25.8	6	None		
E.02.10	2	73	0	27.7	13.3	6.9	None		
E.02.11	2	73	0	23.7	15.8	6.9	None		
E.03.01	2	86	0	15.7	11.5	7.9	None		
E.03.02	3	102	0	9.8	19.9	7.7	None		
E.03.03	2	74	0	6.8	14.4	8.4	None		
E.03.04	2	73	0	10.1	20.7	7.6	None		
E.03.05	2	50	0	21.8	14.7	7.2	None		
E.03.06	1	50	0	21.5	13.2	7.4	None		

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Thermal Comfort Upgrades Proposed Residential Development



Telopea Stage 1 and 2

	Issued in accordance with BASIX Thermal Comfort Simulation Method								
Certi	ficate # 000	515138	30				Accreditation # HERA10033		
Thermal performance specifications									
Unit number	Number of Bedrooms	Floor	area (M²)		dict. loads MJ/M²/y)	Star Rating	Thermal Comfort Upgrades		
		Con.	Uncon.	Heat	Cool (Sens & Lat)				
E.03.07	1	50	0	15.9	13.2	7.8	None		
E.03.08	2	68	0	25.1	16.9	6.8	None		
E.03.09	2	76	0	23.8	17.4	6.9	None		
E.03.10	2	73	0	28.7	11.5	6.9	None		
E.03.11	2	73	0	27.2	11	7.1	None		
E.04.01	2	86	0	15.6	11.3	7.9	None		
E.04.02	3	102	0	10.1	19.9	7.7	None		
E.04.03	2	74	0	6.7	14.6	8.4	None		
E.04.04	2	73	0	9	20.8	7.7	None		
E.04.05	1	50	0	23.4	13.8	7.2	None		
E.04.06	1	50	0	22.9	12.6	7.3	None		
E.04.07	1	50	0	18.2	13	7.6	None		
E.04.08	2	68	0	26.1	14.6	6.9	None		
E.04.09	2	76	0	24.5	16.8	6.9	None		
E.04.10	2	73	0	29.1	11.2	6.9	None		
E.04.11	2	73	0	27.6	10.9	7.1	None		
E.05.01	2	86	0	16.2	11.4	7.9	None		
E.05.02	3	102	0	10.4	19.6	7.7	None		
E.05.03	2	74	0	7.2	14.5	8.4	None		
E.05.04	2	73	0	9.2	21	7.7	None		
E.05.05	1	50	0	22.6	14.7	7.2	None		
E.05.06	1	50	0	21.8	13.3	7.3	None		
E.05.07	1	50	0	16.1	13.6	7.7	None		
E.05.08	2	68	0	25.5	14.8	6.9	None		
E.05.09	2	76	0	25	16.5	6.8	None		
E.05.10	2	73	0	29.6	11	6.9	None		
E.05.11	2	73	0	28.2	10.9	6.9	None		
E.06.01	2	86	0	16.3	11.1	7.9	None		
E.06.02	3	102	0	10.6	19.5	7.7	None		
E.06.03	2	74	0	7.1	14.3	8.4	None		
E.06.04	2	73	0	9.2	22	7.6	None		
E.06.05	1	50	0	23.8	15	7	None		
E.06.06	1	50	0	22.3	13.8	7.3	None		
E.06.07	1	50	0	18.5	12.3	7.7	None		
E.06.08	2	68	0	25.5	14.9	6.9	None		
E.06.09	2	76	0	24.8	17	6.8	None		
E.06.10	2	73	0	29.9	10.6	6.9	None		

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Thermal Comfort Upgrades Proposed Residential Development



Telopea Stage 1 and 2

Issued in accordance with BASIX Thermal Comfort Simulation Method

Certi	ficate # 000	515138	30				Accreditation # HERA10033			
	Thermal performance specifications									
Unit	Number of	Floor area (M ²)			dict. loads MJ/M²/y)	Star Rating	Thermal Comfort Upgrades			
number	Bedrooms		Uncon.	Heat	Cool (Sens & Lat)	3				
E.06.11	2	73	0	28.5	10.8	6.9	None			
E.07.01	2	86	0	28.8	9.3	7.1	None			
E.07.02	2	102	0	19	16.2	7.3	None			
E.07.03	2	74	0	13.8	12.6	7.9	None			
E.07.04	2	73	0	17.9	19.9	6.9	None			
E.07.05	1	50	0	32	15.5	6.3	None			
E.07.06	1	50	0	23.8	17.8	6.8	None			
E.07.07	1	50	0	23.4	13.4	7.2	None			
E.07.08	2	68	0	33.5	14.6	6.3	None			
E.07.09	2	76	0	38.2	15.9	5.8	None			
E.07.10	2	73	0	39.2	12	5.9	None			
E.07.11	2	73	0	39.5	8.8	6.3	None			

Nationwide House Energy Rating Scheme — Class 2 summary NatHERS Certificate No. 0005151380

Generated on 13 Jul 2021 using BERS Pro v4.4.0.1 (3.21)

Property

Address Telopea, Telopea, NSW, 2117

Lot/DP 5/128229

NatHERS climate zone





Tracey Cools

Efficient Living Pty Ltd

admin@efficientliving.com.au

02 9970 6181

Accreditation No.

Assessor Accrediting Organisation





Verification

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

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m²/p.a.)	Cooling load (MJ/m²/p.a.)	Total load (MJ/m ² /p.a.)	Star rating
0006239784	A.01.01	23.4	21.9	45.3	6.4
0006239792	A.01.02	25.7	14.8	40.6	6.9
0006239800	A.01.03	15.7	14.8	30.5	7.6
0006239818	A.01.04	11.7	13.6	25.3	8.1
0006239826	A.01.05	16.4	17.1	33.5	7.4

Continued Over

National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated buildings 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.



Summary of all dwellings (continued)

Certificate number and link	Unit Number	Heating load (MJ/m ² /p.a.)	Cooling load (MJ/m ² /p.a.)	Total load (MJ/m ² /p.a.)	Star rating
<u>0006239834</u>	A.02.01	23.7	10	33.7	7.4
0006239842	A.02.02	18.6	15.9	34.5	7.3
0006239859	A.02.03	11.3	16.7	28	7.8
0006239867	A.02.04	9.7	22.5	32.2	7.4
0006242762	A.B1.01	16.7	28.4	45.1	6.4
0006239875	A.B1.02	11.5	15.1	26.6	7.9
0006239883	A.B1.03	5.9	25	30.9	7.6
0006239891	A.B2.01	6	17	22.9	8.3
0006239909	A.LG.01	22.4	23.9	46.3	6.4
0006239917	A.LG.02	25.6	16.1	41.7	6.8
0006239925	A.LG.03	12.9	13.6	26.5	7.9
0006239933	A.LG.04	6.3	24.2	30.5	7.6
0006239941	A.UG.01	23.3	22	45.3	6.4
0006239958	A.UG.02	25.9	14.5	40.4	6.9
0006239966	A.UG.03	29	13.9	43	6.7
0006239974	A.UG.04	9.8	13.8	23.6	8.2
0006239982	A.UG.05	6.5	23.5	30	7.7
0006240014	B.01.01	9.3	24.3	33.7	7.4
0006240022	B.01.02	16.6	16.8	33.4	7.4
0006240030	B.01.03	13.4	18.9	32.3	7.4
0006240048	B.01.04	7.2	26.7	34	7.4
0006240055	B.01.05	1.3	12.7	14	9
0006240063	B.01.06	5.4	10.5	15.9	8.8
0006240071	B.01.07	12.4	13.6	26	8
0006240089	B.01.08	12.8	14.5	27.2	7.9
0006240097	B.01.09	2	27	29	7.8
0006240105	B.01.10	17	17.3	34.3	7.3
0006240113	B.01.11	6.6	25.4	32	7.5
0006240121	B.01.12	16.1	20.1	36.2	7.2
0006240139	B.02.01	10.6	12.1	22.6	8.3
0006242796	B.02.02	7.8	22.4	30.2	7.7
0006240147	B.02.03	8.7	16.7	25.5	8
0006240154	B.02.04	7.9	22.3	30.1	7.7
0006240162	B.02.05	29.1	13.5	42.6	6.7
0006240170	B.02.06	12.1	25	37.1	7.1
0006240188	B.02.07	7	27.5	34.5	7.3
0006240196	B.02.08	6.2	21.5	27.8	7.9
0006240204	B.02.09	15.1	18.4	33.5	7.4
0006240212	B.02.10	12.1	18.6	30.7	7.6

NATIONWIDE HOUSE ENERGY EATING SCHEME

					ENERGY EATING SCHEME
Certificate number and link	Unit Number	Heating load (MJ/m /p.a.)	Cooling load (MJ/m /p.a.)	Total load (MJ/m /p.a.)	Star rating
0006240238	B.02.12	2.9	10.8	13.8	9
0006240246	B.02.13	5.9	10.4	16.4	8.8
0006240253	B.02.14	12.9	13.4	26.3	7.9
0006240261	B.02.15	13.5	14.3	27.8	7.9
0006240279	B.02.16	2.4	26.3	28.8	7.8
0006240287	B.02.17	20.4	13.7	34.1	7.4
0006240295	B.02.18	19.1	27.8	46.9	6.3
0006240303	B.02.19	16.7	20	36.7	7.2
0006240311	B.02.20	20.8	12.6	33.5	7.4
0006240329	B.02.21	38.5	13.3	51.8	5.9
0006240337	B.02.22	34.3	19.7	54	5.8
0006240345	B.02.23	11	16.4	27.3	7.9
0006240352	B.02.24	10.8	14.9	25.6	8
0006240360	B.02.25	12.1	19.3	31.4	7.6
0006240378	B.03.01	14.9	22	37	7.1
0006240386	B.03.02	18.6	19.8	38.5	7
0006240394	B.03.03	15.2	19.2	34.3	7.3
0006242770	B.03.04	3.1	25.9	28.9	7.8
0006240402	B.03.05	4.1	10.4	14.5	8.9
0006240410	B.03.06	19.8	7.1	27	7.9
0006240428	B.03.07	27.8	10.3	38.1	7.1
0006240436	B.03.08	28.1	10.6	38.7	7
0006240444	B.03.09	12.8	20.6	33.4	7.4
0006240451	B.03.10	20.9	13.4	34.3	7.3
0006240469	B.03.11	19.7	27.1	46.8	6.4
0006240477	B.03.12	16.9	12.9	29.8	7.7
0006240485	B.04.01	15.7	15.2	30.9	7.6
0006240493	B.04.02	23.6	15.2	38.9	7
0006240501	B.04.03	18.5	21.2	39.7	6.9
0006240519	B.04.04	18.6	22.7	41.3	6.8
0006240527	B.04.05	9.4	24.6	34	7.4
0006240535	B.04.06	27.4	27.6	55	5.7
0006240543	B.04.07	17.7	26.9	44.6	6.5
0006240550	B.04.08	21.8	12.9	34.7	7.3
0006240568	B.04.09	20.1	26.4	46.4	6.4
0006240576	B.04.10	20.6	14.2	34.8	7.3
0006240584	B.04.11	21.7	15.3	37	7.1
0006240592	B.04.12	21.5	16.8	38.3	7.1
0006240600	B.04.13	35.6	17.9	53.5	5.8
0006240618	B.04.14	34.4	10.8	45.2	6.4
0006240626	B.05.01	15.7	15	30.7	7.6
0006240634	B.05.02	25.2	18.1	43.3	6.6

NATIONWIDE HOUSE ENERGY EATING SCHEME

					ENERGY EATING SCHEME
Certificate number and link	Unit Number	Heating load (MJ/m /p.a.)	Cooling load (MJ/m /p.a.)	Total load (MJ/m /p.a.)	Star rating
0006240642	B.05.03	25.3	25.4	50.7	6
0006240659	B.05.04	17.6	24.3	41.9	6.8
0006240667	B.05.05	9.6	24.5	34.1	7.4
0006240675	B.05.06	27.7	27.3	55	5.7
0006240683	B.05.07	18.1	27.4	45.5	6.4
0006240691	B.05.08	20.3	13.6	34	7.4
0006240709	B.05.09	20.6	26.1	46.7	6.4
0006240717	B.05.10	21.1	14	35.1	7.3
0006240725	B.05.11	19.3	14.8	34.1	7.4
0006240733	B.05.12	22.1	16.3	38.4	7
0006240741	B.05.13	26.1	12.9	39	7
0006240758	B.05.14	34.7	11.1	45.8	6.4
0006240766	B.06.01	15.4	15.4	30.8	7.6
0006240768	B.06.01	23.6	18.3	42	6.8
	B.06.02	26.2	25.5	51.6	5.9
0006240782	B.06.03	18.1	24.2	42.3	6.7
0006240790					
0006240808	B.06.05	9.6	24.5	34.1	7.4
0006240816	B.06.06	30.2	22.8	53	5.9
0006240824	B.06.07	18.2	27.9	46.1	6.4
0006240832	B.06.08	20.6	13.9	34.5	7.3
0006240840	B.06.09	20.9	25.7	46.5	6.4
0006240857	B.06.10	21.5	14	35.5	7.3
0006240865	B.06.11	19.6	14.4	34	7.4
0006240873	B.06.12	24.8	14.7	39.5	6.9
0006240881	B.06.13	26.6	12.7	39.3	6.9
0006240899	B.06.14	33.8	11.1	44.9	6.5
0006240907	B.07.01	26	12.9	38.9	7
0006240915	B.07.02	23	18.6	41.6	6.8
0006240923	B.07.03	26	25.5	51.5	5.9
0006240931	B.07.04	18.4	23.8	42.1	6.7
0006240949	B.07.05	9.5	23.9	33.4	7.4
0006240956	B.07.06	30.3	22.8	53.1	5.9
0006240964	B.07.07	18.3	27.4	45.7	6.4
0006240972	B.07.08	25.5	12.6	38.1	7.1
0006240980	B.07.09	26.7	22.9	49.7	6.1
0006240998	B.07.10	23.3	19.3	42.6	6.7
0006241004	B.07.11	31.4	12.2	43.6	6.6
0006241012	B.07.12	30.5	13	43.5	6.6
0006241020	B.07.13	23.1	8.8	31.8	7.5
0006241038	B.07.14	33.5	11.4	44.9	6.5
0006241046	B.08.01	15.4	15.1	30.6	7.6
0006241053	B.08.02	22.8	18.6	41.3	6.8

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Certificate number and link	Unit Number	Heating load (MJ/m /p.a.)	Cooling load (MJ/m /p.a.)	Total load (MJ/m /p.a.)	Star rating
0006241061	B.08.03	25.8	25.7	51.5	5.9
0006241079	B.08.04	18.8	23.4	42.2	6.7
0006241087	B.08.05	9.6	23.7	33.4	7.4
0006241095	B.08.06	30.4	22.9	53.3	5.8
0006241103	B.08.07	18.4	27	45.5	6.4
0006241111	B.09.01	15.7	15.2	30.9	7.6
0006241129	B.09.02	22.7	18.5	41.2	6.8
0006241137	B.09.03	25.7	25.3	51	6
0006241145	B.09.04	19	23.5	42.5	6.7
0006241152	B.09.05	9.9	23.3	33.2	7.4
0006241160	B.09.06	30.6	22.7	53.3	5.8
0006241178	B.09.07	18.7	26.4	45.2	6.4
0006241186	B.10.01	15.9	15	30.9	7.6
0006241194	B.10.02	24.4	15.8	40.3	6.9
0006241202	B.10.03	27.5	21.8	49.3	6.1
0006241210	B.10.04	20.9	21	41.9	6.8
0006241228	B.10.05	11.1	21.7	32.8	7.4
0006241236	B.10.06	31	22.6	53.6	5.8
0006241244	B.10.07	18.9	26.1	45.1	6.4
0006241251	B.11.01	16.2	14.9	31	7.6
0006241269	B.11.02	24.7	15.9	40.6	6.9
0006241277	B.11.03	27.8	21.5	49.3	6.1
0006241285	B.11.04	21.1	20.9	42	6.8
0006241293	B.11.05	11.4	21.2	32.5	7.4
0006241301	B.11.06	31.1	22.6	53.7	5.8
0006241319	B.11.07	19.1	25.9	45	6.5
0006241327	B.12.01	16.4	14.9	31.3	7.6
0006241335	B.12.02	24.8	15.9	40.7	6.9
0006241343	B.12.03	27.9	21.2	49.2	6.2
0006241350	B.12.04	21.2	20.7	41.9	6.8
0006241368	B.12.05	11.5	21.1	32.5	7.4
0006241376	B.12.06	31.4	22.1	53.5	5.8
0006241384	B.12.07	19.3	25.8	45.1	6.4
0006241392	B.13.01	27.3	12.4	39.8	6.9
0006241400	B.13.02	34.1	14	48.1	6.2
0006241418	B.13.03	36.4	17.6	54	5.8
0006241426	B.13.04	31.1	16.5	47.6	6.3
0006241434	B.13.05	21.2	17.6	38.8	7
0006241442	B.13.06	37.5	20.1	57.6	5.5
0006241459	B.13.07	27.9	21	48.8	6.2
0006241467	B.LG.01	16.9	17.2	34.1	7.4
0006241475	B.LG.02	8.7	22.6	31.3	7.6

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					ENERGY EATING SCHEME
Certificate number and link	Unit Number	Heating load (MJ/m /p.a.)	Cooling load (MJ/m /p.a.)	Total load (MJ/m /p.a.)	Star rating
0006241483	B.LG.03	19.3	19.6	38.9	7
0006241491	B.LG.04	27.2	18.4	45.5	6.4
0006241509	B.LG.05	40.5	21.1	61.6	5.3
0006241517	B.UG.01	11.2	14.7	25.9	8
0006241525	B.UG.02	12.2	20.7	32.9	7.4
0006241533	B.UG.03	13.3	13.3	26.6	7.9
0006241541	B.UG.04	13.4	20	33.4	7.4
0006241558	B.UG.05	24.3	14.4	38.7	7
0006241566	B.UG.06	24.1	28.4	52.4	5.9
0006241574	B.UG.07	21.9	29.1	51	6
0006241582	B.UG.08	14.6	23.7	38.3	7.1
0006241590	B.UG.09	31.8	22.3	54.2	5.8
0006241608	B.UG.10	3.2	20.1	23.3	8.2
0006241616	B.UG.11	4.1	22.6	26.7	7.9
0006242689	B.UG.12	19.9	14.2	34.1	7.4
0006241624-01	B.UG.13	20.3	14.2	34.4	7.3
0006241632	B.UG.14	0.3	26.8	27.1	7.9
0006241640	B.UG.15	14.5	11.2	25.7	8
0006241657	B.UG.16	11.1	23.2	34.2	7.3
0006241665	B.UG.17	16.2	18.4	34.6	7.3
0006241673	B.UG.18	21.5	10.6	32.2	7.4
0006241681	B.UG.19	31.9	13.7	45.5	6.4
0006241699	B.UG.20	39	19.8	58.8	5.4
0006241707	B.UG.21	17.9	16.6	34.5	7.3
0006241715	B.UG.23	14.9	19.6	34.5	7.3
0006241723	B.UG.24	15.7	11.4	27.1	7.9
0006237770	C.01.01	14.8	21.2	36	7.2
0006237788	C.01.02	26	10.8	36.8	7.2
0006237796	C.01.03	20.7	11.8	32.4	7.4
0006237804	C.01.04	13.5	12.9	26.5	7.9
0006237812	C.01.05	8.7	17	25.7	8
0006237820	C.01.06	2.1	24.4	26.5	7.9
0006237838	C.01.07	19.2	15.8	35	7.3
0006237846	C.01.08	22.7	24.6	47.3	6.3
0006237853	C.02.01	13.7	24.5	38.2	7.1
0006237861	C.02.02	26.3	10.3	36.6	7.2
0006237879	C.02.03	20.9	12.3	33.2	7.4
0006237887	C.02.04	13.8	12.6	26.4	7.9
0006237895	C.02.05	9.1	16.8	25.9	8
0006237903	C.02.06	2.3	24	26.3	7.9
0006237911	C.02.07	16.7	16.8	33.5	7.4
0006237929	C.02.08	18.8	27.1	45.9	6.4

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Certificate number and link	Unit Number	Heating load (MJ/m /p.a.)	Cooling load (MJ/m /p.a.)	Total load (MJ/m /p.a.)	Star rating
0006237937	C.03.01	16.9	18.4	35.4	7.3
0006237945	C.03.02	27.9	12.8	40.7	6.9
0006237952	C.03.03	19.1	11.9	31	7.6
0006237960	C.03.04	18.1	9.7	27.8	7.9
0006237978	C.03.05	11.5	13.5	25	8.1
0006237986	C.03.06	4.4	20.5	24.9	8.1
0006237994	C.03.07	32	11	43	6.7
0006238000	C.03.08	27.1	21.8	48.9	6.2
0006238018	C.04.01	16.6	21.5	38.1	7.1
0006238026	C.04.02	27.9	13.1	41	6.8
0006238034	C.04.03	24.7	10.4	35.1	7.3
0006238042	C.04.04	18.3	9.7	28	7.8
0006238059	C.04.05	11.8	13.3	25.1	8.1
0006238067	C.05.01	16.5	21.5	38	7.1
0006238075	C.05.02	27.5	13.5	41	6.8
0006238083	C.05.03	24.8	10.8	35.6	7.2
0006238091	C.05.04	18.6	10	28.5	7.8
0006238109	C.05.05	12.1	13.1	25.2	8.1
0006238117	C.06.01	12	24.1	36.1	7.2
0006238125	C.06.02	26.2	10.9	37.1	7.1
0006238133	C.06.03	24	11	35	7.3
0006238141	C.06.04	18.4	10.3	28.7	7.8
0006238158	C.06.05	12.3	12.9	25.2	8.1
0006238166	C.07.01	17	21.1	38.1	7.1
0006238174	C.07.02	27.5	13.7	41.3	7
0006238182	C.07.03	25.7	10.3	36	7.3
0006238190	C.07.04	19.2	10.1	29.3	7.8
0006238208	C.07.05	12.8	13.2	26	8
0006238216	C.08.01	28.6	17.1	45.7	6.4
0006238224	C.08.02	28.8	12.8	41.6	6.9
0006238232	C.08.03	37.5	8.7	46.2	6.4
0006238240	C.08.04	28.9	8.5	37.4	7.2
0006238257	C.08.05	21.5	11.1	32.6	7.4
0006238265	C.UG.01	15.4	19.6	35	7.3
0006238273	C.UG.02	29.4	20.5	50	6.1
0006238281	C.UG.03	27.5	11.3	38.7	7
0006238299	C.UG.04	18.5	14.3	32.7	7.4
0006238307	C.UG.05	19.3	24.6	43.9	6.6
0006238315	C.UG.06	34	17.8	51.7	5.9
0006238380	D.01.01	8.8	25.5	34.3	7.3
0006238398	D.01.02	7.7	17.2	25	8.1
0006238406	D.01.03	11.6	15.7	27.3	7.9

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					ENERGY EATING SCHEME
Certificate number and link	Unit Number	Heating load (MJ/m /p.a.)	Cooling load (MJ/m /p.a.)	Total load (MJ/m /p.a.)	Star rating
0006238414	D.01.04	16	12.9	28.8	7.8
0006238422	D.01.05	15.3	16.3	31.7	7.5
0006238430	D.01.06	28.2	20	48.3	6.2
0006238448	D.01.07	20.4	14.9	35.3	7.3
0006238455	D.01.08	21.7	20.6	42.3	6.7
0006238463	D.01.09	17.3	13.9	31.2	7.6
0006238471	D.01.10	8.5	21.7	30.2	7.7
0006238489	D.01.11	4.5	18	22.5	8.3
0006238497	D.02.01	8.7	25.3	34	7.4
0006238505	D.02.02	7.9	16	23.9	8.2
0006238513	D.02.03	14.7	17.4	32	7.5
0006238521	D.02.04	16.6	13.4	29.9	7.7
0006238539	D.02.04	18.3	16.2	34.5	7.7
0006238547	D.02.06	29.1	18.6	47.7	6.3
0006238554	D.02.00 D.02.07	20.8	14.6	35.4	7.3
0006238562	D.02.07	22.1	20.2	42.3	6.7
	D.02.00	17.9	13.4	31.3	7.6
0006238570					
0006238588	D.02.10	8.9	21.8	30.7	7.6
0006238596	D.02.11	4.7	17.7	22.4	8.3
0006238612	D.03.01	10.7	20	30.7	7.6
0006238620	D.03.02	9.1	11.9	21	8.4
0006238638	D.03.03	17.7	12.9	30.6	7.6
0006238646	D.03.04	20.3	12.4	32.7	7.4
0006238653	D.03.05	21.2	12.8	34	7.4
0006238661	D.03.06	32.3	15	47.3	6.3
0006238679	D.03.07	24.1	11.4	35.5	7.3
0006238687	D.03.08	25.4	14.2	39.6	6.9
0006238695	D.03.09	21.2	10.9	32.2	7.4
0006238703	D.03.10	11.6	15.4	27	7.9
0006238711	D.03.11	7	13	20.1	8.4
0006238729	D.04.01	11	19.1	30.1	7.7
0006238737	D.04.02	10.1	12.2	22.3	8.3
0006238745	D.04.03	17.1	13.5	30.6	7.6
0006238752	D.04.04	20.4	12.2	32.6	7.4
0006238760	D.04.05	21.1	13.2	34.2	7.3
0006238778	D.04.06	31.8	15.7	47.4	6.3
0006238786	D.04.07	24.5	11.2	35.7	7.2
0006238794	D.04.08	25.8	14.1	39.9	6.9
0006238802	D.04.09	21.7	11	32.7	7.4
0006238810	D.04.10	11.8	15.3	27.1	7.9
0006238828	D.04.11	7.3	12.9	20.2	8.4
0006238836	D.05.01	11.3	18.3	29.6	7.7

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					ENERGY EATING SCHEME
Certificate number and link	Unit Number	Heating load (MJ/m /p.a.)	Cooling load (MJ/m /p.a.)	Total load (MJ/m /p.a.)	Star rating
0006238844	D.05.02	8.5	11.7	20.2	8.4
0006238851	D.05.03	14.5	13.6	28.1	7.8
0006238869	D.05.04	20.9	13	33.9	7.4
0006238877	D.05.05	20.8	13.7	34.5	7.3
0006238885	D.05.06	29.1	15.9	45	6.5
0006238893	D.05.07	25	11.1	36	7.2
0006238901	D.05.08	26.4	13.9	40.2	6.9
0006238919	D.05.09	22.3	10.9	33.3	7.4
0006238927	D.05.10	12.2	14.7	26.9	7.9
0006238935	D.05.11	7.6	12.7	20.3	8.4
0006238943	D.06.01	11.5	18.3	29.8	7.7
0006238950	D.06.02	8.9	12.4	21.3	8.4
0006238968	D.06.03	13.5	13.8	27.3	7.9
0006238976	D.06.04	20.8	12.4	33.1	7.4
0006238984	D.06.05	20.2	14.2	34.4	7.3
0006238992	D.06.06	28.2	15.9	44.1	6.6
0006239008	D.06.07	32.3	10.1	42.4	6.7
0006239016	D.06.08	36.3	13.3	49.6	6.1
0006239024	D.06.09	28	10.8	38.8	7
0006239032	D.06.10	13.8	13.8	27.5	7.9
0006239040	D.06.11	7.8	12.6	20.4	8.4
0006239057	D.07.01	11.8	18.8	30.5	7.6
0006239065	D.07.02	8	11.8	19.8	8.5
0006239073	D.07.03	13.3	14.4	27.8	7.9
0006239081	D.07.04	20.9	12.7	33.7	7.4
0006239099	D.07.05	18.4	14.4	32.8	7.4
0006239107	D.07.06	25.8	15.8	41.6	6.8
0006239115	D.07.07	23.3	15.5	38.8	7
0006239123	D.07.08	30.4	19.1	49.5	6.1
0006239131	D.07.09	16.6	20.6	37.1	7.1
0006239149	D.07.10	12.6	7.5	20.1	8.4
000623915 <u>6</u>	D.08.01	21.2	16	37.2	7.1
0006239164	D.08.02	13.7	11.4	25.1	8.1
0006239172	D.08.03	18.1	13.6	31.7	7.5
0006239180	D.08.04	29.7	10.5	40.2	6.9
0006239198	D.08.05	26	13.1	39.1	6.9
0006239206	D.08.06	32.6	14.4	47	6.3
0006242861	D.LG.01	22.9	27.9	50.8	6
0006239628	D.LG.02	32.3	16	48.3	6.2
0006239214	D.LG.03	29.6	25.4	55	5.7
0006239222	D.LG.04	28.9	20.5	49.3	6.1
0006239230	D.LG.05	14.9	23	37.8	7.1

*****	No.
HOU EMERGY EATING	JSE

Certificate number and link	Unit Number	Heating load (MJ/m /p.a.)	Cooling load (MJ/m /p.a.)	Total load (MJ/m /p.a.)	Star rating
0006239248	D.LG.06	0.9	27.6	28.5	7.8
0006239255	D.UG.01	9.7	26.5	36.1	7.2
0006239263	D.UG.02	14.5	15.2	29.7	7.7
0006239271	D.UG.03	19.4	11.5	30.9	7.6
0006239289	D.UG.04	18.1	21	39.1	6.9
0006239297	D.UG.05	14.6	24.7	39.3	6.9
0006239305	D.UG.06	35.8	23.3	59.1	5.4
0006239313	D.UG.07	20.7	14.7	35.4	7.3
0006239321	D.UG.08	20.6	21.2	41.8	6.8
0006239339	D.UG.09	16.2	14.6	30.8	7.6
0006239347	D.UG.10	6.6	25.3	31.9	7.5
0006239354	D.UG.11	3.8	18.8	22.7	8.3
0006236731	E.01.01	12.1	17.5	29.6	7.8
0006236749	E.01.02	9.9	27.1	37	7.2
0006236756	E.01.03	3.4	19.7	23	8.3
0006236764	E.01.04	4.8	17.5	22.3	8.4
0006236772	E.01.05	12.2	19.4	31.6	7.6
0006236780	E.01.06	17.3	15.3	32.6	7.4
0006236798	E.01.07	9.3	20.6	29.9	7.7
0006236806	E.01.08	24	27.1	51.1	5.9
0006236814	E.01.09	27.7	18.4	46.1	6.4
0006236822	E.01.10	17.5	25	42.4	6.7
0006236830	E.01.11	22.7	15.8	38.5	7.1
0006236848	E.01.12	23.4	21.6	45	6.5
0006236855	E.02.01	12.9	15.3	28.2	7.9
0006236863	E.02.02	5.9	26.8	32.7	7.4
0006236871	E.02.03	4.8	17.5	22.3	8.4
0006236889	E.02.04	7	22.8	29.8	7.7
0006236897	E.02.05	20.2	16.2	36.4	7.2
0006236905	E.02.06	17.6	15.7	33.3	7.4
0006236913	E.02.07	14.8	16.2	31	7.6
0006236921	E.02.08	24.7	19	43.8	6.7
0006236939	E.02.09	25.1	25.8	50.9	6
0006236947	E.02.10	27.7	13.3	41	6.9
0006236954	E.02.11	23.7	15.8	39.5	6.9
0006236962	E.03.01	15.7	11.5	27.2	7.9
0006236970	E.03.02	9.8	19.9	29.7	7.7
0006236988	E.03.03	6.8	14.4	21.3	8.4
0006236996	E.03.04	10.1	20.7	30.8	7.6
0006237002	E.03.05	21.8	14.7	36.5	7.2
0006237010	E.03.06	21.5	13.2	34.7	7.4
0006237028	E.03.07	15.9	13.2	29	7.8

*****	No.
HOU EMERGY EATING	JSE

Certificate number and link	Unit Number	Heating load (MJ/m /p.a.)	Cooling load (MJ/m /p.a.)	Total load (MJ/m /p.a.)	Star rating
0006237036	E.03.08	25.2	15	40.2	6.9
0006237044	E.03.09	23.8	17.4	41.2	6.9
0006237051	E.03.10	28.7	11.5	40.2	6.9
0006237069	E.03.11	27.2	11	38.1	7.1
0006237077	E.04.01	15.6	11.3	26.8	7.9
0006237085	E.04.02	10.1	19.9	30	7.7
0006237093	E.04.03	6.7	14.6	21.4	8.4
0006237101	E.04.04	9	20.8	29.7	7.7
0006237119	E.04.05	23.4	13.8	37.1	7.2
0006237127	E.04.06	22.9	12.6	35.6	7.3
0006237135	E.04.07	18.2	13	31.1	7.6
0006237143	E.04.08	26.1	14.6	40.7	6.9
0006237150	E.04.09	24.5	16.8	41.3	6.9
0006237168	E.04.10	29.1	11.2	40.3	6.9
0006237176	E.04.11	27.6	10.9	38.6	7.1
0006237184	E.05.01	16.2	11.4	27.6	7.9
0006237192	E.05.02	10.4	19.6	30	7.7
0006237200	E.05.03	7.2	14.5	21.8	8.4
0006237218	E.05.04	9.2	21	30.2	7.7
0006237226	E.05.05	22.6	14.7	37.4	7.2
0006237234	E.05.06	21.8	13.3	35.1	7.3
0006237242	E.05.07	16.1	13.6	29.7	7.7
0006237259	E.05.08	25.5	14.8	40.3	6.9
0006237267	E.05.09	25	16.5	41.5	6.8
0006237275	E.05.10	29.6	11	40.6	6.9
0006237283	E.05.11	28.2	10.9	39	6.9
0006237291	E.06.01	16.3	11.1	27.4	7.9
0006237309	E.06.02	10.6	19.5	30.1	7.7
0006237317	E.06.03	7.1	14.3	21.4	8.4
0006237325	E.06.04	9.2	22	31.2	7.6
0006237333	E.06.05	23.8	15	38.8	7
0006237341	E.06.06	22.3	13.8	36.1	7.3
0006237358	E.06.07	18.5	12.3	30.8	7.7
0006237366	E.06.08	25.5	14.9	40.4	6.9
0006237374	E.06.09	24.8	17	41.9	6.8
0006237382	E.06.10	29.9	10.6	40.5	6.9
0006237390	E.06.11	28.5	10.8	39.3	6.9
0006237408	E.07.01	28.8	9.3	38.2	7.1
0006237416	E.07.02	19	16.2	35.1	7.3
0006237424	E.07.03	13.8	12.6	26.4	7.9
0006237432	E.07.04	19.7	19.9	39.6	6.9
0006237440	E.07.05	32	15.5	47.5	6.3

Average 7.2 Star Rating as of 13 Jul 2021

HOUSE ENERGY EATING SCHEM	Ē

Certificate number and link	Unit Number	Heating load (MJ/m /p.a.)	Cooling load (MJ/m /p.a.)	Total load (MJ/m /p.a.)	Star rating
0006237457	E.07.06	23.8	17.8	41.6	6.8
0006237465	E.07.07	23.4	13.4	36.8	7.2
0006237473	E.07.08	33.5	14.6	48	6.3
0006237481	E.07.09	38.2	15.9	54.1	5.8
0006237499	E.07.10	39.2	12	51.2	5.9
0006237507	E.07.11	39.5	8.8	48.3	6.3
0006237515	E.LG.01	17.3	14.9	32.2	7.4
0006237523	E.LG.02	36.8	18.9	55.7	5.7
0006237531	E.LG.03	24.8	10	34.8	7.3
0006237549	E.UG.01	21.6	15.9	37.5	7.2
0006237556	E.UG.02	11.2	17	28.2	7.8
0006237564	E.UG.03	4.2	15.2	19.3	8.6
0006237572	E.UG.04	7	18.4	25.4	8.1
0006237580	E.UG.05	21.7	19.5	41.2	6.9
0006237598	E.UG.06	12.6	16.1	28.7	7.8
0006237606	E.UG.07	33.7	19.1	52.8	5.9
0006237614	E.UG.08	39.7	17	56.7	5.6
0006237622	E.UG.09	16.8	25.6	42.4	6.7
0006237630	E.UG.10	21.7	17.7	39.4	6.9
0006237648	E.UG.11	19.6	16.9	36.5	7.2
Average		19.06	17.25	36.31	7.19

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 dwelling's NatHERS Certificate (accessible via link).

Accredited Assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO). AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country.

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

Disclaimer

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