

BASIX[®]Certificate

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

Multi Dwelling

Certificate number: 792120M_02




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 18/09/2014 published by the Department. This document is available at www.basix.nsw.gov.au

Secretary

Date of issue: Friday, 09 June 2017

To be valid, this certificate must be lodged within 3 months of the date of issue.



Project summary		
Project name	Apartments Honeysuckle Drive DG5_02	
Street address	21 Honeysuckle Drive Newcastle 2300	
Local Government Area	Newcastle City Council	
Plan type and plan number	deposited 1145678	
Lot no.	2000	
Section no.	-	
No. of residential flat buildings	3	
No. of units in residential flat buildings	144	
No. of multi-dwelling houses	0	
No. of single dwelling houses	0	
Project score		
Water	 43	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 21	Target 20

Certificate Prepared by
Name / Company Name: Gradwell Consulting
ABN (if applicable): 68 872 791 784

Description of project

Project address

Project name	Apartments Honeysuckle Drive DG5_02
Street address	21 Honeysuckle Drive Newcastle 2300
Local Government Area	Newcastle City Council
Plan type and plan number	deposited 1145678
Lot no.	2000
Section no.	-

Project type

No. of residential flat buildings	3
No. of units in residential flat buildings	144
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Site details

Site area (m ²)	6823
Roof area (m ²)	4240
Non-residential floor area (m ²)	362.0
Residential car spaces	168
Non-residential car spaces	0

Common area landscape

Common area lawn (m ²)	36.0
Common area garden (m ²)	312.0
Area of indigenous or low water use species (m ²)	0.0

Assessor details

Assessor number	BDAV/12/1451
Certificate number	0001567040
Climate zone	15

Project score

Water	✓ 43	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 21	Target 20

Description of project

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

Residential flat buildings - Building A, 48 dwellings, 7 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
A101	1	62.0	0.0	0.0	0.0
A105	2	94.0	0.0	0.0	0.0
A201	1	61.0	0.0	0.0	0.0
A205	2	94.0	0.0	0.0	0.0
A301	1	61.0	0.0	0.0	0.0
A305	2	94.0	0.0	0.0	0.0
A401	1	61.0	0.0	0.0	0.0
A405	2	94.0	0.0	0.0	0.0
A501	1	61.0	0.0	0.0	0.0
A505	2	94.0	0.0	0.0	0.0
A601	1	61.0	0.0	0.0	0.0
A605	2	94.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
A102	3	130.0	0.0	0.0	0.0
A106	2	86.0	0.0	0.0	0.0
A202	3	130.0	0.0	0.0	0.0
A206	2	86.0	0.0	0.0	0.0
A302	3	130.0	0.0	0.0	0.0
A306	2	86.0	0.0	0.0	0.0
A402	3	130.0	0.0	0.0	0.0
A406	2	86.0	0.0	0.0	0.0
A502	3	130.0	0.0	0.0	0.0
A506	2	86.0	0.0	0.0	0.0
A602	3	130.0	0.0	0.0	0.0
A606	2	86.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
A103	2	86.0	0.0	0.0	0.0
A107	3	127.0	0.0	0.0	0.0
A203	2	86.0	0.0	0.0	0.0
A207	3	127.0	0.0	0.0	0.0
A303	2	86.0	0.0	0.0	0.0
A307	3	127.0	0.0	0.0	0.0
A403	2	86.0	0.0	0.0	0.0
A407	3	127.0	0.0	0.0	0.0
A503	2	86.0	0.0	0.0	0.0
A507	3	127.0	0.0	0.0	0.0
A603	2	86.0	0.0	0.0	0.0
A607	3	127.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
A104	2	94.0	0.0	0.0	0.0
A108	1	64.0	0.0	0.0	0.0
A204	2	94.0	0.0	0.0	0.0
A208	1	66.0	0.0	0.0	0.0
A304	2	94.0	0.0	0.0	0.0
A308	1	66.0	0.0	0.0	0.0
A404	2	94.0	0.0	0.0	0.0
A408	1	66.0	0.0	0.0	0.0
A504	2	94.0	0.0	0.0	0.0
A508	1	66.0	0.0	0.0	0.0
A604	2	94.0	0.0	0.0	0.0
A608	1	66.0	0.0	0.0	0.0

Residential flat buildings - Building B, 48 dwellings, 7 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
B101	1	54.0	0.0	0.0	0.0
B105	2	93.0	0.0	0.0	0.0
B201	1	54.0	0.0	0.0	0.0
B205	2	98.0	0.0	0.0	0.0
B301	1	54.0	0.0	0.0	0.0
B305	2	98.0	0.0	0.0	0.0
B401	1	54.0	0.0	0.0	0.0
B405	2	98.0	0.0	0.0	0.0
B501	1	54.0	0.0	0.0	0.0
B505	2	98.0	0.0	0.0	0.0
B601	1	54.0	0.0	0.0	0.0
B605	2	98.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
B102	3	113.0	0.0	0.0	0.0
B106	1	57.0	0.0	0.0	0.0
B202	3	113.0	0.0	0.0	0.0
B206	1	58.0	0.0	0.0	0.0
B302	3	113.0	0.0	0.0	0.0
B306	1	58.0	0.0	0.0	0.0
B402	3	113.0	0.0	0.0	0.0
B406	1	58.0	0.0	0.0	0.0
B502	3	113.0	0.0	0.0	0.0
B506	1	58.0	0.0	0.0	0.0
B602	3	113.0	0.0	0.0	0.0
B606	1	58.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
B103	1	57.0	0.0	0.0	0.0
B107	3	113.0	0.0	0.0	0.0
B203	1	58.0	0.0	0.0	0.0
B207	3	113.0	0.0	0.0	0.0
B303	1	58.0	0.0	0.0	0.0
B307	3	113.0	0.0	0.0	0.0
B403	1	58.0	0.0	0.0	0.0
B407	3	113.0	0.0	0.0	0.0
B503	1	58.0	0.0	0.0	0.0
B507	3	113.0	0.0	0.0	0.0
B603	1	58.0	0.0	0.0	0.0
B607	3	113.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
B104	2	93.0	0.0	0.0	0.0
B108	1	54.0	0.0	0.0	0.0
B204	2	94.0	0.0	0.0	0.0
B208	1	54.0	0.0	0.0	0.0
B304	2	94.0	0.0	0.0	0.0
B308	1	54.0	0.0	0.0	0.0
B404	2	94.0	0.0	0.0	0.0
B408	1	54.0	0.0	0.0	0.0
B504	2	94.0	0.0	0.0	0.0
B508	1	54.0	0.0	0.0	0.0
B604	2	94.0	0.0	0.0	0.0
B608	1	54.0	0.0	0.0	0.0

Residential flat buildings - Building C, 48 dwellings, 7 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C101	1	61.0	0.0	0.0	0.0
C105	2	93.0	0.0	0.0	0.0
C201	1	64.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C102	3	128.0	0.0	0.0	0.0
C106	2	85.0	0.0	0.0	0.0
C202	3	127.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C103	2	85.0	0.0	0.0	0.0
C107	3	117.0	0.0	0.0	0.0
C203	2	86.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C104	2	93.0	0.0	0.0	0.0
C108	1	52.0	0.0	0.0	0.0
C204	2	94.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C205	2	94.0	0.0	0.0	0.0
C301	1	64.0	0.0	0.0	0.0
C305	2	94.0	0.0	0.0	0.0
C401	1	64.0	0.0	0.0	0.0
C405	2	94.0	0.0	0.0	0.0
C501	1	64.0	0.0	0.0	0.0
C505	2	94.0	0.0	0.0	0.0
C601	1	64.0	0.0	0.0	0.0
C605	2	94.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C206	2	86.0	0.0	0.0	0.0
C302	3	127.0	0.0	0.0	0.0
C306	2	86.0	0.0	0.0	0.0
C402	3	127.0	0.0	0.0	0.0
C406	2	86.0	0.0	0.0	0.0
C502	3	127.0	0.0	0.0	0.0
C506	2	86.0	0.0	0.0	0.0
C602	3	127.0	0.0	0.0	0.0
C606	2	85.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C207	3	116.0	0.0	0.0	0.0
C303	2	86.0	0.0	0.0	0.0
C307	3	116.0	0.0	0.0	0.0
C403	2	86.0	0.0	0.0	0.0
C407	3	116.0	0.0	0.0	0.0
C503	2	86.0	0.0	0.0	0.0
C507	3	116.0	0.0	0.0	0.0
C603	2	86.0	0.0	0.0	0.0
C607	3	116.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C208	1	52.0	0.0	0.0	0.0
C304	2	94.0	0.0	0.0	0.0
C308	1	50.0	0.0	0.0	0.0
C404	2	94.0	0.0	0.0	0.0
C408	1	50.0	0.0	0.0	0.0
C504	2	94.0	0.0	0.0	0.0
C508	1	50.0	0.0	0.0	0.0
C604	2	94.0	0.0	0.0	0.0
C608	1	50.0	0.0	0.0	0.0

Description of project

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

Common areas of unit building - Building A

Common area	Floor area (m²)
Car park A	849.0
Residents Lounge/Meeting Room	23.0
Level 1 lobby	41.0
Level 4 lobby	41.0

Common area	Floor area (m²)
Lift car (No.1)	-
Main Switch and Substation	35.0
Level 2 lobby	41.0
Level 5 lobby	41.0

Common area	Floor area (m²)
Lift car (No.2)	-
Ground floor lobby	104.0
Level 3 lobby	41.0
Level 6 lobby	41.0

Common areas of unit building - Building B

Common area	Floor area (m²)
Car park B	718.0
Bulky Goods	9.0
Concierge	23.0
Level 3 lobby	39.0
Level 6 lobby	39.0

Common area	Floor area (m²)
Lift car (No.3)	-
Bin hold	97.0
Level 1 lobby	39.0
Level 4 lobby	39.0

Common area	Floor area (m²)
Lift car (No.4)	-
Ground floor lobby	111.0
Level 2 lobby	39.0
Level 5 lobby	39.0

Common areas of unit building - Building C

Common area	Floor area (m²)
Car park C	581.0
Gym	117.0
BDR and Hyd Services	31.0
Ground floor lobby	79.0
Level 3 lobby	38.0
Level 6 lobby	38.0

Common area	Floor area (m²)
Lift car (No.5)	-
Bike Store	22.0
Clnr	4.0
Level 1 lobby	38.0
Level 4 lobby	38.0

Common area	Floor area (m²)
Lift car (No.6)	-
Sauna	8.0
Bldg Store	9.0
Level 2 lobby	38.0
Level 5 lobby	38.0

Common areas of the development (non-building specific)

Common area	Floor area (m ²)
Basement	5371.0

Common area	Floor area (m ²)
Basement Services	170.0

Common area	Floor area (m ²)
Basement Plant Rooms	44.0

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Building A

(a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

2. Commitments for Residential flat buildings - Building B

(a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

3. Commitments for Residential flat buildings - Building C

(a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

4. Commitments for multi-dwelling houses

5. Commitments for single dwelling houses

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

- (i) Water
- (ii) Energy

Schedule of BASIX commitments

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

1. Commitments for Residential flat buildings - Building A

(a) 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	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	no	3 star	4 star	-	-	-	-	-	-	-

	Alternative water source							
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
None	-	-	-	-	-	-	-	-

(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.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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; (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 1	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
A102, A202, A302, A402, A502, A602	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	3 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no
A107, A207, A307, A407, A507, A607	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	3 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes
A101, A108, A201, A208, A301, A308, A401, A408, A501, A508, A601, A608	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes
All other dwellings	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	induction cooktop & electric oven	-	no	3 star	3 star	1.5 star	no	no

(iii) Thermal Comfort	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: <p>(aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or</p> <p>(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.</p>	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
A101	56.0	39.0
A102	61.0	19.0
A103	37.0	32.0
A104	62.0	24.0
A105	62.0	23.0
A106	38.0	32.0
A107	48.0	27.0
A201	47.0	45.2
A202	47.0	20.0
A203	32.0	36.0
A206	33.0	36.0
A207	39.0	30.0
A301	53.0	39.0
A302	54.0	18.0
A303	38.0	34.0
A306	39.0	35.0
A401	65.0	45.0
A402	55.0	18.0
A405	60.0	23.0
A408	53.0	26.0
A501	67.0	45.0
A502	56.0	18.0
A504	60.0	24.0
A505	61.0	24.0
A506	41.0	34.0
A507	47.0	27.0
A508	54.0	25.0

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
A601	69.0	41.0
A602	73.0	22.0
A603	52.0	38.0
A606	54.0	38.0
A607	61.0	31.0
A608	64.0	29.0
A108, A403	59.0	24.0
A208, A308	47.0	29.0
A304, A305	58.0	24.0
A307, A407	46.0	27.0
A406, A503	40.0	34.0
A604, A605	76.0	29.0
All other dwellings	51.0	26.0

(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	3 star (> 6 but <= 7.5 L/min)	4 star	4 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Fire sprinkler system (No. 2)	-	-	-

(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.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Car park A	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	compact fluorescent	motion sensors	No
Lift car (No.1)	-	-	compact fluorescent	connected to lift call button	No
Lift car (No.2)	-	-	compact fluorescent	connected to lift call button	No
Residents Lounge/Meeting Room	ventilation (supply + exhaust)	time clock or BMS controlled	compact fluorescent	motion sensors	No
Main Switch and Substation	ventilation exhaust only	interlocked to light	fluorescent	manual on / manual off	No
Ground floor lobby	air conditioning system	time clock or BMS controlled	compact fluorescent	motion sensors	No
Level 1 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 2 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 3 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 4 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 5 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 6 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No

Central energy systems	Type	Specification
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 8

Central energy systems	Type	Specification
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 8

2. Commitments for Residential flat buildings - Building B

(a) 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	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	no	3 star	4 star	-	-	-	-	-	-	-

	Alternative water source							
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
None	-	-	-	-	-	-	-	-

(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.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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; (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 1	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
B101, B108, B201, B208, B301, B308, B401, B408, B501, B508, B601, B608	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes
B102, B107, B202, B207, B302, B307, B402, B407, B502, B507, B602, B607	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	3 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no
B103, B106, B203, B206, B303, B306, B403, B406, B503, B506, B603, B606	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
All other dwellings	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	induction cooktop & electric oven	-	no	3 star	3 star	1.5 star	no	no

(iii) Thermal Comfort	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.			

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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.	✓	✓	✓

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
B101	82.0	34.0
B102	36.0	17.0
B103	54.0	36.0
B104	64.0	21.0
B105	65.0	21.0
B106	55.0	37.0
B107	37.0	18.0
B108	66.0	32.0
B201	65.0	40.0
B202	30.0	18.0
B203	39.0	44.0
B206	42.0	46.0
B207	29.0	19.0
B208	64.0	36.0
B301	74.0	35.0

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
B302	35.0	17.0
B303	45.0	42.0
B304	59.0	22.0
B305	59.0	23.0
B306	49.0	44.0
B307	34.0	18.0
B308	74.0	33.0
B401	76.0	35.0
B402	35.0	18.0
B403	46.0	42.0
B406	51.0	43.0
B407	35.0	19.0
B408	75.0	33.0
B501	77.0	34.0
B502	34.0	19.0
B503	48.0	42.0
B506	52.0	43.0
B507	34.0	20.0
B508	77.0	32.0
B601	87.0	39.0
B602	50.0	24.0
B603	65.0	47.0
B606	47.0	47.0
B607	48.0	24.0
B608	87.0	35.0
B204, B205	52.0	25.0
B404, B405	60.0	23.0

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
B504, B505	61.0	23.0
All other dwellings	76.0	28.0

(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	3 star (> 6 but <= 7.5 L/min)	4 star	4 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Fire sprinkler system (No. 3)	-	-	-

(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.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Car park B	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	compact fluorescent	motion sensors	No
Lift car (No.3)	-	-	compact fluorescent	connected to lift call button	No
Lift car (No.4)	-	-	compact fluorescent	connected to lift call button	No
Bulky Goods	ventilation exhaust only	-	fluorescent	manual on / manual off	No
Bin hold	ventilation exhaust only	-	fluorescent	manual on / manual off	No
Ground floor lobby	air conditioning system	time clock or BMS controlled	compact fluorescent	motion sensors	No
Concierge	air conditioning system	time clock or BMS controlled	compact fluorescent	motion sensors	No
Level 1 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 2 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 3 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 4 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 5 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 6 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No

Central energy systems	Type	Specification
Lift (No. 3)	gearless traction with V V V F motor	Number of levels (including basement): 8

Central energy systems	Type	Specification
Lift (No. 4)	gearless traction with V V V F motor	Number of levels (including basement): 8

3. Commitments for Residential flat buildings - Building C

(a) 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	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	no	3 star	4 star	-	-	-	-	-	-	-

	Alternative water source							
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
None	-	-	-	-	-	-	-	-

(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.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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; (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 1	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
C101, C201, C301, C401, C501, C601	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes
C102, C202, C302, C402, C502, C602	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	3 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes
C107, C207, C307, C407, C507, C607	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	3 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no
C108, C208, C308, C408, C508, C608	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no
All other dwellings	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	induction cooktop & electric oven	-	no	3 star	3 star	1.5 star	no	no

(iii) Thermal Comfort	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.	✓	✓	✓

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
C101	36.0	39.0
C102	47.0	28.0
C103	45.0	34.0
C106	50.0	35.0
C107	35.0	35.0
C108	46.0	33.0
C201	31.0	33.0
C202	50.0	22.0
C203	36.0	40.0
C206	39.0	38.0
C207	25.0	37.0
C208	37.0	37.0
C301	43.0	29.0
C302	56.0	21.0
C303	41.0	38.0
C304	59.0	24.0
C305	59.0	25.0
C306	45.0	37.0
C307	29.0	34.0
C308	41.0	35.0
C401	44.0	29.0
C403	43.0	38.0
C404	60.0	24.0
C405	60.0	25.0
C406	46.0	37.0
C407	30.0	34.0
C408	42.0	35.0

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
C501	45.0	29.0
C503	44.0	38.0
C506	47.0	37.0
C507	30.0	33.0
C508	43.0	34.0
C601	58.0	33.0
C602	72.0	25.0
C603	56.0	43.0
C604	77.0	29.0
C605	77.0	30.0
C606	61.0	41.0
C607	44.0	37.0
C608	54.0	36.0
C104, C105	66.0	23.0
C204, C205	52.0	25.0
C402, C502	57.0	21.0
All other dwellings	61.0	25.0

(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	3 star (> 6 but <= 7.5 L/min)	4 star	4 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Fire sprinkler system (No. 4)	-	-	-

(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.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Car park C	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	compact fluorescent	motion sensors	No
Lift car (No.5)	-	-	compact fluorescent	connected to lift call button	No
Lift car (No.6)	-	-	compact fluorescent	connected to lift call button	No
Gym	ventilation (supply + exhaust)	time clock or BMS controlled	compact fluorescent	motion sensors	No
Bike Store	no mechanical ventilation	-	fluorescent	manual on / manual off	No
Sauna	no mechanical ventilation	-	compact fluorescent	manual on / manual off	No
BDR and Hyd Services	ventilation exhaust only	interlocked to light	fluorescent	manual on / manual off	No
Clnr	ventilation exhaust only	interlocked to light	compact fluorescent	manual on / manual off	No
Bldg Store	no mechanical ventilation	-	fluorescent	manual on / manual off	No
Ground floor lobby	air conditioning system	time clock or BMS controlled	compact fluorescent	motion sensors	No
Level 1 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 2 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 3 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 4 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 5 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No
Level 6 lobby	no mechanical ventilation	-	compact fluorescent	motion sensors	No

Central energy systems	Type	Specification
Lift (No. 5)	gearless traction with V V V F motor	Number of levels (including basement): 8
Lift (No. 6)	gearless traction with V V V F motor	Number of levels (including basement): 8

6. 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	3 star (> 6 but <= 7.5 L/min)	4 star	4 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	28000.0	To collect run-off from at least: - 4240.0 square metres of roof area of buildings in the development - 0.0 square metres of impervious area in the development - 0.0 square metres of garden/lawn area in the development - 0.0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 348.0 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site
Fire sprinkler system (No. 1)	-	-	-

(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
Basement	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	compact fluorescent	motion sensors	No
Basement Services	ventilation exhaust only	interlocked to light	fluorescent	manual on / manual off	No
Basement Plant Rooms	ventilation exhaust only	interlocked to light	fluorescent	manual on / manual off	No

Central energy systems	Type	Specification
Central hot water system (No. 1)	solar - gas boosted	Solar collector area (minimum, in square metres): 150.0 Piping insulation (ringmain & supply risers): (a) Piping external to building: R1.0 (~38 mm); (b) Piping internal to building: R1.0 (~38 mm)

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).

BASIX[®]Certificate

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

Multi Dwelling

Certificate number: 798245M_02




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 18/09/2014 published by the Department. This document is available at www.basix.nsw.gov.au

Secretary

Date of issue: Friday, 09 June 2017

To be valid, this certificate must be lodged within 3 months of the date of issue.



Project summary		
Project name	Terraces Honeysuckle Drive DG5_02	
Street address	21 Honeysuckle Drive Newcastle 2300	
Local Government Area	Newcastle City Council	
Plan type and plan number	deposited 1145678	
Lot no.	2000	
Section no.	-	
No. of residential flat buildings	0	
No. of units in residential flat buildings	0	
No. of multi-dwelling houses	10	
No. of single dwelling houses	0	
Project score		
Water	 40	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 44	Target 40

Certificate Prepared by
Name / Company Name: Gradwell Consulting
ABN (if applicable): 68 872 791 784

Description of project

Project address

Project name	Terraces Honeysuckle Drive DG5_02
Street address	21 Honeysuckle Drive Newcastle 2300
Local Government Area	Newcastle City Council
Plan type and plan number	deposited 1145678
Lot no.	2000
Section no.	-

Project type

No. of residential flat buildings	0
No. of units in residential flat buildings	0
No. of multi-dwelling houses	10
No. of single dwelling houses	0

Site details

Site area (m²)	474
Roof area (m²)	294
Non-residential floor area (m²)	0.0
Residential car spaces	22
Non-residential car spaces	0

Common area landscape

Common area lawn (m²)	2.0
Common area garden (m²)	22.0
Area of indigenous or low water use species (m²)	0.0

Assessor details

Assessor number	BDAV/12/1451
Certificate number	0001567030
Climate zone	15

Project score

Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 44	Target 40

Description of project

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

Multi-dwelling houses

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
T01	4 or more bedrooms	190.0	0.0	4.0	0.0
T05	4 or more bedrooms	228.0	0.0	8.0	0.0
T09	3	159.0	0.0	4.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
T02	3	159.0	0.0	3.0	0.0
T06	3	159.0	0.0	3.0	0.0
T10	4 or more bedrooms	200.0	0.0	4.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
T03	3	159.0	0.0	3.0	0.0
T07	4 or more bedrooms	228.0	0.0	4.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
T04	4 or more bedrooms	195.0	0.0	4.0	0.0
T08	4 or more bedrooms	200.0	0.0	4.0	0.0

No common areas specified.

Schedule of BASIX commitments

1. Commitments for multi-dwelling houses

(a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

2. Commitments for single dwelling houses

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

- (i) Water
- (ii) Energy

Schedule of BASIX commitments

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

1. Commitments for multi-dwelling houses

(a) 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	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	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
None	-	-	-	-	-	-	-	-

(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.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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; (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".		✓	
(j) The applicant must install the photovoltaic system specified for the dwelling under the "Photovoltaic system" heading of the "Alternative energy" column of the table below, and connect the system to that dwelling's electrical system.	✓	✓	✓

	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 1	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
T02, T03, T06, T09	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	3 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no
All other dwellings	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	4 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	induction cooktop & electric oven	-	yes	-	-	-	no	no

Alternative energy	
Dwelling no.	Photovoltaic system (min rated electrical output in peak kW)
All dwellings	-

(iii) Thermal Comfort	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.	✓	✓	✓

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
T01	20.0	27.0
T03	26.0	25.0
T04	19.0	28.0
T05	13.0	34.0
T07	37.0	37.0

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
T08	20.0	26.0
T02, T06	26.0	24.0
All other dwellings	27.0	23.0

	Construction of floors and walls				
Dwelling no.	Concrete slab on ground(m ²)	Suspended floor with open subfloor (m ²)	Suspended floor with enclosed subfloor (m ²)	Suspended floor above garage (m ²)	Primarily rammed earth or mudbrick walls
T01,T04	-	-	-	113	No
T05,T07	-	-	-	135	No
T08,T10	-	-	-	119	No
All other dwellings	-	-	-	84	No

3. 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	no common facility	no common facility	no common facility	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	2000.0	To collect run-off from at least: - 294.0 square metres of roof area of buildings in the development - 0.0 square metres of impervious area in the development - 0.0 square metres of garden/lawn area in the development - 0.0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 24.0 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site

(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
Central hot water system (No. 1)	solar - gas boosted	Solar collector area (minimum, in square metres): 10.0 Piping insulation (ringmain & supply risers): (a) Piping external to building: R1.0 (~38 mm); (b) Piping internal to building: R1.0 (~38 mm)

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).

Nationwide House Energy Rating Scheme* — Class 2 summary



Certificate number: **0001567040**

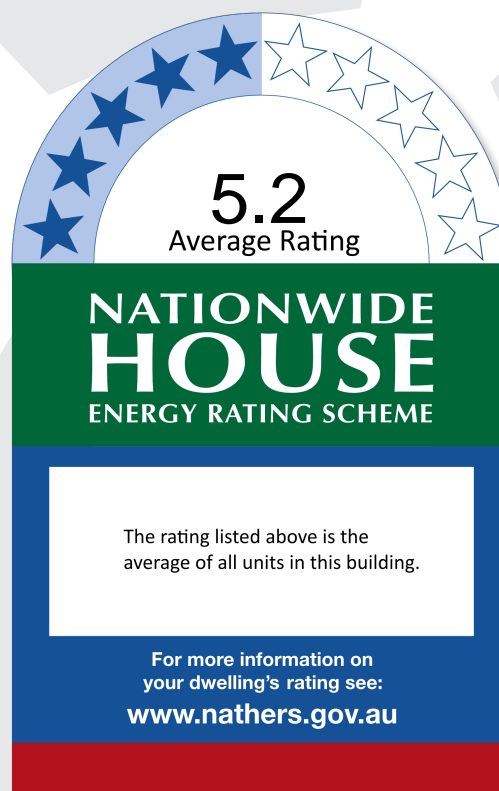
Certificate Date: **09 Jun 2017**

★ Average Star rating: **5.2**

Assessor details

Accreditation number: **VIC/BDAV/12/1451**
Name: **David Gradwell**
Organisation: **Gradwell Consulting**
Email: **info@gradwellconsulting.com**
Phone: **1800 11 24 25**
Declaration of interest: **The Assessor has provided design advice to the Applicant**
Software: **BERS Pro v4.3.0.2 (3.13)**

AAO: **BDAV**



Dwelling details

Street: **21 Honeysuckle Drive**
Suburb: **Newcastle**
State: **NSW**
Postcode: **2300**

Scan to access this certificate online and confirm this is valid.



Summary of all dwellings

Certificate Details

Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0001342955-03	A101	56	39	95	4.7
0001342922-01	A102	61	19	80	5.3
0001342906-01	A103	37	32	69	5.9
0001343284-01	A104	62	24	86	5
0001343250-01	A105	62	23	86	5
0001343227-01	A106	38	32	69	5.9
0001344704-01	A107	48	27	76	5.5
0001343193-01	A108	59	24	83	5.2
0001343151-01	A201	47	45	92	4.8
0001343128-01	A202	47	20	68	5.9
0001343094-01	A203	32	36	68	5.9
0001343060-01	A204	51	26	77	5.4
0001343037-01	A205	51	26	77	5.4
0001343003-01	A206	33	36	69	5.9
0001342971-01	A207	39	30	70	5.9

Summary of all dwellings continued

Certificate Details

Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0001342948-01	A208	47	29	76	5.5
0001342880-01	A301	93	58	150	3.2
0001343326-01	A302	54	18	72	5.8
0001343300-01	A303	37	34	71	5.8
0001343268-01	A304	58	24	82	5.2
0001343235-01	A305	58	24	82	5.2
0001343201-01	A306	38	35	73	5.7
0001343177-01	A307	46	27	73	5.7
0001343136-01	A308	78	35	114	4
0001343102-01	A401	94	57	152	3.2
0001343078-01	A402	55	18	73	5.7
0001343045-01	A403	39	34	72	5.8
0001343011-01	A404	59	24	83	5.2
0001342989-01	A405	60	23	83	5.2
0001342963-01	A406	40	34	74	5.7
0001342930-01	A407	46	27	74	5.7
0001342898-01	A408	53	26	79	5.4
0001342849-01	A501	96	57	153	3.2
0001342815-01	A502	56	18	74	5.6
0001342781-01	A503	40	34	73	5.7
0001342757-01	A504	60	24	84	5.1
0001342716-01	A505	61	24	84	5.1
0001342682-01	A506	41	34	75	5.6
0001342641-01	A507	46	27	74	5.7
0001342625-01	A508	54	25	79	5.4
0001342591-01	A601	69	41	110	4.2
0001342567-01	A602	72	22	95	4.7
0001342534-01	A603	52	38	91	4.9
0001342500-01	A604	75	28	104	4.4
0001342476-01	A605	76	29	104	4.3
0001342435-01	A606	54	38	93	4.8
0001342401-01	A607	61	31	92	4.8
0001342872-01	A608	65	29	94	4.7

Nationwide House Energy Rating Scheme* — Class 2 summary



Certificate number: **0001567240**

Certificate Date: **09 Jun 2017**

★ Average Star rating: **5.2**

Assessor details

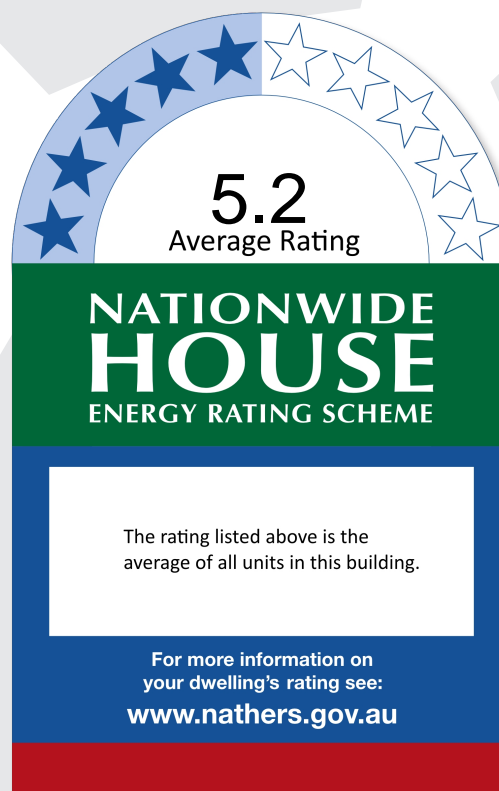
Accreditation number: **VIC/BDAV/12/1451**
Name: **David Gradwell**
Organisation: **Gradwell Consulting**
Email: **info@gradwellconsulting.com**
Phone: **1800 11 24 25**
Declaration of interest: **The Assessor has provided design advice to the Applicant**
Software: **BERS Pro v4.3.0.2 (3.13)**

AAO: **BDAV**

Dwelling details

Street: **21 Honeysuckle Drive**
Suburb: **Newcastle**
State: **NSW**
Postcode: **2300**

Scan to access this certificate online and confirm this is valid.



Summary of all dwellings

Certificate Details

Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0001342864-01	B101	82	35	117	3.9
0001342856-01	B102	36	17	53	6.9
0001342807-01	B103	54	35	89	4.9
0001342773-01	B104	64	21	86	5
0001342740-01	B105	65	21	85	5.1
0001342724-01	B106	55	37	93	4.8
0001342690-01	B107	37	18	55	6.7
0001342666-01	B108	66	32	98	4.4
0001342617-01	B201	65	40	106	4.3
0001342583-01	B202	30	18	47	7.2
0001342559-01	B203	39	44	83	5.2
0001342526-01	B204	52	25	77	5.4
0001342492-01	B205	52	25	77	5.4
0001342468-01	B206	42	46	88	4.9
0001342443-01	B207	29	19	49	7.1

Summary of all dwellings continued

Certificate Details

Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0001342393-01	B208	64	36	100	4.4
0001342823-01	B301	75	35	110	4.2
0001342799-01	B302	34	17	52	6.9
0001342765-01	B303	45	42	86	4.9
0001342732-01	B304	59	22	81	5.3
0001342708-01	B305	59	23	82	5.3
0001342674-01	B306	49	44	93	4.8
0001342658-01	B307	34	18	52	6.9
0001342633-01	B308	74	33	107	4.3
0001342609-01	B401	76	35	111	4.1
0001342575-01	B402	35	17	52	6.9
0001342542-01	B403	46	42	88	4.9
0001342518-01	B404	60	23	83	5.2
0001342484-01	B405	60	23	83	5.2
0001342450-01	B406	51	43	94	4.7
0001342427-01	B407	35	19	54	6.8
0001342419-01	B408	75	33	108	4.2
0001342336-01	B501	77	34	112	4.1
0001342310-01	B502	34	19	53	6.9
0001342278-01	B503	47	42	89	4.9
0001342245-01	B504	61	23	84	5.1
0001342385-01	B505	61	23	85	5.1
0001342369-01	B506	52	43	94	4.7
0001342344-01	B507	34	20	55	6.8
0001342302-01	B508	77	32	110	4.2
0001342286-01	B601	87	39	126	3.7
0001342252-01	B602	46	23	69	5.9
0001342377-01	B603	61	45	106	4.3
0001342351-01	B604	76	28	104	4.4
0001342328-01	B605	76	28	104	4.4
0001342294-01	B606	66	46	112	4.1
0001342260-01	B607	48	24	72	5.8
0001342237-01	B608	87	35	122	3.8

Nationwide House Energy Rating Scheme* — Class 2 summary



Certificate number: **0001567290**

Certificate Date: **09 Jun 2017**

★ Average Star rating: **5.3**

Assessor details

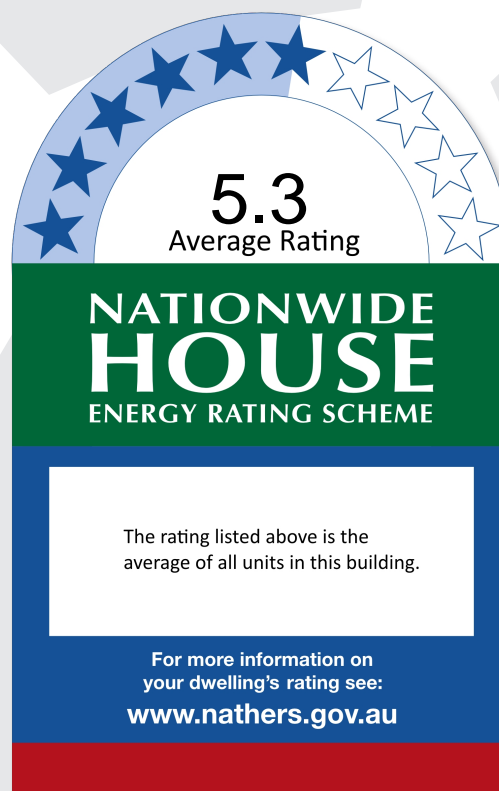
Accreditation number: **VIC/BDAV/12/1451**
Name: **David Gradwell**
Organisation: **Gradwell Consulting**
Email: **info@gradwellconsulting.com**
Phone: **1800 11 24 25**
Declaration of interest: **The Assessor has provided design advice to the Applicant**
Software: **BERS Pro v4.3.0.2 (3.13)**

AAO: **BDAV**

Dwelling details

Street: **21 Honeysuckle Drive**
Suburb: **Newcastle**
State: **NSW**
Postcode: **2300**

Scan to access this certificate online and confirm this is valid.



Summary of all dwellings

Certificate Details

Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0001341726-01	C101	36	39	75	5.6
0001341700-01	C102	47	28	75	5.6
0001341759-01	C103	44	34	79	5.4
0001341742-01	C104	66	23	89	4.9
0001341718-01	C105	66	23	89	4.9
0001341767-01	C106	50	35	85	5.1
0001341734-01	C107	35	35	70	5.9
0001341692-01	C108	46	33	79	5.4
0001341866-01	C201	31	33	64	6.2
0001341833-01	C202	50	22	72	5.7
0001341825-01	C203	36	40	76	5.5
0001341783-01	C204	52	25	78	5.4
0001341874-01	C205	52	25	78	5.4
0001341841-01	C206	39	38	77	5.4
0001341817-01	C207	26	37	63	6.3

Summary of all dwellings continued

Certificate Details

Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0001341775-01	C208	37	37	74	5.7
0001341890-01	C301	43	29	73	5.7
0001341916-01	C302	56	21	77	5.4
0001341882-01	C303	41	38	80	5.4
0001341924-01	C304	59	24	83	5.2
0001341908-01	C305	59	25	84	5.2
0001341858-01	C306	45	37	82	5.3
0001341809-01	C307	29	34	63	6.3
0001341791-01	C308	41	35	76	5.4
0001341999-02	C401	44	29	73	5.7
0001341965-01	C402	57	21	78	5.4
0001341932-01	C403	43	38	81	5.3
0001342005-01	C404	60	25	85	5.1
0001341973-01	C405	60	25	85	5.1
0001341940-01	C406	46	37	83	5.2
0001342013-01	C407	30	34	63	6.2
0001341981-01	C408	42	35	77	5.4
0001342096-01	C501	45	29	74	5.7
0001342047-01	C502	57	21	78	5.4
0001342088-01	C503	44	38	82	5.3
0001342062-01	C504	61	25	86	5
0001342039-01	C505	61	25	86	4.9
0001342070-01	C506	47	37	83	5.2
0001342054-01	C507	30	33	64	6.2
0001342021-01	C508	43	34	77	5.4
0001342211-01	C601	58	33	91	4.8
0001342187-01	C602	71	25	96	4.6
0001342146-01	C603	56	43	99	4.4
0001342112-01	C604	76	29	106	4.3
0001342203-01	C605	76	30	106	4.3
0001342179-01	C606	61	41	102	4.4
0001342153-01	C607	44	37	81	5.3
0001342104-01	C608	54	36	91	4.9

Nationwide House Energy Rating Scheme* — Class 2 summary

Certificate number: **0001567030**

Certificate Date: **09 Jun 2017**

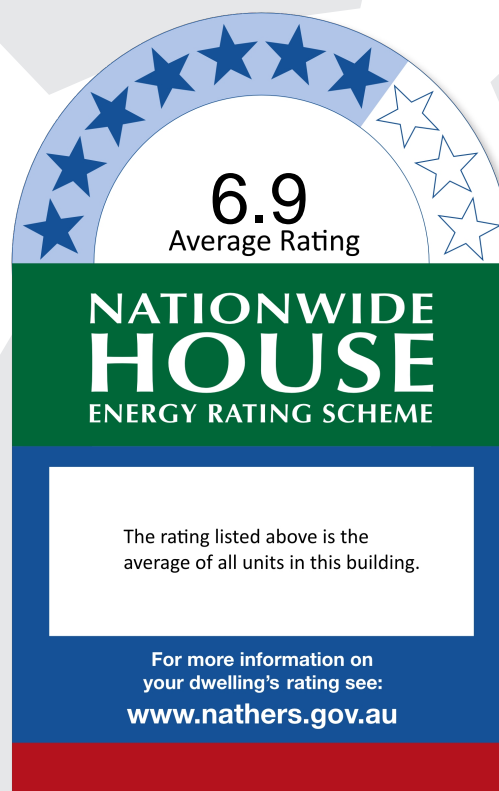
★ Average Star rating: **6.9**



Assessor details

Accreditation number: **VIC/BDAV/12/1451**
Name: **David Gradwell**
Organisation: **Gradwell Consulting**
Email: **info@gradwellconsulting.com**
Phone: **1800 11 24 25**
Declaration of interest: **The Assessor has provided design advice to the Applicant**
Software: **BERS Pro v4.3.0.2 (3.13)**

AAO: **BDAV**



Dwelling details

Street: **21 Honeysuckle Drive**
Suburb: **Newcastle**
State: **NSW**
Postcode: **2300**

Scan to access this certificate online and confirm this is valid.



Summary of all dwellings

Certificate Details

Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0001343276-01	T01	23	29	52	6.9
0001343243-01	T02	28	26	54	6.8
0001343219-01	T03	28	26	54	6.8
0001343185-01	T04	23	28	51	6.9
0001343144-01	T05	18	34	52	6.9
0001343110-01	T06	27	26	53	6.9
0001343086-01	T07	16	35	51	6.9
0001343052-01	T08	23	28	51	6.9
0001343029-01	T09	29	25	54	6.8
0001342997-01	T10	22	28	50	6.9

Assessor Construction Summary

Multiple Dwellings

Issued for information only - refer to the Universal Assessor Certificates.

Project:	Address:	21 Honeysuckle Drive Newcastle NSW 2300			File Ref:	DG5a
Client:	Name:	Alex Moulis		Company:	Doma Group	
Assessor:	Name:	David Gradwell		Company:	Gradwell Consulting	
	Address:	PO Box 819 Bowral NSW 2576		Number:	VIC/BDAV/12/1451 ACT2011220	
	Contact:	0408 964 139		Email:	david@gradwellconsulting.com	
Ext. Walls:	Construction	Insulation		Colour	Details	
	Cavity Masonry Lined	R1.5 bulk		Medium	As per plans	
	Concrete Lined	R1.5 bulk		Medium	As per plans	
Int. Walls:	Construction	Insulation			Details	
	Concrete	None			To stairs/lift	
	Shaftliner with plasterboard	None			Intertenancy	
	Plasterboard on stud	None			As per plans	
Floors:	Construction	Insulation			Details	
	Concrete	R1.4 added			Above carpark	
Ceilings:	Construction	Insulation			Details	
	Plasterboard	None			As per plans	
Roof:	Construction	Insulation		Colour	Details	
	Metal Deck	90mm Anticon (R1.8)		Medium	As per plans	
Windows:	Product ID	Glass	Frame	Uw/SHGCw	Details	
Group A	ATB-003-03 A	Double Clear	Al Therm Break	3.10/0.39	Awning - A108-A608, C101-C601	
	ALM-001-01 A	Single Clear	Aluminium	6.57/0.74	Awning - Elsewhere as per plans	
Group B	ATB-004-03 A	Double Clear	Al Therm Break	3.10/0.49	Fixed, Sliding - A101-A601, A108-A608	
	ATB-004-03 A	Double Clear	Al Therm Break	3.10/0.49	Fixed, Sliding - C101-C601, C107-C607	
	ATB-004-03 A	Double Clear	Al Therm Break	3.10/0.49	Fixed, Sliding - C108-C608	
	ALM-002-01 A	Single Clear	Aluminium	6.70/0.70	Fixed, Sliding - Elsewhere as per plans	
Skylights:	Product ID	Glass	Frame	Uw	Details	
Other:	Orientation	Terrain	Weatherseals	Exhaust Dampers	Recessed Downlights	
	8	Suburban	Yes	Yes	Yes - Sealed LED 1 per 4m2	