

BASIX[®]Certificate

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Multi Dwelling

Certificate number: 684118M_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

This certificate is a revision of certificate number 684118M lodged with the consent authority or certifier on 18 February 2016 with application DA-84/2016.

It is the responsibility of the applicant to verify with the consent authority that the original, or any revised certificate, complies with the requirements of Schedule 1 Clause 2A, 4A or 6A of the Environmental Planning and Assessment Regulation 2000

Secretary

Date of issue: Tuesday, 23 August 2016

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



Project summary

Project name	21 ATKINSON ST LIVERPOOL_02
Street address	21 Atkinson Street Liverpool 2170
Local Government Area	Liverpool City Council
Plan type and plan number	deposited 777404
Lot no.	101
Section no.	-
No. of residential flat buildings	3
No. of units in residential flat buildings	134
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Project score

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

Certificate Prepared by

Name / Company Name: Building & Energy Consultants Australia

ABN (if applicable): 92122407783

Description of project

Project address

Project name	21 ATKINSON ST LIVERPOOL_02
Street address	21 Atkinson Street Liverpool 2170
Local Government Area	Liverpool City Council
Plan type and plan number	deposited 777404
Lot no.	101
Section no.	-

Project type

No. of residential flat buildings	3
No. of units in residential flat buildings	134
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Site details

Site area (m²)	5412
Roof area (m²)	1672
Non-residential floor area (m²)	266.7
Residential car spaces	159
Non-residential car spaces	3

Common area landscape

Common area lawn (m²)	0.0
Common area garden (m²)	490.0
Area of indigenous or low water use species (m²)	100.0

Assessor details

Assessor number	BDAV/12/1456
Certificate number	0000660430
Climate zone	28

Project score

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

Description of project

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

Residential flat buildings - Building A, 37 dwellings, 8 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)
A1.01	2	94.1	0.0	0.0	-
A2.02	1	49.7	0.0	0.0	-
A3.03	2	82.3	0.0	0.0	-
A4.01	3	96.0	0.0	0.0	-
A4.05	2	72.3	0.0	0.0	-
A5.03	2	82.3	0.0	0.0	-
A6.01	3	101.5	0.0	0.0	-
A6.05	1	51.0	0.0	0.0	-
A7.03	2	72.3	0.0	0.0	-
AG.03	2	82.3	0.0	38.8	-

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)
A1.02	1	49.7	0.0	0.0	-
A2.03	2	82.3	0.0	0.0	-
A3.04	2	82.3	0.0	0.0	-
A4.02	1	49.7	0.0	0.0	-
A4.06	1	57.9	0.0	0.0	-
A5.04	2	82.3	0.0	0.0	-
A6.02	1	51.0	0.0	0.0	-
A6.06	2	75.2	0.0	0.0	-
A7.04	1	57.9	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)
A1.03	2	76.9	0.0	0.0	-
A3.01	3	96.0	0.0	0.0	-
A3.05	2	72.3	0.0	0.0	-
A4.03	2	86.0	0.0	0.0	-
A5.01	3	96.0	0.0	0.0	-
A5.05	2	72.3	0.0	0.0	-
A6.03	2	79.3	0.0	0.0	-
A7.01	3	96.0	0.0	0.0	-
AG.01	2	77.7	0.0	46.8	-

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)
A2.01	3	96.0	0.0	0.0	-
A3.02	1	49.7	0.0	0.0	-
A3.06	1	57.9	0.0	0.0	-
A4.04	2	82.3	0.0	0.0	-
A5.02	1	49.7	0.0	0.0	-
A5.06	1	57.9	0.0	0.0	-
A6.04	2	82.7	0.0	0.0	-
A7.02	2	82.4	0.0	8.0	-
AG.02	1	49.7	0.0	28.1	-

Residential flat buildings - Building B, 56 dwellings, 8 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)
B1.01	2	67.8	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)
B1.02	2	63.5	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)
B1.03	2	80.8	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)
B1.04	2	87.4	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)
B1.05	2	79.8	0.0	0.0	-
B2.03	2	80.8	0.0	0.0	-
B3.01	2	71.2	0.0	0.0	-
B3.05	2	80.8	0.0	0.0	-
B3.09	2	74.0	0.0	0.0	-
B4.04	2	80.8	0.0	0.0	-
B4.08	2	73.8	0.0	0.0	-
B5.04	2	80.8	0.0	0.0	-
B5.08	2	73.8	0.0	0.0	-
B6.04	2	80.8	0.0	0.0	-
B6.08	2	73.8	0.0	0.0	-
B7.04	2	80.8	0.0	0.0	-
B7.08	2	73.8	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)
B1.06	2	82.9	0.0	0.0	-
B2.04	2	87.4	0.0	0.0	-
B3.02	2	74.7	0.0	0.0	-
B3.06	2	87.4	0.0	0.0	-
B4.01	2	71.2	0.0	0.0	-
B4.05	2	87.4	0.0	0.0	-
B5.01	2	71.2	0.0	0.0	-
B5.05	2	87.4	0.0	0.0	-
B6.01	2	71.2	0.0	0.0	-
B6.05	2	87.4	0.0	0.0	-
B7.01	2	71.2	0.0	0.0	-
B7.05	2	87.4	0.0	0.0	-
BG.01	2	77.6	0.0	23.8	-

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)
B2.01	2	67.8	0.0	0.0	-
B2.05	2	79.8	0.0	0.0	-
B3.03	2	67.8	0.0	0.0	-
B3.07	2	79.8	0.0	0.0	-
B4.02	2	77.8	0.0	0.0	-
B4.06	2	79.8	0.0	0.0	-
B5.02	2	77.8	0.0	0.0	-
B5.06	2	79.8	0.0	0.0	-
B6.02	2	77.8	0.0	0.0	-
B6.06	2	79.8	0.0	0.0	-
B7.02	2	77.8	0.0	0.0	-
B7.06	2	79.8	0.0	0.0	-
BG.02	2	79.9	0.0	48.0	-

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)
B2.02	2	75.0	0.0	0.0	-
B2.06	2	82.9	0.0	0.0	-
B3.04	2	75.0	0.0	0.0	-
B3.08	2	74.7	0.0	0.0	-
B4.03	2	75.0	0.0	0.0	-
B4.07	2	78.8	0.0	0.0	-
B5.03	2	75.0	0.0	0.0	-
B5.07	2	78.8	0.0	0.0	-
B6.03	2	75.0	0.0	0.0	-
B6.07	2	78.8	0.0	0.0	-
B7.03	2	75.0	0.0	0.0	-
B7.07	2	78.8	0.0	0.0	-
BG.03	2	81.2	0.0	54.0	-

Residential flat buildings - Building C, 41 dwellings, 9 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)
C1.01	3	112.8	0.0	0.0	-
C2.03	2	80.5	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)
C1.02	2	80.5	0.0	0.0	-
C3.01	2	79.7	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)
C2.01	2	96.3	0.0	0.0	-
C3.02	1	50.5	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)
C2.02	2	76.1	0.0	0.0	-
C3.03	2	81.0	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)
C3.04	2	80.5	0.0	0.0	-
C4.02	1	50.5	0.0	0.0	-
C4.06	1	62.3	0.0	0.0	-
C5.04	2	80.5	0.0	0.0	-
C6.02	1	50.5	0.0	0.0	-
C6.06	1	62.3	0.0	0.0	-
C7.04	2	80.5	0.0	0.0	-
C8.02	1	50.5	0.0	0.0	-
C8.06	1	62.3	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)
C3.05	2	76.1	0.0	0.0	-
C4.03	2	81.0	0.0	0.0	-
C5.01	2	79.7	0.0	0.0	-
C5.05	2	76.1	0.0	0.0	-
C6.03	2	81.0	0.0	0.0	-
C7.01	2	79.7	0.0	0.0	-
C7.05	2	76.1	0.0	0.0	-
C8.03	2	81.0	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)
C3.06	1	62.3	0.0	0.0	-
C4.04	2	80.5	0.0	0.0	-
C5.02	1	50.5	0.0	0.0	-
C5.06	1	62.3	0.0	0.0	-
C6.04	2	80.5	0.0	0.0	-
C7.02	1	50.5	0.0	0.0	-
C7.06	1	62.3	0.0	0.0	-
C8.04	2	80.5	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)
C4.01	2	79.7	0.0	0.0	-
C4.05	2	76.1	0.0	0.0	-
C5.03	2	81.0	0.0	0.0	-
C6.01	2	82.1	0.0	0.0	-
C6.05	2	76.1	0.0	0.0	-
C7.03	2	81.0	0.0	0.0	-
C8.01	2	79.7	0.0	0.0	-
C8.05	2	76.1	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)
Lift car (No. 1)	-
Diesel pump room	18.1

Common area	Floor area (m²)
Garbage room A	140.1
Store rooms -Building A	47.6

Common area	Floor area (m²)
Bulky waste	11.6
Hallway/lobby A	365.3

Common areas of unit building - Building B

Common area	Floor area (m²)
Lift car (No. 2)	-
Garbage rooms corridors - Building B	42.0

Common area	Floor area (m²)
Lift car (No. 3)	-
Store room -Building B	10.3

Common area	Floor area (m²)
Garbage room B	55.6
Hallway/lobby B	655.1

Common areas of unit building - Building C

Common area	Floor area (m²)
Gym	74.9
Garbage room C - Bulk waste	92.1
Hallway/lobby C	419.0

Common area	Floor area (m²)
Lift car (No. 4)	-
Community room	78.6

Common area	Floor area (m²)
Lift car (No. 5)	-
Mech rooms	175.5

Common areas of the development (non-building specific)

Common area	Floor area (m²)
Car park	6262.3
Mech rooms	30.0

Common area	Floor area (m²)
Main switch rooms	55.1

Common area	Floor area (m²)
Bin Holding	57.1

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 (> 6 but <= 7.5 L/min)	4 star	5 star	5 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, not ducted	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
A2.01, A3.01, A4.01, A5.01, A6.01, A7.01	1-phase airconditioning EER 3.0 - 3.5	-	1-phase airconditioning EER 3.0 - 3.5	-	3	1	yes	yes	yes	yes	0	no
A1.02, A2.02, A3.02, A3.06, A4.02, A4.06, A5.02, A5.06, A6.02, A6.06, A7.02, AG.02	1-phase airconditioning EER 3.0 - 3.5	-	1-phase airconditioning EER 3.0 - 3.5	-	1	1	yes	yes	yes	yes	0	no
A1.01, A1.03, A2.03, A3.03, A3.04, A3.05, A4.03, A4.04, A4.05, A5.03, A5.04, A5.05, A6.03, A6.04, A6.05, A7.03, A7.04, AG.01, AG.03	1-phase airconditioning EER 3.0 - 3.5	-	1-phase airconditioning EER 3.0 - 3.5	-	2	1	yes	yes	yes	yes	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	-	-	-	-	gas cooktop & electric oven	-	-	3.5 star	-	-	-	-

(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)
A1.01	14.0	28.0
A1.02	13.2	49.8
A1.03	18.5	26.3
A2.01	22.4	36.8
A2.02	13.5	49.0
A2.03	28.0	40.7
A3.01	23.5	35.9
A3.02	14.3	48.5
A3.03	28.6	40.6
A3.04	84.6	30.5
A3.05	81.3	32.9
A3.06	87.2	51.0
A4.01	24.4	35.2
A4.02	17.4	45.3
A4.03	32.6	37.4
A4.04	86.4	36.3
A4.05	83.8	39.2
A4.06	80.1	49.3
A5.01	24.8	35.4
A5.02	17.6	45.4
A5.03	32.9	37.5
A5.04	85.4	37.3
A5.05	83.7	39.6
A5.06	80.3	49.4
A6.01	25.1	35.4
A6.02	18.0	45.0
A6.03	33.3	37.3

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
A6.04	83.9	43.4
A6.05	83.2	39.9
A6.06	80.1	48.4
A7.01	43.1	63.9
A7.02	63.5	88.0
A7.03	87.7	70.1
A7.04	88.0	78.1
AG.01	40.5	23.9
AG.02	11.7	40.9
All other dwellings	31.8	46.7

(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	3 star	3 star	no common laundry facility

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

Common area	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
Lift car (No. 1)	-	-	fluorescent	connected to lift call button	No
Garbage room A	ventilation exhaust only	-	fluorescent	motion sensors	No
Bulky waste	ventilation exhaust only	-	fluorescent	motion sensors	No
Diesel pump room	ventilation supply only	interlocked to light	fluorescent	manual on / manual off	No
Store rooms -Building A	no mechanical ventilation	-	fluorescent	manual on / manual off	No
Hallway/lobby A	no mechanical ventilation	-	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

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 (> 6 but <= 7.5 L/min)	4 star	5 star	5 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, not ducted	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
All dwellings	1-phase airconditioning EER 3.0 - 3.5	-	1-phase airconditioning EER 3.0 - 3.5	-	2	1	yes	yes	yes	yes	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	-	-	-	-	gas cooktop & electric oven	-	-	3.5 star	-	-	-	-

(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)
B1.01	44.1	82.7
B1.02	79.1	45.0
B1.03	62.4	34.1
B1.04	69.7	41.0
B1.05	79.3	75.6
B1.06	88.0	45.9
B2.01	43.0	83.6
B2.02	50.9	89.0
B2.03	62.9	33.7
B2.04	70.2	40.4
B2.05	80.0	74.5
B2.06	88.0	45.4
B3.01	62.0	54.3
B3.02	79.1	34.5
B3.03	53.6	85.5

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
B3.04	47.5	85.7
B3.05	63.4	33.5
B3.06	71.4	40.1
B3.07	74.9	80.7
B3.08	64.5	38.2
B3.09	64.6	28.8
B4.01	59.5	52.8
B4.02	63.8	37.2
B4.03	53.6	77.9
B4.04	67.0	31.5
B4.05	75.4	36.9
B4.06	85.5	61.9
B4.07	87.7	37.2
B4.08	71.9	30.6
B5.01	60.1	52.7
B5.02	64.1	37.6
B5.03	54.2	77.9
B5.04	67.5	31.5
B5.05	76.0	36.9
B5.06	74.8	77.2
B5.07	87.6	41.5
B5.08	71.8	30.9
B6.01	60.4	52.3
B6.02	34.5	39.3
B6.03	54.7	77.4
B6.04	67.8	31.5
B6.05	76.2	37.2

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
B6.06	75.1	72.1
B6.07	88.0	41.1
B6.08	70.8	32.2
B7.01	75.1	65.8
B7.02	38.4	52.4
B7.03	64.3	87.3
B7.04	82.1	42.6
B7.05	74.8	89.6
B7.06	79.9	90.2
B7.07	83.2	75.2
B7.08	78.6	80.1
BG.01	66.6	41.6
BG.02	68.7	29.1
All other dwellings	58.5	22.0

(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	no common facility	3 star	3 star	no common laundry facility

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

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Lift car (No. 2)	-	-	fluorescent	connected to lift call button	No
Lift car (No. 3)	-	-	fluorescent	connected to lift call button	No
Garbage room B	ventilation exhaust only	-	fluorescent	motion sensors	No
Garbage rooms corridors - Building B	ventilation exhaust only	-	fluorescent	motion sensors	No
Store room -Building B	no mechanical ventilation	-	fluorescent	manual on / manual off	No
Hallway/lobby B	no mechanical ventilation	-	fluorescent	motion sensors	No

Central energy systems	Type	Specification
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 9
Lift (No. 3)	gearless traction with V V V F motor	Number of levels (including basement): 9

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 (> 6 but <= 7.5 L/min)	4 star	5 star	5 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, not ducted	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
C1.01	1-phase airconditioning EER 3.0 - 3.5	-	1-phase airconditioning EER 3.0 - 3.5	-	3	1	yes	yes	yes	yes	0	no
C3.03, C4.03, C5.03, C6.03, C7.03, C8.03	1-phase airconditioning EER 3.0 - 3.5	-	1-phase airconditioning EER 3.0 - 3.5	-	2	1	yes	yes	yes	yes	1	no
C3.05, C4.05, C5.05, C6.05, C7.05, C8.05	1-phase airconditioning EER 3.0 - 3.5	-	1-phase airconditioning EER 3.0 - 3.5	-	2	1	yes	yes	yes	yes	0	yes
C3.02, C3.06, C4.02, C4.06, C5.02, C5.06, C6.02, C6.06, C7.02, C7.06, C8.01, C8.02, C8.06	1-phase airconditioning EER 3.0 - 3.5	-	1-phase airconditioning EER 3.0 - 3.5	-	1	1	yes	yes	yes	yes	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
C1.02, C2.01, C2.02, C2.03, C3.01, C3.04, C4.01, C4.04, C5.01, C5.04, C6.01, C6.04, C7.01, C7.04, C8.04	1-phase airconditioning EER 3.0 - 3.5	-	1-phase airconditioning EER 3.0 - 3.5	-	2	1	yes	yes	yes	yes	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	-	-	-	-	gas cooktop & electric oven	-	-	3.5 star	-	-	-	-

(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.			

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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)
C1.01	87.0	30.3
C1.02	87.6	62.9
C2.01	87.2	31.2
C2.02	59.5	34.6
C2.03	76.5	57.4
C3.01	57.0	31.7
C3.02	45.4	40.4
C3.03	38.5	28.0

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
C3.04	82.9	51.2
C3.05	60.5	34.4
C3.06	67.6	52.9
C4.01	41.8	31.1
C4.02	35.4	41.9
C4.03	33.9	29.5
C4.04	81.2	41.8
C4.05	63.7	32.8
C4.06	60.8	59.4
C5.01	38.2	31.4
C5.02	32.4	42.5
C5.03	33.7	29.7
C5.04	81.8	41.7
C5.05	64.2	33.0
C5.06	61.5	58.9
C6.01	36.4	31.7
C6.02	29.9	42.8
C6.03	33.9	30.4
C6.04	82.3	41.8
C6.05	64.6	32.6
C6.06	62.0	58.4
C7.01	33.6	32.2
C7.02	27.1	42.8
C7.03	32.8	31.0
C7.04	81.1	43.8
C7.05	64.9	32.7
C7.06	62.3	58.0

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
C8.01	52.3	60.2
C8.02	48.0	80.2
C8.03	48.9	61.5
C8.04	87.7	89.8
C8.05	81.7	62.1
All other dwellings	72.0	82.3

(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	3 star	3 star	no common laundry facility

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

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Gym	air conditioning system	time clock or BMS controlled	fluorescent	manual on / manual off	No
Lift car (No. 4)	-	-	fluorescent	connected to lift call button	No
Lift car (No. 5)	-	-	fluorescent	connected to lift call button	No
Garbage room C - Bulk waste	ventilation exhaust only	-	fluorescent	motion sensors	No
Community room	air conditioning system	time clock or BMS controlled	fluorescent	manual on / manual off	No
Mech rooms	ventilation supply only	interlocked to light	fluorescent	manual on / manual off	No
Hallway/lobby C	no mechanical ventilation	-	fluorescent	motion sensors	No

Central energy systems	Type	Specification
Lift (No. 4)	gearless traction with V V V F motor	Number of levels (including basement): 9
Lift (No. 5)	gearless traction with V V V F motor	Number of levels (including basement): 9

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	no common facility	3 star	3 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Fire sprinkler system (No. 1)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-

(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 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
Car park	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	fluorescent	motion sensors	No
Main switch rooms	no mechanical ventilation	-	fluorescent	manual on / manual off	No
Bin Holding	ventilation exhaust only	-	fluorescent	motion sensors	No
Mech rooms	ventilation supply only	interlocked to light	fluorescent	manual on / manual off	No

Central energy systems	Type	Specification
Central hot water system (No. 1)	gas-fired storage (manifolded)	Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.6 (~25 mm); (b) Piping internal to building: R0.6 (~25 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).



NatHERS - THERMAL COMFORT SUMMARY

Address: 21 Atkinson Street Liverpool
Software: BERS 4.3, Certificate No: 0000660430



Date: 23/08/2016



Building Elements	Material	Detail
External walls	Brick veneer	R1.5 bulk insulation
Internal walls	Plasterboard on studs	-
Glazing in front of fire rated spandrel	Plasterboard	R1.5 bulk insulation
Common walls between units	Hebel + furring channel + plasterboard	-
Common walls between units and stairs/lift shaft	Concrete + furring channel + plasterboard	R1.5 bulk insulation
Common walls between units and corridors	Hebel + furring channel + plasterboard	-
Ceiling	Plasterboard	-
Roof	Concrete, colour medium	R2.5 to units A6.03, A6.04, C2.01 and all top floor units
Floors	Concrete	R1.5 bulk insulation to suspended floor to outside air, unit C2.01
Windows to units <u>Building A:</u> A3.04, A3.05, A3.06, A4.06, A5.06, A6.03, A6.04, A6.06, A7.01, A7.02 <u>Building B:</u> B1.02, B5.07, B6.07, B7.05, B7.06 <u>Building C:</u> C2.01, C2.03, C3.04, C8.06	Aluminium framed, single glazed <u>low e or similar</u> to sliding window/doors, fixed windows	U value 5.40 or less and a SHGC of 0.58 +/- 5% to units
	Aluminium framed, single glazed <u>low e or similar</u> to awning windows	U value 5.40 or less and a SHGC of 0.49 +/- 5% rest of units
Windows to units <u>Building A:</u> A7.03 <u>Building B:</u> B4.07, B7.07 <u>Building C:</u> C4.04, C5.04, C6.04, C7.04, C8.04	Aluminium framed, <u>double glazed or similar</u> to sliding window/doors, fixed windows	U value 4.80 or less and a SHGC of 0.59 +/- 5% to units
	Aluminium framed, <u>double glazed or similar</u> to awning windows	U value 4.80 or less and a SHGC of 0.51 +/- 5% rest of units
Windows to rest of units	Aluminium framed, single glazed clear to sliding window/doors, fixed windows	U value 6.70 or less and a SHGC of 0.70 +/- 5% to units
	Aluminium framed, single glazed clear to awning windows	U value 6.7 or less and a SHGC of 0.57 +/- 5% rest of units
Skylights	Double glazed opal	To units A7.01, C8.01, C8.02, C8.03, C8.05, C8.06
	Double glazed	Rest of units
<i>Lighting: These Units must use non ventilated LED / Fluorescent downlights if downlights are proposed. There is no loss of insulation required to be calculated as the concrete roof is insulated (not the ceilings)</i>		
<i>Self-closing dampers to exhaust fans</i>		

Note: If any of the elements nominated above change after the DA (Development Application) has been issued, a revised assessment should be undertaken prior to the Construction Certificate being issued with Construction drawings

Nationwide House Energy Rating Scheme* — Class 2 summary

Certificate number: **0000660430**

Certificate Date: **23 Aug 2016**

★ Average Star rating: **5.3**



Assessor details

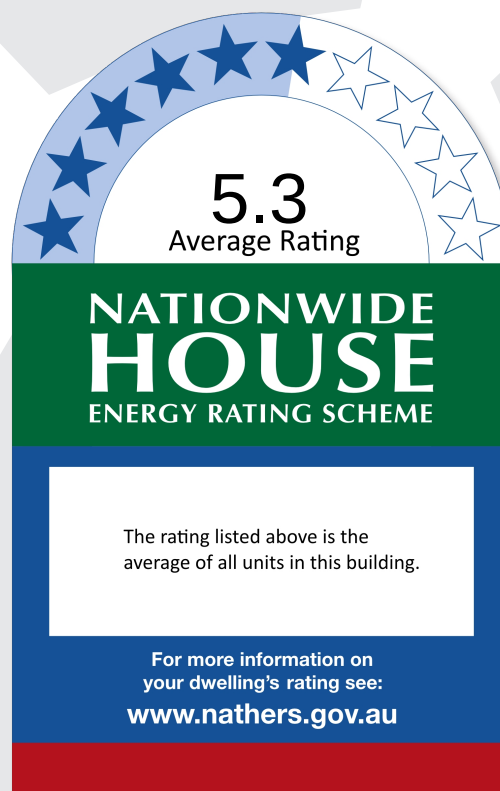
Accreditation number: **VIC/BDAV/12/1456**
Name: **Thomas Ruck**
Organisation: **Building Energy Consultants Australia**
Email: **thomas@beca.net.au**
Phone: **9533 2588**
Declaration of interest: **None**
Software: **BERS Pro v4.3.0.1 (3.13)**

AAO: **BDAV**

Dwelling details

Street: **21 Atkinson Street**
Suburb: **Liverpool**
State: **NSW**
Postcode: **2170**

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
0000658856	AG.01	40	24	64	7.1
0000658872	AG.02	12	41	53	7.7
0000658880	AG.03	32	47	79	6.4
0000658906	A1.01	14	28	42	8.2
0000658914	A1.02	13	50	63	7.2
0000658922-01	A1.03	18	26	45	7.9
0000658930	A2.01	22	37	59	7.4
0000658948	A2.03	28	41	69	6.9
0000658971	A3.01	23	36	59	7.4
0000658997	A3.03	29	41	69	6.9
0000659003	A3.04	85	30	115	4.9
0000659011	A3.05	81	33	114	4.9
0000659029	A3.06	87	51	138	4.3
0000659037	A4.01	24	35	60	7.3
0000659052	A4.02	17	45	63	7.2

Nationwide House Energy Rating Scheme* - Class 2 summary

Certificate number: **0000660430**

Certificate Date:

23 Aug 2016

★ Average Star rating: **5.3**



Summary of all dwellings continued

Certificate Details

Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0000659060	A4.03	33	37	70	6.9
0000659078	A4.04	86	36	123	4.7
0000659086	A4.05	84	39	123	4.7
0000659094	A4.06	80	49	129	4.4
0000659102	A5.01	25	35	60	7.3
0000659110	A5.02	18	45	63	7.2
0000659128	A5.03	33	37	70	6.8
0000659136	A5.04	85	37	123	4.7
0000659151	A5.05	84	40	123	4.7
0000659169	A5.06	80	49	130	4.4
0000659177	A6.01	25	35	61	7.3
0000659185	A6.02	18	45	63	7.2
0000659193	A6.03	40	40	80	6.4
0000659201	A6.04	84	43	127	4.4
0000659219	A6.05	83	40	123	4.7
0000659227	A6.06	80	48	129	4.4
0000659235	A7.01	40	72	113	4.9
0000659243	A7.02	63	88	152	3.9
0000659250	A7.03	88	70	158	3.8
0000659268	A7.04	88	78	166	3.6
0000659300	BG.01	67	42	108	5.2
0000659326	BG.02	67	30	98	5.6
0000659334	BG.03	59	22	81	6.4
0000659342	B1.01	44	83	127	4.5
0000659359	B1.02	79	45	124	4.6
0000659375	B1.03	62	34	97	5.7
0000659383	B1.04	70	41	111	5.1
0000659391	B1.05	79	76	155	3.9
0000659417	B1.06	88	46	134	4.4
0000659425	B2.01	43	84	127	4.5
0000659433	B2.02	51	89	140	4.2
0000659441	B2.03	63	34	97	5.6
0000659458	B2.04	70	40	111	5.1
0000659466	B2.05	80	75	155	3.9
0000659474	B2.06	88	45	133	4.4
0000659490	B3.01	62	54	116	4.9
0000659516	B3.02	79	35	114	4.9
0000659524	B3.03	54	85	139	4.2
0000659532	B3.04	48	86	133	4.4
0000659557	B3.05	63	34	97	5.6
0000659565	B3.06	71	40	111	5
0000659573	B3.07	81	75	156	3.9
0000659581	B3.08	65	38	103	5.4

Nationwide House Energy Rating Scheme* - Class 2 summary

Certificate number: **0000660430**

Certificate Date:

23 Aug 2016

★ Average Star rating: **5.3**



Summary of all dwellings continued

Certificate Details

Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0000659607	B3.09	65	29	93	5.8
0000659615	B4.01	59	53	112	4.9
0000659623	B4.02	64	37	101	5.4
0000659631	B4.03	54	78	132	4.4
0000659649	B4.04	67	32	98	5.5
0000659656	B4.05	75	37	112	4.9
0000659664	B4.06	86	62	147	3.9
0000659672	B4.07	88	37	125	4.6
0000659680	B4.08	72	31	103	5.4
0000659698	B5.01	60	53	113	4.9
0000659706	B5.02	64	38	102	5.4
0000659714	B5.03	54	78	132	4.4
0000659722	B5.04	68	32	99	5.4
0000659730	B5.05	76	37	113	4.9
0000659748	B5.06	75	77	152	3.9
0000659755	B5.07	88	42	129	4.4
0000659763	B5.08	72	31	103	5.4
0000659789	B6.01	60	52	113	4.9
0000659797	B6.02	34	39	74	6.7
0000659805	B6.03	55	77	132	4.4
0000659813	B6.04	68	32	99	5.4
0000659821	B6.05	76	37	113	4.9
0000659839	B6.06	75	72	147	3.9
0000659847	B6.07	88	41	129	4.4
0000659854	B6.08	71	32	103	5.4
0000659862	B7.01	75	66	141	4.2
0000659870	B7.02	38	52	91	5.9
0000659888-01	B7.03	64	87	152	3.9
0000659896	B7.04	82	43	125	4.6
0000659904-01	B7.05	75	90	164	3.7
0000659912-01	B7.06	80	90	170	3.5
0000659938	B7.07	83	75	158	3.8
0000659946	B7.08	79	80	159	3.8
0000659979	C1.01	87	30	117	4.9
0000659987	C1.02	88	63	150	3.9
0000659995	C2.01	88	29	116	4.9
0000660001	C2.02	60	35	94	5.8
0000660019	C2.03	76	57	134	4.4
0000660027	C3.01	57	32	89	5.9
0000660035	C3.02	45	40	86	6.1
0000660050	C3.03	39	28	67	6.9
0000660068	C3.04	83	51	134	4.4
0000660084	C3.05	60	34	95	5.7

Nationwide House Energy Rating Scheme* - Class 2 summary

Certificate number: 0000660430

Certificate Date:

23 Aug 2016

★ Average Star rating: 5.3



Summary of all dwellings continued

Certificate Details

Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0000660100	C3.06	68	53	121	4.8
0000660118	C4.01	42	31	73	6.7
0000660126	C4.02	35	42	77	6.4
0000660134	C4.03	34	30	63	7.2
0000660142	C4.04	82	42	123	4.7
0000660159	C4.05	64	33	96	5.7
0000660167	C4.06	61	59	120	4.8
0000660175	C5.01	38	31	70	6.9
0000660183	C5.02	32	43	75	6.6
0000660191	C5.03	34	30	63	7.2
0000660209	C5.04	82	42	123	4.7
0000660217	C5.05	64	33	97	5.6
0000660225	C5.06	62	59	120	4.8
0000660233	C6.01	36	32	68	6.9
0000660241	C6.02	30	43	73	6.7
0000660258	C6.03	34	30	64	7.1
0000660266	C6.04	82	42	124	4.6
0000660274	C6.05	65	33	97	5.6
0000660282	C6.06	62	58	120	4.8
0000660290	C7.01	34	32	66	7
0000660308	C7.02	27	43	70	6.9
0000660316	C7.03	33	31	64	7.1
0000660324	C7.04	81	44	125	4.6
0000660332	C7.05	65	33	98	5.6
0000660340	C7.06	62	58	120	4.8
0000660357	C8.01	52	60	113	4.9
0000660365	C8.02	48	80	128	4.4
0000660373	C8.03	49	62	110	5.1
0000660381	C8.04	88	90	178	3.4
0000660399-01	C8.05	82	62	144	4.1
0000660407	C8.06	72	82	154	3.9