

# BASIX™ Certificate

Building Sustainability Index

[www.planningportal.nsw.gov.au/development-and-assessment/basix](http://www.planningportal.nsw.gov.au/development-and-assessment/basix)

## Multi Dwelling

Certificate number: 1730728M\_11

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

This certificate is a revision of certificate number 1730728M\_03 submitted to the consent authority or certifier on 23 May 2024 with application SSD-67895459.

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 Environment Planning and Assessment Regulation 2000

Secretary

Date of issue: Monday, 02 March 2026

To be valid, this certificate must be submitted with a development application or lodged with a complying development certificate application within 3 months of the date of issue.



When submitting this BASIX certificate with a development application or complying development certificate application, it must be accompanied by NatHERS certificate WSTRUO76UX.

### Project summary

Project name	SMITH ST_11
Street address	120-122 SMITH STREET WOLLONGONG 2500
Local Government Area	WOLLONGONG
Plan type and plan number	Deposited Plan -
Lot no.	-
Section no.	-
No. of residential flat buildings	4
Residential flat buildings: no. of dwellings	176
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0

### Project score

Water	✔ 41	Target 40
Thermal Performance	✔ Pass	Target Pass
Energy	✔ 62	Target 60
Materials	✔ -100	Target n/a

### Certificate Prepared by

Name / Company Name: E-LAB Consulting

ABN (if applicable): 84647520634

# Description of project

Project address	
Project name	SMITH ST_11
Street address	120-122 SMITH STREET WOLLONGONG 2500
Local Government Area	WOLLONGONG
Plan type and plan number	Deposited Plan -
Lot no.	-
Section no.	-
Project type	
No. of residential flat buildings	4
Residential flat buildings: no. of dwellings	176
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0
Site details	
Site area (m <sup>2</sup> )	6537.65
Roof area (m <sup>2</sup> )	2493.19
Non-residential floor area (m <sup>2</sup> )	581.69
Residential car spaces	168
Non-residential car spaces	15

Common area landscape		
Common area lawn (m <sup>2</sup> )	1461.85	
Common area garden (m <sup>2</sup> )	626.5	
Area of indigenous or low water use species (m <sup>2</sup> )	0	
Assessor details and thermal loads		
Assessor number	20/1972	
Certificate number	WSTRUO76UX	
Climate zone	56	
Project score		
Water	✔ 41	Target 40
Thermal Performance	✔ Pass	Target Pass
Energy	✔ 62	Target 60
Materials	✔ -100	Target n/a

## Description of project

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

### Residential flat buildings - Building-A2, 35 dwellings, 10 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
201	2	79.4	0	0	0
301	2	77.7	0	0	0
305	2	82.1	0	0	0
404	2	75	0	0	0
503	2	78.1	0	0	0
602	2	82.2	0	0	0
701	2	77.7	0	0	0
705	2	82.1	0	0	0
804	2	112.9	0	0	0
202	3	101.8	0	0	0
302	2	82.2	0	0	0
401	2	77.7	0	0	0
405	2	82.1	0	0	0
504	2	75	0	0	0
603	2	77.7	0	0	0
702	2	82.2	0	0	0
801	3	133.0	0	0	0
805	3	139.8	0	0	0
203	3	105.8	0	0	0
303	2	77.7	0	0	0
402	2	82.2	0	0	0
501	2	77.7	0	0	0
505	2	82.1	0	0	0
604	2	75	0	0	0
703	2	77.7	0	0	0
802	3	138	0	0	0
806	3	160.2	0	0	0
204	2	80.9	0	0	0
304	2	75	0	0	0
403	2	77.7	0	0	0
502	2	82.2	0	0	0
601	2	77.7	0	0	0
605	2	82.1	0	0	0
704	2	75	0	0	0
803	3	141.8	0	0	0

### Residential flat buildings - Building-A3, 71 dwellings, 13 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1001	2	84.3	0	0	0
1005	1	52.4	0	0	0
1102	2	83.7	0	0	0
1106	1	66	0	0	0
1002	1	83.7	0	0	0
1006	1	66	0	0	0
1103	2	81.3	0	0	0
1107	3	146.4	0	0	0
1003	2	81.3	0	0	0
1007	3	146.4	0	0	0
1104	2	84.4	0	0	0
1201	2	84.3	0	0	0
1004	2	84.4	0	0	0
1101	2	84.3	0	0	0
1105	1	52.4	0	0	0
1202	2	83.7	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1203	2	81.3	0	0	0
1207	3	146.4	0	0	0
204	2	85.5	0	0	0
302	2	83.7	0	0	0
306	1	72.6	0	0	0
404	2	85.3	0	0	0
502	2	83.7	0	0	0
506	1	72.6	0	0	0
604	2	85.4	0	0	0
702	2	83.7	0	0	0
706	1	72.7	0	0	0
804	2	84.4	0	0	0
901	2	84.3	0	0	0
905	1	52.4	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1204	2	84.4	0	0	0
201	2	84.3	0	0	0
205	1	52.4	0	0	0
303	2	81.4	0	0	0
401	2	84.3	0	0	0
405	1	52.4	0	0	0
503	2	81.3	0	0	0
601	2	84.3	0	0	0
605	1	52.4	0	0	0
703	2	81.4	0	0	0
801	2	84.3	0	0	0
805	1	52.4	0	0	0
902	2	83.7	0	0	0
906	1	66.0	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1205	1	52.4	0	0	0
202	2	83.7	0	0	0
206	1	72.6	0	0	0
304	2	84.4	0	0	0
402	2	83.7	0	0	0
406	1	72.6	0	0	0
504	2	85.4	0	0	0
602	2	83.7	0	0	0
606	1	72.6	0	0	0
704	2	84.4	0	0	0
802	2	83.7	0	0	0
806	1	66.0	0	0	0
903	2	81.3	0	0	0
907	3	146.4	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1206	1	66	0	0	0
203	2	78.8	0	0	0
301	2	84.2	0	0	0
305	1	52.4	0	0	0
403	2	81.3	0	0	0
501	2	84.3	0	0	0
505	1	52.4	0	0	0
603	2	81.3	0	0	0
701	2	84.3	0	0	0
705	1	52.4	0	0	0
803	2	81.3	0	0	0
807	3	101.7	0	0	0
904	2	84.4	0	0	0

### Residential flat buildings - Building-A4, 35 dwellings, 8 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
201	3	100.6	0	0	0
205	3	109.3	0	0	0
304	1	65.8	0	0	0
402	2	80.7	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
202	2	80.8	0	0	0
301	3	100.6	0	0	0
305	3	109.3	0	0	0
403	2	80.1	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
203	2	80.1	0	0	0
302	2	80.7	0	0	0
306	2	85.3	0	0	0
404	1	65.7	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
204	1	66.2	0	0	0
303	2	79.5	0	0	0
401	3	100.4	0	0	0
405	3	109.6	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
406	2	85.3	0	0	0
504	1	65.8	0	0	0
602	2	81	0	0	0
606	2	85.3	0	0	0
704	1	65.8	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
501	3	100.4	0	0	0
505	3	110	0	0	0
603	2	80.1	0	0	0
701	3	100.4	0	0	0
705	3	109.8	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
502	2	81	0	0	0
506	2	85.3	0	0	0
604	1	65.8	0	0	0
702	2	81	0	0	0
706	2	85.30	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
503	2	80.1	0	0	0
601	3	100.4	0	0	0
605	3	110	0	0	0
703	2	80.1	0	0	0

### Residential flat buildings - Building-A1, 35 dwellings, 10 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
201	3	100.2	0	0	0
301	3	100.3	0	0	0
305	2	82.5	0	0	0
404	1	53.3	0	0	0
503	3	98.2	0	0	0
602	2	87.5	0	0	0
701	3	100.3	0	0	0
705	2	82.5	0	0	0
804	3	137.5	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
202	3	120.7	0	0	0
302	2	87.5	0	0	0
401	3	100.3	0	0	0
405	2	82.5	0	0	0
504	1	53.3	0	0	0
603	3	98.3	0	0	0
702	2	87.5	0	0	0
801	3	154.7	0	0	0
805	2	118.9	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
203	2	82.1	0	0	0
303	3	98.2	0	0	0
402	2	87.5	0	0	0
501	3	100.3	0	0	0
505	2	83.1	0	0	0
604	1	53.2	0	0	0
703	3	98.2	0	0	0
802	3	152.1	0	0	0
806	3	146.2	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
204	2	82.5	0	0	0
304	1	53.3	0	0	0
403	3	98.2	0	0	0
502	2	87.5	0	0	0
601	3	100.3	0	0	0
605	2	82.7	0	0	0
704	1	53.3	0	0	0
803	3	145.4	0	0	0

## Description of project

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

### Common areas of unit building - Building-A2

Common area	Floor area (m <sup>2</sup> )	Common area	Floor area (m <sup>2</sup> )	Common area	Floor area (m <sup>2</sup> )
A2_Bin	15.84	Fire Stair BLD A2	86.17	Lobby - A2	25.65
Hallway - A2	221.1				

### Common areas of unit building - Building-A3

Common area	Floor area (m <sup>2</sup> )	Common area	Floor area (m <sup>2</sup> )	Common area	Floor area (m <sup>2</sup> )
A3_Bin	32.3	A3_Storage	16.07	A3_WC	7.35
Fire Stair BLD A3	181.85	Lobby - A3	43.71	Hallway - A3	641.68

### Common areas of unit building - Building-A4

Common area	Floor area (m <sup>2</sup> )	Common area	Floor area (m <sup>2</sup> )	Common area	Floor area (m <sup>2</sup> )
Lift bank (No. 1)	-	Lift bank (No. 2)	-	Lift bank (No. 3)	-
Lift bank (No. 4)	-	A4_Bin	14.4	Fire Stair BLD A4	86.91
Amenities BLD A4	70.75	Lobby - A4	26.23	Hallway -A4	308.09

### Common areas of unit building - Building-A1

Common area	Floor area (m <sup>2</sup> )	Common area	Floor area (m <sup>2</sup> )	Common area	Floor area (m <sup>2</sup> )
Bin Store	156	A1_Bin	18.76	Fire Stair BLD A1	86.88
Lobby - A1	32.01	Hallway - A1	217.4		

### Common areas of the development (non-building specific)

Common area	Floor area (m <sup>2</sup> )	Common area	Floor area (m <sup>2</sup> )	Common area	Floor area (m <sup>2</sup> )
Car Park	5486.95	lift room	14.56	Main Swtich Room	26.56
Chute Room	45.65	Bulky Waste	38.75	COMM WASTE	6.01
Substation	28.16	Fire Pump Room	30.72	Cold Water Plant	18.20
Carpark Fan Room	22.51	Hot Water Plant	43.41	Cold Water Meter	2.74
Fire Tank	48.91	Fire sprinkler & hydrant booster	5.33	FIP & EWIS	3.2

Common area	Floor area (m <sup>2</sup> )
Fire Stair BLD A3 A4	112.5
Storage	57.97
WC	17.44
Visitor & Commercial Bike Parking	19.02

Common area	Floor area (m <sup>2</sup> )
Loading Bay	216.14
COMMS	14.65
Air Lock-Bin store	3.64
Air Lock-Fire pump	8.98

Common area	Floor area (m <sup>2</sup> )
Resi Bike Parking	34.33
Building Management Office	29.95
Fire Stair	212.4
Air Lock-Bin store	3.64

# Schedule of BASIX commitments

## 1. Commitments for Residential flat buildings - Building-A2

### (a) Buildings

#### (i) Materials

### (b) Dwellings

#### (i) Water

#### (ii) Energy

#### (iii) Thermal Performance

### (c) Common areas and central systems/facilities

#### (i) Water

#### (ii) Energy

## 2. Commitments for Residential flat buildings - Building-A3

### (a) Buildings

#### (i) Materials

### (b) Dwellings

#### (i) Water

#### (ii) Energy

#### (iii) Thermal Performance

### (c) Common areas and central systems/facilities

#### (i) Water

#### (ii) Energy

## 3. Commitments for Residential flat buildings - Building-A4

### (a) Buildings

#### (i) Materials

### (b) Dwellings

#### (i) Water

- (ii) Energy
- (iii) Thermal Performance

(c) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

4. Commitments for Residential flat buildings - Building-A1

(a) Buildings

- (i) Materials

(b) Dwellings

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

(c) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

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

(a) Buildings 'Other'

- (i) Materials

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

## Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be 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-A2

#### (a) Buildings

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

#### Floor types

Floor type	Area (m2)	Insulation	Low emissions option
concrete slab on ground, frame:	3167.5	-	none

#### External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	concrete block/ plasterboard, frame: light steel frame	2575	none	fibreglass batts or roll

#### Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame: light steel frame	3650.3	-

**Reinforcement concrete frames/columns**

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

**Ceiling and roof types**

Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation
framed - concrete tiles, frame: light steel frame	3812.40	-	fibreglass batts or roll

**Glazing types**

**Frame types**

Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
0	750.2	0	750.2	0	0	0	0

**(b) Dwellings**

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✔	✔	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✔	✔
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✔	✔
(e) The applicant must install: <ul style="list-style-type: none"> <li>(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</li> <li>(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.</li> </ul>		✔ ✔	✔ ✔
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✔	✔	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✔	
(g) The pool or spa must be located as specified in the table.	✔	✔	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✔	✔	✔

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 6 but ≤ 7.5 L/min)	4 star	5 star	5 star	-	not specified	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
All dwellings	No alternative water supply	-	-	-	-	-	-	-

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

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	Central hot water system (No. 1)	individual fan, 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

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	1-phase airconditioning - ducted / EER 3.0 - 3.5	1-phase airconditioning - ducted / EER 3.0 - 3.5	1-phase airconditioning - ducted / EER 3.5 - 4.0	1-phase airconditioning - ducted / EER 3.5 - 4.0	0	no

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	gas cooktop & electric oven	4 star	2 star	no	no

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

<b>Thermal loads</b>			
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
201	23.2	4.3	27.500
202	26.6	10.9	37.500
203	15.1	7.4	22.500
204	32.3	4.1	36.400

Dwelling no.	Thermal loads		
	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
301	20.2	5.3	25.500
302	9.3	12.4	21.700
303	4.0	13.3	17.300
304	8.7	7.1	15.800
305	13.3	7.7	21.000
401	23.9	4.8	28.700
402	12.5	8.6	21.100
403	5.7	10.5	16.200
404	11.5	6.0	17.500
405	17.6	5.7	23.300
502	13.3	8.4	21.700
503	6.0	10.2	16.200
504	10.8	6.1	16.900
505	18.7	5.9	24.600
602	13.1	8.1	21.200
603	6.2	10.4	16.600
604	10.2	5.8	16.000
605	17.7	5.9	23.600
701	26.3	5.1	31.400
702	16.0	8.7	24.700
703	7.1	10.5	17.600
704	11.9	6.5	18.400
705	19.8	5.7	25.500
801	28.3	7.3	35.600
802	27.2	10.4	37.600
803	7.4	21.4	28.800
804	7.5	11.1	18.600
805	11.4	12.1	23.500
806	13.7	7.7	21.400
All other dwellings	24.2	4.6	28.800

**(c) Common areas and central systems/facilities**

<b>(i) Water</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(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.		✓	✓

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

<b>Central systems</b>	<b>Size</b>	<b>Configuration</b>	<b>Connection (to allow for...)</b>
Fire sprinkler system (No. 2)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-

<b>(ii) Energy</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(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
A2_Bin	ventilation exhaust only	-	light-emitting diode	motion sensors	yes
Fire Stair BLD A2	no mechanical ventilation	-	light-emitting diode	zoned switching with motion sensor	yes
Lobby - A2	air conditioning system	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes
Hallway - A2	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes

Central energy systems	Type	Specification
Lift bank (No. 2)	gearless traction with V V V F motor	Number of levels with apartments served by a lift: 8 number of levels from the bottom of the lift shaft to the top of the lift shaft: 10 number of lifts: 1 lift load capacity: >= 1001 kg but <= 1500kg

## 2. Commitments for Residential flat buildings - Building-A3

### (a) Buildings

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

#### Floor types

Floor type	Area (m2)	Insulation	Low emissions option
concrete slab on ground, frame:	5701.70	-	none

#### External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	concrete block/ plasterboard,frame:light steel frame	5648.16	none	fibreglass batts or roll

#### Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	4680.65	-

#### Reinforcement concrete frames/columns

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

**Ceiling and roof types**

Ceiling and roof type	Area (m <sup>2</sup> )	Roof Insulation	Ceiling Insulation
framed - concrete tiles, frame: light steel frame	3812.40	-	fibreglass batts or roll

**Glazing types****Frame types**

Single glazing (m <sup>2</sup> )	Double glazing (m <sup>2</sup> )	Triple glazing (m <sup>2</sup> )	Aluminium frames (m <sup>2</sup> )	Timber frames (m <sup>2</sup> )	uPVC frames (m <sup>2</sup> )	Steel frames (m <sup>2</sup> )	Composite frames (m <sup>2</sup> )
0	860.2	0	860.2	0	0	0	0

**(b) Dwellings**

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install: <ul style="list-style-type: none"> <li>(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</li> <li>(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.</li> </ul>		✓ ✓	✓ ✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 6 but ≤ 7.5 L/min)	4 star	5 star	5 star	-	not specified	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
All dwellings	No alternative water supply	-	-	-	-	-	-	-

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

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	Central hot water system (No. 1)	individual fan, 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

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	1-phase airconditioning - ducted / EER 3.0 - 3.5	1-phase airconditioning - ducted / EER 3.0 - 3.5	1-phase airconditioning - ducted / EER 3.5 - 4.0	1-phase airconditioning - ducted / EER 3.5 - 4.0	0	no

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	gas cooktop & electric oven	4 star	2 star	no	no

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

<b>Thermal loads</b>			
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
1001	10.9	12.8	23.700
1002	15.1	10.5	25.600
1003	22.7	10.3	33.000
1004	17.7	5.6	23.300

Dwelling no.	Thermal loads		
	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
1005	21.2	7.6	28.800
1006	25.6	11.2	36.800
1007	10.9	14.0	24.900
1101	11.1	12.7	23.800
1102	15.3	10.2	25.500
1103	23.1	10.4	33.500
1104	18.0	5.6	23.600
1105	21.5	7.6	29.100
1106	26.1	10.5	36.600
1107	11.1	13.8	24.900
1201	17.4	18.8	36.200
1202	23.0	13.5	36.500
1203	21.9	10.8	32.700
1204	24.2	9.0	33.200
1205	19.9	14.9	34.800
1206	25.5	10.1	35.600
1207	19.7	15.9	35.600
201	22.3	10.2	32.500
202	17.4	20.3	37.700
203	28.8	5.8	34.600
204	18.4	6.4	24.800
205	21.8	13.6	35.400
206	24.8	12.0	36.800
301	12.4	13.7	26.100
302	10.0	18.7	28.700
303	16.9	15.6	32.500
304	10.4	9.1	19.500
305	12.8	12.1	24.900
306	20.0	14.2	34.200
401	15.9	10.7	26.600
402	12.5	14.1	26.600

Dwelling no.	Thermal loads		
	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
403	20.4	11.3	31.700
404	13.6	6.2	19.800
405	16.4	9.4	25.800
406	25.0	10.2	35.200
501	15.2	10.4	25.600
502	12.9	13.8	26.700
503	20.8	11.3	32.100
504	14.0	6.0	20.000
505	17.2	9.1	26.300
506	25.7	9.8	35.500
601	14.2	10.5	24.700
602	12.9	13.6	26.500
603	21.0	11.3	32.300
604	14.4	5.9	20.300
605	17.7	9.1	26.800
606	26.3	9.3	35.600
701	13.6	10.8	24.400
702	13.5	13.4	26.900
703	21.8	14.0	35.800
704	15.6	5.9	21.500
705	18.7	8.3	27.000
706	27.2	9.5	36.700
801	8.9	14.4	23.300
802	13.2	12.0	25.200
803	21.0	11.8	32.800
804	15.4	6.0	21.400
805	18.5	9.6	28.100
806	23.9	11.5	35.400
807	9.0	11.9	20.900
901	9.2	14.5	23.700
902	13.3	12.0	25.300

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
903	20.7	12.3	33.000
904	15.7	5.9	21.600
905	18.8	9.2	28.000
906	22.8	12.7	35.500
All other dwellings	9.8	14.6	24.400

**(c) Common areas and central systems/facilities**

<b>(i) Water</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(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.		✓	✓

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

<b>Central systems</b>	<b>Size</b>	<b>Configuration</b>	<b>Connection (to allow for...)</b>
Fire sprinkler system (No. 3)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-

<b>(ii) Energy</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(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
A3_Bin	ventilation exhaust only	-	light-emitting diode	motion sensors	yes
A3_Storage	ventilation supply only	thermostatically controlled	light-emitting diode	motion sensors	yes
A3_WC	ventilation (supply + exhaust)	thermostatically controlled	light-emitting diode	motion sensors	yes
Fire Stair BLD A3	no mechanical ventilation	-	light-emitting diode	zoned switching with motion sensor	yes
Lobby - A3	air conditioning system	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes
Hallway - A3	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes

Central energy systems	Type	Specification
Lift bank (No. 3)	gearless traction with V V V F motor	Number of levels with apartments served by a lift: 11 number of levels from the bottom of the lift shaft to the top of the lift shaft: 13 number of lifts: 1 lift load capacity: >= 1001 kg but <= 1500kg

### 3. Commitments for Residential flat buildings - Building-A4

#### (a) Buildings

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

#### Floor types

Floor type	Area (m2)	Insulation	Low emissions option
concrete slab on ground, frame:	3047.61	-	none

#### External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	concrete block/ plasterboard,frame:light steel frame	3380	none	fibreglass batts or roll

#### Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	3478.3	-

#### Reinforcement concrete frames/columns

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

**Ceiling and roof types**

Ceiling and roof type	Area (m <sup>2</sup> )	Roof Insulation	Ceiling Insulation
framed - concrete tiles, frame: light steel frame	3812.40	-	fibreglass batts or roll

**Glazing types**

**Frame types**

Single glazing (m <sup>2</sup> )	Double glazing (m <sup>2</sup> )	Triple glazing (m <sup>2</sup> )	Aluminium frames (m <sup>2</sup> )	Timber frames (m <sup>2</sup> )	uPVC frames (m <sup>2</sup> )	Steel frames (m <sup>2</sup> )	Composite frames (m <sup>2</sup> )
0	620.02	0	620.02	0	0	0	0

**(b) Dwellings**

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✔	✔	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✔	✔
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✔	✔
(e) The applicant must install: <ul style="list-style-type: none"> <li>(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</li> <li>(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.</li> </ul>		✔ ✔	✔ ✔
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✔	✔	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✔	
(g) The pool or spa must be located as specified in the table.	✔	✔	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✔	✔	✔

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 6 but ≤ 7.5 L/min)	4 star	5 star	5 star	-	not specified	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
All dwellings	No alternative water supply	-	-	-	-	-	-	-

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

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	Central hot water system (No. 1)	individual fan, 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

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	1-phase airconditioning - ducted / EER 3.0 - 3.5	1-phase airconditioning - ducted / EER 3.0 - 3.5	1-phase airconditioning - ducted / EER 3.5 - 4.0	1-phase airconditioning - ducted / EER 3.5 - 4.0	0	no

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	gas cooktop & electric oven	4 star	2 star	no	no

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

<b>Thermal loads</b>			
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
201	21.6	15.6	37.200
202	8.7	5.0	13.700
203	1.2	7.9	9.100
204	13.9	12.8	26.700

Dwelling no.	Thermal loads		
	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
205	27.7	8.5	36.200
301	3.5	19.3	22.800
302	4.0	6.5	10.500
303	1.2	8.6	9.800
304	6.9	9.9	16.800
305	13.9	14.0	27.900
306	25.0	6.1	31.100
401	5.1	14.8	19.900
402	6.2	5.5	11.700
403	1.8	7.3	9.100
404	6.8	6.4	13.200
405	17.5	9.7	27.200
406	25.0	5.2	30.200
501	5.5	14.7	20.200
502	6.4	5.3	11.700
503	2.0	7.0	9.000
504	7.3	6.2	13.500
505	18.0	9.4	27.400
506	25.6	5.1	30.700
601	5.7	14.2	19.900
602	6.7	5.3	12.000
603	2.0	7.1	9.100
604	7.7	6.7	14.400
605	18.3	9.4	27.700
606	26.0	5.2	31.200
701	6.3	14.7	21.000
702	9.7	7.3	17.000
703	6.1	8.6	14.700
704	16.8	7.9	24.700
705	25.7	11.7	37.400
All other dwellings	30.1	7.5	37.600

**(c) Common areas and central systems/facilities**

<b>(i) Water</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(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.		✓	✓

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

<b>Central systems</b>	<b>Size</b>	<b>Configuration</b>	<b>Connection (to allow for...)</b>
Fire sprinkler system (No. 4)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-

<b>(ii) Energy</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(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 bank (No. 1)	-	-	light-emitting diode	connected to lift call button	yes
Lift bank (No. 2)	-	-	light-emitting diode	connected to lift call button	yes
Lift bank (No. 3)	-	-	light-emitting diode	connected to lift call button	yes
Lift bank (No. 4)	-	-	light-emitting diode	connected to lift call button	yes
A4_Bin	ventilation exhaust only	-	light-emitting diode	motion sensors	yes
Fire Stair BLD A4	no mechanical ventilation	-	light-emitting diode	zoned switching with motion sensor	yes
Amenities BLD A4	air conditioning system	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes
Lobby - A4	air conditioning system	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes
Hallway -A4	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes

Central energy systems	Type	Specification
Lift bank (No. 4)	gearless traction with V V V F motor	Number of levels with apartments served by a lift: 11 number of levels from the bottom of the lift shaft to the top of the lift shaft: 13 number of lifts: 1 lift load capacity: >= 1001 kg but <= 1500kg

## 4. Commitments for Residential flat buildings - Building-A1

### (a) Buildings

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

#### Floor types

Floor type	Area (m2)	Insulation	Low emissions option
concrete slab on ground, frame:	3350.1	-	none

#### External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	concrete block/ plasterboard,frame:light steel frame	3514	none	fibreglass batts or roll

#### Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	3850.33	-

#### Reinforcement concrete frames/columns

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

**Ceiling and roof types**

Ceiling and roof type	Area (m <sup>2</sup> )	Roof Insulation	Ceiling Insulation
framed - concrete tiles, frame: light steel frame	3932.3	-	fibreglass batts or roll

**Glazing types**

**Frame types**

Single glazing (m <sup>2</sup> )	Double glazing (m <sup>2</sup> )	Triple glazing (m <sup>2</sup> )	Aluminium frames (m <sup>2</sup> )	Timber frames (m <sup>2</sup> )	uPVC frames (m <sup>2</sup> )	Steel frames (m <sup>2</sup> )	Composite frames (m <sup>2</sup> )
0	720	0	720	0	0	0	0

**(b) Dwellings**

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✔	✔	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✔	✔
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✔	✔
(e) The applicant must install: <ul style="list-style-type: none"> <li>(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</li> <li>(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.</li> </ul>		✔ ✔	✔ ✔
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✔	✔	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✔	
(g) The pool or spa must be located as specified in the table.	✔	✔	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✔	✔	✔

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 6 but ≤ 7.5 L/min)	4 star	5 star	5 star	-	not specified	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
All dwellings	No alternative water supply	-	-	-	-	-	-	-

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

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	Central hot water system (No. 1)	individual fan, 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

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	1-phase airconditioning - ducted / EER 3.0 - 3.5	1-phase airconditioning - ducted / EER 3.0 - 3.5	1-phase airconditioning - ducted / EER 3.5 - 4.0	1-phase airconditioning - ducted / EER 3.5 - 4.0	0	no

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	gas cooktop & electric oven	4 star	2 star	no	no

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

<b>Thermal loads</b>			
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
201	32.7	3.7	36.400
202	18.3	5.8	24.100
203	11.2	9.5	20.700
204	22.1	8.2	30.300

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in MJ/m <sup>2</sup> /yr)	Area adjusted total load (in MJ/m <sup>2</sup> /yr)
301	18.7	8.3	27.000
302	7.0	7.1	14.100
303	1.1	15.2	16.300
304	1.5	9.8	11.300
305	14.9	8.2	23.100
401	21.8	6.9	28.700
402	6.4	5.6	12.000
403	1.7	12.3	14.000
404	2.8	7.4	10.200
405	18.7	7.2	25.900
501	22.0	7.1	29.100
502	6.7	5.4	12.100
503	1.9	12.3	14.200
504	3.1	7.1	10.200
505	19.4	7.3	26.700
601	22.0	7.0	29.000
602	7.2	5.5	12.700
603	1.9	12.1	14.000
604	3.3	7.2	10.500
605	19.4	7.4	26.800
701	23.0	6.8	29.800
702	8.5	5.8	14.300
703	2.4	12.5	14.900
704	3.4	7.3	10.700
705	22.4	11.1	33.500
801	14.6	12.0	26.600
802	13.6	12.1	25.700
803	9.4	6.5	15.900
804	10.6	8.9	19.500
805	19.3	7.4	26.700
All other dwellings	31.1	6.7	37.800

**(c) Common areas and central systems/facilities**

<b>(i) Water</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(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.		✓	✓

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

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

<b>(ii) Energy</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(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
A1_Bin	ventilation exhaust only	-	light-emitting diode	motion sensors	yes
Fire Stair BLD A1	no mechanical ventilation	-	light-emitting diode	zoned switching with motion sensor	yes
Lobby - A1	air conditioning system	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes
Hallway - A1	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes

Central energy systems	Type	Specification
Lift bank (No. 1)	gearless traction with V V V F motor	Number of levels with apartments served by a lift: 8 number of levels from the bottom of the lift shaft to the top of the lift shaft: 10 number of lifts: 1 lift load capacity: >= 1001 kg but <= 1500kg

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

### (a) Buildings 'Other'

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

#### Floor types

Floor type	Area (m2)	Insulation	Low emissions option
concrete slab on ground, frame:	5624.52	-	none

#### External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	concrete block/ plasterboard,frame:timber - H2 treated softwood	3468	none	fibreglass batts or roll
External wall type 2	framed (metal clad),frame:heavy steel post and beam frame	4586.5	40% cement substitute	fibreglass batts or roll

#### Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	single skin masonry, frame:light steel frame	2569.3	-

**Reinforcement concrete frames/columns**

Building has reinforced concrete frame/columns?	Volume (m <sup>3</sup> )	Low emissions option
no	-	-

**Ceiling and roof types**

Ceiling and roof type	Area (m <sup>2</sup> )	Roof Insulation	Ceiling Insulation
framed - concrete tiles, frame: light steel frame	3812.40	-	fibreglass batts or roll

**Glazing types**

**Frame types**

Single glazing (m <sup>2</sup> )	Double glazing (m <sup>2</sup> )	Triple glazing (m <sup>2</sup> )	Aluminium frames (m <sup>2</sup> )	Timber frames (m <sup>2</sup> )	uPVC frames (m <sup>2</sup> )	Steel frames (m <sup>2</sup> )	Composite frames (m <sup>2</sup> )
0	0	0	0	0	0	0	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	4 star (> 6 but <= 7.5 L/min)	4 star	5 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	30000	To collect run-off from at least: - 2493 square metres of roof area of buildings in the development - 1300 square metres of impervious area in the development - 0 square metres of garden/lawn area in the development - 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 2088 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site
Fire sprinkler system (No. 5)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-

<b>(ii) Energy</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(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.	✔	✔	✔

	<b>Common area ventilation system</b>		<b>Common area lighting</b>		
<b>Common area</b>	<b>Ventilation system type</b>	<b>Ventilation efficiency measure</b>	<b>Primary type of artificial lighting</b>	<b>Lighting efficiency measure</b>	<b>Lighting control system/ BMS</b>
Car Park	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	yes
lift room	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	yes
Main Switch Room	ventilation supply only	thermostatically controlled	light-emitting diode	motion sensors	yes
Chute Room	ventilation exhaust only	-	light-emitting diode	motion sensors	yes
Bulky Waste	ventilation exhaust only	-	light-emitting diode	motion sensors	yes
Bin Store	ventilation exhaust only	-	light-emitting diode	motion sensors	yes
COMM WASTE	ventilation exhaust only	-	light-emitting diode	motion sensors	yes
Substation	ventilation (supply + exhaust)	thermostatically controlled	light-emitting diode	manual on / manual off	yes
Fire Pump Room	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	yes
Cold Water Plant	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	yes
Carpark Fan Room	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	yes
Hot Water Plant	ventilation (supply + exhaust)	thermostatically controlled	light-emitting diode	manual on / manual off	yes
Cold Water Meter	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	yes
Fire Tank	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	yes
Fire sprinkler & hydrant booster	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	yes
FIP & EWIS	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	yes
Fire Stair BLD A3 A4	no mechanical ventilation	-	light-emitting diode	zoned switching with motion sensor	yes

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
Loading Bay	ventilation (supply + exhaust)	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes
Resi Bike Parking	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes
Storage	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes
COMMS	air conditioning system	none i.e., continuous	light-emitting diode	manual on / manual off	yes
Building Management Office	air conditioning system	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes
WC	ventilation (supply + exhaust)	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes
Air Lock-Bin store	ventilation (supply + exhaust)	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes
Fire Stair	no mechanical ventilation	-	light-emitting diode	zoned switching with motion sensor	yes
Visitor & Commercial Bike Parking	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes
Air Lock-Fire pump	no mechanical ventilation	-	light-emitting diode	zoned switching with motion sensor	yes
Air Lock-Bin store	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	yes

Central energy systems	Type	Specification
Central hot water system (No. 1)	gas-fired boiler	Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.6 (~25 mm); (b) Piping internal to building: R0.6 (~25 mm)
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 0 peak kW
Other	Building management system installed?: yes Active power factor correction installed?: yes	-

## Notes

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

## Legend

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