

# BASIX<sup>®</sup>Certificate

Building Sustainability Index [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

## Multi Dwelling

Certificate number: 1738614M

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.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

Secretary

Date of issue: Tuesday, 05 March 2024

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



### Project summary

Project name	SOMME AVENUE EDMONDSON PARK
Street address	SOMME AVENUE EDMONDSON PARK 2174
Local Government Area	LIVERPOOL
Plan type and plan number	Deposited Plan 1267563
Lot No.	101
Section no.	-
No. of residential flat buildings	3
Residential flat buildings: no. of dwellings	178
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	✓ 58	Target 58
Materials	✓ -100	Target n/a

### Certificate Prepared by

Name / Company Name: SLR Consulting Pty Ltd

ABN (if applicable): 29001584612

# Description of project

Project address	
Project name	SOMME AVENUE EDMONDSON PARK
Street address	SOMME AVENUE EDMONDSON PARK 2174
Local Government Area	LIVERPOOL
Plan type and plan number	Deposited Plan 1267563
Lot No.	101
Section no.	-
Project type	
No. of residential flat buildings	3
Residential flat buildings: no. of dwellings	178
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0
Site details	
Site area (m²)	10111.5
Roof area (m²)	2800
Non-residential floor area (m²)	0
Residential car spaces	195
Non-residential car spaces	42

Common area landscape		
Common area lawn (m²)	4523	
Common area garden (m²)	0	
Area of indigenous or low water use species (m²)	0	
Assessor details and thermal loads		
Assessor number	101556	
Certificate number	0000000000	
Climate zone	28	
Project score		
Water	✓ 41	Target 40
Thermal Performance	✓ Pass	Target Pass
Energy	✓ 58	Target 58
Materials	✓ -100	Target n/a

## Description of project

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

### Residential flat buildings - Building A, 27 dwellings, 4 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> )
A101	1	59.5	0	0	0
A105	2	71.4	0	0	0
A203	2	75.5	0	0	0
A207	1	43.9	6	0	0
A304	1	49.9	0	0	0
A401	1	59.5	0	0	0
A405	2	78.4	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> )
A102	2	77.7	0	0	0
A106	1	55.3	0	0	0
A204	1	49.9	0	0	0
A301	1	59.5	0	0	0
A305	2	78.4	0	0	0
A402	2	77.7	0	0	0
A406	3	91	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> )
A103	2	75.5	0	0	0
A201	1	59.5	0	0	0
A205	2	78.4	0	0	0
A302	2	77.7	0	0	0
A306	3	91	0	0	0
A403	2	75.5	0	0	0
A407	1	43.9	6	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> )
A104	2	78.7	0	0	0
A202	2	77.7	0	0	0
A206	3	91	0	0	0
A303	2	75.5	0	0	0
A307	1	43.9	6	0	0
A404	1	49.9	0	0	0

### Residential flat buildings - Building B, 61 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> )
B001	1	51.4	0	0	0
B102	2	86.1	0	0	0
B106	1	67	0	0	0
B111	2	74.7	0	0	0
B204	2	76.6	0	0	0
B208	2	75.3	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> )
B002	3	87.4	0	0	0
B103	2	79.4	0	0	0
B107	2	75.3	0	0	0
B201	3	102.1	0	0	0
B205	1	49.9	0	0	0
B209	2	79.4	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> )
B003	1	62.3	0	0	0
B104	2	76.3	0	0	0
B108	2	79.4	0	0	0
B202	2	85.1	0	0	0
B206	1	67.6	0	0	0
B210	2	74.7	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> )
B101	3	104.1	0	0	0
B105	1	49.6	0	0	0
B110	2	77.7	0	0	0
B203	2	79.4	0	0	0
B207	1	52.6	0	0	0
B211	2	76.3	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> )
B301	3	102.1	0	0	0
B305	1	49.9	0	0	0
B309	2	79.4	0	0	0
B402	2	85.1	0	0	0
B406	1	67.6	0	0	0
B410	2	74.7	0	0	0
B503	2	79.4	0	0	0
B602	2	75.3	0	0	0
B701	1	51	3.6	0	0
B705	1	59.4	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> )
B302	2	85.1	0	0	0
B306	1	67.6	0	0	0
B310	2	74.7	0	0	0
B403	2	79.4	0	0	0
B407	1	52.6	0	0	0
B411	2	76.3	0	0	0
B504	3	88	0	0	0
B603	2	79.4	0	0	0
B702	2	75.3	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> )
B303	2	79.4	0	0	0
B307	1	52.6	0	0	0
B311	2	76.3	0	0	0
B404	2	76.6	0	0	0
B408	2	75.3	0	0	0
B501	1	51	3.6	0	0
B505	1	59.4	0	0	0
B604	3	88	0	0	0
B703	2	79.4	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> )
B304	2	76.6	0	0	0
B308	2	75.3	0	0	0
B401	3	102.1	0	0	0
B405	1	49.9	0	0	0
B409	2	79.4	0	0	0
B502	2	75.3	0	0	0
B601	1	51	0	0	0
B605	1	59.4	0	0	0
B704	3	88	0	0	0

### Residential flat buildings - Building C, 90 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> )
C101	1	90	0	0	0
C105	1	82.9	0	0	0
C109	2	72.6	0	0	0
C203	2	74.3	0	0	0
C207	2	74	0	0	0
C211	2	74.2	0	0	0
C301	1	52.4	0	0	0
C305	2	88.6	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> )
C102	1	56.7	0	0	0
C106	2	85.3	0	0	0
C110	2	79.6	0	0	0
C204	2	73.3	0	0	0
C208	2	74.3	0	0	0
C212	1	52.8	0	0	0
C302	2	73.2	0	0	0
C306	2	88	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> )
C103	2	75	0	0	0
C107	2	73	0	0	0
C201	1	52.4	0	0	0
C205	2	88.6	0	0	0
C209	2	75.3	0	0	0
C213	1	50.1	0	0	0
C303	2	74.3	0	0	0
C307	2	74	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> )
C104	1	57.6	0	0	0
C108	1	48.9	0	0	0
C202	2	73.2	0	0	0
C206	2	88	0	0	0
C210	2	81.2	0	0	0
C214	2	73	0	0	0
C304	2	73.3	0	0	0
C308	2	74.3	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
C309	2	75.3	0	0	0
C313	1	50.1	0	0	0
C403	2	74.3	0	0	0
C407	2	75.1	0	0	0
C411	2	74.2	0	0	0
C501	1	52.4	0	0	0
C505	2	88.6	0	0	0
C509	2	75.3	0	0	0
C513	1	50.1	0	0	0
C603	2	73.3	0	0	0
C607	2	74.3	0	0	0
C611	1	52.8	0	0	0
C702	2	74.3	0	0	0
C706	1	49.4	0	0	0
C804	2	81.2	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
C310	2	81.2	0	0	0
C314	2	73	0	0	0
C404	2	73.3	0	0	0
C408	2	74.3	0	0	0
C412	2	72.4	0	0	0
C502	2	73.2	0	0	0
C506	2	88	0	0	0
C510	2	81.2	0	0	0
C514	2	73	0	0	0
C604	2	88.6	0	0	0
C608	2	75.3	0	0	0
C612	1	50.1	0	0	0
C703	2	75.3	0	0	0
C801	3	102.9	0	0	0
C805	3	108.4	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
C311	2	74.2	0	0	0
C401	1	52.4	0	0	0
C405	1	49.5	0	0	0
C409	2	75.3	0	0	0
C413	2	72.4	0	0	0
C503	2	74.3	0	0	0
C507	2	74	0	0	0
C511	2	74.2	0	0	0
C601	2	73.2	0	0	0
C605	2	88	0	0	0
C609	2	81.2	0	0	0
C613	2	73	0	0	0
C704	2	81.2	0	0	0
C802	2	74.3	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
C312	1	52.8	0	0	0
C402	2	73.2	0	0	0
C406	1	49.5	0	0	0
C410	2	81.2	0	0	0
C414	2	73	0	0	0
C504	2	73.3	0	0	0
C508	2	74.3	0	0	0
C512	1	52.8	0	0	0
C602	2	74.3	0	0	0
C606	2	74	0	0	0
C610	2	74.2	0	0	0
C701	3	96.8	0	0	0
C705	2	74.2	0	0	0
C803	2	75.3	0	0	0

## Description of project

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

### Common areas of unit building - Building A

Common area	Floor area (m <sup>2</sup> )
Undercover car park area B1 A&B	1804
Garbage room A	26.5

Common area	Floor area (m <sup>2</sup> )
Main Switch room B1 A&B	23
Ground floor lobby type A	81

Common area	Floor area (m <sup>2</sup> )
Garbage room B1 A&B	141.5
Hallway/lobby type A	156

### Common areas of unit building - Building B

Common area	Floor area (m <sup>2</sup> )
Undercover car park area B2 A&B	2590
Fire Pump Room B1 A&B	35
Ground floor lobby type B	81.3

Common area	Floor area (m <sup>2</sup> )
Garbage room B	69
Main Comms Room A&B	16
Hallway/lobby type B	488.5

Common area	Floor area (m <sup>2</sup> )
Cold Water Booster Pumpset B1 A&B	10.4
Store A&B	56

### Common areas of unit building - Building C

Common area	Floor area (m <sup>2</sup> )
Lift bank (No. 1)	-
Undercover car park area B1 C	1115.43
Undercover car park area B4 C	1520
Garbage room C	60
Plant room C	330
SP Fan Room C	23.4
Ground floor lobby type C	126

Common area	Floor area (m <sup>2</sup> )
Lift bank (No. 2)	-
Undercover car park area B2 C	1525
Main Switch room B1 C	15.6
Cold Water Booster Pumpset B1 C	26.85
Service room C	77
Condenser Plant Room	54
Hallway/lobby type C	590

Common area	Floor area (m <sup>2</sup> )
Lift bank (No. 3)	-
Undercover car park area B3 C	1525.00
Garbage room B1 C	95
Fire Pump Room B1 C	40
Main Comms Room C	10.5
Store C	32

# Schedule of BASIX commitments

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

### (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 B

### (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 C

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

(b) Common areas and central systems/facilities

(i) Water

(ii) Energy



## Schedule of BASIX commitments

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

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

#### (a) 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
floors above habitable rooms, frame: suspended concrete slab	60000	-	30% cement substitute
suspended floor above garage, frame: suspended concrete slab	30000	fibreglass batts or roll	30% cement substitute
garage floor, frame: concrete slab on ground	30000	-	30% cement substitute

#### External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	AAC veneer, frame: light steel frame	10000	30% cement substitute	fibreglass batts or roll

Internal wall types			
Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	200000	-

Reinforcement concrete frames/columns		
Building has reinforced concrete frame/columns?	Volume (m³)	Low emissions option
-	-	-

Ceiling and roof types			
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	724.5	foil/sarking	fibreglass batts or roll

Glazing types			Frame types				
Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
-	2000	-	2000	-	-	-	-






**(b) Dwellings**

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 4.5 but ≤ 6 L/min)	4 star	3 star	3 star	-	not specified	3 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	-	-	-	-	-	-	-
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:			

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	Central hot water system (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 / 3.5 star (average zone)	1-phase airconditioning - ducted / 3.5 star (average zone)	1-phase airconditioning - ducted / 3.5 star (average zone)	1-phase airconditioning - ducted / 3.5 star (average zone)	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	not specified	3.5 star	no	no

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

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m²/yr)	Area adjusted cooling load (in MJ/m²/yr)	Area adjusted total load (in MJ/m²/yr)
A101	43	30.9	73.900
A102	45.2	14.3	59.500
A103	30.7	13.7	44.400
A104	54.8	14.7	69.500

	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)
A105	62.9	13.1	76.000
A106	56.1	16.4	72.500
A201	30.5	40.9	71.400
A202	29.5	19.9	49.400
A203	11.4	18.5	29.900
A204	21.4	20	41.400
A205	37.8	35.1	72.900
A306	51	27.5	78.500
A307	23	40	63.000
A401	41.5	36.3	77.800
A402	36.5	29.4	65.900
A403	33.2	37.3	70.500
A404	29.9	40.7	70.600
A405	41.8	36.1	77.900
A406	50	28.5	78.500
A407	26.5	49.3	75.800
All other dwellings	25	25	50.000

**(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	no common facility	no common facility	no common facility	no common laundry facility

<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
Undercover car park area B1 A&B	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
Main Switch room B1 A&B	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
Garbage room B1 A&B	ventilation exhaust only	-	light-emitting diode	manual on / manual off	no
Garbage room A	ventilation exhaust only	-	light-emitting diode	manual on / manual off	no
Ground floor lobby type A	ventilation (supply + exhaust)	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	no
Hallway/lobby type A	ventilation (supply + exhaust)	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	no

Central energy systems	Type	Specification
Lift bank (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 4 number of levels from the bottom of the lift shaft to the top of the lift shaft: 6 number of lifts: 1 lift load capacity: <1001 kg
Central hot water system (No. 1)	gas instantaneous	Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.75 (~32 mm); (b) Piping internal to building: R0.75 (~32 mm)

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

### (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
floors above habitable rooms, frame: suspended concrete slab	60000	-	30% cement substitute
suspended floor above garage, frame: suspended concrete slab	30000	fibreglass batts or roll	30% cement substitute
garage floor, frame: concrete slab on ground	30000	-	30% cement substitute

#### External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	AAC veneer,frame:light steel frame	10000	30% cement substitute	fibreglass batts or roll

#### Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	200000	-

Reinforcement concrete frames/columns		
Building has reinforced concrete frame/columns?	Volume (m³)	Low emissions option
-	-	-

Ceiling and roof types			
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	1271.5	foil/sarking	fibreglass batts or roll

Glazing types			Frame types				
Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
-	2000	-	2000	-	-	-	-






**(b) Dwellings**

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 4.5 but <= 6 L/min)	4 star	3 star	3 star	-	not specified	3 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	-	-	-	-	-	-	-
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:			

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	Central hot water system (No. 2)	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 / 3.5 star (average zone)	1-phase airconditioning - ducted / 3.5 star (average zone)	1-phase airconditioning - ducted / 3.5 star (average zone)	1-phase airconditioning - ducted / 3.5 star (average zone)	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	not specified	3.5 star	no	no

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

Thermal loads			
Dwelling no.	Area adjusted heating load (in MJ/m²/yr)	Area adjusted cooling load (in MJ/m²/yr)	Area adjusted total load (in MJ/m²/yr)
B001	48.9	15	63.900
B002	54.2	20.1	74.300
B003	49.2	13.9	63.100
B101	37.4	36.4	73.800

	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)
B102	19.6	31.8	51.400
B103	43.2	13.8	57.000
B104	19.4	16.2	35.600
B105	22.2	22.4	44.600
B106	40.2	18.7	58.900
B107	41.9	24	65.900
B108	47.6	18.8	66.400
B110	22.4	41.8	64.200
B111	26	49.3	75.300
B201	29.6	32.7	62.300
B202	13	32.6	45.600
B203	20.3	17.5	37.800
B204	12.3	18.7	31.000
B205	15.9	26.4	42.300
B206	25.4	25.6	51.000
B207	33.2	14.2	47.400
B208	41.3	21.8	63.100
B209	49.1	19	68.100
B210	22.4	46	68.400
B211	25.6	39.6	65.200
B301	31.5	30	61.500
B302	13.9	31.8	45.700
B303	21.3	17.1	38.400
B304	13.1	18.9	32.000
B305	16.9	25.4	42.300
B307	34.3	13.5	47.800
B309	50.4	19.1	69.500
B310	23.2	45.7	68.900
B311	26.7	38.8	65.500
B401	44.7	34	78.700
B402	36.5	38.6	75.100



	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)
B403	45	33.4	78.400
B404	31.7	42.3	74.000
B405	23.4	42.5	65.900
B407	35.2	13.6	48.800
B409	51.5	19.2	70.700
B410	24	45.1	69.100
B411	27.5	37.6	65.100
B501	37.2	18.9	56.100
B502	47.9	17.6	65.500
B503	55.9	18	73.900
B504	26.7	45.7	72.400
B505	25	25	50.000
B601	37.5	18.9	56.400
B602	48.7	17.2	65.900
B603	56.7	17.8	74.500
B604	27.3	45	72.300
B605	38.6	33.3	71.900
B701	43.8	23.6	67.400
B702	51.3	27.1	78.400
B703	58.3	20.1	78.400
B704	29.2	49.5	78.700
B705	22	50.4	72.400
B306, B406	39.4	38.6	78.000
All other dwellings	42.5	21.1	63.600

**(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	no common facility	no common facility	no common facility	no common laundry facility

<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
Undercover car park area B2 A&B	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
Garbage room B	ventilation exhaust only	-	light-emitting diode	manual on / manual off	no
Cold Water Booster Pumpset B1 A&B	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
Fire Pump Room B1 A&B	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
Main Comms Room A&B	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
Store A&B	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
Ground floor lobby type B	ventilation (supply + exhaust)	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	no
Hallway/lobby type B	ventilation (supply + exhaust)	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	no

Central energy systems	Type	Specification
Lift bank (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 8 number of levels from the bottom of the lift shaft to the top of the lift shaft: 9 number of lifts: 2 lift load capacity: <1001 kg
Central hot water system (No. 2)	gas instantaneous	Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.75 (~32 mm); (b) Piping internal to building: R0.75 (~32 mm)

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

#### (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
floors above habitable rooms, frame: suspended concrete slab	60000	-	30% cement substitute
suspended floor above garage, frame: suspended concrete slab	30000	fibreglass batts or roll	30% cement substitute
garage floor, frame: concrete slab on ground	30000	-	30% cement substitute

#### External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	AAC veneer,frame:light steel frame	10000	30% cement substitute	fibreglass batts or roll

#### Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	200000	-

Reinforcement concrete frames/columns		
Building has reinforced concrete frame/columns?	Volume (m³)	Low emissions option
-	-	-

Ceiling and roof types			
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	804	foil/sarking	fibreglass batts or roll

Glazing types			Frame types				
Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
-	2000	-	2000	-	-	-	-






**(b) Dwellings**

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 4.5 but <= 6 L/min)	4 star	3 star	3 star	-	not specified	3 star	-	-	-	-	-	-	-

Dwelling no.	Alternative water source							
	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	-	-	-	-	-	-	-
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:			

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	Central hot water system (No. 3)	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 / 3.5 star (average zone)	1-phase airconditioning - ducted / 3.5 star (average zone)	1-phase airconditioning - ducted / 3.5 star (average zone)	1-phase airconditioning - ducted / 3.5 star (average zone)	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	not specified	3.5 star	no	no



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

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/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)
C101	22.7	46	68.700
C102	31.7	33	64.700
C103	61.2	9.6	70.800
C104	43.7	20.5	64.200

	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)
C105	48.5	4.5	53.000
C106	59.2	16.1	75.300
C107	45.2	32	77.200
C108	35.8	17.4	53.200
C109	29	49.5	78.500
C110	51.6	15.5	67.100
C201	10	44.1	54.100
C202	32.3	45.7	78.000
C203	14.7	18.5	33.200
C205	13.3	15.3	28.600
C206	12.7	15.5	28.200
C207	18.4	14.5	32.900
C208	13	19.8	32.800
C209	34.6	35.8	70.400
C210	43.5	25.3	68.800
C211	41.7	25.1	66.800
C212	40.5	27	67.500
C213	47.3	21.8	69.100
C214	24	34.5	58.500
C301	24.7	47.1	71.800
C302	33.4	45	78.400
C303	12.3	19.7	32.000
C305	11.9	18.1	30.000
C306	10.9	18.4	29.300
C307	19.4	13.6	33.000
C308	10.5	21.3	31.800
C309	31.9	40.4	72.300
C310	44.8	24.9	69.700
C311	43.1	23.9	67.000
C312	42.7	26.5	69.200
C313	46.7	21.3	68.000

	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)
C314	24.8	33.8	58.600
C401	25.5	46	71.500
C402	13.5	42.9	56.400
C403	13	20.1	33.100
C404	18.8	14.2	33.000
C405	9.8	29.7	39.500
C406	8.6	24.7	33.300
C407	19.4	12.8	32.200
C408	11.3	21.3	32.600
C409	33.2	39.7	72.900
C410	45.8	23.8	69.600
C411	44.1	23.4	67.500
C412	34.5	25.9	60.400
C413	34.7	21.2	55.900
C414	25.5	33.1	58.600
C501	28.4	46.8	75.200
C502	16.9	38.5	55.400
C503	17.1	18.3	35.400
C504	23.1	13	36.100
C505	15.4	16.2	31.600
C506	13.9	16.7	30.600
C507	24.5	13	37.500
C508	15.5	19.8	35.300
C509	39.4	35.3	74.700
C510	50.2	20.9	71.100
C511	48.7	19.9	68.600
C512	48.7	19.6	68.300
C513	53	18.6	71.600
C514	28.5	27.2	55.700
C601	34.6	44	78.600
C602	35.4	25.8	61.200

	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)
C603	47.7	17.8	65.500
C604	35.7	26	61.700
C605	24.9	21.4	46.300
C606	26	10.6	36.600
C607	16.6	17.8	34.400
C608	40.3	35.1	75.400
C609	51	20.6	71.600
C611	48.7	19.3	68.000
C612	53.1	21.7	74.800
C613	43.9	29.4	73.300
C701	35.6	14.7	50.300
C702	17.1	17.4	34.500
C703	41.1	35	76.100
C704	51.5	20.8	72.300
C706	42	21.5	63.500
C801	32.3	45.2	77.500
C802	21.8	33.4	55.200
C803	49.5	27.9	77.400
C804	52.5	25.4	77.900
C805	42	34.3	76.300
C204, C304	17.7	14.5	32.200
All other dwellings	49.5	19.8	69.300

**(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	no common facility	no common facility	no common facility	no common laundry facility

<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
Lift bank (No. 1)	-	-	light-emitting diode	connected to lift call button	no
Lift bank (No. 2)	-	-	light-emitting diode	connected to lift call button	no
Lift bank (No. 3)	-	-	light-emitting diode	connected to lift call button	no
Undercover car park area B1 C	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
Undercover car park area B2 C	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
Undercover car park area B3 C	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
Undercover car park area B4 C	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
Main Switch room B1 C	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
Garbage room B1 C	ventilation exhaust only	-	light-emitting diode	manual on / manual off	no
Garbage room C	ventilation exhaust only	-	light-emitting diode	manual on / manual off	no
Cold Water Booster Pumpset B1 C	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
Fire Pump Room B1 C	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
Plant room C	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
Service room C	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
Main Comms Room C	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
SP Fan Room C	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	no
Condenser Plant Room	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
Store C	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
Ground floor lobby type C	ventilation (supply + exhaust)	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	no
Hallway/lobby type C	ventilation (supply + exhaust)	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	no

Central energy systems	Type	Specification
Lift bank (No. 3)	gearless traction with V V V F motor	Number of levels (including basement): 8 number of levels from the bottom of the lift shaft to the top of the lift shaft: 12 number of lifts: 3 lift load capacity: <1001 kg
Central hot water system (No. 3)	gas instantaneous	Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.75 (~32 mm); (b) Piping internal to building: R0.75 (~32 mm)

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

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

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

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



Central energy systems	Type	Specification
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 25 peak kW
Other	-	-

## 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).