BASIX™ Certificate

Building Sustainability Index
www.planningportal.nsw.gov.au/development-and-assessment/basix

Multi Dwelling

Certificate number: 1837970M_02

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

Secretary
Date of issue: Friday, 27 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 0012862940.

Project summary	
Project name	Block 20A Edmondson Park_02
Street address	BUCHAN AVENUE EDMONDSON PARK 2174
Local Government Area	LIVERPOOL
Plan type and plan number	Deposited Plan DP1286151
Lot no.	40
Section no.	-
No. of residential flat buildings	2
Residential flat buildings: no. of dwellings	168
Multi-dwelling housing: no. of dwellings	4
No. of single dwelling houses	0

Project score			
Water	✔	50	Target 40
Thermal Performance	✔	Pass	Target Pass
Energy	✔	69	Target 58
Materials	✔	-100	Target n/a

Water score comprises

- Hoxton Park (proposed) reticulated alternative water: 11.1
- Other water efficiency commitments: 38.9

Certificate Prepared by
Name / Company Name: NORTHROP CONSULTING ENGINEERS PTY LIMITED
ABN (if applicable): 81094433100

Description of project

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Site details	
Site area (m²)	3706
Roof area (m²)	1446
Non-residential floor area (m²)	164
Residential car spaces	58
Non-residential car spaces	5

Common area landscape	
Common area lawn (m²)	572
Common area garden (m²)	323
Area of indigenous or low water use species (m²)	0

Assessor details and thermal loads	
Assessor number	20579
Certificate number	0012862940
Climate zone	28

Project score			
Water	✔	50	Target 40
Thermal Performance	✔	Pass	Target Pass
Energy	✔	69	Target 58
Materials	✔	-100	Target n/a

Water score comprises

- Hoxton Park (proposed) reticulated alternative water: 11.1
- Other water efficiency commitments: 38.9

Description of project

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

Residential flat buildings - A, 123 dwellings, 15 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
A1001	2	73.3	0	0	0
A1005	1	55.1	0	0	0
A1009	2	70.3	0	0	0
A104	3	90.3	0	0	0
A1104	2	73.7	0	0	0
A1108	2	70.2	0	0	0
A1203	3	96.5	0	0	0
A1207	1	55.1	0	0	0
A1302	2	73.5	0	0	0
A1306	1	55.1	0	0	0
A1401	2	73.3	0	0	0
A1405	1	55.1	0	0	0
A1409	2	70.3	0	0	0
A204	2	73.7	0	0	0
A208	2	70.7	0	0	0
A304	2	73.7	0	0	0
A308	2	70.2	0	0	0
A403	3	96.5	0	0	0
A407	1	55.1	0	0	0
A502	2	73.5	0	0	0
A506	1	55.1	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)
A1002	2	73.5	0	0	0
A1006	1	55.1	0	0	0
A101	2	73.3	0	0	0
A1101	2	73.3	0	0	0
A1105	1	55.1	0	0	0
A1109	2	70.3	0	0	0
A1204	2	73.7	0	0	0
A1208	2	70.2	0	0	0
A1303	3	96.5	0	0	0
A1307	1	55.1	0	0	0
A1402	2	73.5	0	0	0
A1406	1	55.1	0	0	0
A201	2	73.3	0	0	0
A205	1	55.1	0	0	0
A301	2	73.3	0	0	0
A305	1	55.1	0	0	0
A309	2	70.3	0	0	0
A404	2	73.7	0	0	0
A408	2	70.2	0	0	0
A503	3	96.5	0	0	0
A507	1	55.1	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)
A1003	3	96.5	0	0	0
A1007	1	55.1	0	0	0
A102	3	90.9	0	0	0
A1102	2	73.5	0	0	0
A1106	1	55.1	0	0	0
A1201	2	73.3	0	0	0
A1205	1	55.1	0	0	0
A1209	2	70.3	0	0	0
A1304	2	73.7	0	0	0
A1308	2	70.2	0	0	0
A1403	3	96.5	0	0	0
A1407	1	55.1	0	0	0
A202	2	73.5	0	0	0
A206	1	55.1	0	0	0
A302	2	73.5	0	0	0
A306	1	55.1	0	0	0
A401	2	73.3	0	0	0
A405	1	55.1	0	0	0
A409	2	70.3	0	0	0
A504	2	73.7	0	0	0
A508	2	70.2	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)
A1004	2	73.7	0	0	0
A1008	2	70.2	0	0	0
A103	2	83.2	0	0	0
A1103	3	96.5	0	0	0
A1107	1	55.1	0	0	0
A1202	2	73.5	0	0	0
A1206	1	55.1	0	0	0
A1301	2	73.3	0	0	0
A1305	1	55.1	0	0	0
A1309	2	70.3	0	0	0
A1404	2	73.7	0	0	0
A1408	2	70.2	0	0	0
A203	3	96.5	0	0	0
A207	2	70.7	0	0	0
A303	3	96.5	0	0	0
A307	1	55.1	0	0	0
A402	2	73.5	0	0	0
A406	1	55.1	0	0	0
A501	2	73.3	0	0	0
A505	1	55.1	0	0	0
A509	2	70.3	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)
A601	2	73.3	0	0	0
A605	1	55.1	0	0	0
A609	2	70.3	0	0	0
A704	2	73.7	0	0	0
A708	2	70.2	0	0	0
A803	3	96.5	0	0	0
A807	1	55.1	0	0	0
A902	2	73.5	0	0	0
A906	1	55.1	0	0	0
AG01	1	60.6	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)
A602	2	73.5	0	0	0
A606	1	55.1	0	0	0
A701	2	73.3	0	0	0
A705	1	55.1	0	0	0
A709	2	70.3	0	0	0
A804	2	73.7	0	0	0
A808	2	70.2	0	0	0
A903	3	96.5	0	0	0
A907	1	55.1	0	0	0
AG02	1	60.6	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)
A603	3	96.5	0	0	0
A607	1	55.1	0	0	0
A702	2	73.5	0	0	0
A706	1	55.1	0	0	0
A801	2	73.3	0	0	0
A805	1	55.1	0	0	0
A809	2	70.3	0	0	0
A904	2	73.7	0	0	0
A908	2	70.2	0	0	0
AG03	2	73.7	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)
A604	2	73.7	0	0	0
A608	2	70.2	0	0	0
A703	3	96.5	0	0	0
A707	1	55.1	0	0	0
A802	2	73.5	0	0	0
A806	1	55.1	0	0	0
A901	2	73.3	0	0	0
A905	1	55.1	0	0	0
A909	2	70.3	0	0	0

Residential flat buildings - B, 45 dwellings, 9 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
B101	2	73.9	0	0	0
B105	1	50.5	0	0	0
B203	1	55.8	0	0	0
B302	1	55.6	0	0	0
B401	2	74.6	0	0	0
B405	2	74.2	0	0	0
B504	1	55.6	0	0	0
B603	1	55.6	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)
B102	1	53.7	0	0	0
B106	3	95.2	0	0	0
B204	1	55.8	0	0	0
B303	1	55.6	0	0	0
B402	1	55.6	0	0	0
B501	2	74.6	0	0	0
B505	2	74.2	0	0	0
B604	1	55.6	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)
B103	1	53.7	0	0	0
B201	2	74.6	0	0	0
B205	2	73.7	0	0	0
B304	1	55.6	0	0	0
B403	1	55.6	0	0	0
B502	1	55.6	0	0	0
B601	2	74.6	0	0	0
B605	2	74.2	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)
B104	1	53.7	0	0	0
B202	1	55.8	0	0	0
B301	2	74.6	0	0	0
B305	2	74.2	0	0	0
B404	1	55.6	0	0	0
B503	1	55.6	0	0	0
B602	1	55.6	0	0	0
B701	2	74.6	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)
B702	1	55.6	0	0	0
B801	2	74.6	0	0	0
B805	2	74.2	0	0	0
BG04	1	50.5	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)
B703	1	55.6	0	0	0
B802	1	55.6	0	0	0
BG01	1	53.7	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)
B704	1	55.6	0	0	0
B803	1	55.6	0	0	0
BG02	1	53.7	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)
B705	2	74.2	0	0	0
B804	1	55.6	0	0	0
BG03	1	53.8	0	0	0

Multi-dwelling houses

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
TH01	3	112.4	0	8	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
TH02	3	121.3	0	7	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
TH03	3	103.2	0	7	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
TH04	3	115.4	0	8	0

Description of project

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

Common areas of unit building - A

Common area	Floor area (m²)	Common area	Floor area (m²)	Common area	Floor area (m²)
Corridors Building A	975	GF-L14 Stairs	373	GF Lobby	99

Common areas of unit building - B

Common area	Floor area (m²)	Common area	Floor area (m²)	Common area	Floor area (m²)
Corridors Building B	210	GF-L8 Stairs	231	GF Lobby	52
Lift bank (No. 1)	-	Lift bank (No. 2)	-		

Common areas of the development (non-building specific)

Common area	Floor area (m²)	Common area	Floor area (m²)	Common area	Floor area (m²)
B01 Carpark	2113	B01 Services	12	B01 Stairs	37
GF Bulky Waste	38	GF Carpark	173	GF Fan Room	19
GF Fire Control	19	GF Fire Pump	39	GF Resi Waste	101
L1 Comms	16	L1 Fire Tank	170	L1 Non-Potable Pump	19
L1 Potable Pump	36	B01 Switch Room	33	L2 Communal Area	39
L2 Communal WC	5				

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - 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 - 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 multi-dwelling housing
    - (a) Dwellings
        - (i) Water
        - (ii) Energy
        - (iii) Thermal Performance and Materials

4. 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 carriedout. 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 - 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	9816	-	-
suspended floor above enclosed subfloor, frame: suspended concrete slab	195	-	-

External wall types				
External wall type	**Construction type**	**Area (m2)**	**Low emissions option**	**Insulation**
External wall type 1	framed (fibre cement sheet or boards),frame:light steel frame	3178	-	-
External wall type 2	concrete block/ plasterboard,frame:light steel frame	2393	-	-
External wall type 3	concrete block/ plasterboard,frame:no frame	1837	-	-

Internal wall types			
Internal wall type	**Construction type**	**Area (m2)**	**Insulation**
Internal wall type 1	plasterboard, frame:light steel frame	6085	-

Reinforcement concrete frames/columns		
Building has reinforced concrete frame/columns?	**Volume (m^3)**	**Low emissions option**
no	-	-

Ceiling and roof types			
Ceiling and roof type	**Area (m^2)**	**Roof Insulation**	**Ceiling Insulation**
concrete - plasterboard internal, frame: light steel frame	623	-	-

Glazing types			Frame types				
Single glazing (m^2)	**Double glazing (m^2)**	**Triple glazing (m^2)**	**Aluminium frames (m^2)**	**Timber frames (m^2)**	**uPVC frames (m^2)**	**Steel frames (m^2)**	**Composite frames (m^2)**
-	3132	-	3132	-	-	-	-

(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 (> 6 but <= 7.5 L/min)	4 star	5 star	5 star	-	not specified	not specified	-	-	-	-	-	-	-

	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	Reticulated alternative water supply	-	-	-	yes	no	-	-

(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	interlocked to light with timer off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	interlocked to light

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	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	-	-	-	-	-	electric cooktop & electric oven	not specified	2.5 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)
A1001	32.1	9	41.100
A1002	41.9	6	47.900
A1003	39.1	25.6	64.700
A1004	17.30	18.1	35.400

	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)
A1005	12.3	16.8	29.100
A1006	25.8	9.5	35.300
A1007	12.8	31.7	44.500
A1008	19.6	12.1	31.700
A1009	37.7	16.5	54.200
A101	22.30	16.7	39.000
A102	31.2	14.1	45.300
A103	9.7	25.4	35.100
A104	27.9	10.7	38.600
A1101	34.7	11.8	46.500
A1102	44.00	8.3	52.300
A1103	37.7	28.3	66.000
A1104	15.6	13.4	29.000
A1105	15.2	12.3	27.500
A1106	21.9	14	35.900
A1107	16.40	37	53.400
A1108	16.2	12.3	28.500
A1109	34.7	11.7	46.400
A1201	34.9	11.9	46.800
A1202	44.1	8.1	52.200
A1203	37.8	28.8	66.600
A1204	15.8	13.4	29.200
A1205	15.30	12.1	27.400
A1206	22.1	14.1	36.200
A1207	16.60	36.5	53.100
A1208	16.30	12	28.300
A1209	34.8	11.6	46.400
A1301	32.8	8.7	41.500
A1302	42.5	5.7	48.200
A1303	39.8	25.2	65.000
A1304	17.8	18.4	36.200

	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)
A1305	12.9	16.7	29.600
A1306	26.50	9.3	35.800
A1307	13.30	31.8	45.100
A1308	20.2	11.9	32.100
A1309	38.30	16.4	54.700
A1401	44.1	6.5	50.600
A1402	54.00	4.4	58.400
A1403	47	20.3	67.300
A1404	22.2	15.1	37.300
A1405	21.2	13	34.200
A1406	36.9	7.1	44.000
A1407	19	26.1	45.100
A1408	28.8	8.9	37.700
A1409	47.30	12.5	59.800
A201	21.4	17.1	38.500
A202	30.9	10.1	41.000
A203	27.8	41.6	69.400
A204	8.9	34.1	43.000
A205	8.60	29.4	38.000
A206	35.9	17.2	53.100
A207	25.6	21.7	47.300
A208	50.7	27.9	78.600
A301	24.00	21.1	45.100
A302	33.1	14.4	47.500
A303	27.6	48	75.600
A304	7.50	25.6	33.100
A305	10.6	26.5	37.100
A306	24.6	21.1	45.700
A307	35.7	40.3	76.000
A308	28.1	24.4	52.500
A309	27.20	21.4	48.600

	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)
A401	32.50	12.5	45.000
A402	41.7	8.8	50.500
A403	36.30	28.9	65.200
A404	14.20	13.8	28.000
A405	17.6	12.1	29.700
A406	33.7	13.2	46.900
A407	38.6	32.9	71.500
A408	33.6	11.7	45.300
A409	33.6	11.9	45.500
A501	30.7	9	39.700
A502	40.4	6.2	46.600
A503	37.7	25.7	63.400
A504	16.50	19.1	35.600
A505	14.8	16.7	31.500
A506	35.9	8.5	44.400
A507	29.2	28.2	57.400
A508	28.5	12	40.500
A509	36.7	17	53.700
A601	31.10	8.9	40.000
A602	40.8	6.2	47.000
A603	38.1	25.7	63.800
A604	16.8	18.7	35.500
A605	14.6	16.7	31.300
A606	33.5	8.9	42.400
A607	24.9	27.8	52.700
A608	24.7	11.8	36.500
A609	36.9	16.7	53.600
A701	33.7	12.1	45.800
A702	42.8	8.8	51.600
A703	36.9	28.5	65.400
A704	14.9	13.8	28.700

	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)
A705	16.6	12.3	28.900
A706	25.6	13.6	39.200
A707	24.00	33.4	57.400
A708	18.7	11.8	30.500
A709	33.9	11.8	45.700
A801	34.00	12	46.000
A802	43.1	8.7	51.800
A803	37.2	28.7	65.900
A804	15	13.8	28.800
A805	14.8	12.1	26.900
A806	21.7	13.9	35.600
A807	19.5	34	53.500
A808	16.20	12.1	28.300
A809	34.00	11.9	45.900
A901	31.8	9	40.800
A902	41.6	5.9	47.500
A903	38.80	25.4	64.200
A904	17.20	18.1	35.300
A905	12.00	16.9	28.900
A906	25.50	9.3	34.800
A907	16.30	27.8	44.100
A908	19.40	12.1	31.500
A909	37.40	16.7	54.100
AG01	40.50	16.2	56.700
AG02	44.20	11.3	55.500
All other dwellings	12.6	12.9	25.500

(c) 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	4 star	5 star	no common laundry facility

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

	Common area ventilation system		Common area lighting		
Common area	**Ventilation system type**	**Ventilation efficiency measure**	**Primary type of artificial lighting**	**Lighting efficiency measure**	**Lighting control system/ BMS**
Corridors Building A	ventilation supply only	none i.e., continuous	light-emitting diode	time clock and motion sensors	no
GF-L14 Stairs	no mechanical ventilation	-	light-emitting diode	motion sensors	no
GF Lobby	air conditioning system	time clock or BMS controlled	light-emitting diode	motion sensors	no

Central energy systems	Type	Specification
Lift bank (No. 1)	permanent magnet synchronous motor (PMSM) and regenerative drive	Number of levels with apartments served by a lift: 15 number of levels from the bottom of the lift shaft to the top of the lift shaft: 16 number of lifts: 2 lift load capacity: >= 1001 kg but <= 1500kg
Central hot water system (No. 1)	electric heat pump – air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: R1.0 (~38 mm); (b) Piping internal to building: R1.0 (~38 mm) (c) Unit Efficiency: 3.5 < COP <= 4.0

2. Commitments for Residential flat buildings - 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	3082	-	-
suspended floor above enclosed subfloor, frame: suspended concrete slab	212	-	-

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	framed (metal clad),frame:light steel frame	1612	-	-
External wall type 2	concrete block/ plasterboard,frame:light steel frame	490	-	-
External wall type 3	concrete block/ plasterboard,frame:no frame	155	-	-

Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	1786	-

Reinforcement concrete frames/columns		
Building has reinforced concrete frame/columns?	Volume (m^3)	Low emissions option
no	-	-

Ceiling and roof types			
Ceiling and roof type	Area (m^2)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	316	-	-

Glazing types			Frame types				
Single glazing (m^2)	Double glazing (m^2)	Triple glazing (m^2)	Aluminium frames (m^2)	Timber frames (m^2)	uPVC frames (m^2)	Steel frames (m^2)	Composite frames (m^2)
-	1150	-	1150	-	-	-	-

(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 (> 6 but <= 7.5 L/min)	4 star	5 star	5 star	-	not specified	not specified	-	-	-	-	-	-	-

	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	Reticulated alternative water supply	-	-	-	yes	no	-	-

(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. 2)	individual fan, ducted to façade or roof	interlocked to light with timer off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	interlocked to light

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	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	-	-	-	-	-	electric cooktop & electric oven	not specified	2.5 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)
B101	18.30	37.2	55.500
B102	41.5	32.4	73.900
B103	13.6	33.9	47.500
B104	13.30	28.6	41.900

	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)
B105	40.6	24.1	64.700
B106	31.1	9.7	40.800
B201	26.40	41.3	67.700
B202	47.5	25.4	72.900
B203	35.1	37.3	72.400
B204	29.9	28.6	58.500
B205	47.7	12.6	60.300
B301	25.6	41.2	66.800
B302	46.3	26	72.300
B303	34.9	36.6	71.500
B304	29.5	27.7	57.200
B305	44.40	12.5	56.900
B401	36.30	25.7	62.000
B402	55.6	20.4	76.000
B403	45.30	28.4	73.700
B404	39.9	20.3	60.200
B405	54.1	8.5	62.600
B501	36.8	25.5	62.300
B502	55.60	20.7	76.300
B503	45.5	28.5	74.000
B504	39.8	20.8	60.600
B505	54.2	8.7	62.900
B601	37.30	25.4	62.700
B602	55.8	20.6	76.400
B603	45.6	29.5	75.100
B604	38.4	22	60.400
B605	54.00	9.4	63.400
B701	37.50	25.4	62.900
B702	56	20.5	76.500
B703	45.8	30.4	76.200
B704	38.30	22.8	61.100

	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)**
B705	53.9	9.5	63.400
B801	41.20	20.1	61.300
B802	56	20.6	76.600
B803	48.9	25.5	74.400
B804	42.40	19	61.400
B805	61.9	7.6	69.500
BG01	53.6	22.3	75.900
BG02	19	25.1	44.100
BG03	18.4	22	40.400
All other dwellings	53.9	9.9	63.800

(c) 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	4 star	5 star	no common laundry facility

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

	Common area ventilation system		Common area lighting		
Common area	**Ventilation system type**	**Ventilation efficiency measure**	**Primary type of artificial lighting**	**Lighting efficiency measure**	**Lighting control system/ BMS**
Corridors Building B	no mechanical ventilation	-	light-emitting diode	time clock and motion sensors	no
GF-L8 Stairs	no mechanical ventilation	-	light-emitting diode	motion sensors	no
GF Lobby	air conditioning system	time clock or BMS controlled	light-emitting diode	motion sensors	no
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

Central energy systems	Type	Specification
Lift bank (No. 2)	permanent magnet synchronous motor (PMSM) and regenerative drive	Number of levels with apartments served by a lift: 9 number of levels from the bottom of the lift shaft to the top of the lift shaft: 10 number of lifts: 2 lift load capacity: >= 1001 kg but <= 1500kg
Central hot water system (No. 2)	electric heat pump – air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: R1.0 (~38 mm); (b) Piping internal to building: R1.0 (~38 mm) (c) Unit Efficiency: 3.5 < COP <= 4.0

3. Commitments for multi-dwelling housing

(a) Dwellings

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

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

	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	Reticulated alternative water supply	-	-	-	yes	no	-	-

(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".		✔	
(j) The applicant must install the photovoltaic system specified for the dwelling under the “Photovoltaic system” heading of the “Alternative energy” column of the table below, and connect the system to that dwelling’s electrical system.	✔	✔	✔

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	Central hot water system (No. 3)	individual fan, ducted to façade or roof	interlocked to light with timer off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	interlocked to light

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	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	-	-	-	-	-	electric cooktop & electric oven	not specified	2.5 star	no	no

	Alternative energy		
Dwelling no.	**Photovoltaic system (min rated electrical output in peak kW)**	**Photovoltaic collector installation**	**Orientation inputs**
All dwellings	-	-	-

(iii) Thermal Performance and Materials	**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)
TH01	10.8	12.5	23.300
TH02	12.10	10	22.100
TH03	10.9	16.5	27.400
All other dwellings	10.7	24	34.700

	Construction of floors and walls				
Dwelling no.	Concrete slab on ground (m²)	Suspended floor with open subfloor (m²)	Suspended floor with enclosed subfloor (m²)	Suspended floor above garage (m²)	Primarily rammed earth or mudbrick walls
TH01	79.1	-	33.3	-	no
TH02	32.9	-	32.9	-	no
TH03	32.7	-	32.7	-	no
All other dwellings	51.1	-	51.1	-	no

	Floor types									
	Concrete slab on ground				Suspended floor above enclosed subfloor			Suspended floor above open subfloor		
Dwelling no.	Area (m²)	Insulation	Low emissions option	Dematerialisation	Construction type	Area (m²)	Insulation	Construction type	Area (m²)	Insulation
TH01	79.1	-	-	conventional slab	concrete - suspended	33.3	-	-	-	-
TH02	32.9	-	-	conventional slab	concrete - suspended	32.9	-	-	-	-
TH03	32.7	-	-	conventional slab	concrete - suspended	32.7	-	-	-	-
All other dwellings	51.1	-	-	conventional slab	concrete - suspended	51.1	-	-	-	-

	Floor types										
	First floor above habitable rooms or mezzanine			Suspended floor above garage			Garage floor				
Dwelling no.	Construction type	Area (m²)	Insulation	Construction type	Area (m²)	Insulation	Construction type	Area (m²)	Insulation	Low emissions option	Dematerialisation
TH01	concrete - suspended, frame: light steel frame	33.3	-	-	-	-	-	0	-	-	conventional slab
TH02	concrete - suspended, frame: light steel frame	88.4	-	-	-	-	-	0	-	-	conventional slab
TH03	concrete - suspended, frame: light steel frame	70.5	-	-	-	-	-	0	-	-	conventional slab
All other dwellings	concrete - suspended, frame: light steel frame	64.3	-	-	-	-	-	0	-	-	conventional slab

	External walls							
	External wall type 1				External wall type 2			
Dwelling no.	Wall type	Area (m²)	Insulation	Low emissions option	Wall type	Area (m²)	Insulation	Low emissions option
TH01	concrete block/ plasterboard	22.6	-	-	-	-	-	-
TH02	concrete block/ plasterboard	25.8	-	-	-	-	-	-
TH03	concrete block/ plasterboard	15.9	-	-	-	-	-	-
All other dwellings	concrete block/ plasterboard	41.5	-	-	-	-	-	-

	External walls							
	External wall type 3				External wall type 4			
Dwelling no.	Wall type	Area (m²)	Insulation	Low emissions option	Wall type	Area (m²)	Insulation	Low emissions option
All dwellings	-	-	-	-	-	-	-	-

	Internal walls								
	Internal walls shared with garage			Internal wall type 1			Internal wall type 2		
Dwelling no.	Wall type	Area (m²)	Insulation	Wall type	Area (m²)	Insulation	Wall type	Area (m²)	Insulation
TH01	-	-	-	plasterboard, frame: light steel frame	245.8	-	-	-	-
TH02	-	-	-	plasterboard, frame: light steel frame	110.4	-	-	-	-
TH03	-	-	-	plasterboard, frame: light steel frame	107.6	-	-	-	-
All other dwellings	-	-	-	plasterboard, frame: light steel frame	106.5	-	-	-	-

	Ceiling and roof								
	Flat ceiling / pitched roof			Raked ceiling / pitched or skillion roof			Flat ceiling / flat roof		
Dwelling no.	Construction type	Area (m²)	Insulation	Construction type	Area (m²)	Insulation	Construction type	Area (m²)	Insulation
TH01	-	-	Ceiling:,Roof:	-	-	Ceiling:,Roof:	concrete - plasterboard internal, frame: light steel frame	79.1	Ceiling:,Roof:
TH02	-	-	Ceiling:,Roof:	-	-	Ceiling:,Roof:	concrete - plasterboard internal, frame: light steel frame	88.4	Ceiling:,Roof:
TH03	-	-	Ceiling:,Roof:	-	-	Ceiling:,Roof:	concrete - plasterboard	70.5	Ceiling:,Roof:

	Ceiling and roof								
	Flat ceiling / pitched roof			Raked ceiling / pitched or skillion roof			Flat ceiling / flat roof		
Dwelling no.	Construction type	Area (m²)	Insulation	Construction type	Area (m²)	Insulation	Construction type	Area (m²)	Insulation
							internal, frame: light steel frame		
All other dwellings	-	-	Ceiling:,Roof:	-	-	Ceiling:,Roof:	concrete - plasterboard internal, frame: light steel frame	64.3	Ceiling:,Roof:

	Glazing type			Frame types				
Dwelling no.	Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
TH01	-	36.5	-	36.5	-	-	-	-
TH02	-	39.3	-	39.3	-	-	-	-
TH03	-	40.5	-	40.5	-	-	-	-
All other dwellings	-	44.2	-	44.2	-	-	-	-

4. 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:	2287	-	none
suspended floor above enclosed subfloor, frame: suspended concrete slab	395	-	-

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	framed (fibre cement sheet or boards),frame:light steel frame	49.77	-	-
External wall type 2	concrete block/ plasterboard,frame:no frame	1223.91	-	-

Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	570	-

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
concrete - plasterboard internal, frame: light steel frame	302	-	-

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)
-	161	-	161	-	-	-	-

(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	4 star	5 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	5000	To collect run-off from at least: - 250 square metres of roof area of buildings in the development	- irrigation of 500 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site
Fire sprinkler system (No. 1)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-
Reticulated alternative water supply	-	Installation of plumbing to make provision for connection to Hoxton Park (proposed) reticulated alternative water supply	- irrigation of 0 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✔	✔

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

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/ BMS
B01 Carpark	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
B01 Services	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
B01 Stairs	no mechanical ventilation	-	light-emitting diode	motion sensors	no
GF Bulky Waste	ventilation exhaust only	-	light-emitting diode	motion sensors	no
GF Carpark	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
GF Fan Room	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
GF Fire Control	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
GF Fire Pump	ventilation (supply + exhaust)	none i.e., continuous	light-emitting diode	manual on / manual off	no
GF Resi Waste	ventilation exhaust only	-	light-emitting diode	motion sensors	no
L1 Comms	air conditioning system	thermostatically controlled	light-emitting diode	motion sensors	no
L1 Fire Tank	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
L1 Non-Potable Pump	ventilation (supply + exhaust)	none i.e., continuous	light-emitting diode	manual on / manual off	no
L1 Potable Pump	ventilation (supply + exhaust)	none i.e., continuous	light-emitting diode	manual on / manual off	no
B01 Switch Room	ventilation exhaust only	none i.e., continuous	light-emitting diode	manual on / manual off	no
L2 Communal Area	air conditioning system	time clock or BMS controlled	light-emitting diode	manual on / timer off	no
L2 Communal WC	ventilation exhaust only	none i.e., continuous	light-emitting diode	motion sensors	no

Central energy systems	Type	Specification
Central hot water system (No. 3)	electric heat pump – air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: R1.0 (~38 mm); (b) Piping internal to building: R1.0 (~38 mm) (c) Unit Efficiency: 3.5 < COP <= 4.0
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 92 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).