

TELOPEA

Frasers Property Australia

BASIX Report

Stage 1A



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Document Control

Version	Description	Date	Author	Reviewed
00	BASIX report for DA submission	18.11.2022	NM/CL	DAA

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Introduction

1.1 Summary

This report outlines the Building Sustainability Index (BASIX) compliance assessment score and relating commitments as required for all residential dwelling types (Class 1, 2 and Part 4) in NSW, implemented under the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation) and State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 (the BASIX SEPP).

This assessment accompanies the Development Application for Stage 1A of the Telopea project comprising of Buildings A, B, C, D and E and a total of 449 units across the 5 buildings.

In addition to BASIX compliance, the project has improved sustainability targets as listed below

- BASIX Energy 30 (on average, BASIX min 25)
- Water 40 (on average, BASIX min 40) and
- NatHERS 7-star minimum (on average) with 5.5 star minimum for individual units

Stage 1A achieves BASIX scores of

Buildings	Water	Energy	Thermal Comfort
A, B & C	43	31	pass
D & E	41	31	pass
Average Stage 1A	42	31	7.2



1.2 Source Documentation

The table below outlines a summary of the documentation used as the basis of this compliance analysis.

Discipline	Drawing Title	Drawing No.	Revision	Custodian
Architectural	Legend / NatHERS assessment	PLA-AR-DA0002	D	Plus Architecture
Architectural	Basement 02 plan	PLA-AR-DA0097	G	Plus Architecture
Architectural	Basement 01 plan	PLA-AR-DA0098	F	Plus Architecture
Architectural	Lower Ground Floor Plan	PLA-AR-DA0099	H	Plus Architecture
Architectural	Upper Ground Floor Plan	PLA-AR-DA0100	G	Plus Architecture
Architectural	Level 01 Floor Plan	PLA-AR-DA0101	F	Plus Architecture
Architectural	Level 02 Floor Plan	PLA-AR-DA0102	F	Plus Architecture
Architectural	Level 03 Floor Plan	PLA-AR-DA0103	F	Plus Architecture
Architectural	Level 04 Floor Plan	PLA-AR-DA0104	F	Plus Architecture
Architectural	Level 05 Floor Plan	PLA-AR-DA0105	G	Plus Architecture
Architectural	Level 06 Floor Plan	PLA-AR-DA0106	F	Plus Architecture
Architectural	Level 07 Floor Plan	PLA-AR-DA0107	F	Plus Architecture
Architectural	Level 08 Floor Plan	PLA-AR-DA0108	F	Plus Architecture
Architectural	Level 09 Floor Plan	PLA-AR-DA0109	G	Plus Architecture
Architectural	Level 10-12 Floor Plan	PLA-AR-DA0110	F	Plus Architecture
Architectural	Level 11 Floor Plan	PLA-AR-DA0111	F	Plus Architecture
Architectural	Level 12 Floor Plan	PLA-AR-DA0112	E	Plus Architecture
Architectural	Level 13 Floor Plan	PLA-AR-DA0113	E	Plus Architecture
Architectural	Level 14 Floor Plan	PLA-AR-DA0114	E	Plus Architecture
Architectural	Roof Plan	PLA-AR-DA0115	C	Plus Architecture

2. BASIX Specification

2.1 Energy

The Energy section of BASIX aims to reduce the greenhouse gas (GHG) emissions of all new residential dwellings. BASIX requires that the project achieve a minimum score of 25 for compliance, while the project has a project specific target of 30. The BASIX assessment for the project shows an **average score of 31 (31 for Building A,B &C and 31 for Buildings D & E) for energy.**

The following table shows the minimum commitments the project requires to achieve the BASIX energy score.

Energy Commitments - Common Areas		
Area	Ventilation	Lighting
Car park areas	Ventilation exhaust only with CO monitor + VSD fan	LED with zoned switching and motion sensors
lifts	n/a	LED, connected to lift call button
Comms and MSR	Air conditioning, thermostatically controlled	LED, Motion sensors
MDB	Supply only, interlocked to light	LED, Motion sensors
Garbage rooms	Ventilation exhaust only	LED, Motion sensors
Plant / roof plant	No mechanical ventilation	LED Manual Switch on/off
Mail room	Ventilation supply only, BMS controlled	LED, Motion sensors
Store rooms	Ventilation supply only, BMS controlled	LED, Motion sensors
Ground floor lobbies	Ventilation supply only, BMS controlled	LED, time clocks
Hallways	Ventilation supply only, BMS controlled	LED, Zoned switching with motion sensors



Energy Commitments		
Central Systems		
Hot water	System type	Electric heat pump – air sourced
	Piping insulation	Minimum R0.6
Photovoltaic system	Minimum 150 peak kW system to be installed	
Lifts	Gearless traction with V V F motor	
BMS	To be installed for project	
Dwelling Details		
Mechanical ventilation	Bathrooms	Individual fan, ducted to façade or roof interlock to light
	Kitchen	Individual fan, ducted to façade or roof Manual switch on / off
	Laundry	Individual fan, ducted to façade or roof Manual switch on / off
Cooling system	Living areas	1-phase air conditioning: 3 star
	Bedrooms	none
Heating system	Living areas	1-phase air conditioning: 3 star
	Bedrooms	Airconditioning ducting only
Artificial lighting	All lighting to be LED	
Appliances	Cooktop and oven	Induction cooktop and electric oven
	Dishwasher	Minimum 3.5 stars
	Clothes dryer	Minimum 2 stars

2. BASIX Specification

2.2 Water

The Water section of BASIX aims to reduce the potable water consumption of all new residential developments. The BASIX and project target for water is a minimum score of 25. The BASIX assessment for the project shows an **average score of 42 (43 for Building A,B &C and 41 for Buildings D & E) for water.**

The following table shows the minimum commitments the project requires to achieve the BASIX water score.

Water Commitments		
Common Area Garden and Lawn	Total area of lawn to be maintained	
	Total area of Garden to be maintained	
	No requirement for indigenous or low water use species specified	
Sole occupancy unit fixtures and appliances	Showerheads	4 star (> 6 but <= 7.5 L/min)
	Toilets	4 Star
	Kitchen taps	5 Star
	Bathroom vanity taps	5 Star
	Dishwashers	3.5 Star
Alternative water – Tank 1 (Buildings A,B&C)	Minimum 50000 Tank	
	Harvested roof area	Minimum 1794.22 M2 (Buildings A, B and C)
	Used for	100% of common area garden and lawn
Alternative water – Tank 2 (Buildings D&E)	Minimum 50000 Tank	
	Harvested roof area	Minimum 2053.19 M2 (Buildings D and E)
	Used for	100% of common area garden and lawn
Fire sprinkler test system	Fire sprinkler test water to be contained on a closed loop	



2. BASIX Specification

2.3 Thermal Comfort

The project has shown compliance for all units using NatHERS, the mandatory pathway for Thermal comfort for class 2 buildings.

The Telopea project has achieved an **average star rating of 7.2 stars** across the project, achieving its project target commitments.

Thermal specifications used to show for compliance is as shown in the table below

Thermal Comfort Inclusions	
Glazing Doors/Windows	Glazed windows and doors: Group A – awning + bifold + casement windows + hinged glazed doors U-value: 5.40 (equal to or lower than) SHGC: 0.49 (±10%) Group B – sliding doors/windows + fixed glazing + louvred windows U-value: 5.40 (equal to or lower than) SHGC: 0.58 (±10%) Upgrade as per thermal comfort upgrade table Group A – awning + bifold + casement windows + hinged glazed doors U-value: 4.10 (equal to or lower than) SHGC: 0.47 (±10%) Group B – sliding doors/windows + fixed glazing + louvred windows U-value: 4.10 (equal to or lower than) SHGC: 0.52 (±10%) Given values are AFRC total window system values (glass and frame)
Skylight	U-value: 4.20 (equal to or lower than) SHGC: 0.72 (±10%)
Roof and ceiling	Concrete roof, no insulation to top of slab Plasterboard ceiling with R3.0 insulation (insulation only value) to soffit of concrete where roof, balcony or plant is over Plasterboard ceiling, no insulation where neighbouring units are above
External Colour	Light (SA < 0.475)
Ceiling Penetrations	Sealed LED downlights at a maximum of one every 2.5m2. Once lighting plan has been developed NatHERS modelling can be updated to improve specification.

Thermal Comfort Inclusions	
Ceiling Fans	Unit E.LG.02 1200mm diameter ceiling fans to bedrooms Unit E.LG.03 1200mm diameter ceiling fans to bedroom and living room
External Wall	Brick veneer with R2.0 insulation (insulation only value) 230mm Concrete wall with R2.0 insulation (insulation only value) 230mm Concrete columns with R1.2 insulation (insulation only value) to concrete columns Lightweight cladding on frame with R2.0 insulation (insulation only value)
External Colour	Default medium modelled
Inter-tenancy walls	230mm concrete with plasterboard lining to walls adjacent to neighbours, no insulation required 230mm concrete with plasterboard lining to hallways, no insulation required 230mm concrete with plasterboard with R2.0 insulation to basement and plant rooms 230mm concrete with furring channel and plasterboard lining to all walls adjacent to lift shafts and fire stairs. No insulation required
Walls within dwellings	Plasterboard on studs – no insulation
Floors	230mm thick concrete slab with a minimum R2.0 insulation (insulation only value) required to units with garage and part subfloor below Concrete between levels, no insulation required
Floor coverings	Default floor coverings modelled
External Shading	Shading screens, fins and eave lines modelled as per NatHERS stamped plans Screens are operable with perforated area of 30% External operable venetian blinds



APPENDIX A – BASIX CERTIFICATES



BASIX[®]Certificate

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

Multi Dwelling

Certificate number: 1222338M

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

Secretary

Date of issue: Friday, 18 November 2022

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



Planning,
Industry &
Environment

Project summary

Project name	Telopea - Buildings A, B, C
Street address	Sturt Street Telopea 2117
Local Government Area	Parramatta City Council
Plan type and plan number	deposited 128229
Lot no.	5,6,7
Section no.	-
No. of residential flat buildings	3
No. of units in residential flat buildings	256
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Project score

Water	✓ 43	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 31	Target 25

Certificate Prepared by

Name / Company Name: Integral Group Consulting Engineers Pty Ltd

ABN (if applicable): 27618557672

Description of project

Project address

Project name	Telopea - Buildings A, B, C
Street address	Sturt Street Telopea 2117
Local Government Area	Parramatta City Council
Plan type and plan number	deposited 128229
Lot no.	5,6,7
Section no.	-

Project type

No. of residential flat buildings	3
No. of units in residential flat buildings	256
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Site details

Site area (m²)	7210.56
Roof area (m²)	1794.22
Non-residential floor area (m²)	0.0
Residential car spaces	223
Non-residential car spaces	0




Common area landscape

Common area lawn (m²)	138.82
Common area garden (m²)	2433.2
Area of indigenous or low water use species (m²)	0.0

Assessor details

Assessor number	HERA10033
Certificate number	0005151380
Climate zone	56
Ceiling fan in at least one bedroom	No
Ceiling fan in at least one living room or other conditioned area	No

Project score

Water	 43	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 31	Target 25

Description of project

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

Residential flat buildings - Building A, 23 dwellings, 6 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.01	2	76.0	0.0	0.0	0.0
02.01	2	76.0	0.0	0.0	0.0
B1.01	2	73.0	0.0	0.0	0.0
LG.02	1	50.0	0.0	0.0	0.0
UG.03	1	50.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.02	1	50.0	0.0	0.0	0.0
02.02	1	50.0	0.0	0.0	0.0
B1.02	2	76.0	0.0	0.0	0.0
LG.03	2	87.0	0.0	0.0	0.0
UG.04	2	87.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.03	1	50.0	0.0	0.0	0.0
02.03	1	50.0	0.0	0.0	0.0
B1.03	3	96.0	0.0	0.0	0.0
LG.04	3	96.0	0.0	0.0	0.0
UG.05	3	96.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.04	2	87.0	0.0	0.0	0.0
02.04	1	50.0	0.0	0.0	0.0
B2.01	3	96.0	0.0	0.0	0.0
UG.01	2	76.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.05	3	96.0	0.0	0.0	0.0
02.05	3	103.0	0.0	0.0	0.0
LG.01	2	76.0	0.0	0.0	0.0
UG.02	1	50.0	0.0	0.0	0.0

Residential flat buildings - Building B, 178 dwellings, 15 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.01	1	50.0	0.0	0.0	0.0
01.06	2	76.0	0.0	0.0	0.0
01.11	1	50.0	0.0	0.0	0.0
02.05	2	98.0	0.0	0.0	0.0
02.10	2	71.0	0.0	0.0	0.0
02.15	1	54.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.02	1	50.0	0.0	0.0	0.0
01.07	2	76.0	0.0	0.0	0.0
02.01	2	95.0	0.0	0.0	0.0
02.06	2	70.0	0.0	0.0	0.0
02.11	2	81.0	0.0	0.0	0.0
02.16	2	72.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.03	2	71.0	0.0	0.0	0.0
01.08	1	54.0	0.0	0.0	0.0
02.02	2	95.0	0.0	0.0	0.0
02.07	1	64.0	0.0	0.0	0.0
02.12	3	95.0	0.0	0.0	0.0
02.17	2	72.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.04	1	84.0	0.0	0.0	0.0
01.09	2	72.0	0.0	0.0	0.0
02.03	2	95.0	0.0	0.0	0.0
02.08	2	81.0	0.0	0.0	0.0
02.13	2	76.0	0.0	0.0	0.0
02.18	1	50.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.05	3	95.0	0.0	0.0	0.0
01.10	2	72.0	0.0	0.0	0.0
02.04	2	95.0	0.0	0.0	0.0
02.09	1	50.0	0.0	0.0	0.0
02.14	2	76.0	0.0	0.0	0.0
02.19	1	64.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
02.20	1	64.0	0.0	0.0	0.0
03.01	1	50.0	0.0	0.0	0.0
03.06	2	76.0	0.0	0.0	0.0
03.11	1	50.0	0.0	0.0	0.0
04.05	1	50.0	0.0	0.0	0.0
04.10	2	76.0	0.0	0.0	0.0
04.15	1	50.0	0.0	0.0	0.0
05.02	2	76.0	0.0	0.0	0.0
05.07	2	81.0	0.0	0.0	0.0
05.12	2	83.0	0.0	0.0	0.0
06.03	2	76.0	0.0	0.0	0.0
06.08	2	72.0	0.0	0.0	0.0
06.13	2	83.0	0.0	0.0	0.0
07.04	2	75.0	0.0	0.0	0.0
07.09	3	116.0	0.0	0.0	0.0
07.14	1	51.0	0.0	0.0	0.0
08.05	1	50.0	0.0	0.0	0.0
09.03	2	76.0	0.0	0.0	0.0
10.01	1	51.0	0.0	0.0	0.0
10.06	3	100.0	0.0	0.0	0.0
11.04	2	75.0	0.0	0.0	0.0
12.02	2	76.0	0.0	0.0	0.0
12.07	2	81.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
02.21	2	105.0	0.0	0.0	0.0
03.02	1	50.0	0.0	0.0	0.0
03.07	2	76.0	0.0	0.0	0.0
04.01	1	51.0	0.0	0.0	0.0
04.06	3	100.0	0.0	0.0	0.0
04.11	1	52.0	0.0	0.0	0.0
04.16	2	83.0	0.0	0.0	0.0
05.03	2	76.0	0.0	0.0	0.0
05.08	2	72.0	0.0	0.0	0.0
05.13	2	83.0	0.0	0.0	0.0
06.04	2	75.0	0.0	0.0	0.0
06.09	2	72.0	0.0	0.0	0.0
06.14	1	51.0	0.0	0.0	0.0
07.05	1	50.0	0.0	0.0	0.0
07.10	2	100.0	0.0	0.0	0.0
08.01	1	51.0	0.0	0.0	0.0
08.06	3	100.0	0.0	0.0	0.0
09.04	2	75.0	0.0	0.0	0.0
10.02	2	76.0	0.0	0.0	0.0
10.07	2	81.0	0.0	0.0	0.0
11.05	1	50.0	0.0	0.0	0.0
12.03	2	76.0	0.0	0.0	0.0
13.01	2	99.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
02.22	2	95.0	0.0	0.0	0.0
03.03	2	71.0	0.0	0.0	0.0
03.08	1	54.0	0.0	0.0	0.0
04.02	2	88.0	0.0	0.0	0.0
04.07	2	81.0	0.0	0.0	0.0
04.12	2	72.0	0.0	0.0	0.0
04.17	2	83.0	0.0	0.0	0.0
05.04	2	75.0	0.0	0.0	0.0
05.09	2	72.0	0.0	0.0	0.0
05.14	1	51.0	0.0	0.0	0.0
06.05	1	50.0	0.0	0.0	0.0
06.10	1	50.0	0.0	0.0	0.0
07.01	1	51.0	0.0	0.0	0.0
07.06	3	100.0	0.0	0.0	0.0
07.11	2	102.0	0.0	0.0	0.0
08.02	2	76.0	0.0	0.0	0.0
08.07	2	81.0	0.0	0.0	0.0
09.05	1	50.0	0.0	0.0	0.0
10.03	2	76.0	0.0	0.0	0.0
11.01	1	51.0	0.0	0.0	0.0
11.06	3	100.0	0.0	0.0	0.0
12.04	2	75.0	0.0	0.0	0.0
13.02	3	113.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
02.23	2	95.0	0.0	0.0	0.0
03.04	2	81.0	0.0	0.0	0.0
03.09	2	72.0	0.0	0.0	0.0
04.03	2	88.0	0.0	0.0	0.0
04.08	2	84.0	0.0	0.0	0.0
04.13	2	72.0	0.0	0.0	0.0
04.18	1	51.0	0.0	0.0	0.0
05.05	1	50.0	0.0	0.0	0.0
05.10	1	50.0	0.0	0.0	0.0
06.01	1	51.0	0.0	0.0	0.0
06.06	3	100.0	0.0	0.0	0.0
06.11	1	50.0	0.0	0.0	0.0
07.02	2	76.0	0.0	0.0	0.0
07.07	2	81.0	0.0	0.0	0.0
07.12	3	142.0	0.0	0.0	0.0
08.03	2	76.0	0.0	0.0	0.0
09.01	1	51.0	0.0	0.0	0.0
09.06	3	100.0	0.0	0.0	0.0
10.04	2	75.0	0.0	0.0	0.0
11.02	2	76.0	0.0	0.0	0.0
11.07	2	81.0	0.0	0.0	0.0
12.05	1	50.0	0.0	0.0	0.0
13.03	3	113.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
02.24	2	95.0	0.0	0.0	0.0
03.05	3	95.0	0.0	0.0	0.0
03.10	2	72.0	0.0	0.0	0.0
04.04	2	75.0	0.0	0.0	0.0
04.09	2	76.0	0.0	0.0	0.0
04.14	1	50.0	0.0	0.0	0.0
05.01	1	51.0	0.0	0.0	0.0
05.06	3	100.0	0.0	0.0	0.0
05.11	1	50.0	0.0	0.0	0.0
06.02	2	76.0	0.0	0.0	0.0
06.07	2	81.0	0.0	0.0	0.0
06.12	2	83.0	0.0	0.0	0.0
07.03	2	76.0	0.0	0.0	0.0
07.08	3	105.0	0.0	0.0	0.0
07.13	2	83.0	0.0	0.0	0.0
08.04	2	75.0	0.0	0.0	0.0
09.02	2	76.0	0.0	0.0	0.0
09.07	2	81.0	0.0	0.0	0.0
10.05	1	50.0	0.0	0.0	0.0
11.03	2	76.0	0.0	0.0	0.0
12.01	1	51.0	0.0	0.0	0.0
12.06	3	100.0	0.0	0.0	0.0
13.04	3	132.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
13.05 2		100.0	0.0	0.0	0.0
LG.02 1		64.0	0.0	0.0	0.0
UG.022		95.0	0.0	0.0	0.0
UG.071		64.0	0.0	0.0	0.0
UG.123		95.0	0.0	0.0	0.0
UG.172		72.0	0.0	0.0	0.0
UG.222		95.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
13.06 3		95.0	0.0	0.0	0.0
LG.03 1		71.0	0.0	0.0	0.0
UG.032		95.0	0.0	0.0	0.0
UG.081		50.0	0.0	0.0	0.0
UG.132		76.0	0.0	0.0	0.0
UG.181		50.0	0.0	0.0	0.0
UG.232		95.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
13.07 2		81.0	0.0	0.0	0.0
LG.04 2		77.0	0.0	0.0	0.0
UG.042		95.0	0.0	0.0	0.0
UG.091		50.0	0.0	0.0	0.0
UG.142		76.0	0.0	0.0	0.0
UG.191		50.0	0.0	0.0	0.0
UG.242		87.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
13.08 3		108.0	0.0	0.0	0.0
LG.05 1		63.0	0.0	0.0	0.0
UG.052		98.0	0.0	0.0	0.0
UG.102		71.0	0.0	0.0	0.0
UG.151		54.0	0.0	0.0	0.0
UG.202		75.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
LG.01 1		64.0	0.0	0.0	0.0
UG.012		87.0	0.0	0.0	0.0
UG.062		70.0	0.0	0.0	0.0
UG.112		84.0	0.0	0.0	0.0
UG.161		71.0	0.0	0.0	0.0
UG.212		105.0	0.0	0.0	0.0

Residential flat buildings - Building C, 55 dwellings, 9 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.01 1		58.0	0.0	0.0	0.0
01.06 1		55.0	0.0	0.0	0.0
02.03 1		51.0	0.0	0.0	0.0
02.08 1		50.0	0.0	0.0	0.0
03.05 2		76.0	0.0	0.0	0.0
04.02 1		54.0	0.0	0.0	0.0
05.02 1		54.0	0.0	0.0	0.0
06.02 1		54.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.02 1		54.0	0.0	0.0	0.0
01.07 2		89.0	0.0	0.0	0.0
02.04 2		75.0	0.0	0.0	0.0
03.01 1		58.0	0.0	0.0	0.0
03.06 1		55.0	0.0	0.0	0.0
04.03 1		51.0	0.0	0.0	0.0
05.03 1		51.0	0.0	0.0	0.0
06.03 1		51.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.03 1		51.0	0.0	0.0	0.0
01.08 1		50.0	0.0	0.0	0.0
02.05 2		76.0	0.0	0.0	0.0
03.02 1		54.0	0.0	0.0	0.0
03.07 2		79.0	0.0	0.0	0.0
04.04 1		75.0	0.0	0.0	0.0
05.04 2		75.0	0.0	0.0	0.0
06.04 2		75.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.04 2		75.0	0.0	0.0	0.0
02.01 1		58.0	0.0	0.0	0.0
02.06 1		55.0	0.0	0.0	0.0
03.03 1		51.0	0.0	0.0	0.0
03.08 1		50.0	0.0	0.0	0.0
04.05 1		71.0	0.0	0.0	0.0
05.05 2		76.0	0.0	0.0	0.0
06.05 2		76.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.05 2		76.0	0.0	0.0	0.0
02.02 1		54.0	0.0	0.0	0.0
02.07 2		79.0	0.0	0.0	0.0
03.04 2		75.0	0.0	0.0	0.0
04.01 1		58.0	0.0	0.0	0.0
05.01 1		58.0	0.0	0.0	0.0
06.01 1		58.0	0.0	0.0	0.0
07.01 1		58.0	0.0	0.0	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)
07.02	1	54.0	0.0	0.0	0.0
08.02	1	54.0	0.0	0.0	0.0
UG.022		71.0	0.0	0.0	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)
07.03	1	51.0	0.0	0.0	0.0
08.03	1	51.0	0.0	0.0	0.0
UG.031		53.0	0.0	0.0	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)
07.04	2	75.0	0.0	0.0	0.0
08.04	2	75.0	0.0	0.0	0.0
UG.043		105.0	0.0	0.0	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)
07.05	2	76.0	0.0	0.0	0.0
08.05	2	76.0	0.0	0.0	0.0
UG.051		56.0	0.0	0.0	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)
08.01	1	58.0	0.0	0.0	0.0
UG.011		58.0	0.0	0.0	0.0
UG.061		38.0	0.0	0.0	0.0

Description of project

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

Common areas of unit building - Building A

Common area	Floor area (m ²)
Lift car (No.1)	-

Common areas of unit building - Building B

Common area	Floor area (m ²)
Lift car (No.2)	-
Lift car (No.5)	-

Common area	Floor area (m ²)
Lift car (No.3)	-

Common area	Floor area (m ²)
Lift car (No.4)	-

Common areas of unit building - Building C

Common area	Floor area (m ²)
Lift car (No.6)	-

Common area	Floor area (m ²)
Lift car (No.7)	-

Common areas of the development (non-building specific)

Common area	Floor area (m ²)
Car park	11670.0
Plant	392.0
Ground floor lobbies	353.0

Common area	Floor area (m ²)
Comms & MSR	61.28
Roof plants & toilet	248.0
Hallways	1468.0

Common area	Floor area (m ²)
Garbage rooms	412.2
Store rooms	1261.0

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Building A

(a) Dwellings

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

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

2. Commitments for Residential flat buildings - Building B

(a) Dwellings

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

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

3. Commitments for Residential flat buildings - Building C

(a) Dwellings

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

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

4. Commitments for multi-dwelling houses

5. Commitments for single dwelling houses

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

- (i) Water
- (ii) Energy

Schedule of BASIX commitments

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

1. Commitments for Residential flat buildings - Building A

(a) Dwellings

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 4.5 but <= 6 L/min)	4 star	5 star	5 star	no	-	3.5 star	-	-	-	-	-	-	-

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

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓ ✓ ✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan, ducted to façade or roof	interlocked to light	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
All dwellings	1-phase airconditioning 3 star (average zone)	-	1-phase airconditioning 3 star (average zone)	airconditioning ducting only	0 (dedicated)	1 (dedicated)	yes	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	-

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	induction cooktop & electric oven	-	yes	3.5 star	-	2 star	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		

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

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
01.01	23.4	21.9
01.02	22.2	13.7
01.03	24.7	12.0
01.04	23.3	17.2
01.05	10.6	23.6
02.01	29.7	17.2
02.02	20.8	27.7
02.03	27.2	16.6
02.04	20.08	17.4
02.05	24.7	26.3
B1.01	16.7	28.4

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
B1.02	11.9	16.6
B1.03	3.5	27.3
B2.01	9.5	25.0
LG.01	22.4	23.9
LG.02	32.1	13.7
LG.03	20.3	22.1
LG.04	3.8	26.8
UG.01	23.3	22.0
UG.02	23.5	11.6
UG.03	32.4	10.6
UG.04	21.6	17.3
All other dwellings	9.4	24.9

(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

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

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Lift car (No.1)	-	-	light-emitting diode	connected to lift call button	Yes

Central energy systems	Type	Specification
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 6

2. Commitments for Residential flat buildings - Building B

(a) Dwellings

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 4.5 but <= 6 L/min)	4 star	5 star	5 star	no	-	3.5 star	-	-	-	-	-	-	-

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

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓ ✓ ✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan, ducted to façade or roof	interlocked to light	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
All dwellings	1-phase airconditioning 3 star (average zone)	-	1-phase airconditioning 3 star (average zone)	airconditioning ducting only	0 (dedicated)	1 (dedicated)	yes	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	-

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	induction cooktop & electric oven	-	yes	3.5 star	-	2 star	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		

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

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
01.01	26.4	20.2
01.02	13.4	17.8
01.03	14.9	25.5
01.04	10.4	20.4
01.05	3.1	26.6
01.06	12.6	18.8
01.07	9.1	18.3
01.08	2.0	24.5
01.09	9.7	14.8
01.11	14.3	28.1
02.01	10.6	12.1

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
02.02	7.8	22.4
02.03	8.7	16.7
02.04	7.9	22.3
02.05	29.1	13.5
02.06	12.1	25.0
02.07	7.0	27.5
02.08	17.8	10.7
02.09	13.2	17.8
02.10	13.4	25.7
02.11	15.3	21.4
02.12	3.3	26.2
02.13	13.1	18.6
02.14	11.8	18.7
02.15	3.9	22.4
02.16	8.2	19.9
02.17	21.2	24.2
02.18	13.2	21.5
02.19	9.5	24.2
02.20	38.6	11.9
02.21	34.3	19.7
02.22	11.0	16.4
02.23	10.8	14.9
02.24	12.1	19.3
03.01	20.4	15.6
03.02	14.3	15.8
03.03	14.9	14.3
03.04	8.1	25.6

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
03.05	5.1	22.6
03.06	15.5	16.2
03.07	14.2	15.3
03.08	6.0	20.3
03.09	10.7	14.7
03.10	22.6	24.7
03.11	15.0	22.7
04.02	26.9	23.1
04.03	19.0	27.9
04.04	18.6	22.7
04.05	20.0	13.4
04.06	24.5	16.6
04.07	10.4	22.7
04.08	8.0	15.0
04.09	27.3	14.5
04.10	29.1	11.3
04.11	14.4	17.6
04.12	10.2	14.6
04.13	21.8	24.8
04.14	13.0	21.9
04.15	22.9	15.7
04.16	39.3	16.6
04.17	35.8	17.9
04.18	34.4	10.8
05.01	15.7	15.0
05.02	25.2	18.1
05.03	25.3	25.4

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
05.04	17.6	24.3
05.05	24.0	13.9
05.06	24.8	16.6
05.07	10.6	25.4
05.08	11.5	15.1
05.09	22.3	24.3
05.10	21.1	14.0
05.11	19.3	14.8
05.12	22.1	16.3
05.13	26.1	12.9
05.14	34.7	11.1
06.01	15.4	15.4
06.02	23.6	18.3
06.03	26.2	25.5
06.04	18.1	24.2
06.05	24.1	13.5
06.06	25.1	16.2
06.07	24.9	23.1
06.08	11.5	15.5
06.09	20.0	23.7
06.10	21.5	14.0
06.11	19.6	14.4
06.12	24.8	14.7
06.13	26.6	12.7
06.14	33.8	11.1
07.01	26.0	12.9
07.02	23.0	18.6

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
07.03	26.0	25.5
07.04	18.1	23.8
07.05	24.4	13.3
07.06	25.3	16.1
07.07	11.0	24.9
07.08	23.5	10.7
07.09	38.9	17.1
07.10	20.7	12.2
07.11	33.4	18.9
07.12	35.1	11.8
07.13	23.1	8.8
07.14	33.5	11.4
08.01	15.4	15.1
08.02	22.8	18.6
08.03	25.8	25.7
08.04	18.8	23.4
08.05	24.6	13.4
08.06	25.7	15.5
08.07	11.2	24.8
09.02	22.7	18.5
09.03	25.7	25.3
09.04	19.0	23.5
09.05	25.2	13.3
09.06	26.0	15.4
09.07	11.4	24.7
10.01	15.9	15.0
10.02	24.4	15.8

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
10.03	27.5	21.8
10.04	20.9	21.0
10.05	27.2	11.5
10.06	28.1	14.0
10.07	13.6	21.8
11.01	16.2	14.9
11.02	24.7	15.9
11.03	27.8	21.5
11.04	21.1	20.9
11.05	27.5	11.5
11.06	28.3	14.1
11.07	12.5	22.5
12.01	16.4	14.9
12.02	24.8	15.9
12.03	27.9	21.2
12.04	21.2	20.7
12.05	27.7	11.8
12.06	28.6	13.7
12.07	12.7	22.4
13.01	22.7	15.2
13.02	44.6	13.3
13.03	42.7	13.8
13.04	26.2	19.8
13.05	33.7	14.8
13.06	23.0	16.7
13.07	13.6	21.7
13.08	37.3	11.2

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
LG.01	14.3	19.1
LG.02	5.0	27.0
LG.03	13.8	14.2
LG.04	27.2	18.4
LG.05	38.5	10.9
UG.01	11.2	14.7
UG.02	12.2	20.7
UG.03	13.3	13.3
UG.04	13.4	20.0
UG.05	24.3	14.4
UG.06	24.1	28.4
UG.07	21.9	29.1
UG.08	12.5	27.3
UG.09	21.9	21.6
UG.10	18.4	16.8
UG.11	8.3	16.0
UG.12	6.5	16.8
UG.13	17.9	16.1
UG.14	17.6	14.5
UG.15	0.1	28.6
UG.16	4.4	11.0
UG.18	14.5	21.6
UG.19	16.8	14.4
UG.20	25.1	9.5
UG.21	29.5	20.2
UG.22	33.6	23.0
UG.23	14.9	19.6

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
UG.24	15.7	11.4
01.10, UG.17	13.1	16.9
All other dwellings	15.7	15.2

(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

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

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Lift car (No.2)	-	-	light-emitting diode	connected to lift call button	Yes
Lift car (No.3)	-	-	light-emitting diode	connected to lift call button	Yes
Lift car (No.4)	-	-	light-emitting diode	connected to lift call button	Yes
Lift car (No.5)	-	-	light-emitting diode	connected to lift call button	Yes

Central energy systems	Type	Specification
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 17
Lift (No. 3)	gearless traction with V V V F motor	Number of levels (including basement): 17
Lift (No. 4)	gearless traction with V V V F motor	Number of levels (including basement): 11
Lift (No. 5)	gearless traction with V V V F motor	Number of levels (including basement): 11

3. Commitments for Residential flat buildings - Building C

(a) Dwellings

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 4.5 but <= 6 L/min)	4 star	5 star	5 star	no	-	3.5 star	-	-	-	-	-	-	-

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

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓ ✓ ✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan, ducted to façade or roof	interlocked to light	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
All dwellings	1-phase airconditioning 3 star (average zone)	-	1-phase airconditioning 3 star (average zone)	airconditioning ducting only	0 (dedicated)	1 (dedicated)	yes	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	-

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	induction cooktop & electric oven	-	yes	3.5 star	-	2 star	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		

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

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
01.01	14.8	21.2
01.02	26.0	10.8
01.03	20.7	11.8
01.04	13.5	12.9
01.05	8.7	17.0
01.06	2.1	24.4
01.07	31.0	13.3
01.08	22.7	24.6
02.01	13.7	24.5
02.02	26.3	10.3
02.03	20.9	12.3

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
02.04	17.0	13.2
02.05	7.7	14.7
02.06	2.3	24.0
02.07	16.7	16.8
02.08	18.8	27.1
03.01	16.9	18.4
03.02	27.9	12.8
03.03	19.1	11.9
03.04	18.1	9.7
03.05	8.6	11.1
03.06	4.4	20.5
03.07	32.0	11.0
03.08	27.1	21.8
04.01	16.6	21.5
04.02	27.9	13.1
04.03	24.7	10.4
04.04	18.3	9.7
04.05	11.8	13.3
05.01	16.5	21.5
05.02	27.5	13.5
05.03	24.8	10.8
05.04	18.6	10.0
05.05	12.1	13.1
06.01	12.0	24.1
06.02	26.2	10.9
06.03	24.0	11.0
06.04	18.4	10.3

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
06.05	12.3	12.9
07.01	17.0	21.1
07.02	27.5	13.7
07.03	25.7	10.3
07.04	19.2	10.1
07.05	12.8	13.2
08.01	28.6	17.1
08.02	28.8	12.8
08.03	37.5	8.7
08.04	37.4	28.9
08.05	21.5	11.1
UG.01	15.4	19.6
UG.02	23.4	13.5
UG.03	28.6	25.4
UG.04	17.2	12.7
UG.05	16.2	15.7
All other dwellings	34.0	17.8

(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

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

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Lift car (No.6)	-	-	light-emitting diode	connected to lift call button	Yes
Lift car (No.7)	-	-	light-emitting diode	connected to lift call button	Yes

Central energy systems	Type	Specification
Lift (No. 6)	gearless traction with V V V F motor	Number of levels (including basement): 13
Lift (No. 7)	gearless traction with V V V F motor	Number of levels (including basement): 13

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

(b) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	4 star	5 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	50000.0	To collect run-off from at least: - 1460.0 square metres of roof area of buildings in the development - 162.43 square metres of impervious area in the development - 0.0 square metres of garden/lawn area in the development - 0.0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 2504.3 square metres of common landscaped area on the site - car washing in 1 car washing bays on the site

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

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

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Car park	ventilation exhaust only	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	Yes
Comms & MSR	air conditioning system	thermostatically controlled	light-emitting diode	motion sensors	Yes
Garbage rooms	ventilation exhaust only	-	light-emitting diode	motion sensors	Yes
Plant	no mechanical ventilation	-	light-emitting diode	manual on / manual off	Yes
Roof plants & toilet	no mechanical ventilation	-	light-emitting diode	manual on / manual off	Yes
Store rooms	ventilation supply only	time clock or BMS controlled	light-emitting diode	motion sensors	Yes
Ground floor lobbies	ventilation supply only	time clock or BMS controlled	light-emitting diode	time clocks	Yes
Hallways	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	Yes

Central energy systems	Type	Specification
Central hot water system (No. 1)	electric heat pump - air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.6 (~25 mm); (b) Piping internal to building: R0.6 (~25 mm)
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 100.0 peak kW
Other	Building management system installed?: yes	-

Notes

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

Legend

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

BASIX[®]Certificate

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

Multi Dwelling

Certificate number: 1222982M

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

Secretary

Date of issue: Friday, 18 November 2022

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



Planning,
Industry &
Environment

Project summary

Project name	Telopea - Buildings D, E
Street address	Sturt Street Telopea 2117
Local Government Area	Parramatta City Council
Plan type and plan number	deposited 128229
Lot no.	5,6,7
Section no.	-
No. of residential flat buildings	2
No. of units in residential flat buildings	193
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Project score

Water	✓ 41	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 31	Target 25

Certificate Prepared by

Name / Company Name: Integral Group Consulting Engineers Pty Ltd

ABN (if applicable): 27618557672

Description of project

Project address

Project name	Telopea - Buildings D, E
Street address	Sturt Street Telopea 2117
Local Government Area	Parramatta City Council
Plan type and plan number	deposited 128229
Lot no.	5,6,7
Section no.	-

Project type

No. of residential flat buildings	2
No. of units in residential flat buildings	193
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Site details

Site area (m²)	13383.44
Roof area (m²)	2053.19
Non-residential floor area (m²)	0.0
Residential car spaces	180
Non-residential car spaces	0




Common area landscape

Common area lawn (m²)	111.1
Common area garden (m²)	1894.4
Area of indigenous or low water use species (m²)	0.0

Assessor details

Assessor number	HERA10033
Certificate number	0005151380
Climate zone	56
Ceiling fan in at least one bedroom	Yes
Ceiling fan in at least one living room or other conditioned area	Yes

Project score

Water	 41	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 31	Target 25

Description of project

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

Residential flat buildings - Building D, 99 dwellings, 10 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.01	2	69.0	0.0	0.0	0.0
01.06	2	77.0	0.0	0.0	0.0
01.11	1	50.0	0.0	0.0	0.0
02.05	2	77.0	0.0	0.0	0.0
02.10	2	75.0	0.0	0.0	0.0
03.04	1	50.0	0.0	0.0	0.0
03.09	1	61.0	0.0	0.0	0.0
04.03	2	78.0	0.0	0.0	0.0
04.08	2	89.0	0.0	0.0	0.0
05.02	3	96.0	0.0	0.0	0.0
05.07	1	66.0	0.0	0.0	0.0
06.01	2	69.0	0.0	0.0	0.0
06.06	2	77.0	0.0	0.0	0.0
06.11	1	50.0	0.0	0.0	0.0
07.05	2	77.0	0.0	0.0	0.0
07.10	2	82.0	0.0	0.0	0.0
08.05	2	77.0	0.0	0.0	0.0
LG.04	1	70.0	0.0	0.0	0.0
Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.02	3	96.0	0.0	0.0	0.0
01.07	1	66.0	0.0	0.0	0.0
02.01	2	69.0	0.0	0.0	0.0
02.06	2	77.0	0.0	0.0	0.0
02.11	1	50.0	0.0	0.0	0.0
03.05	2	77.0	0.0	0.0	0.0
03.10	2	75.0	0.0	0.0	0.0
04.04	1	50.0	0.0	0.0	0.0
04.09	1	61.0	0.0	0.0	0.0
05.03	2	78.0	0.0	0.0	0.0
05.08	2	89.0	0.0	0.0	0.0
06.02	3	96.0	0.0	0.0	0.0
06.07	1	66.0	0.0	0.0	0.0
07.01	2	69.0	0.0	0.0	0.0
07.06	2	77.0	0.0	0.0	0.0
08.01	2	69.0	0.0	0.0	0.0
08.06	2	77.0	0.0	0.0	0.0
LG.05	2	79.0	0.0	0.0	0.0
Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.03	2	78.0	0.0	0.0	0.0
01.08	2	89.0	0.0	0.0	0.0
02.02	3	96.0	0.0	0.0	0.0
02.07	1	66.0	0.0	0.0	0.0
03.01	2	69.0	0.0	0.0	0.0
03.06	2	77.0	0.0	0.0	0.0
03.11	1	50.0	0.0	0.0	0.0
04.05	2	77.0	0.0	0.0	0.0
04.10	2	75.0	0.0	0.0	0.0
05.04	1	50.0	0.0	0.0	0.0
05.09	1	61.0	0.0	0.0	0.0
06.03	2	78.0	0.0	0.0	0.0
06.08	2	89.0	0.0	0.0	0.0
07.02	3	96.0	0.0	0.0	0.0
07.07	2	91.0	0.0	0.0	0.0
08.02	3	96.0	0.0	0.0	0.0
LG.01	2	84.0	0.0	0.0	0.0
LG.06	1	43.0	0.0	0.0	0.0
Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.04	1	50.0	0.0	0.0	0.0
01.09	1	61.0	0.0	0.0	0.0
02.03	2	78.0	0.0	0.0	0.0
02.08	2	89.0	0.0	0.0	0.0
03.02	3	96.0	0.0	0.0	0.0
03.07	1	66.0	0.0	0.0	0.0
04.01	2	69.0	0.0	0.0	0.0
04.06	2	77.0	0.0	0.0	0.0
04.11	1	50.0	0.0	0.0	0.0
05.05	2	77.0	0.0	0.0	0.0
05.10	2	75.0	0.0	0.0	0.0
06.04	1	50.0	0.0	0.0	0.0
06.09	1	61.0	0.0	0.0	0.0
07.03	2	78.0	0.0	0.0	0.0
07.08	3	99.0	0.0	0.0	0.0
08.03	2	78.0	0.0	0.0	0.0
LG.02	1	61.0	0.0	0.0	0.0
UG.01	2	69.0	0.0	0.0	0.0
Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.05	2	77.0	0.0	0.0	0.0
01.10	2	75.0	0.0	0.0	0.0
02.04	1	50.0	0.0	0.0	0.0
02.09	1	61.0	0.0	0.0	0.0
03.03	2	78.0	0.0	0.0	0.0
03.08	2	89.0	0.0	0.0	0.0
04.02	3	96.0	0.0	0.0	0.0
04.07	1	66.0	0.0	0.0	0.0
05.01	2	69.0	0.0	0.0	0.0
05.06	2	77.0	0.0	0.0	0.0
05.11	1	50.0	0.0	0.0	0.0
06.05	2	77.0	0.0	0.0	0.0
06.10	2	75.0	0.0	0.0	0.0
07.04	1	50.0	0.0	0.0	0.0
07.09	3	97.0	0.0	0.0	0.0
08.04	1	50.0	0.0	0.0	0.0
LG.03	2	100.0	0.0	0.0	0.0
UG.02	3	109.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
UG.032	91.0	0.0	0.0	0.0	0.0
UG.082	89.0	0.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
UG.041	59.0	0.0	0.0	0.0	0.0
UG.091	61.0	0.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
UG.051	59.0	0.0	0.0	0.0	0.0
UG.102	75.0	0.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
UG.061	61.0	0.0	0.0	0.0	0.0
UG.111	50.0	0.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
UG.071	66.0	0.0	0.0	0.0	0.0

Residential flat buildings - Building E, 94 dwellings, 9 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.01	2	86.0	0.0	0.0	0.0
01.06	1	50.0	0.0	0.0	0.0
01.11	2	76.0	0.0	0.0	0.0
02.04	2	75.0	0.0	0.0	0.0
02.09	2	79.0	0.0	0.0	0.0
03.03	2	76.0	0.0	0.0	0.0
03.08	2	70.0	0.0	0.0	0.0
04.02	3	106.0	0.0	0.0	0.0
04.07	1	50.0	0.0	0.0	0.0
05.01	2	86.0	0.0	0.0	0.0
05.06	1	51.0	0.0	0.0	0.0
05.11	2	70.0	0.0	0.0	0.0
06.05	1	52.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.02	3	106.0	0.0	0.0	0.0
01.07	1	50.0	0.0	0.0	0.0
01.12	2	70.0	0.0	0.0	0.0
02.05	1	52.0	0.0	0.0	0.0
02.10	2	76.0	0.0	0.0	0.0
03.04	2	75.0	0.0	0.0	0.0
03.09	2	79.0	0.0	0.0	0.0
04.03	2	76.0	0.0	0.0	0.0
04.08	2	70.0	0.0	0.0	0.0
05.02	3	106.0	0.0	0.0	0.0
05.07	1	50.0	0.0	0.0	0.0
06.01	2	86.0	0.0	0.0	0.0
06.06	1	51.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.03	2	76.0	0.0	0.0	0.0
01.08	2	72.0	0.0	0.0	0.0
02.01	2	86.0	0.0	0.0	0.0
02.06	1	51.0	0.0	0.0	0.0
02.11	2	70.0	0.0	0.0	0.0
03.05	2	52.0	0.0	0.0	0.0
03.10	2	76.0	0.0	0.0	0.0
04.04	2	75.0	0.0	0.0	0.0
04.09	2	79.0	0.0	0.0	0.0
05.03	2	76.0	0.0	0.0	0.0
05.08	2	70.0	0.0	0.0	0.0
06.02	3	106.0	0.0	0.0	0.0
06.07	1	50.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.04	2	75.0	0.0	0.0	0.0
01.09	1	53.0	0.0	0.0	0.0
02.02	3	106.0	0.0	0.0	0.0
02.07	1	50.0	0.0	0.0	0.0
03.01	2	86.0	0.0	0.0	0.0
03.06	1	51.0	0.0	0.0	0.0
03.11	2	70.0	0.0	0.0	0.0
04.05	1	52.0	0.0	0.0	0.0
04.10	2	76.0	0.0	0.0	0.0
05.04	2	75.0	0.0	0.0	0.0
05.09	2	79.0	0.0	0.0	0.0
06.03	2	76.0	0.0	0.0	0.0
06.08	2	70.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
01.05	1	50.0	0.0	0.0	0.0
01.10	2	84.0	0.0	0.0	0.0
02.03	2	76.0	0.0	0.0	0.0
02.08	2	70.0	0.0	0.0	0.0
03.02	3	106.0	0.0	0.0	0.0
03.07	1	50.0	0.0	0.0	0.0
04.01	2	86.0	0.0	0.0	0.0
04.06	1	51.0	0.0	0.0	0.0
04.11	2	70.0	0.0	0.0	0.0
05.05	1	52.0	0.0	0.0	0.0
05.10	2	76.0	0.0	0.0	0.0
06.04	2	75.0	0.0	0.0	0.0
06.09	2	79.0	0.0	0.0	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)
06.10	2	76.0	0.0	0.0	0.0
07.04	2	75.0	0.0	0.0	0.0
07.09	2	79.0	0.0	0.0	0.0
LG.03	2	52.0	0.0	0.0	0.0
UG.03	2	75.0	0.0	0.0	0.0
UG.08	1	53.0	0.0	0.0	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)
06.11	2	70.0	0.0	0.0	0.0
07.05	1	52.0	0.0	0.0	0.0
07.10	2	76.0	0.0	0.0	0.0
LG.04	2	76.0	0.0	0.0	0.0
UG.04	2	84.0	0.0	0.0	0.0
UG.09	2	84.0	0.0	0.0	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)
07.01	2	86.0	0.0	0.0	0.0
07.06	1	51.0	0.0	0.0	0.0
07.11	2	70.0	0.0	0.0	0.0
LG.05	3	98.0	0.0	0.0	0.0
UG.05	1	59.0	0.0	0.0	0.0
UG.10	2	76.0	0.0	0.0	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)
07.02	2	106.0	0.0	0.0	0.0
07.07	1	50.0	0.0	0.0	0.0
LG.01	3	117.0	0.0	0.0	0.0
UG.01	2	86.0	0.0	0.0	0.0
UG.06	2	84.0	0.0	0.0	0.0
UG.11	2	76.0	0.0	0.0	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)
07.03	2	76.0	0.0	0.0	0.0
07.08	2	70.0	0.0	0.0	0.0
LG.02	2	79.0	0.0	0.0	0.0
UG.02	2	79.0	0.0	0.0	0.0
UG.07	2	82.0	0.0	0.0	0.0

Description of project

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

Common areas of unit building - Building D

Common area	Floor area (m ²)
Lift car (No.1)	-

Common area	Floor area (m ²)
Lift car (No.2)	-

Common areas of unit building - Building E

Common area	Floor area (m ²)
Lift car (No.3)	-

Common area	Floor area (m ²)
Lift car (No.4)	-

Common areas of the development (non-building specific)

Common area	Floor area (m ²)
Car park	8935.0
Garbage rooms	70.2
Store rooms	657.58
Hallways	1266.0

Common area	Floor area (m ²)
Comms	24.18
Plant	236.96
Mail room	16.0

Common area	Floor area (m ²)
MDB	39.0
Roof plants	218.0
Ground floor lobbies	197.0

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Building D

(a) Dwellings

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

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

2. Commitments for Residential flat buildings - Building E

(a) Dwellings

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

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

3. Commitments for multi-dwelling houses

4. Commitments for single dwelling houses

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

- (i) Water
- (ii) Energy

Schedule of BASIX commitments

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

1. Commitments for Residential flat buildings - Building D

(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	no	-	3.5 star	-	-	-	-	-	-	-

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

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓ ✓ ✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan, ducted to façade or roof	interlocked to light	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
All dwellings	1-phase airconditioning 3 star (average zone)	-	1-phase airconditioning 3 star (average zone)	airconditioning ducting only	0 (dedicated)	1	yes	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	induction cooktop & electric oven	-	yes	3.5 star	-	2 star	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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)
01.01	22.1	14.3
01.02	7.7	17.2
01.03	9.3	23.6
01.04	16.0	12.9
01.05	15.3	16.3
01.06	28.2	20.0
01.07	16.0	21.2
01.08	20.2	13.7
01.09	16.8	14.7
01.10	8.2	23.1

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
01.11	8.4	16.4
02.01	21.2	12.1
02.02	7.9	16.0
02.03	15.6	11.5
02.04	16.6	13.4
02.05	18.3	16.2
02.06	29.1	18.6
02.07	16.6	20.8
02.08	18.7	13.7
02.09	19.1	13.4
02.10	8.5	22.9
02.11	8.7	16.0
03.01	24.4	9.3
03.02	9.1	11.9
03.03	16.0	11.5
03.04	20.3	12.4
03.05	21.2	12.8
03.06	32.3	15.0
03.07	19.5	17.9
03.08	21.5	10.2
03.09	22.8	10.9
03.10	11.2	15.5
03.11	11.7	11.7
04.01	24.8	9.3
04.02	10.1	12.2
04.03	17.1	13.5
04.04	20.4	12.2

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
04.05	21.1	13.2
04.06	31.8	15.7
04.07	19.8	17.5
04.08	21.9	9.8
04.09	23.2	10.9
04.11	12.2	11.9
05.01	25.3	9.2
05.02	8.5	11.7
05.03	19.1	10.2
05.04	20.9	13.0
05.05	20.8	13.7
05.06	29.1	15.9
05.07	20.2	17.5
05.08	22.4	9.5
05.09	23.8	10.8
05.11	12.4	11.8
06.01	27.6	9.0
06.02	8.9	12.4
06.03	19.4	9.8
06.04	20.8	12.4
06.05	20.2	14.2
06.06	28.2	15.9
06.07	22.0	16.8
06.08	22.7	9.3
06.09	26.4	10.5
06.10	13.5	12.8
06.11	14.2	11.0

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
07.01	27.7	9.3
07.02	8.0	11.8
07.03	21.2	9.5
07.04	20.9	12.7
07.05	18.4	14.4
07.06	25.8	15.8
07.07	23.3	15.5
07.08	30.4	19.1
07.09	16.6	20.6
07.10	12.6	7.5
08.01	27.9	9.3
08.02	13.7	11.4
08.03	21.4	9.5
08.04	29.7	10.5
08.05	26.0	13.1
08.06	32.6	14.4
LG.01	23.5	20.6
LG.02	23.1	15.7
LG.03	24.0	22.2
LG.04	18.7	18.8
LG.05	10.2	24.4
LG.06	2.5	27.2
UG.01	20.5	14.3
UG.02	16.5	19.9
UG.03	6.7	16.2
UG.04	10.1	21.8
UG.05	11.2	20.9

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
UG.06	32.5	23.8
UG.07	14.6	18.3
UG.08	19.2	14.0
UG.09	17.3	14.6
UG.10	7.4	25.2
UG.11	8.1	18.1
All other dwellings	11.9	14.8

(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.	✓	✓	✓

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Lift car (No.1)	-	-	light-emitting diode	connected to lift call button	Yes
Lift car (No.2)	-	-	light-emitting diode	connected to lift call button	Yes

Central energy systems	Type	Specification
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 12
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 12

2. Commitments for Residential flat buildings - Building E

(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	no	-	3.5 star	-	-	-	-	-	-	-

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

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓ ✓ ✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan, ducted to façade or roof	interlocked to light	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
All dwellings	1-phase airconditioning 3 star (average zone)	-	1-phase airconditioning 3 star (average zone)	airconditioning ducting only	0 (dedicated)	1	yes	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	induction cooktop & electric oven	-	yes	3.5 star	-	2 star	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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)
01.01	12.1	17.5
01.02	9.2	22.5
01.03	3.4	25.0
01.04	4.8	17.5
01.05	12.2	19.4
01.06	17.3	15.3
01.07	9.3	20.6
01.08	24.0	27.0
01.09	17.9	17.7
01.10	18.7	21.6

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
01.11	20.4	18.0
01.12	14.6	28.6
02.01	12.9	15.3
02.02	7.3	21.0
02.03	4.5	23.7
02.04	7.0	22.8
02.05	17.1	12.8
02.06	16.1	10.6
02.07	14.8	16.2
02.08	22.0	21.9
02.09	25.1	25.8
02.10	27.7	13.3
02.11	13.0	28.0
03.01	15.7	11.5
03.02	9.0	20.7
03.03	4.6	23.9
03.04	10.1	20.7
03.05	17.3	13.7
03.06	17.0	11.3
03.07	15.9	13.2
03.08	22.1	18.1
03.09	23.8	17.4
03.10	28.7	11.5
03.11	16.0	25.8
04.01	15.6	11.3
04.02	11.4	14.7
04.03	6.2	21.1

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
04.04	9.0	20.8
04.05	21.0	11.4
04.06	20.4	9.9
04.07	18.2	13.0
04.08	23.0	18.0
04.09	24.5	16.8
04.10	29.1	11.2
04.11	16.3	25.9
05.01	16.2	11.4
05.02	11.6	14.2
05.03	6.4	20.9
05.04	9.2	21.0
05.05	21.4	11.8
05.06	20.9	10.0
05.07	16.1	13.6
05.08	22.5	18.5
05.09	25.0	16.5
05.10	29.6	11.0
05.11	16.8	25.8
06.01	16.3	11.1
06.02	12.0	14.0
06.03	6.7	21.2
06.04	9.2	22.0
06.05	21.6	11.9
06.06	21.1	10.1
06.07	18.5	12.3
06.08	22.5	17.5

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
06.09	24.8	17.0
06.10	29.9	10.6
06.11	17.1	25.4
07.01	28.8	9.3
07.02	15.6	12.2
07.03	12.5	18.6
07.04	17.9	19.9
07.05	34.7	9.6
07.06	32.4	8.4
07.07	23.4	13.4
07.08	30.4	17.3
07.09	38.2	15.9
07.10	39.2	12.0
07.11	34.2	9.4
LG.01	14.6	13.3
LG.02	4.9	29.4
LG.03	4.0	24.4
LG.04	36.8	18.9
LG.05	24.8	10.0
UG.01	21.6	15.9
UG.02	17.9	21.9
UG.03	6.8	17.0
UG.04	3.4	16.8
UG.05	13.2	28.4
UG.06	12.9	14.9
UG.07	13.7	29.1
UG.08	30.9	13.8

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
UG.09	22.9	27.6
UG.10	19.5	18.9
All other dwellings	18.9	16.8

(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.	✓	✓	✓

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Lift car (No.3)	-	-	light-emitting diode	connected to lift call button	Yes
Lift car (No.4)	-	-	light-emitting diode	connected to lift call button	Yes

Central energy systems	Type	Specification
Lift (No. 3)	gearless traction with V V V F motor	Number of levels (including basement): 11
Lift (No. 4)	gearless traction with V V V F motor	Number of levels (including basement): 11

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

(b) Common areas and central systems/facilities

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

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

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	50000.0	To collect run-off from at least: - 1977.2 square metres of roof area of buildings in the development - 263.66 square metres of impervious area in the development - 0.0 square metres of garden/lawn area in the development - 0.0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 1977.2 square metres of common landscaped area on the site - car washing in 1 car washing bays on the site

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

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

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Car park	ventilation exhaust only	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	Yes
Comms	air conditioning system	thermostatically controlled	light-emitting diode	motion sensors	Yes
MDB	ventilation supply only	interlocked to light	light-emitting diode	motion sensors	Yes
Garbage rooms	ventilation exhaust only	-	light-emitting diode	motion sensors	Yes
Plant	no mechanical ventilation	-	light-emitting diode	manual on / manual off	Yes
Roof plants	no mechanical ventilation	-	light-emitting diode	manual on / manual off	Yes
Store rooms	ventilation supply only	time clock or BMS controlled	light-emitting diode	motion sensors	Yes
Mail room	ventilation supply only	time clock or BMS controlled	light-emitting diode	motion sensors	Yes
Ground floor lobbies	ventilation supply only	time clock or BMS controlled	light-emitting diode	time clocks	Yes
Hallways	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	Yes

Central energy systems	Type	Specification
Central hot water system (No. 1)	electric heat pump - air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.6 (~25 mm); (b) Piping internal to building: R0.6 (~25 mm)
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 50.0 peak kW
Other	Building management system installed?: yes	-

Notes

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

Legend

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

APPENDIX B – NATHERS ASSESSMENT



APPENDIX C – NATHERS STAMPED PLANS

