### **CROWN GROUP**

### EASTLAKES TOWN CENTRE SOUTH SITE BASIX AND ESD

MARCH 2020 CONFIDENTIAL







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REV	DATE	DETAILS
00	31/08/2018	For DA submission
01	7/03/2019	For information
02	30/05/2019	Revised design of D and J
03	11/10/2019	Revised design
04	05/02/20	Changes to Buildings E, F and J

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### **EXECUTIVE SUMMARY**

An ESD strategy has been developed for the proposed South Site in the Eastlakes Town Centre Development. The South Site comprises of Buildings D, E, F, G and J. This report demonstrates how the development meets the statutory requirements for single occupancy dwellings under Section J and BASIX and describes how best practice ESD principles will be incorporated in the design of the development.

BASIX requires different benchmarks to be met according to the size of the building. The following benchmarks apply to the Buildings on the south site of Eastlakes Town Centre:

- Water—Minimum target of 40% potable water use reduction compared to the NSW average for all buildings
- Thermal comfort—Meeting a set of NatHERS modelled maximum heating and cooling loads determined by the BASIX tool according to the development type and climate zone. For this development, the thresholds are as follows:

BUILDING	HEATING		COOLING	
	Average Maximum MJ/m²	Maximum per dwelling MJ/m²	Average Maximum MJ/m²	Maximum per dwelling MJ/m²
E, F and G	51	66	45	59
D and J	40	45.4	26	29.5

COOLING

- Energy —Minimum required target of 25% energy consumption reduction compared to the NSW average for buildings D and J
- Energy—Minimum required target of 20% energy consumption reduction compared to the NSW average for buildings E and F
- Energy—Minimum required target of 30% energy consumption reduction compared to the NSW average for building G

Water efficiency in the building has been achieved through the following:

LICATING

Water efficient fittings

DI III DING

Supply of harvested rainwater for use in irrigation

NatHERS modelling has been conducted to demonstrate thermal comfort performance of the residential dwellings, and the results of this modelling demonstrate that the architectural design can manage thermal loads within the apartments to meet the minimum benchmark for this location.

Energy consumption in multi-unit residential buildings is heavily influenced by the utilisation and servicing of the common areas. HVAC and artificial lighting systems in the basement and lobbies has been carefully designed to reduce energy demands.

Simple energy efficiency measures, such as the provision of efficient fitting and fixtures will deliver energy consumption reductions in the dwellings. These include:

- Efficient DHW heating systems
- Lighting will consist of dedicated low energy light fittings with efficient controls to limit unnecessary usage
- High Energy Star-rated appliances will be installed in each apartment

### 1 INTRODUCTION

An ESD strategy has been developed for the proposed Buildings D, E, F, G and J in the South site of the Eastlakes Town Centre development. This report demonstrates how the development meets the statutory requirements for single occupancy dwellings under Section J and describes how best practice ESD principles will be incorporated in the design of the development.

### 1.1 BASIX

BASIX is an online tool that is used to rate the energy and water efficiency and thermal comfort performance of residential dwellings in NSW. The tool sets minimum energy and water reduction targets which must be met through the design of the building and the selection of fixtures and fittings.

BASIX applies to all new dwellings including single dwellings, townhouses and low-rise, mid-rise and high-rise developments in NSW. BASIX also applies to all residential alterations and additions with a total cost of works of \$100,000 or more; and all residential developments with a total estimated cost of works of \$50,000 or more.

Design inputs including location, size, construction and glazing materials, water sources, equipment and fittings are used to determine the potential energy and water consumption of a new home or dwelling.

BASIX assesses three main categories:

- 1. Water:
- 2. Thermal Comfort;
- 3. Energy.

Thermal comfort is assessed by simulation in accordance with the Nationwide House Energy Rating Scheme (NatHERS) modelling protocol. This requires the modelling of each assessable dwelling by an accredited assessor, working with NatHERS accredited software.

NatHERS modelling assesses the potential of the dwelling to provide thermal comfort passively, thereby reducing energy requirements for heating and cooling. The annual heating and cooling loads calculated are entered into the BASIX tool to determine if the dwelling satisfies the maximum heating and cooling loads set for the dwelling in its climate zone.

The heating and cooling loads also affect the 'Energy' score, with more efficient dwellings contributing to an improved score in the 'Energy' section. The 'Energy' score is also affected by other inputs such as efficiency of appliances, heating and cooling system selection, hot water systems and factors such as use of renewable energy systems.

### **SOURCES OF INFORMATION** 1.1.1

This BASIX assessment has relied on the following documentation for inputs and methodology

Architectural drawings from FJMT as shown below. All drawings are dated 13/02/20 and the Revision is M01.

**Table 1: Architectural drawings used** 

DRAWINGS
Basement 1
Basement 2
Basement 3
Basement 4
Ground Level
Level 1 Lower Podium
Level 2 Upper Podium
Level 3
Level 4
Level 5
Level 6
Level 7
Level 8
Level 9
Level 10
Level 11
Roof Plan
East and West Elevation
North and South Elevations
Longitudinal Section
Cross Section

- $Correspondence\ with\ FJMT$
- Correspondence with Crown

**PROJECT NO 2302881U** 

SOUTH SITE BASIX AND ESD

- NatHERS Technical Note 1 Principles for Ratings in Regulation Mode version 1.2 2014
- BASIX Thermal Comfort Protocol 01 December 2014 (Amendment No. 4: 01 February 2016)
- BASIX Thermal Comfort Protocol 01 July 2017

### 1.1.2 ACCREDITED NATHERS SIMULATION SOFTWARE

FirstRate5 is provided by Sustainability Victoria and is accredited for simulating the thermal performance of dwellings in Australian climates under the NatHERS software accreditation protocol.

FirstRate5 version 5.2.10b(3.13) has been used in the assessment of this project, in accordance with the NatHERS Technical Note and the BASIX Thermal Comfort Protocol.

Inputs including dwelling geometry, space uses, orientation, climate zone, building materials and shading from adjacencies and obstructions are used to calculate heating and cooling loads for the dwelling. Resulting loads that are within the heating and cooling thresholds set under the BASIX protocol will satisfy the thermal comfort targets of BASIX.

### 1.2 LIMITATIONS

The results from the NatHERS modelling shown within this report are limited in accuracy by factors including the following:

- Actual energy consumption will be affected by variations in the climate, installed equipment, occupants and their behaviour which modelling does not account for;
- Construction details being consistent with the design documentation provided;
- Orientation and apartment layout being as shown on the drawings.

### 1.3 APPLICATION OF SECTION J OF THE NATIONAL CONSTRUCTION CODE VOLUME 1

The thermal performance requirements for a building's envelope are addressed through the first three parts of Section J – Energy Efficiency of the National Construction Code (NCC):

- Part J1 Building Fabric and Glazing
- Part J2 No longer used
- Part J3 Building Sealing

The residential part of this project is regulated under BASIX for energy efficiency.

For each Sole Occupancy Unit (SOU) of a Class 2 building, BASIX satisfies Parts J1 and J3.

The prescriptive provisions of Parts J1 and J3 are therefore not directly applicable to each SOU. The relevant Performance Requirements have been stated as the maximum thermal comfort heating and cooling loads stipulated by BASIX.

The Class 2 parts of the building that are not SOUs must satisfy the prescriptive provisions of Parts J1 and J3.

The architect must take responsibility for specifying the Performance Requirements of the building fabric, glazing and building sealing performance, as required under BASIX, including those non-SOU parts of the building.

The relevant consultant(s) must take responsibility for specifying the Performance Requirements of the mechanical and electrical services design, as required under the relevant parts of Section J.

The Class 6 Retail areas and Class 9b childcare must comply with the requirements of Section J of the NCC 2019.

An assessment of section J compliance using JV3 modelling has been completed for the retail and childcare areas of the development which demonstrates the current design has the potential to meet Section J requirements.

The conditioned common areas in the residential parts of the buildings were also assessed using the Deemed to Satisfy provisions. This assessment shows the development has the potential to meet Section J energy efficiency requirements under Parts J1 Building Fabric and glazing.

A detailed assessment will be undertaking during Detailed Design to assess the most suitable glazing products and insulation levels.

The purpose of the BASIX analysis is to benchmark the proposed development against average NSW residential performance parameters, including:

- Water
- Thermal comfort
- Energy

BASIX requires the following benchmarks to be met:

- Water—Minimum target of 40% potable water use reduction compared to the NSW average
- Thermal comfort—Meeting a set of NatHERS modelled maximum heating and cooling loads determined by the BASIX tool according to the development type and climate zone.
- Energy —Minimum required target of 25% energy consumption reduction compared to the NSW average for buildings D and J
- Energy—Minimum required target of 20% energy consumption reduction compared to the NSW average for buildings E and F
- $\bullet$  Energy—Minimum required target of 30% energy consumption reduction compared to the NSW average for building G

The BASIX certificate(s) for the development are included in Appendix A-1.

### 2.1 WATER

Water efficiency in the building has been achieved through the following:

• Water efficient fittings as shown in the table below:

### **Table 2: Water fixtures performance**

FITTING	WELS RATING
Toilet	4 Star
Bathroom taps	5 Star
Kitchen taps	5 Star
Showers	3 Star (more than 6L/min but less than 7.5L/min)
Dishwashers	4 Star
Washing machines	2 Star

- Native and low water use plant species have been selected for all landscaping in the building
- Harvested rainwater will be collected in a 100kL rainwater tank (common tank from North and South sites) to provide water to irrigation around the site. Rainwater will also be used in car wash bays.

### 2.2 THERMAL COMFORT

Thermal comfort (NatHERS) modelling is employed in accordance with the BASIX protocol, to determine heating and cooling loads attributed to achieving acceptable thermal comfort in each dwelling. The results of NatHERS modelling demonstrate that the architectural design can manage thermal loads within the apartments to meet the minimum benchmark for this location.

The maximum allowable thermal loads for a development in this location are those shown in Table 3. The average thermal loads achieved in this development are shown in the same table for comparison.

Table 3: NatHERS thermal comfort performance

BUILDING	HEATING		COOLING	
	Average Maximum MJ/m²	Maximum per dwelling MJ/m²	Average Maximum MJ/m²	Maximum per dwelling MJ/m²
Maximum load set by BASIX for E, F and G	51	66	45	59
Average load achieved for E, F and G	35.3		23	.6
Maximum load set by BASIX for D and J	40	45.4	26	29.5
Average load achieved for D and J	37.5		20	.4

### 2.2.1 MODELLING INPUTS

This section identifies the inputs for windows, shading and constructions used for the NatHERS modelling.

### GLAZINO

Table 4 identifies the glazing properties (window total values only) used in the NatHERS models.

**Table 4: Glazing properties** 

GLAZING OPERABILITY	U-VALUE (WHOLE WINDOW)	SHGC (WHOLE WINDOW)
Sliding doors and fixed windows	4.8	0.59
Awning Windows	4.8	0.51
Skylights building F - Single glazed clear	7.3	0.79

### **SHADING**

Shading of the external building fabric alters the impact of solar loads on the internal conditions of each dwelling. NatHERS modelling accounts for sources of fixed shading that can impact each dwelling.

Note that models have accounted for the following:

- The overhang of any balconies above each dwelling;
- Overshadowing from adjacent buildings; and
- Projecting balcony separator walls and other 'wing-wall'-type geometry between dwellings.

Holland blinds have been modelled as required by the NatHERS protocol, but are not required to be installed as part of the development.

### CONSTRUCTIONS

Table 5 identifies the wall, floor, ceiling and roof construction properties used as part of the NatHERS models.

**Table 5: Construction properties** 

ELEMENT	MATERIAL / PARAMETER	
Construction and Insulation Details		
Ground floor	Minimum 400mm suspended concrete structural slab	
Upper floors	200mm suspended concrete slabs	
Exposed floors	Floors above open and/or non-conditioned space – R2 added insulation)	
External walls	Compressed Fibre Cement Cladding <u>R2.0 added insulation</u>	
Party walls between apartments	Aerated autoclaved concrete block with cavity and plasterboard lining	
Party walls between apartment and corridor	Aerated autoclaved concrete block with cavity and plasterboard lining R1.0 added insulation	
Internal partition walls	Lightweight cavity stud, plasterboard lining	
Walls around rises	R1 insulation	
Ceilings/Roof	Concrete slab with cavity and plasterboard ceiling lining MEDIUM roof colour R4.0 added insulation	
Floor coverings	•Bedrooms, Living/Dining, Study, Hall - carpet •Wet areas - tiles •Kitchen - tiles *Except when drawings indicate tiles for the entire apartment	
Shading	All eaves, balconies, balustrades, wall extensions/wing walls, vertical shade louvres and window reveals as shown on plans and elevations.	
Downlights	No downlights.  Downlights if fitted are to be sealed, with approved non-ventilated downlight covers, allowing for continuous installation of insulation over the fitting without resultant penetrations in the insulation or air transfer to ceiling cavity. An IC-4 fitting rating should be sought in accordance with AS/NZS 60598.2.2	
Exhaust Fans	Provision for exhaust fans - 1 per kitchen, laundry, bathroom and ensuite. 150x150 opening, <u>sealed</u> .	

### 2.2.2 MODELLING CONCLUSION

The results of NatHERS modelling demonstrate the apartments can meet the minimum requirements of the Thermal Comfort section of BASIX.

The NatHERS group Universal certificate is included in Appendix A-2.

Stamped drawings for submission in conjunction with the BASIX certificate are included in Appendix A-3.

### 2.3 ENERGY

### 2.3.1 COMMON AREAS

Energy consumption in multi-unit residential buildings is heavily influenced by the utilisation and servicing of the common areas. HVAC and artificial lighting systems in car parks, and lobbies need to be carefully designed to reduce energy demands.

The common areas will use:

- Efficient mechanical ventilation systems with appropriate controls to avoid overuse
- Natural ventilation where possible
- High efficacy light fittings
- Lighting control systems in all spaces such as motion sensors or timeclock where appropriate
- Car park mechanical ventilation controlled by carbon monoxide sensors and VSD fans
- A PV array will be included on the roof of the buildings. This array will feed energy into the embedded network for distribution to the site.

Further details of the proposed energy strategy for the common areas of the residential portion of the building are summarised in Table 6.

Table 6: Energy strategies for the common areas

ENERGY ITEM	STRATEGY
Lift motors	Gearless traction with VVVF motors
Lighting	Basement— light emitting diode; Zoned switching with motion sensor
	Lifts—light emitting diode; Connected to lift call button
	Garbage rooms—fluorescent; Motion sensors
	Hallways— light emitting diode; time clock with motion sensor
Ventilation	Basement —ventilation (exhaust only); carbon monoxide monitor + VSD fan
	Garbage rooms—ventilation exhaust only
	Hallways—The ground floor lobbies are naturally ventilated. Lobbies on each floor are provided with tempered air from the mechanical ventilation system.

### 2.3.2 DWELLINGS

Domestic hot water (DHW), space heating and comfort cooling account for up to 60% of the energy use of an average residential dwelling. Targeting these systems as a priority will support the greatest energy consumption reductions. Simple energy efficiency measures, such as the provision of efficient fittings and fixtures can deliver energy consumption reductions.

The dwellings will include the following initiatives:

- Efficient DHW heating systems
- Lighting will consist of dedicated low energy light fittings with efficient controls to limit unnecessary usage
- Clothes drying lines will be installed in each apartment
- Highly efficient cooling and heating systems will be installed in each apartment (see Table 7).

### **Table 7: Energy strategies for the dwellings**

ENERGY ITEM	STRATEGY
Central DHW heating system	High efficiency, gas fired boiler plant
Central cooling system	High efficiency (COP > 4.5), chilled water fan coil units
Central heating system	High efficiency, fan coil + heated water

The Table below lists the appliances that will installed in the apartment and their details on energy performance.

**Table 8: Energy performance for appliances** 

ENERGY ITEM	STRATEGY
Cooktop/over	Gas cooktop, electric oven
Refrigerator	Not provided, <u>ventilated</u> fridge space
Dishwasher	3.5 Star Energy rating
Clothes washers	2.5 Star Energy rating
Clothes dryer	2 Star Energy rating



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

### Multi Dwelling

Certificate number: 957609M\_07

commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated www.basix.nsw.gov.au 06/10/2017 published by the Department. This document is available at government's requirements for sustainability, if it is built in accordance with the This certificate confirms that the proposed development will meet the NSW

This certificate is a revision of certificate number 957609M lodged with the consent authority or certifier on 13 September 2018 with application 09\_0146\_MOD\_4.

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

Secretary

Date of issue: Wednesday, 23 October 2019

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



Project summary	
Project name	Eastlakes Town Centre Bldg D_07
Street address	193 Gardeners Road Eastlakes 2018
Local Government Area	Bayside Council
Plan type and plan number	deposited 1246820
Lot no.	30
Section no.	-
No. of residential flat buildings	1
No. of units in residential flat buildings	105
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Project score	
Water	44 Target 40
Thermal Comfort	Pass Target Pass
Energy	25 Target 25

### Certificate Prepared by

Name / Company Name: WSP Australia Pty Ltd

ABN (if applicable): 80078004798

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# Description of project

Project address	
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Lot no.	30
Section no.	•
Project type	
No. of residential flat buildings	1
No. of units in residential flat buildings	105
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Site details	
Site area (m²)	3750
Roof area (m²)	1089
Non-residential floor area (m²)	2057.0
Residential car spaces	125
Non-residential car spaces	0

Common area landscape		
Common area lawn (m²)	135.0	
Common area garden (m²)	627.9	
Area of indigenous or low water use species $(m^2)$	0.0	
Assessor details		
Assessor number	101142	
Certificate number	AFSOL605IU	
Climate zone	56	
Project score		
Water	44	Target 40
Thermal Comfort	Pass	Target Pass
Energy	25	Target 25

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### **Description of project**

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

# Residential flat buildings - Building D, 105 dwellings, 12 storeys above ground

0804	0711	0707	0703	0610	0606	0602	0509	0505	0501	0408	0404	0311	0307	0303	0209	0205	0201	Dwelling no.
ω	1	_	N	ω	_	_	_	_	_	_	ω	_	_	N	ω	2	_	No. of bedrooms
98.3	54.6	52.3	76.6	105.8	52.3	40.8	47.5	52.3	51.1	52.3	98.3	54.6	52.3	76.6	105.8	81.0	51.1	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
																		- ···
0805	0801	0708	0704	0611	0607	0603	0510	0506	0502	0409	0405	0401	0308	0304	0210	0206	0202	Dwelling no.
10	_	_	ω	_	_	2	ω	_	_	_	_	_	_	ω	_	2	_	No. of bedrooms
81.0	51.1	52.3	98.3	54.6	52.3	76.6	105.8	52.3	40.8	47.5	52.3	51.1	52.3	98.3	54.6	81.0	40.8	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
					l					l								
			_															
0806	0802	0709	0705	0701	0608	0604	0511	0507	0503	0410	0406	0402	0309	0305	0301	0207	0203	Dwelling no.
0806 2	0802 1	0709 1	0705 1	0701 1	0608 1	0604 3	0511 1	0507 1	0503 2	0410 3	0406 1	0402 1	0309 1	0305 1	0301 1	0207 1	0203 2	Dwelling no.  No. of bedrooms
2 81	1 40	1 47	1 52	<u> </u>	1 52	3 98	_	1 52.	2 76.	3 105	1 52	1 40	1 47	1 52	_	1 52	2 76.	No. of bedrooms
2 81.0	1 40.8	1 47.5	1 52.3	1 51.1	1 52.3	3 98.3	1 54.6	1 52.3	2 76.6	3 105.8	1 52.3	1 40.8	1 47.5	1 52.3	1 51.1	1 52.3	2 76.6	No. of bedrooms  Conditioned floor area (m²)  Unconditioned
2 81.0 0.0	1 40.8 0.0	1 47.5 0.0	1 52.3 0.0	1 51.1 0.0	1 52.3 0.0	3 98.3 0.0	1 54.6 0.0	1 52.3 0.0	2 76.6 0.0	3 105.8 0.0	1 52.3 0.0	1 40.8 0.0	1 47.5 0.0	1 52.3 0.0	1 51.1 0.0	1 52.3 0.0	2 76.6 0.0	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden &
2 81.0 0.0 0.0 0.0	1 40.8 0.0 0.0 0.0	1 47.5 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	1 51.1 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	3 98.3 0.0 0.0 0.0	1 54.6 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	2 76.6 0.0 0.0 0.0	3 105.8 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	1 40.8 0.0 0.0 0.0	1 47.5 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	1 51.1 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	2 76.6 0.0 0.0 0.0	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)
2 81.0 0.0 0.0	1 40.8 0.0 0.0	1 47.5 0.0 0.0	1 52.3 0.0 0.0	1 51.1 0.0 0.0	1 52.3 0.0 0.0	3 98.3 0.0 0.0	1 54.6 0.0 0.0	1 52.3 0.0 0.0	2 76.6 0.0 0.0	3 105.8 0.0 0.0	1 52.3 0.0 0.0	1 40.8 0.0 0.0	1 47.5 0.0 0.0	1 52.3 0.0 0.0	1 51.1 0.0 0.0	1 52.3 0.0 0.0	2 76.6 0.0 0.0	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species
2 81.0 0.0 0.0 0.0	1 40.8 0.0 0.0 0.0	1 47.5 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	1 51.1 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	3 98.3 0.0 0.0 0.0	1 54.6 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	2 76.6 0.0 0.0 0.0	3 105.8 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	1 40.8 0.0 0.0 0.0	1 47.5 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	1 51.1 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	2 76.6 0.0 0.0 0.0	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)
2 81.0 0.0 0.0 0.0 0.0 0807	1 40.8 0.0 0.0 0.0 0803	1 47.5 0.0 0.0 0.0 0710	1 52.3 0.0 0.0 0.0 0706	1 51.1 0.0 0.0 0.0 0702	1 52.3 0.0 0.0 0.0 0609	3 98.3 0.0 0.0 0.0 0605	1 54.6 0.0 0.0 0.0 0601	1 52.3 0.0 0.0 0.0 0508	2 76.6 0.0 0.0 0.0 0504	3 105.8 0.0 0.0 0.0 0411	1 52.3 0.0 0.0 0.0 0407	1 40.8 0.0 0.0 0.0 0403	1 47.5 0.0 0.0 0.0 0310	1 52.3 0.0 0.0 0.0 0306	1 51.1 0.0 0.0 0.0 0302	1 52.3 0.0 0.0 0.0 0208	2 76.6 0.0 0.0 0.0 0204	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.
2 81.0 0.0 0.0 0.0 0.0 0807 1 52	1 40.8 0.0 0.0 0.0 0803 2 76	1 47.5 0.0 0.0 0.0 0710 3 105	1 52.3 0.0 0.0 0.0 0706 1 52	1 51.1 0.0 0.0 0.0 0702 1	1 52.3 0.0 0.0 0.0 0609 1 47	3 98.3 0.0 0.0 0.0 0605 1 52	1 54.6 0.0 0.0 0.0 0601 1	1 52.3 0.0 0.0 0.0 0508 1 52	2 76.6 0.0 0.0 0.0 0504 3 98	3 105.8 0.0 0.0 0.0 0411 1	1 52.3 0.0 0.0 0.0 0407 1 52	1 40.8 0.0 0.0 0.0 0403 2 76	1 47.5 0.0 0.0 0.0 0310 3 105	1 52.3 0.0 0.0 0.0 0306 1	1 51.1 0.0 0.0 0.0 0302 1	1 52.3 0.0 0.0 0.0 0208 1	2 76.6 0.0 0.0 0.0 0204 3 98	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.  No. of bedrooms  Conditioned floor
2 81.0 0.0 0.0 0.0 0.0 0807 1 52.3	1 40.8 0.0 0.0 0.0 0803 2 76.6	1     47.5     0.0     0.0     0.0     0710     3     105.8	1 52.3 0.0 0.0 0.0 0706 1 52.3	1 51.1 0.0 0.0 0.0 0702 1 40.8	1 52.3 0.0 0.0 0.0 0609 1 47.5	3 98.3 0.0 0.0 0.0 0605 1 52.3	1 54.6 0.0 0.0 0.0 0601 1 51.1	1 52.3 0.0 0.0 0.0 0508 1 52.3	2 76.6 0.0 0.0 0.0 0504 3 98.3	3 105.8 0.0 0.0 0.0 0411 1 54.6	1 52.3 0.0 0.0 0.0 0407 1 52.3	1 40.8 0.0 0.0 0.0 0403 2 76.6	1 47.5 0.0 0.0 0.0 0310 3 105.8	1 52.3 0.0 0.0 0.0 0306 1 52.3	1 51.1 0.0 0.0 0.0 0302 1 40.8	1 52.3 0.0 0.0 0.0 0208 1 44.0	2 76.6 0.0 0.0 0.0 0204 3 98.3	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.  No. of bedrooms  Conditioned floor area (m²)  Unconditioned

1110	1106	1102	1008	1004	0910	0906	0902	0808	Dwelling no.
_	2	_	_	ω	_	2	_	_	No. of bedrooms
54.6	81.0	40.1	44.0	98.3	54.6	81.0	40.8	50.6	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
	1107	1103	1009	1005	1001	0907	0903	0809	Dwelling no.
	Ľ			_					
	_	2	ω	2	_	_	2	ω	No. of bedrooms
	52.3	76.6	105.8	81.0	51.1	52.3	76.6	105.8	Conditioned floor area (m²)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
	1108	1104	1010	1006	1002	0908	0904	0810	Dwelling no.
	1108 1	1104 3	1010 1	1006 2	1002 1	0908 1	0904 3	0810 1	No. of bedrooms
	80								
	08 1	3 98	_	8		_	3 98	_	No. of bedrooms  Conditioned floor
	08 1 44.0	3 98.3	1 54.6	2 81.0	1 40.8	1 50.6	3 98.3	1 54.6	No. of bedrooms  Conditioned floor area (m²)  Unconditioned
	08 1 44.0 0.0	3 98.3 0.0	1 54.6 0.0	2 81.0 0.0	1 40.8 0.0	1 50.6 0.0	3 98.3 0.0	1 54.6 0.0	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden &
	08 1 44.0 0.0 0.0 0.0 .0	3 98.3 0.0 0.0 0.0	1 54.6 0.0 0.0 0.0	2 81.0 0.0 0.0	1 40.8 0.0 0.0 0.0	1 50.6 0.0 0.0 0.0	3 98.3 0.0 0.0 0.0	1 54.6 0.0 0.0 0.0	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)
	08 1 44.0 0.0 0.0 0.0 1109	3 98.3 0.0 0.0 0.0 1105	1 54.6 0.0 0.0 0.0 1101	2 81.0 0.0 0.0 0.0 1007	1 40.8 0.0 0.0 0.0 1003	1 50.6 0.0 0.0 0.0 0909	3 98.3 0.0 0.0 0.0 0905	1 54.6 0.0 0.0 0.0 0901	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species
	08 1 44.0 0.0 0.0 0.0 .0	3 98.3 0.0 0.0 0.0 1105 2	1 54.6 0.0 0.0 0.0 1101 1	2 81.0 0.0 0.0 0.0 1007 1	1 40.8 0.0 0.0 0.0	1 50.6 0.0 0.0 0.0	3 98.3 0.0 0.0 0.0	1 54.6 0.0 0.0 0.0 0901 1	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)
	08 1 44.0 0.0 0.0 0.0 1109	3 98.3 0.0 0.0 0.0 1105	1 54.6 0.0 0.0 0.0 1101	2 81.0 0.0 0.0 0.0 1007	1 40.8 0.0 0.0 0.0 1003	1 50.6 0.0 0.0 0.0 0909	3 98.3 0.0 0.0 0.0 0905	1 54.6 0.0 0.0 0.0 0901	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.
	08   1   44.0   0.0   0.0   0.0   1109   3   105	3 98.3 0.0 0.0 0.0 1105 2	1 54.6 0.0 0.0 0.0 1101 1	2 81.0 0.0 0.0 0.0 1007 1	1 40.8 0.0 0.0 0.0 1003 2	1 50.6 0.0 0.0 0.0 0909 3 105	3 98.3 0.0 0.0 0.0 0905 2 81	1 54.6 0.0 0.0 0.0 0901 1	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.  No. of bedrooms  Conditioned floor
	08   1   44.0   0.0   0.0   0.0   1109   3   105.8	3 98.3 0.0 0.0 0.0 1105 2 81.0	1 54.6 0.0 0.0 0.0 1101 1 51.1	2 81.0 0.0 0.0 0.0 1007 1 52.3	1 40.8 0.0 0.0 0.0 1003 2 76.6	1 50.6 0.0 0.0 0.0 0909 3 105.8	3 98.3 0.0 0.0 0.0 0905 2 81.0	1 54.6 0.0 0.0 0.0 0901 1 51.1	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.  No. of bedrooms  Conditioned floor area (m²)  Unconditioned

### **Description of project**

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

# Common areas of unit building - Building D

1	Lift car (No. 1)
Floor area (m²)	Common area

Lift car (No. 2)	Common area
1	Floor area (m²)

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

Common area	Floor area (m²)
Community Room	74.0
Garbage room D	55.8
carrier	2.5
Pool plant	79.0
Hallway/lobby type (No. 1)	721.0

Common area	Floor area (m²)
Basement 3 and 4	4625.0
ICN room	7.5
substation	85.7
Central Thermal Plant	109.0

Common area	Floor area (m²)
Resi switch	22.7
Battery room	5.0
HHW and DHW rooms	34.4
Ground floor lobby type (No. 1)	67.0

# 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 multi-dwelling houses
- 3. Commitments for single dwelling houses
- 4. Commitments for common areas and central systems/facilities for the development (non-building specific)
- (i) Water
- (ii) Energy

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## **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

<	<	<	(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.
	<	<	(g) The pool or spa must be located as specified in the table.
	<		(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).
	<	<	(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.
<	<		(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.
<	<		(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
			(e) The applicant must install:
<	<		(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.
<	<		(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.
	<	<	(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).
			(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(i) Water

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Dwelling All toilet no. heads systems taps taps or diversion dwellings 7.5  Fixtures  Appliances  Appliances  Appliances  Appliances  All dish- clothes washers (max volume)  All dish- clothes washers  All dish- volume (max cover location location shaded (max cover location location shaded (max cover location		Dwe	All
Fixtures       Appliances       Individual pool         4 star       5 star       5 star       no       2 star       4 star			
Fixtures       Appliances       Individual pool       Pool pool (max cover pool)       Volume         5 star       5 star       no       2 star       4 star       -       -       -       -       -       -       -		All shower- heads	
xtures       Appliances       Individual pool       Individual pool       Individual pool       Individual pool       Individual pool         All alish-recirculation taps       All dish-recirculation clothes taps       Volume (max volume)       Pool location shaded volume)       Pool location shaded volume)         3 Star       no       2 star       4 star       -       -       -       -       -       -       -		All toilet flushing systems	4 star
Appliances  Appliances  Individual pool Integration athroom or diversion  Star no 2 star 4 star  Appliances  All dish- volume (max cover volume)  All dish- volume (max cover volume)  Individual pool Individ	Fixtur	nen	
Appliances  All All All dish- clothes washers washers  2 star  All All All dish- washers a volume washers  2 star  All All All dish- cover Pool location shaded volume volume)	es	All bathroom taps	5 star
Appliances Individual pool Individual pool  All All dish-clothes washers washers Volume) Pool coation shaded wolume)  2 star 4 star		_ =	no
Volume   Pool   Pool   Pool   Coation   Shaded   Volume   Volume   Volume   Pool   Volume	Appli	All clothes washers	2 star
ne Pool Pool Pool (max volume)	ances	All dish- washers	4 star
Pool Pool Volume Incation shaded volume)		Volume (max volume)	
Pool Pool Volume (max volume)	Ind	Pool	•
Volume (max volume)	ividual pool	Pool location	•
Volume Spa Spa (max cover shaded volume)		Pool shaded	1
Spa Spa Spa cover shaded		Volume (max volume)	•
Spa Shaded	dividua	Spa	,
	spa	Spa shaded	•

Dwelling no.       Alternative water supply systems       Size       Configuration       Landscape connection connection (s)       Toilet connection connection (s)       Laundry connection connection connection (s)       Pool top-up				Alternative water source	Се				
	Dwelling no.	ative water / systems	Size	Configuration	ndscape nnection	Toilet connection (s)		Pool top-up	Spa top-up
	None	1	1		1	1	1	1	1

(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 vent	3athroom ventilation system	Kitchen ventilation	ation system	Laundry ventilation system	ation system
Dwelling no.	Dwelling Hot water system no.	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All central ho dwellings system 1	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	interlocked to light

Co	Dwelling living areas no.	0203, central 0205, coolling 0206, system 1 0303, 0503, 0703, 0703, 0805, 0805, 0805, 0805, 0905, 1005, 1006	0204, central 0209, cooling 0304, system 1 0310, (zoned) 0404, 0410, 0504,
Cooling	bedroom areas	central cooling system 1 (zoned)	central cooling system 1 (zoned)
Нег	living areas	central heating system 1 (zoned)	central heating system 1 (zoned)
Heating	bedroom areas	central heating system 1 (zoned)	central heating system 1 (zoned)
	No. of bedrooms &/or study	(dedicated)	3 (dedicated)
	No. of living &/or dining rooms	2 (dedicated)	2 (dedicated)
Artificial lighting	Each kitchen	yes (dedicated)	yes (dedicated)
ighting	All bathrooms/ toilets	yes (dedicated)	yes (dedicated)
	Each laundry	yes (dedicated)	yes (dedicated)
	All hallways	yes (dedicated)	yes (dedicated)
Natural lighting	No. of bathrooms &/or toilets	0	0
hting	Main kitcher	по	по

All central other cooling dwellings system 1	Dwelling livii no.	
	living areas	Cooling
central cooling system 1 (zoned)	bedroom areas	ng
central heating system 1 (zoned)	living areas	Heating
central heating system 1 (zoned)	bedroom areas	ting
1 (dedicated)	No. of bedrooms &/or study	
1 (dedicated)	No. of living &/or dining rooms	
yes (dedicated)	Each kitchen	Artificial I
yes (dedicated)	All Each bathrooms/ laundry toilets	cial lighting
yes (dedicated)	Each laundry	
yes (dedicated)	All hallways	
0	No. of bathrooms &/or toilets	Natural lighting
no	Main kitchen	hting

	Individual pool	<u>o</u>	Individual spa	)a			Appliance	es & other efficiency measures	ency meas	ures		
Dwelling	Dwelling Pool heating	Timer	Timer Spa heating	Timer	Kitchen	Refrigerator	Well	Dishwasher Clothes Clothes	Clothes	Clothes	Indoor or	Private
no.	system		system		cooktop/oven		ventilated		washer	dryer	sheltered	outdoor or
							fridge				clothes	unsheltered
							space				drying line	clothes drying line
A	-	1	-	1	gas cooktop &	-	yes	3.5 star	2.5 star 2 star	2 star	yes	no
dwellings					electric oven							

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

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC	Certifier
(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.	<	<	<

	Therma	Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
0201	34.8	20.6
0202	21.5	27.4
0203	14.6	28.4
0204	14.8	26.2
0205	33.8	23.2
0206	35.4	28.6
0207	27.7	28.6
0208	20.7	25.3
0209	37.4	14.0
0210	32.7	28.2
0301	36.1	21.2
0302	24.3	24.7
0303	18.3	18.9
0304	15.4	18.0
0305	33.5	21.8

	Therma	Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
0306	35.2	21.2
0307	34.7	23.0
0308	34.5	21.2
0309	30.8	28.3
0310	42.0	12.4
0311	36.2	22.2
0401	41.8	18.5
0402	25.1	23.7
0403	18.7	18.8
0404	14.9	19.6
0405	35.9	20.3
0406	35.7	22.2
0407	36.3	21.4
0408	36.1	20.3
0409	30.7	27.4
0410	40.6	12.6
0411	36.5	23.0
0501	36.8	23.5
0502	23.7	24.5
0503	18.7	19.9
0504	16.0	17.4
0505	37.3	19.5
0506	36.7	19.9
0507	35.7	21.7
0508	36.2	19.8
0509	31.1	27.6
0510	41.1	12.7

	Therma	Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
0602	24.4	24.3
0603	19.3	18.4
0604	16.2	17.0
0605	36.5	19.2
0606	37.5	20.3
0607	36.9	20.1
0608	37.3	19.3
0609	43.6	17.9
0610	40.9	12.4
0611	37.0	23.2
0703	19.5	18.2
0704	16.5	16.9
0705	35.6	19.7
0706	37.6	20.5
0707	36.5	20.7
0708	36.3	19.9
0709	29.8	24.9
0710	40.3	12.3
0711	35.8	23.9
0801	36.4	24.0
0802	23.6	24.2
0803	19.8	17.9
0804	16.8	16.7
0805	36.4	20.5
0806	32.9	23.8
0807	36.7	19.8
0808	33.4	27.4

	Therma	Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
0809	40.8	12.2
0810	36.2	23.8
0901	40.8	20.8
0902	28.3	20.6
0903	21.6	16.5
0904	18.7	14.5
0905	39.5	16.7
0906	35.4	19.3
0907	40.2	16.4
0908	32.2	26.0
0909	43.3	11.5
0910	40.0	20.3
1001	38.4	22.4
1002	28.3	20.5
1003	21.7	17.9
1004	17.8	16.3
1005	34.8	19.6
1006	35.0	20.5
1008	36.0	26.2
1009	43.6	11.8
1101	43.9	21.6
1102	31.7	24.1
1103	32.2	18.0
1104	29.3	18.1
1105	44.9	21.6
1106	43.7	23.6
1107	45.1	16.8

	Therm	Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
1108	37.8	29.0
1109	45.2	12.3
1110	40.5	19.8
0511, 0601	36.7	23.3
0701, 0702	36.5	24.4
All other dwellings	40.4	16.1

# (b) Common areas and central systems/facilities

<	<		(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified 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.
	<		(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.
	<	<	(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.
<	<	<	(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.
<	<		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(i) Water

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

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

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifie
(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	ntilation 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)	1		light-emitting diode	connected to lift call button	Yes

Lift car (No. 1) Lift car (No. 2)	1 1		light-emitting diode	connected to lift call button connected to lift call button	Yes
Central energy systems	Туре	Spe	Specification		
Lift (No. 1)	gearless traction v F motor	vith V V V Nun	gearless traction with V V V Number of levels (including basement): 16 F motor		
Lift (No. 2)	gearless traction v F motor	vith V V V Nun	gearless traction with V V V Number of levels (including basement): 16 F motor		

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

# (b) Common areas and central systems/facilities

<	<		(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified 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.
	<		(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.
	<	<	(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.
<	<	<	(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.
<	<		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(i) Water

	Central water tank - rainwater or stormwater (No. 1)	Central systems
	15000.0	Size
<ul> <li>- 0.0 square metres of impervious area in the development</li> <li>- 0.0 square metres of garden/lawn area in the development</li> <li>- 0.0 square metres of planter box area in the development</li> <li>- (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).</li> </ul>	To collect run-off from at least: - 900.0 square metres of roof area of buildings in the development	Configuration
	<ul> <li>irrigation of 135.0 square metres of common landscaped area on the site</li> <li>car washing in 0 car washing bays on the site</li> </ul>	Connection (to allow for)

<	<	<	(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.
<	<		(b) 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.
<	•		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(ii) Energy

	Common area w	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
Community Room	air conditioning system	time clock or BMS controlled	light-emitting diode	time clocks	Yes
Basement 3 and 4	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion Yes sensor	Yes
Resi switch	ventilation (supply + exhaust)	thermostatically controlled	light-emitting diode	manual on / manual off	Yes
Garbage room D	ventilation exhaust only	1	fluorescent	motion sensors	Yes
ICN room	air conditioning system	thermostatically controlled	light-emitting diode	manual on / manual off	Yes
Battery room	ventilation exhaust only	none ie. continuous	light-emitting diode	manual on / manual off	Yes
carrier	ventilation exhaust only	none ie. continuous	light-emitting diode	manual on / manual off	Yes

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	Common area ve	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
substation	no mechanical ventilation	-	light-emitting diode	manual on / manual off	Yes
HHW and DHW rooms	ventilation (supply + exhaust)	thermostatically controlled	light-emitting diode	manual on / manual off	Yes
Pool plant	ventilation exhaust only	none ie. continuous	light-emitting diode	manual on / manual off	Yes
Central Thermal Plant	ventilation (supply + exhaust)	none ie. continuous	fluorescent	manual on / manual off	Yes
Ground floor lobby type (No. 1)	air conditioning system	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	Yes
Hallway/lobby type (No. 1)	ventilation supply only	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	Yes

Central energy systems	Туре	Specification
Central hot water system (No. 1)	gas-fired boiler	Piping insulation (ringmain & supply risers): (b) Piping internal to building: R1.0 (~38 mm)
Central cooling system (No. 1)	chilled water fan coil units	Energy source: electric driven compressor Heat rejection method: cooling tower Unit efficiency (min): high - COP > 4.5
Central heating system (No. 1)	fan coil + heated water	Energy source: gas boiler
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 8.0 peak kW
Pool (No. 1)	Heating source: gas	Pump controlled by timer: yes
Other	Building management system installed?: yes Active power factor correction installed?: yes	

#### Notes

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

#### Legeno

- 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 it is required to monitor in relation to the building or part, has been fulfilled). 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

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

#### Multi Dwelling

Certificate number: 425857M\_06

commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated www.basix.nsw.gov.au 06/10/2017 published by the Department. This document is available at government's requirements for sustainability, if it is built in accordance with the This certificate confirms that the proposed development will meet the NSW

This certificate is a revision of certificate number 425857M\_03 lodged with the consent authority or certifier on 03 June 2013 with application MP09-0146.

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

#### Secretary

Date of issue: Monday, 21 October 2019

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



Project summary  Project name  Street address  Local Government Area  Plan type and plan number  Lot no.  Section no.  No. of residential flat buildings  No. of units in residential flat buildings	Eastlakes Town Centre (Bldg 7)_06  193 Gardeners Road Eastlakes 2018  Botany Bay City Council  deposited 248832  3 - 1
No. of units in residential flat buildings	96
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Project score	
Water	43 Target 40
Thermal Comfort	Pass Target Pass
Energy	20 Target 20

#### Certificate Prepared by

Name / Company Name: WSP Australia Pty Ltd

ABN (if applicable): 80078004798

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## Description of project

Project address	
Project name	Eastlakes Town Centre (Bldg 7)_06
Street address	193 Gardeners Road Eastlakes 2018
Local Government Area	Botany Bay City Council
Plan type and plan number	deposited 248832
Lot no.	3
Section no.	•
Project type	
No. of residential flat buildings	1
No. of units in residential flat buildings	96
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Site details	
Site area (m²)	4184
Roof area (m²)	1800
Non-residential floor area (m²)	4000.0
Residential car spaces	104
Non-residential car spaces	0

Common area landscape		
Common area lawn (m²)	34.6	
Common area garden (m²)	1101.8	
Area of indigenous or low water use species (m²)	0.0	
Assessor details		
Assessor number	101142	
Certificate number	OTTFDJEI9V	
Climate zone	56	
Project score		
Water	43	Target 40
Thermal Comfort	Pass	Target Pass
Energy	20	Target 20

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#### Description of project

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

# Residential flat buildings - Building E&F, 96 dwellings, 7 storeys above ground

								_		_	_			_		_		
F0308	F0304	F0209	F0205	F0201	F0101	E0604	E0509	E0505	E0501	E0406	E0402	E0307	E0303	E0208	E0204	E0105	E0101	Dwelling no.
2	_	2	_	2	N	2	2	_	N	_	N	N	N	N	_	_	2	No. of bedrooms
67.7	52.9	70.2	38.3	108.8	94.2	89.4	75.3	50.1	75.3	56.5	75.2	79.2	79.2	75.2	56.5	42.1	68.5	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.5	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
F0309	F0305	F0301	F0206	F0202	F0102	E0605	E0601	E0506	E0502	E0407	E0403	E0308	E0304	E0209	E0205	E0201	E0102	Dwelling no.
2	5 1	1 2	5 1	2 2	2	5 1	1 3	6	2	7 2	2	8 2	4	2	5	1 2	2 2	No. of bedrooms
70.6	53.8	108.7	55.0	74.6	103.2	60.5	112.9	56.5	75.2	79.2	79.2	75.2	56.5	75.3	50.1	75.3	71.7	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
$\equiv$																		
									l									
F0401	F0306	F0302	F0207	F0203	F0103	E0606	E0602	E0507	E0503	E0408	E0404	E0309	E0305	E0301	E0206	E0202	E0103	Dwelling no.
F0401 3	F0306 1	F0302 2	F0207 2	F0203 2	F0103 2	E0606 2	E0602 2	E0507 2	E0503 2	E0408 2	E0404 1	E0309 2	E0305 1	E0301 2	E0206 1	E0202 2	E0103 2	Dwelling no.  No. of bedrooms
$\vdash$																		
3 108.	_	2	2 48	2	2	2 93	2 93	N	2 79	2 75	1 56	2 75	_	N	1 56	2 75	2 74	No. of bedrooms
3 108.7	1 55.0	2 74.6	2 48.8	2 54.9	2 103.2	2 93.5	2 93.5	2 79.2	2 79.2	2 75.2	1 56.5	2 75.3	1 50.1	2 75.3	1 56.5	2 75.2	2 74.3	No. of bedrooms  Conditioned floor area (m²)  Unconditioned
3 108.7 0.0	1 55.0 0.0	2 74.6 0.0	2 48.8 0.0	2 54.9 0.0	2 103.2 0.0	2 93.5 0.0	2 93.5 0.0	2 79.2 0.0	2 79.2 0.0	2 75.2 0.0	1 56.5 0.0	2 75.3 0.0	1 50.1 0.0	2 75.3 0.0	1 56.5 0.0	2 75.2 0.0	2 74.3 1.0	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden &
3 108.7 0.0 0.0 0.0	1 55.0 0.0 0.0 0.0	2 74.6 0.0 0.0 0.0	2 48.8 0.0 0.0 0.0	2 54.9 0.0 0.0 0.0	2 103.2 0.0 0.0 0.0	2 93.5 0.0 0.0 0.0	2 93.5 0.0 0.0 0.0	2 79.2 0.0 0.0 0.0	2 79.2 0.0 0.0 0.0	2 75.2 0.0 0.0 0.0	1 56.5 0.0 0.0 0.0	2 75.3 0.0 0.0 0.0	1 50.1 0.0 0.0 0.0	2 75.3 0.0 0.0 0.0	1 56.5 0.0 0.0 0.0	2 75.2 0.0 0.0 0.0	2 74.3 1.0 0.0 0.0	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)
3 108.7 0.0 0.0 0.0 F0402	1 55.0 0.0 0.0 0.0 F0307	2 74.6 0.0 0.0 0.0 F0303	2 48.8 0.0 0.0 0.0 F0208	2 54.9 0.0 0.0 0.0 F0204	2 103.2 0.0 0.0 0.0 F0104	2 93.5 0.0 0.0 0.0 E0607	2 93.5 0.0 0.0 0.0 E0603	2 79.2 0.0 0.0 0.0 E0508	2 79.2 0.0 0.0 0.0 E0504	2 75.2 0.0 0.0 0.0 E0409	1 56.5 0.0 0.0 0.0 E0405	2 75.3 0.0 0.0 0.0 E0401	1 50.1 0.0 0.0 0.0 E0306	2 75.3 0.0 0.0 0.0 E0302	1 56.5 0.0 0.0 0.0 E0207	2 75.2 0.0 0.0 0.0 E0203	2 74.3 1.0 0.0 0.0 E0104	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.
3 108.7 0.0 0.0 0.0 F0402 2	1 55.0 0.0 0.0 0.0 F0307 1	2 74.6 0.0 0.0 0.0 F0303 2	2 48.8 0.0 0.0 0.0 F0208 2	2 54.9 0.0 0.0 0.0 F0204 1	2 103.2 0.0 0.0 0.0	2 93.5 0.0 0.0 0.0 E0607 3	2 93.5 0.0 0.0 0.0 E0603 1	2 79.2 0.0 0.0 0.0 E0508 2	2 79.2 0.0 0.0 0.0 E0504 1	2 75.2 0.0 0.0 0.0 E0409 2	1 56.5 0.0 0.0 0.0 E0405 1	2 75.3 0.0 0.0 0.0 E0401 2	1 50.1 0.0 0.0 0.0 E0306 1	2 75.3 0.0 0.0 0.0 E0302 2	1 56.5 0.0 0.0 0.0 E0207 2	2 75.2 0.0 0.0 0.0 E0203 2	2 74.3 1.0 0.0 0.0 E0104 1	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.
3 108.7 0.0 0.0 0.0 F0402	1 55.0 0.0 0.0 0.0 F0307	2 74.6 0.0 0.0 0.0 F0303	2 48.8 0.0 0.0 0.0 F0208	2 54.9 0.0 0.0 0.0 F0204	2 103.2 0.0 0.0 0.0 F0104	2 93.5 0.0 0.0 0.0 E0607	2 93.5 0.0 0.0 0.0 E0603	2 79.2 0.0 0.0 0.0 E0508	2 79.2 0.0 0.0 0.0 E0504	2 75.2 0.0 0.0 0.0 E0409	1 56.5 0.0 0.0 0.0 E0405	2 75.3 0.0 0.0 0.0 E0401	1 50.1 0.0 0.0 0.0 E0306	2 75.3 0.0 0.0 0.0 E0302	1 56.5 0.0 0.0 0.0 E0207	2 75.2 0.0 0.0 0.0 E0203	2 74.3 1.0 0.0 0.0 E0104	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.
3 108.7 0.0 0.0 0.0 F0402 2	1 55.0 0.0 0.0 0.0 F0307 1	2 74.6 0.0 0.0 0.0 F0303 2	2 48.8 0.0 0.0 0.0 F0208 2	2 54.9 0.0 0.0 0.0 F0204 1	2 103.2 0.0 0.0 0.0 F0104 2 1	2 93.5 0.0 0.0 0.0 E0607 3 112	2 93.5 0.0 0.0 0.0 E0603 1	2 79.2 0.0 0.0 0.0 E0508 2	2 79.2 0.0 0.0 0.0 E0504 1	2 75.2 0.0 0.0 0.0 E0409 2	1 56.5 0.0 0.0 0.0 E0405 1	2 75.3 0.0 0.0 0.0 E0401 2	1 50.1 0.0 0.0 0.0 E0306 1	2 75.3 0.0 0.0 0.0 E0302 2	1 56.5 0.0 0.0 0.0 E0207 2	2 75.2 0.0 0.0 0.0 E0203 2	2 74.3 1.0 0.0 0.0 E0104 1 52	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.  No. of bedrooms  Conditioned floor
3 108.7 0.0 0.0 0.0 F0402 2 74.6	1 55.0 0.0 0.0 0.0 F0307 1 48.9	2 74.6 0.0 0.0 0.0 F0303 2 54.9	2 48.8 0.0 0.0 0.0 F0208 2 67.7	2 54.9 0.0 0.0 0.0 F0204 1 52.9	2 103.2 0.0 0.0 0.0 F0104 2 103.2	2 93.5 0.0 0.0 0.0 E0607 3 112.9	2 93.5 0.0 0.0 0.0 E0603 1 60.5	2 79.2 0.0 0.0 0.0 E0508 2 75.2	2 79.2 0.0 0.0 0.0 E0504 1 56.5	2 75.2 0.0 0.0 0.0 E0409 2 75.3	1 56.5 0.0 0.0 0.0 E0405 1 50.1	2 75.3 0.0 0.0 0.0 E0401 2 75.3	1 50.1 0.0 0.0 0.0 E0306 1 56.5	2 75.3 0.0 0.0 0.0 E0302 2 75.2	1 56.5 0.0 0.0 0.0 E0207 2 79.2	2 75.2 0.0 0.0 0.0 E0203 2 79.2	2 74.3 1.0 0.0 0.0 E0104 1 52.9	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.  No. of bedrooms  Conditioned floor area (m²)  Unconditioned

F0605	F0601	F0506	F0502	F0407	F0403	Dwelling no.
_	ω	_	2	2	_	No. of bedrooms
53.8	108.7	55.0	74.6	48.9	54.9	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
F0606	F0602	F0507	F0503	F0408	F0404	Dwelling no.
_	2	2	Ν	2	_	No. of bedrooms
52.9	70.7	48.9	54.9	68.0	52.9	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
F0607	F0603	F0508	F0504	F0409	F0405	Dwelling no.
507	303	508	504	109	105	
N	_	10	_	N	_	No. of bedrooms
84.5	54.9	67.7	52.9	70.3	53.8	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
F0608	F0604	F0509	F0505	F0501	F0406	Dwelling no.
ω	2	2	1	З	_	No. of bedrooms
112.3	52.9	70.6	53.8	108.7	55.0	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)

#### **Description of project**

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

## Common areas of unit building - Building E&F

Common area	Floor area (m²)
Lift car (No. 1)	-
Hallway/lobby type (No. 1)	687.0

Lift car (No. 2)	Common area
1	Floor area (m²)

Common area	Floor area (m²)
Ground floor lobby type (No. 1)	155.0

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

Common area	Floor area (m²)
Community room	82.6
Garbage room (No. 1)	101.0
Carrier	2.8
Central Thermal Plant	121.6

Common area  Basement 3 and 4  ICN room	Floor area (m <sup>2</sup> ) 5161.0
ICN room	8.4
Substation	95.6
Pool plant	57.0

Common area	Floor area (m²)
Switch room (No. 1)	25.4
Battery Room	5.6
HHW and DHW rooms	38.0

## Schedule of BASIX commitments

- 1. Commitments for Residential flat buildings Building E&F
- (a) Dwellings
- (i) Water
- (ii) Energy
- (iii) Thermal Comfort
- (b) Common areas and central systems/facilities
- (i) Water
- (ii) Energy
- 2. Commitments for multi-dwelling houses
- 3. Commitments for single dwelling houses
- 4. Commitments for common areas and central systems/facilities for the development (non-building specific)
- (i) Water
- (ii) Energy

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### **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 E&F

#### (a) Dwellings

<	<	<	(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.
	<	<	(g) The pool or spa must be located as specified in the table.
	<		(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).
	<	<	(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.
<	<		(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.
<	<		(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
			(e) The applicant must install:
<	<		(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.
<	<		(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.
	<	<	(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).
			(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(i) Water

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			Fixtures	es		Appli	ances		Indiv	ridual pool			lna	Individual sp
Dwelling All no. sho	g All shower- heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish- washers	5 <del>T</del> 6	Volume (max volume)	me Pool cover	me Pool Pool cover location me)	me Pool cover	me Pool Pool Pool cover location shaded	me Pool Pool Pool cover location shaded
All dwellings	All 3 star (> 6 but <= 7.5	4 star	5 star	5 star	•	2 star	4 star	•			•		•	•

None -	Dwelling no.	
	Alternative water supply systems	
-	Size	
-	Configuration	Alternative water sou
•	Landscape connection	ce e
-	Toilet connection (s)	
_	Laundry Pool connection top-up	
-	Pool top-up	
1	Spa top-up	

(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.		<	•

	<		<ul><li>(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".</li></ul>
	<		(cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.
<	<		(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
	<		(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below;
			(h) The applicant must install in the dwelling:
	<		(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.
	<		(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
			(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must:
<	<	<	(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(ii) Energy

	Hot water	Bathroom ventilation system	ilation system	Kitchen ventilation	ation system	Laundry ventilation system	ation system
Dwelling no.	Dwelling Hot water system no.	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All central ho dwellings system 1	central hot water system 1	individual fan, ducted interlocked to light 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	interlocked to light

	Cooling	ling	Heating	ting			Artificial I	icial lighting			Natural lighting	hting
Dwelling no.	Dwelling living areas no.	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All Each bathrooms/ laundry toilets	Each laundry	All hallways	No. of Main bathrooms kitcher &/or toilets	Main kitchen
F0608	central cooling system 1	central cooling system 1	central heating system 1	central heating system 1	3 (dedicated)	1 (dedicated)	yes (dedicated)	yes yes (dedicated) (dedicated)		yes (dedicated)	0	ı
All other dwellings	All central other cooling dwellings system 1	central cooling system 1	central heating system 1	central heating system 1	2 (dedicated)	2 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

	Individual po	ol	Individual sp	pa			Appliance	es & other efficiency measures	ency meas	ures		
Dwelling	Dwelling   Pool heating	Timer	Spa heating	Timer	Timer Kitchen	Refrigerator	Well	Dishwasher Clothes Clothes	Clothes		Indoor or	Private
no.	system		system		cooktop/oven		ventilated		washer dryer	dryer	sheltered	outdoor or
							fridge				clothes	unsheltered
							space				drying line	clothes drving line
 AI	'	'	-	1	gas cooktop &	-	yes	3.5 star	2.5 star 2 star	2 star	yes	no
 dwellings					electric oven							

(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.	<		

<	<	<	(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.
			(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.
			(aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or
<	<	<	(g) Where there is an in-slab heating or cooling system, the applicant must:
<	<		(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.
	<		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(iii) Thermal Comfort

	Therma	Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
E0101	55.8	16.1
E0102	27.1	29.4
E0103	17.5	33.5
E0104	23.7	31.5
E0105	19.2	37.5
E0201	46.5	16.4
E0202	21.2	26.7
E0203	18.6	35.4
E0204	23.3	29.8
E0205	23.7	36.6
E0206	23.7	34.3
E0207	30.7	24.2
E0208	49.2	23.9

	Therma	Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
E0209	45.2	15.7
E0301	51.4	13.4
E0302	24.4	19.8
E0303	21.6	25.5
E0304	24.3	23.1
E0305	25.9	25.4
E0306	26.5	24.5
E0307	34.5	17.7
E0308	53.6	18.4
E0309	49.9	12.4
E0401	52.0	12.8
E0402	24.6	20.3
E0403	22.2	25.0
E0404	26.6	22.6
E0405	27.2	24.9
E0406	27.0	23.6
E0407	35.1	17.5
E0408	54.1	18.3
E0409	50.6	12.1
E0501	52.5	12.4
E0502	25.1	20.0
E0503	22.5	24.8
E0504	26.9	22.5
E0505	27.6	23.9
E0506	27.3	23.4
E0507	35.6	17.4
E0508	54.3	18.6
1		

	Therma	Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
E0509	51.2	11.9
E0601	52.0	21.8
E0602	34,0	49.9
E0603	29.3	16.7
E0604	29.0	22.7
E0605	29.7	19.2
E0606	39.4	28.8
E0607	56.6	21.1
F0101	25.0	24.3
F0102	36,6	35.6
F0103	36.5	33.0
F0104	43.7	36.3
F0201	26.1	48.7
F0202	44,8	29.9
F0203	30.0	24.3
F0204	27.6	21.0
F0205	27.2	32.5
F0206	33.4	25.9
F0207	48.8	33.3
F0208	62.3	21.8
F0209	24.0	35.1
F0301	20.3	20.2
F0302	37.6	17.3
F0303	28.4	12.5
F0304	27.9	14.5
F0305	29.3	14.5
F0306	32.5	18.0

	ı	Thermal loads
F0307	52.0	24.9
F0308	55.2	23.1
F0309	44.7	17.6
F0401	18.2	20.0
F0402	34,0	17.5
F0403	28.9	12.3
F0404	28.2	15.1
F0405	28.8	14.5
F0406	28.7	16.8
F0407	43.8	28.1
F0408	55,9	22.8
F0409	45,4	19.7
F0501	15.0	18.9
F0502	27.9	18.0
F0503	29.3	11.5
F0504	28.8	15.0
F0505	29.6	13.8
F0506	28.6	16.8
F0507	44.0	26.8
F0508	53.9	22.6
F0509	46.6	18.5
F0601	21.8	20.1
F0602	34,9	21.1
F0603	36.6	12.5
F0604	36.7	15.5
F0605	37.4	14.1
F0606	37.5	17.1

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	Thermal load	al loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
F0607	44.7	21.6
All other dwellings	35.7	21.9

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

<	<		
			(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified 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.
	<		(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.
	<	<	(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.
<	<	<	(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.
<	<		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(i) Water

All col	Cor
mmon	nmon area
3 star (> 6 but <= 7.5 L/min)	Showerheads ra
7.5 L/min)	iting
4 star	Toilets rating
4 star	Taps rating
no common laundry facility	Clothes washers rating

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

 (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.		<	<

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(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifie
(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	ntilation 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
Ground floor lobby type (No. air conditioning system 1)	air conditioning system	time clock or BMS controlled light-emitting diode	light-emitting diode	time clock and motion sensors	Yes
Hallway/lobby type (No. 1)	ventilation (supply + exhaust)	none ie. continuous	light-emitting diode	time clock and motion sensors	Yes

Central energy systems	Туре	Specification
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 10
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 10

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

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

<	<		(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified 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.
	<		(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.
	<	<	(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.
<	<	<	(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.
<	<		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(i) Water

Common a	rea Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	3 star (> 6 but <= 7.5 L/min)	4 star	4 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for)
Central water tank - rainwater or stormwater (No.	10000.0	To collect run-off from at least: - 1600.0 square metres of roof area of buildings in the	- irrigation of 100.0 square metres of common landscaped area on the site
1)		development	- car washing in 0 car washing bays on the site
		- 0.0 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).	

Central systems	Size	Configuration	Connection (to allow for)
Pool (No. 1)	Volume: 31.0 kLs	Location: Other Pool shaded: no	•
Fire sprinkler system (No. 1)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	•
Central cooling system (No. 1)	-	Private water meter on make-up line connected to building management system.  Conductivity controller installed in the cooling tower.	

<	<	<	(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.
<	<		(b) 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.
<	<		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(ii) Energy

	Common area w	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
Community room	air conditioning system	time clock or BMS controlled	compact fluorescent	manual on / manual off	Yes
Basement 3 and 4	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion Yes sensor	Yes
Switch room (No. 1)	ventilation (supply + exhaust)	none ie. continuous	compact fluorescent	manual on / manual off	Yes
Garbage room (No. 1)	ventilation exhaust only	-	compact fluorescent	motion sensors	Yes
ICN room	air conditioning system	thermostatically controlled	compact fluorescent	manual on / manual off	Yes
Battery Room	ventilation exhaust only	none ie. continuous	compact fluorescent	manual on / manual off	Yes
Carrier	ventilation exhaust only	none ie. continuous	compact fluorescent	manual on / manual off	Yes

	Common area ve	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
Substation	no mechanical ventilation	1	compact fluorescent	manual on / manual off	Yes
HHW and DHW rooms	ventilation (supply + exhaust)	none ie. continuous	compact fluorescent	manual on / manual off	Yes
Central Thermal Plant	ventilation (supply + exhaust)	none ie. continuous	compact fluorescent	manual on / manual off	Yes
Pool plant	ventilation exhaust only	none ie. continuous	compact fluorescent	manual on / manual off	No

Central energy systems	Туре	Specification
Central hot water system (No. 1)	gas-fired boiler	Piping insulation (ringmain & supply risers): (b) Piping internal to building: R1.0 (~38 mm)
Central cooling system (No. 1)	chilled water fan coil units	Energy source: electric driven compressor Heat rejection method: cooling tower Unit efficiency (min): high - COP > 4.5
Central heating system (No. 1)	fan coil + heated water	Energy source: gas boiler
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 9.0 peak kW
Pool (No. 1)	Heating source: gas	Pump controlled by timer: yes
Other	Building management system installed?: yes Active power factor correction installed?: yes	-

#### Notes

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

#### Legend

- 1. Commitments identified with a "," in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
- 2. Commitments identified with a " in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
- 3. Commitments identified with a "..." in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an it is required to monitor in relation to the building or part, has been fulfilled). 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

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

#### Multi Dwelling

Certificate number: 957609M\_07

commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated www.basix.nsw.gov.au 06/10/2017 published by the Department. This document is available at government's requirements for sustainability, if it is built in accordance with the This certificate confirms that the proposed development will meet the NSW

This certificate is a revision of certificate number 957609M lodged with the consent authority or certifier on 13 September 2018 with application 09\_0146\_MOD\_4.

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

#### Secretary

Date of issue: Wednesday, 23 October 2019

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



Project summary	
Project name	Eastlakes Town Centre Bldg D_07
Street address	193 Gardeners Road Eastlakes 2018
Local Government Area	Bayside Council
Plan type and plan number	deposited 1246820
Lot no.	30
Section no.	-
No. of residential flat buildings	1
No. of units in residential flat buildings	105
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Project score	
Water	44 Target 40
Thermal Comfort	Pass Target Pass
Energy	25 Target 25

#### Certificate Prepared by

Name / Company Name: WSP Australia Pty Ltd

ABN (if applicable): 80078004798

BASIX Planning & Environment www basix nsw gov au Version: 3.0 / DARWINIA\_3\_10\_0 Certificate No.: 957609M\_07 Wednesday, 23 October 2019 page 1/22

## Description of project

Project address	
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Plan type and plan number	deposited 1246820
Lot no.	30
Section no.	
Project type	
No. of residential flat buildings	1
No. of units in residential flat buildings	105
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Site details	
Site area (m²)	3750
Roof area (m²)	1089
Non-residential floor area (m²)	2057.0
Residential car spaces	125
Non-residential car spaces	0

Common area landscape		
Common area lawn (m²)	135.0	
Common area garden (m²)	627.9	
Area of indigenous or low water use species $(m^2)$	0.0	
Assessor details		
Assessor number	101142	
Certificate number	AFSOL605IU	
Climate zone	56	
Project score		
Water	44	Target 40
Thermal Comfort	Pass	Target Pass
Energy	25	Target 25

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#### Description of project

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

# Residential flat buildings - Building D, 105 dwellings, 12 storeys above ground

0804	0711	0707	0703	0610	0606	0602	0509	0505	0501	0408	0404	0311	0307	0303	0209	0205	0201	Dwelling no.
ω	_	_	N	ω	_	_	_	_	_	_	ω	_	_	N	ω	N	_	No. of bedrooms
98.3	54.6	52.3	76.6	105.8	52.3	40.8	47.5	52.3	51.1	52.3	98.3	54.6	52.3	76.6	105.8	81.0	51.1	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
0805	0801	0708	0704	0611	0607	0603	0510	0506	0502	0409	0405	0401	0308	0304	0210	0206	0202	Dwelling no.
2	_	_	ω	_	_	2	З	_	_	_	_	_	_	ω	_	N	_	No. of bedrooms
81.0	51.1	52.3	98.3	54.6	52.3	76.6	105.8	52.3	40.8	47.5	52.3	51.1	52.3	98.3	54.6	81.0	40.8	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
$\equiv$																		
	_	_	_															
0806	0802	0709	0705	0701	0608	0604	0511	0507	0503	0410	0406	0402	0309	0305	0301	0207	0203	Dwelling no.
0806 2	0802 1	0709 1	0705 1	0701 1	0608 1	0604 3	0511 1	0507 1	0503 2	0410 3	0406 1	0402 1	0309 1	0305 1	0301 1	0207 1	0203 2	Dwelling no.  No. of bedrooms
$\vdash$																		
2 81	1 40	_	1 52.	_	1 52	3 98	_	1 52.	2 76	3 105.	1 52	1 40	_	_	_	1 52,	2 76.	No. of bedrooms
2 81.0	1 40.8	1 47.5	1 52.3	1 51.1	1 52.3	3 98.3	1 54.6	1 52.3	2 76.6	3 105.8	1 52.3	1 40.8	1 47.5	1 52.3	1 51.1	1 52.3	2 76.6	No. of bedrooms  Conditioned floor area (m²)  Unconditioned
2 81.0 0.0	1 40.8 0.0	1 47.5 0.0	1 52.3 0.0	1 51.1 0.0	1 52.3 0.0	3 98.3 0.0	1 54.6 0.0	1 52.3 0.0	2 76.6 0.0	3 105.8 0.0	1 52.3 0.0	1 40.8 0.0	1 47.5 0.0	1 52.3 0.0	1 51.1 0.0	1 52.3 0.0	2 76.6 0.0	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden &
2 81.0 0.0 0.0	1 40.8 0.0 0.0	1 47.5 0.0 0.0	1 52.3 0.0 0.0	1 51.1 0.0 0.0	1 52.3 0.0 0.0	3 98.3 0.0 0.0	1 54.6 0.0 0.0	1 52.3 0.0 0.0	2 76.6 0.0 0.0	3 105.8 0.0 0.0	1 52.3 0.0 0.0	1 40.8 0.0 0.0	1 47.5 0.0 0.0	1 52.3 0.0 0.0	1 51.1 0.0 0.0	1 52.3 0.0 0.0	2 76.6 0.0 0.0	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species
2 81.0 0.0 0.0 0.0	1 40.8 0.0 0.0 0.0	1 47.5 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	1 51.1 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	3 98.3 0.0 0.0 0.0	1 54.6 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	2 76.6 0.0 0.0 0.0	3 105.8 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	1 40.8 0.0 0.0 0.0	1 47.5 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	1 51.1 0.0 0.0 0.0	1 52.3 0.0 0.0 0.0	2 76.6 0.0 0.0 0.0	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)
2 81.0 0.0 0.0 0.0 0.0 0807	1 40.8 0.0 0.0 0.0 0803	1 47.5 0.0 0.0 0.0 0710	1 52.3 0.0 0.0 0.0 0706	1 51.1 0.0 0.0 0.0 0702	1 52.3 0.0 0.0 0.0 0609	3 98.3 0.0 0.0 0.0 0605	1 54.6 0.0 0.0 0.0 0601	1 52.3 0.0 0.0 0.0 0508	2 76.6 0.0 0.0 0.0 0504	3 105.8 0.0 0.0 0.0 0411	1 52.3 0.0 0.0 0.0 0407	1 40.8 0.0 0.0 0.0 0403	1 47.5 0.0 0.0 0.0 0310	1 52.3 0.0 0.0 0.0 0306	1 51.1 0.0 0.0 0.0 0302	1 52.3 0.0 0.0 0.0 0208	2 76.6 0.0 0.0 0.0 0204	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.
2 81.0 0.0 0.0 0.0 0807 1 52	1 40.8 0.0 0.0 0.0 0803 2	1 47.5 0.0 0.0 0.0 0710 3 105	1 52.3 0.0 0.0 0.0 0706 1	1 51.1 0.0 0.0 0.0 0702 1	1 52.3 0.0 0.0 0.0 0609 1	3 98.3 0.0 0.0 0.0 0605 1	1 54.6 0.0 0.0 0.0 0601 1	1 52.3 0.0 0.0 0.0 0508 1	2 76.6 0.0 0.0 0.0 0504 3	3 105.8 0.0 0.0 0.0 0411 1	1 52.3 0.0 0.0 0.0 0407 1	1 40.8 0.0 0.0 0.0 0403 2	1 47.5 0.0 0.0 0.0 0310 3 105	1 52.3 0.0 0.0 0.0 0306 1	1 51.1 0.0 0.0 0.0 0302 1	1 52.3 0.0 0.0 0.0 0208 1	2 76.6 0.0 0.0 0.0 0204 3 98	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.  No. of bedrooms  Conditioned floor
2 81.0 0.0 0.0 0.0 0.0 0807 1 52.3	1 40.8 0.0 0.0 0.0 0803 2 76.6	1 47.5 0.0 0.0 0.0 0710 3 105.8	1 52.3 0.0 0.0 0.0 0706 1 52.3	1 51.1 0.0 0.0 0.0 0702 1 40.8	1 52.3 0.0 0.0 0.0 0609 1 47.5	3 98.3 0.0 0.0 0.0 0605 1 52.3	1 54.6 0.0 0.0 0.0 0601 1 51.1	1 52.3 0.0 0.0 0.0 0508 1 52.3	2 76.6 0.0 0.0 0.0 0504 3 98.3	3 105.8 0.0 0.0 0.0 0411 1 54.6	1 52.3 0.0 0.0 0.0 0407 1 52.3	1 40.8 0.0 0.0 0.0 0403 2 76.6	1 47.5 0.0 0.0 0.0 0310 3 105.8	1 52.3 0.0 0.0 0.0 0306 1 52.3	1 51.1 0.0 0.0 0.0 0302 1 40.8	1 52.3 0.0 0.0 0.0 0208 1 44.0	2 76.6 0.0 0.0 0.0 0204 3 98.3	No. of bedrooms  Conditioned floor area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.  No. of bedrooms  Conditioned floor area (m²)  Unconditioned

1110	1106	1102	1008	1004	0910	0906	0902	0808	Dwelling no.
_	2			ω	_	2		_	No. of bedrooms
54.6	81.0	40.1	44.0	98.3	54.6	81.0	40.8	50.6	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
	1107	1103	1009	1005	1001	0907	0903	0809	Dwelling no.
	_	2	ω	2	_	_	2	ω	No. of bedrooms
	52.3	76.6	105.8	81.0	51.1	52.3	76.6	105.8	Conditioned floor area (m²)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
٠	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
1							_		
	1108	1104	1010	1006	1002	0908	0904	0810	Dwelling no.
į	_	ω	_	10	_	_	ω	_	No. of bedrooms
	44.0	98.3	54.6	81.0	40.8	50.6	98.3	54.6	Conditioned floor area (m²)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
	1109	1105	1101	1007	1003	0909	0905	0901	Dwelling no.
	ω	2	_	_	N	ω	2	_	No. of bedrooms
	105.8	81.0	51.1	52.3	76.6	105.8	81.0	51.1	Conditioned floor area (m²)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
·	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
					0.0	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

Lift car (No. 1)	Common area
1	Floor area (m²)

Common area Fi	Floor area (m²)
ift car (No. 2)	1

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

Common area	Floor area (m²)
Community Room	74.0
Garbage room D	55.8
carrier	2.5
Pool plant	79.0
Hallway/lobby type (No. 1)	721.0

Common area	Floor area (m²)
Basement 3 and 4	4625.0
ICN room	7.5
substation	85.7
Central Thermal Plant	109.0

Common area	Floor area (m²)
Resi switch	22.7
Battery room	5.0
HHW and DHW rooms	34.4
Ground floor lobby type (No. 1)	67.0

BASIX

Planning & Environment

## 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 multi-dwelling houses
- 3. Commitments for single dwelling houses
- 4. Commitments for common areas and central systems/facilities for the development (non-building specific)
- (i) Water
- (ii) Energy

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### **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

<	•	<	(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.
	<	<	(g) The pool or spa must be located as specified in the table.
	<		(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).
	<	<	(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.
<	<		(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.
<	<		(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
			(e) The applicant must install:
<	<		(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.
<	<		(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.
	<	<	(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).
			(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(i) Water

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		_
All dwellings	Dwelling no.	
3 star (> 6 but <= 7.5 L/min)	All shower- heads	
4 star	All toilet All flushing kitches systems taps	
5 star	en	Fixtures
5 star	All bathroom taps	es
no	HW recirculation or diversion	
2 star	All clothes washers	Appli
4 star	All dish- washers	ances
x	Volume (max volume)	
ĸ	Pool	Indiv
٠	Pool location	vidual pool
T	Pool shaded	
t	Volume (max volume)	F
ı.	Spa Spa cover shaded	ndividual sp
	Spa shaded	spa

			Alternative water sour	се				
Dwelling no. Alterna	tive water systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
None -		<u> </u>		•		<u> </u>		1

	•		the many volume requirements of own under the character of the control of the con
<	<		(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.
			central system to the dwelling, so that the dwelling's not water is supplied by that central system.
<	<	<	(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
			(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(ii) Energy

			(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well
	<		(cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.
<	<		(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
	<		(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below;
			(h) The applicant must install in the dwelling:
	<		(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.
	<		(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
			(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must:
<	<	<	(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(ii) Energy

Dwelling Hot water system Each bathroom Operation control Individual fan, ducted dwellings system 1 Each bathroom Individual fan, ducted interlocked to light to façade or roof Individual fan, ducted to façade or roof Individual fan, ducted Individual f		Hot water	Bathroom ventilation system	ilation system	Kitchen ventilation	ation system	Laundry ventilation system	ation system
t water individual fan, ducted interlocked to light individual fan, ducted to façade or roof to façade or roof	Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen		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	interlocked to light

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	Dwelling no.	0203, 0205, 0206, 0303, 0403, 0503, 0603, 0703, 0703, 0805, 0806, 0903, 11005, 11006,	0204, 0209, 0304, 0310, 0404, 0410, 0504, 0510, 0604, 0610, 0710, 0710, 0710, 0804, 0809, 1004,
Coc	living areas	central cooling system 1 (zoned)	central cooling system 1 (zoned)
Cooling	bedroom areas	central cooling system 1 (zoned)	central cooling system 1 (zoned)
Не	living areas	central heating system 1 (zoned)	central heating system 1 (zoned)
Heating	bedroom areas	central heating system 1 (zoned)	central heating system 1 (zoned)
	No. of bedrooms &/or study	2 (dedicated)	3 (dedicated)
	No. of living &/or dining rooms	2 (dedicated)	2 (dedicated)
Artificial lighting	Each kitchen	yes (dedicated)	yes (dedicated)
ighting	All bathrooms/ toilets	yes (dedicated)	yes (dedicated)
	Each laundry	yes (dedicated)	yes (dedicated)
	All hallways	yes (dedicated)	yes (dedicated)
Natural lighting	No. of bathrooms   &/or toilets	0	0
nting	Main kitcher	no	по

	Cooling	ing	Heat	ing			Artificial I	lighting			Natural ligh	nting
Dwelling lino.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All Each bathrooms/ laundry toilets	Each laundry	All hallways	No. of Main bathrooms kitcher &/or toilets	Main kitcher
All central other cooling dwellings system 1 (zoned)		central cooling system 1 (zoned)	central heating system 1 (zoned)	central heating system 1 (zoned)	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

	Individual pool	<u> </u>	Individual sp	)a			Appliance	es & other efficiency measures	ency measi	ıres		
Dwelling	Dwelling Pool heating	Timer	Timer Spa heating	Timer	Timer Kitchen	Refrigerator Well	Well	Dishwasher Clothes Clothes	Clothes	Clothes	Indoor or	Private
no.	system		system		cooktop/oven		ventilated		washer dryer	dryer	sheltered	outdoor or
							fridge				clothes	unsheltered
							space				drying line	clothes drying line
All	-	1	-	ı	gas cooktop &	-	yes	3.5 star	2.5 star 2 star	2 star	yes	no
dwellings					electric oven							

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

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			(h) The applicant must construct the floors and walls of the development in appordance with the specifications listed in the table
			(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.
			(aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or
<	<	<	(g) Where there is an in-slab heating or cooling system, the applicant must:
<	<		(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.
C/CDC Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(iii) Thermal Comfort

	Therma	Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
0201	34.8	20.6
0202	21.5	27.4
0203	14.6	28.4
0204	14.8	26.2
0205	33.8	23.2
0206	35.4	28.6
0207	27.7	28.6
0208	20.7	25.3
0209	37.4	14.0
0210	32.7	28.2
0301	36.1	21.2
0302	24.3	24.7
0303	18.3	18.9
0304	15.4	18.0
0305	33.5	21.8

	Therma	Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
0306	35.2	21.2
0307	34,7	23.0
0308	34.5	21.2
0309	30.8	28.3
0310	42.0	12.4
0311	36.2	22.2
0401	41.8	18.5
0402	25.1	23.7
0403	18.7	18.8
0404	14.9	19.6
0405	35.9	20.3
0406	35.7	22.2
0407	36.3	21.4
0408	36.1	20.3
0409	30.7	27.4
0410	40.6	12.6
0411	36.5	23.0
0501	36.8	23.5
0502	23.7	24.5
0503	18.7	19.9
0504	16.0	17.4
0505	37.3	19.5
0506	36.7	19.9
0507	35.7	21.7
0508	36.2	19.8
0509	31.1	27.6
0510	41.1	12.7

	Therma	Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
0602	24.4	24.3
0603	19.3	18.4
0604	16.2	17.0
0605	36.5	19.2
0606	37.5	20.3
0607	36.9	20.1
0608	37.3	19.3
0609	43.6	17.9
0610	40.9	12.4
0611	37.0	23.2
0703	19.5	18.2
0704	16.5	16.9
0705	35.6	19.7
0706	37.6	20.5
0707	36.5	20.7
0708	36.3	19.9
0709	29.8	24.9
0710	40.3	12.3
0711	35.8	23.9
0801	36.4	24.0
0802	23.6	24.2
0803	19.8	17.9
0804	16.8	16.7
0805	36.4	20.5
0806	32.9	23.8
0807	36.7	19.8
0808	33.4	27.4

	Therma	Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
0809	40.8	12.2
0810	36.2	23.8
0901	40.8	20.8
0902	28.3	20.6
0903	21.6	16.5
0904	18.7	14.5
0905	39.5	16.7
0906	35.4	19.3
0907	40.2	16.4
0908	32.2	26.0
0909	43.3	11.5
0910	40.0	20.3
1001	38.4	22.4
1002	28.3	20.5
1003	21.7	17.9
1004	17.8	16.3
1005	34.8	19.6
1006	35.0	20.5
1008	36.0	26.2
1009	43.6	11.8
1101	43.9	21.6
1102	31.7	24.1
1103	32.2	18.0
1104	29.3	18.1
1105	44.9	21.6
1106	43.7	23.6
1107	45.1	16.8

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All other dwellings	All other dwellings	0511, 0601 0701, 0702 All other dwellings	0511, 0601	1109	1108	Dwelling no.		
40.4	40.4	36.7 36.5 40.4	36.7	45.2	37.8	Area adjusted heating load (in mJ/m²/yr)	The	
16.1	16.1	23.3	23.3	12.3	29.0	Area adjusted cooling load (in mJ/m²/yr)	Thermal loads	

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

<	<		(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified 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.
	<		(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.
	<	<	(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.
<	<	<	(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.
<	<		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(i) Water

	ommon area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
ਬ ≥	All common areas	3 star (> 6 but <= 7.5 L/min)	4 star	4 star	no common laundry facility

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

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

(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified.  The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.	(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifie
	(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.		<	•

Con	Common area ventilation system	ilation 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)	ī		light-emitting diode	connected to lift call button	Yes
Lift car (No. 2)	1		light-emitting diode	connected to lift call button	Yes

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	Туре		Specification			
Lift (No. 1)	gearless traction F motor	on with V V V	Number of level	gearless traction with V V V Number of levels (including basement): 16 F motor		
Lift (No. 2)	gearless traction	on with V V V	Number of level	gearless traction with V V V Number of levels (including basement): 16 F motor		

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

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

<	<		(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified 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.
	<		(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.
	<	<	(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.
<	<	<	(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.
<	<		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(i) Water

				areas
no common laundry facility	4 star	4 star	3 star (> 6 but <= 7.5 L/min)	All common
Clothes washers rating	Taps rating	Toilets rating	Showerheads rating	Common area

	Central water tank - rainwater or stormwater (No. 1)	Central systems Size
<ul> <li>- 0.0 square metres of impervious area in the development</li> <li>- 0.0 square metres of garden/lawn area in the development</li> <li>- 0.0 square metres of planter box area in the development</li> <li>(excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).</li> </ul>	To collect run-off from at least: - 900.0 square metres of roof area of buildings in the development	Configuration
	<ul> <li>irrigation of 135.0 square metres of common landscaped area on the site</li> <li>car washing in 0 car washing bays on the site</li> </ul>	Connection (to allow for)

Central systems	Size	Configuration	Connection (to allow for)
Pool (No. 1)	Volume: 34.0 kLs	Location: Other Pool shaded: no	,
Fire sprinkler system (No. 1)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	•
Central cooling system (No. 1)	•	Private water meter on make-up line connected to building management system.  Conductivity controller installed in the cooling tower.	

<	<	<	(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.
<	<		(b) 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 mee: 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.
<	<		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(ii) Energy

	Common area v	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
Community Room	air conditioning system	time clock or BMS controlled	light-emitting diode	time clocks	Yes
Basement 3 and 4	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion Yes sensor	Yes
Resi switch	ventilation (supply + exhaust)	thermostatically controlled	light-emitting diode	manual on / manual off	Yes
Garbage room D	ventilation exhaust only	T	fluorescent	motion sensors	Yes
ICN room	air conditioning system	thermostatically controlled	light-emitting diode	manual on / manual off	Yes
Battery room	ventilation exhaust only	none ie. continuous	light-emitting diode	manual on / manual off	Yes
carrier	ventilation exhaust only	none ie. continuous	light-emitting diode	manual on / manual off	Yes

	Common area ve	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
substation	no mechanical ventilation	-	light-emitting diode	manual on / manual off	Yes
HHW and DHW rooms	ventilation (supply + exhaust)	thermostatically controlled	light-emitting diode	manual on / manual off	Yes
Pool plant	ventilation exhaust only	none ie. continuous	light-emitting diode	manual on / manual off	Yes
Central Thermal Plant	ventilation (supply + exhaust)	none ie. continuous	fluorescent	manual on / manual off	Yes
Ground floor lobby type (No. 1)	air conditioning system	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	Yes
Hallway/lobby type (No. 1)	ventilation supply only	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	Yes

Central energy systems	Туре	Specification
Central hot water system (No. 1)	gas-fired boiler	Piping insulation (ringmain & supply risers): (b) Piping internal to building: R1.0 (~38 mm)
Central cooling system (No. 1)	chilled water fan coil units	Energy source: electric driven compressor Heat rejection method: cooling tower Unit efficiency (min): high - COP > 4.5
Central heating system (No. 1)	fan coil + heated water	Energy source: gas boiler
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 8.0 peak kW
Pool (No. 1)	Heating source: gas	Pump controlled by timer: yes
Other	Building management system installed?: yes Active power factor correction installed?: yes	

#### Notes

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

#### Legeno

- 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 it is required to monitor in relation to the building or part, has been fulfilled). 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

BASIX

Version: 3.0 / DARWINIA\_3\_10\_0

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

#### Multi Dwelling

Certificate number: 957230M\_03

commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated www.basix.nsw.gov.au 06/10/2017 published by the Department. This document is available at government's requirements for sustainability, if it is built in accordance with the This certificate confirms that the proposed development will meet the NSW

This certificate is a revision of certificate number 957230M lodged with the consent authority or certifier on 13 September 2018 with application 09\_0146 MOD 4.

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

Secretary

Date of issue: Monday, 21 October 2019

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



Project summary	
Project name	Eastlakes Town Centre Bldg J_03
Street address	193 Gardeners Road Eastlakes 2018
Local Government Area	Bayside Council
Plan type and plan number	deposited 248832
Lot no.	3
Section no.	-
No. of residential flat buildings	2
No. of units in residential flat buildings	126
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Project score	
Water	41 Target 40
Thermal Comfort	Pass Target Pass
Energy	25 Target 25

#### Certificate Prepared by

Name / Company Name: WSP Australia Pty Ltd

ABN (if applicable): 80078004798

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## Description of project

Project address	
Project name	Eastlakes Town Centre Bldg J_03
Street address	193 Gardeners Road Eastlakes 2018
Local Government Area	Bayside Council
Plan type and plan number	deposited 248832
Lot no.	3
Section no.	•
Project type	
No. of residential flat buildings	2
No. of units in residential flat buildings	126
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Site details	
Site area (m²)	5386.8
Roof area (m²)	1100
Non-residential floor area (m²)	1500.0
Residential car spaces	135
Non-residential car spaces	0

Common area landscape		
Common area lawn (m²)	40.8	
Common area garden (m²)	591.4	
Area of indigenous or low water use species (m²)	0.0	
Assessor details		
Assessor number	101142	
Certificate number	93DO2Y9EM2	
Climate zone	56	
Project score		
Water	<b>4</b> 1	Target 40
Thermal Comfort	Pass	Target Pass
Energy	25	Target 25

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#### **Description of project**

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

## Residential flat buildings - Building J1, 51 dwellings, 10 storeys above ground

1003	0904	0805	0801	0703	0605	0601	0503	0405	0401	0303	0205	0201	Dwelling no.
_	_	2	2	_	_	12	_	_	2	_	_	2	No. of bedrooms
31.9	49.0	73.6	57.6	50.8	49.0	82.4	50.8	49.0	82.4	50.8	49.0	51.0	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
1004	0905	0901	0802	0704	0606	0602	0504	0406	0402	0304	0206	0202	Dwelling no.
_	2	2	2	_	2	ω	_	2	З	1	2	ω	No. of bedrooms
49.0	73.6	57.6	80.3	31.9	73.6	93.4	31.9	73.6	93.4	31.9	73.6	93.5	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
1005	1001	0902	0803	0705	0701	0603	0505	0501	0403	0305	0301	0203	Dwelling no.
10	2	2	_	_	2	_	_	2	1	1	2	_	No. of bedrooms
73.6	57.6					(7)	4						
0,	6	80.3	31.9	49.0	82.4	50.8	49.0	82.4	50.8	49.0	82.4	50.8	Conditioned floor area (m²)
6 0.0	7.6 0.0	80.3 0.0	31.9 0.0	49.0 0.0	82.4 0.0	50.8 0.0	0.0	32.4   0.0	50.8 0.0	49.0 0.0	82.4   0.0	50.8 0.0	
	Ш		.9		4			4			4		area (m²)  Unconditioned
0.0	0.0	0.0	.9 0.0	0.0	4 0.0	0.0	0.0	4 0.0	0.0	0.0	4 0.0	0.0	Unconditioned floor area (m²)  Area of garden &
0.0 0.0	0.0 0.0	0.0 0.0	.9 0.0 0.0	0.0 0.0	4 0.0 0.0	0.0 0.0	0.0 0.0	4 0.0 0.0	0.0 0.0	0.0 0.0	4 0.0 0.0	0.0 0.0	Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species
0.0 0.0	0.0 0.0	0.0 0.0	.9 0.0 0.0	0.0 0.0	4 0.0 0.0	0.0 0.0	0.0 0.0	4 0.0 0.0	0.0 0.0	0.0 0.0	4 0.0 0.0	0.0 0.0	Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species
0.0 0.0	0.0 0.0 0.0 1	0.0 0.0 0.0	.9 0.0 0.0 0.0	0.0 0.0 0.0	4 0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	4 0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	4 0.0 0.0 0.0	0.0 0.0 0.0	area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)
0.0 0.0	0.0 0.0 0.0 1002	0.0 0.0 0.0 0903	9 0.0 0.0 0.0 0804	0.0 0.0 0.0 0706	4 0.0 0.0 0.0 0702	0.0 0.0 0.0 0604	0.0 0.0 0.0 0506	4 0.0 0.0 0.0 0502	0.0 0.0 0.0 0404	0.0 0.0 0.0 0306	4 0.0 0.0 0.0 0302	0.0 0.0 0.0 0204	area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.
0.0 0.0	0.0 0.0 0.0 1002 2	0.0 0.0 0.0 0903 1 3	.9 0.0 0.0 0.0 0804 1	0.0 0.0 0.0 0706 2 73	4 0.0 0.0 0.0 0702 3	0.0 0.0 0.0 0604 1 3	0.0 0.0 0.0 0506 2 73	4 0.0 0.0 0.0 0502 3 93	0.0 0.0 0.0 0404 1 31	0.0 0.0 0.0 0306 2 73	4 0.0 0.0 0.0 0302 3 93	0.0 0.0 0.0 0204 1 31	area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.  No. of bedrooms  Conditioned floor
0.0 0.0	0.0 0.0 0.0 1002 2 80.2	0.0 0.0 0.0 0903 1 31.9	9 0.0 0.0 0.0 0804 1 49.0	0.0 0.0 0.0 0706 2 73.6	4 0.0 0.0 0.0 0702 3 93.4	0.0 0.0 0.0 0604 1 31.9	0.0 0.0 0.0 0506 2 73.6	4     0.0     0.0     0.0     0502     3     93.4	0.0 0.0 0.0 0404 1 31.9	0.0 0.0 0.0 0306 2 73.6	4 0.0 0.0 0.0 0302 3 93.5	0.0 0.0 0.0 0204 1 31.9	area (m²)  Unconditioned floor area (m²)  Area of garden & lawn (m²)  Indigenous species (min area m²)  Dwelling no.  No. of bedrooms  Conditioned floor area (m²)  Unconditioned

Residential flat buildings - Building J2, 75 dwellings, 10 storeys above ground

1004	906	902	804	707	703	606	602	505	501	406	402	307	303	208	204	109	105	101	Dwelling no.
$\vdash$																			
N N	ω	1	2		2	1	-		1		1	1	20	20		1		2	No. of bedrooms
70.9	89.1	51.8	70.9	89.1	83.5	48.5	51.8	49.8	50.4	49.8	51.8	49.8	83.5	88.1	49.8	50.7	48.8	82.7	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
1005	1001	903	805	801	704	607	603	506	502	407	403	308	304	209	205	201	106	102	Dwelling no.
25	2	ω		_	4	7	ω	0,		7	ω	ω	-4		01	_	0,		
N	_	ω	2			_	N	_	_	_	2	2	_	_	_	_	_	_	No. of bedrooms
49.5	50.3	113.9	49.5	50.3	49.8	89.1	83.5	48.9	51.8	49.8	83.5	88.1	49.8	50.4	48.8	73.9	49.8	53.5	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
	_	(0	00		7	7		(J)	ĆΊ	4	4	ω	ω	ω	N	N	_	_	B. Illian .
006	002	904	806	802	705	701	604	507	503	408	404	309	305	301	206	202	07	103	Dwelling no.
ω	_	2	ω	_	_	_	_	_	0	N	_	_	_	_	_	_	_	2	No. of bedrooms
89.0	51.8	70.9	79.2	51.8	49.8	50.3	49.8	78.6	83.5	88.0	49.8	50.2	49.8	50.3	49.8	51.8	49.8	96.8	Conditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)
	1003	905	901	803	706	702	605	601	504	409	405	401	306	302	207	203	108	104	Dwelling no.
	ω	2	_	ω	_	_	_	_	_	_	_	_	_	_	_	N	N	_	No. of bedrooms
	113.9	49.5	50.3	112.7	48.4	51.8	49.8	50.4	49.8	50.0	49.8	50.4	49.8	51.8	49.8	83.6	90.0	49.7	Conditioned floor area (m²)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Unconditioned floor area (m²)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Area of garden & lawn (m²)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Indigenous species (min area m²)

#### **Description of project**

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

## Common areas of unit building - Building J1

Lift car (No. 1)	ommon area Floo
	or area (m²)

Lift car	Commo
(No. 2)	n area
ı	Floor area (n
	<b>1</b> 2)

HHW and DHW rooms 4	ommon area F
49.4	Floor area (m²)

## Common areas of unit building - Building J2

Lift car (No.3)	Common area
1	Floor area (m²)

Lift car (No.4)	Common area
1	Floor area (m²)

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

Pool plant	Substation	ICN room	Community Room	Common area	
73.0	123.0	10.8	106.0	Floor area (m²)	

Common area	Floor area (m²)
Basement 3 and 4	5644.0
Battery room	7.3
resi switch room	32.0
Ground floor lobby type (No. 1)	57.0

Common area	Floor area (m²)
Garbage room J	84.6
Carrier	3.6
Central Thermal Plant	156.5
Hallway/lobby type (No. 1)	1310.0

## Schedule of BASIX commitments

- 1. Commitments for Residential flat buildings Building J1
- (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 J2
- (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

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#### **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 J1

#### (a) Dwellings

<	<	<	(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.
	<	<	(g) The pool or spa must be located as specified in the table.
	<		(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).
	<	<	(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.
<	<		(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.
<	<		(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
			(e) The applicant must install:
<	<		(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.
<	<		(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.
	<	<	(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).
			(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(i) Water

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Dwelling All toilet no. heads systems taps taps or diversion dwellings 7.5  Fixtures  Appliances  Appliances  Appliances  Appliances  All dish- clothes washers (max volume)  All dish- clothes washers  All dish- volume (max cover location location shaded (max cover location location shaded (max cover location		Dwe	All
Fixtures       Appliances       Individual pool         4 star       5 star       5 star       no       2 star       4 star			
Fixtures       Appliances       Individual pool       Pool pool (max cover pool)       Volume         5 star       5 star       no       2 star       4 star       -       -       -       -       -       -       -		All shower- heads	
xtures       Appliances       Individual pool       Individual pool       Individual pool       Individual pool       Individual pool         All alish-recirculation taps       All dish-recirculation clothes taps       Volume (max volume)       Pool location shaded volume)       Pool location shaded volume)         3 Star       no       2 star       4 star       -       -       -       -       -       -       -		All toilet flushing systems	4 star
Appliances  Appliances  Individual pool Integration athroom or diversion  Star no 2 star 4 star  Appliances  All dish- volume (max cover volume)  All dish- volume (max cover volume)  Individual pool Individ	Fixtur	nen	
Appliances  All All All dish- clothes washers washers  2 star  All All All dish- washers a volume washers  2 star  All All All dish- cover Pool location shaded volume volume)	es	All bathroom taps	5 star
Appliances Individual pool Individual pool  All All dish-clothes washers washers Volume) Pool coation shaded wolume)  2 star 4 star		_ =	no
Volume   Pool   Pool   Pool   Coation   Shaded   Volume   Volume   Volume   Pool   Volume	Appli	All clothes washers	2 star
ne Pool Pool Pool (max volume)	ances	All dish- washers	4 star
Pool Pool Volume Incation shaded volume)		Volume (max volume)	
Pool Pool Volume (max volume)	Ind	Pool	•
Volume (max volume)	ividual pool	Pool location	•
Volume Spa Spa (max cover shaded volume)		Pool shaded	1
Spa Spa Spa cover shaded		Volume (max volume)	•
Spa Shaded	dividua	Spa	,
	spa	Spa shaded	•

			Alternative water source	Се				
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
None	1	1	-	ı	1	, , , , , , , , , , , , , , , , , , ,	1	1

			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.
<	<		(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
			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.
<	<		(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
<	<		(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.
<	<	<	(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.
			(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(ii) Energy

(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	ilation system	Kitchen ventilation	ation system	Laundry ventilation system	ation system
Dwelling no.	Dwelling Hot water system no.	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All central ho dwellings system 1	central hot water system 1	individual fan, ducted interlocked to light 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	interlocked to light

All -	aysicii	elling	Individ
ı		Timer	Individual pool
1	eye cili	Spa heating	Individual spa
•		Timer	ра
gas cooktop & electric oven		Timer Kitchen	
-		Refrigerator	
yes	fridge space	Well	Appliance
3.5 star		Dishwasher Clothes Clothes	ces & other efficiency measures
2.5 star 2 star	washen di yer	Clothes	ency meas
2 star		Clothes	ures
yes	<b>"</b>	Indoor or	
no	unsheltered clothes drying line	Private	

<	<	<	(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.
			(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.
			(aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or
<	<	<	(g) Where there is an in-slab heating or cooling system, the applicant must:
<	<		(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.
	<		(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.
		<	(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.
			(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.
			(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.
			(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(iii) Thermal Comfort

Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Thermal loads Area adiusted cooling load (in mJ/m²/vr)
0201	43.0	21.8
0202	12.0	24.0
0203	24.9	23.1
0204	16.9	29.4
0205	23.2	21.8
0206	10.2	21.3
0301	33.6	15.5
0302	14.5	11.6
0303	32.2	14.6
0304	23.1	24.1
0305	34.8	16.9
0306	20.0	15.3
0401	33.5	16.0
0402	14.0	14.6
0403	32.1	14.8
0404	25.5	24.4
0405	36.7	16.4
0406	19.2	15.8
0501	36.1	14.9
0502	16.7	12.2
0503	32.5	14.6
0504	22.9	23.8
0505	35.0	14.6
0506	18.4	16.3
0601	37.6	13.3
0602	15.1	11.5
0603	33.0	14.3

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

<	<		(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified 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.
	<		(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.
	<	<	(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.
<	<	<	(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.
<	<		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(i) Water

3 SIAT (> 6 DUI <= 7.5 L/111111) 4 SIAT	Star
heads rating	Taps rating

Fire sprinkler system (No. 2)	Central systems
1	Size
	Configuration
	Connection (to allow for)

(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 below, then that ventilation system must be of the type specified for that common area, and must meet the efficie specified.	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.		•	<

(	of artificial lighting" for each common area ting must meet the efficiency measure specified.  Idanagement System (BMS) for the common area,	(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
Show on CC/CDC Certifie plans & specs check	 Show on DA plans	(ii) Energy

	Common area ventilation system	entilation 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	Yes
Lift car (No. 2)	•	•	light-emitting diode	connected to lift call button Yes	Yes
HHW and DHW rooms	ventilation (supply + exhaust)	thermostatically controlled	light-emitting diode	manual on / manual off	Yes

Collinion area	ventilation system type	measure		lighting	measure	system/BMS
Lift car (No. 1)	-	1		light-emitting diode	connected to lift call button	Yes
Lift car (No. 2)	-	1		light-emitting diode	connected to lift call button	Yes
HHW and DHW rooms	ventilation (supply + exhaust)	thermostatically controlled	/ controlled	light-emitting diode	manual on / manual off	Yes
Central energy systems	Туре		Specification			
Lift (No. 1)	gearless tracti F motor	gearless traction with V V V F motor	Number of leve	Number of levels (including basement): 14		
Lift (No. 2)	gearless tracti F motor	on with V V V	Number of leve	gearless traction with V V V Number of levels (including basement): 14		

## 2. Commitments for Residential flat buildings - Building J2

#### (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.	<	<	<

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			Fixtures	SS		Appli	ances		Indiv	idual pool		Inc	dividual sp	pa
Dwelling All no. hea	wer-	All toilet flushing systems	AII 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 Spa (max cove volume)	Spa Spa cover shaded	Sh Sh
All 3 star (> 6 but <= 7.5 L/min)		4 star	5 star	5 star	no	2 star	4 star	•	-	•	•	-	'	•

			Alternative water source	ce .				
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry Pool connection top-up	Pool top-up	Spa top-up
None	-	-	-	•	1	1	1	1

<	<		(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.
<	<		(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.
<	<		(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.
<	<	<	(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.
			(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(ii) Energy

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

	Dwelling no.	103	803, 806, 903, 906, 1003,	101, 108, 203, 208, 303, 303, 403, 403, 403, 503, 703, 703, 804, 904, 905, 1006,	All other dwellings
Coc	living areas	central cooling system 1	central cooling system 1	central cooling system 1	central cooling system 1
Cooling	bedroom areas	central cooling system 1	central cooling system 1	central cooling system 1	central cooling system 1
He	living areas	central heating system 1	central heating system 1	central heating system 1	central heating system 1
Heating	bedroom areas	central heating system 1	central heating system 1	central heating system 1	central heating system 1
	No. of bedrooms &/or study	(dedicated)	3 (dedicated)	2 (dedicated)	1 (dedicated)
	No. of living &/or dining rooms	2 (dedicated)	(dedicated)	(dedicated)	1 (dedicated)
Artificial lighting	Each kitchen	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)
lighting	All bathrooms/ toilets	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)
	Each laundry	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)
	All hallways	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)
Natural lighting	No. of bathrooms &/or toilets	0	0	0	0
hting	Main kitcher	no	по	no	no

	Individual pool	<u> </u>	Individual spa	ра			Appliance	es & other efficiency measures	ency meas	ures		
Dwelling	Dwelling Pool heating	Timer	Timer Spa heating	Timer	Timer Kitchen	Refrigerator Well	Well	Dishwasher Clothes Clothes	Clothes	Clothes		Private
no.	system		system		cooktop/oven		ventilated		washer dryer	dryer	sheltered	outdoor or
							fridge				clothes	unsheltered
							space				drying line	clothes
												drying line
All	1	Ì	-	1	gas cooktop &	-	yes	3.5 star	2.5 star 2 star	2 star	yes	no
dwellings					electric oven							

<	<	<	(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.
			(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.
			(aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or
<	<	<	(g) Where there is an in-slab heating or cooling system, the applicant must:
<	<		(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.
	<		(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.
		<	(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.
			(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.
			(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.
			(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(iii) Thermal Comfort

	Therma	Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
101	22.9	19.1
102	29.3	16.7
103	11.8	26.0
104	19.9	16.2
105	16.1	8.5
106	24.9	16.9
107	18.6	29.3
108	40.3	13.1
109	41.7	13.5
201	36.0	17.5
202	28.2	24.4
203	18.9	21.8
204	21.8	21.2
205	15.8	29.3
206	21.9	21.2
207	15.7	29.2
208	24.0	13.7
209	38.2	26.0
301	45.4	15.5
302	39.9	14.2
303	23.7	15.2
304	26.2	13.7
305	23.1	19.3
306	25.5	14.9
307	23.4	20.2
308	36.7	11.3
309	43.4	19.2

Dwelling no.
401
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All o	1005	1004	1003	1002	1001	906	905	904	903	902	901	806	805	804	803	802	801	707	706	705	Dwe	
All other dwellings	5	<b>+</b>	3																		Dwelling no.	
45.1	44.5	45.1	42.2	41.0	45.4	41.4	42.6	36.2	33.1	38.9	45.4	44.9	35.9	35.7	30.1	37.5	45.4	42.8	29.9	22.6	Area adjusted heating load (in mJ/m²/yr)	Therma
17.9	15.0	15.0	22.4	16.8	16.6	17.8	14.0	12.8	18.4	14.7	17.9	10.1	14.9	15.4	21.4	16.5	18.2	21.1	13.3	18.2	Area adjusted cooling load (in mJ/m²/yr)	al loads

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

<	<		(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified 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.
	<		(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.
	<	<	(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.
<	<	<	(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.
<	<		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(i) Water

<	<	<	(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.
<	<		(b) 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.
<	<		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(ii) Energy

	Common area ventilation system	ntilation 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	Yes

Central energy systems	Туре	Specification
Lift (No. 3)	gearless traction with V V V F motor	Number of levels (including basement): 14
Lift (No. 4)	gearless traction with V V V F motor	Number of levels (including basement): 14

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

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

<	<		(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified 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.
	<		(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.
	<	<	(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.
<	<	<	(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.
<	<		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(i) Water

in common taunary taonity	C 012	7 3(4)	0 stat (	areas
no common laundry facility	л ctor	A 6+55	3 star (> 6 but >= 7 5 1 /min)	All common
Clothes washers rating	Taps rating	Toilets rating	Showerheads rating	Common area

Central systems	Size	Configuration	Connection (to allow for)
Central water tank - rainwater or stormwater (No. 1)	25000.0	To collect run-off from at least: - 1000.0 square metres of roof area of buildings in the development - 0.0 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 - 0.0 square metres of planter box area in the development - 0.0 square metres of planter box area in the development - 0.0 square metres of planter box area which drains to, or	- irrigation of 150.0 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site

Central cooling system (No.   -   Private water meter on make-up line connected to building   -		Size Volume: 40.8 kLs	n make-up line connected to bui	Connection (to allow for)
---	--	--------------------------	---------------------------------	---------------------------

<	<	<	(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.
<	¥		(b) 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.
<	<		(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.
Certifier check	Show on CC/CDC plans & specs	Show on DA plans	(ii) Energy

	Common area ventilation system	entilation system		Common area lighting	
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Community Room	air conditioning system	time clock or BMS controlled	light-emitting diode	manual on / manual off	Yes
Basement 3 and 4	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	Yes
Garbage room J	ventilation exhaust only	-	fluorescent	motion sensors	Yes
ICN room	air conditioning system	thermostatically controlled	light-emitting diode	manual on / manual off	Yes
Battery room	ventilation exhaust only	none ie. continuous	light-emitting diode	manual on / manual off	Yes
Carrier	ventilation exhaust only	none ie. continuous	light-emitting diode	manual on / manual off	Yes
Substation	no mechanical ventilation	,	light-emitting diode	manual on / manual off	Yes

	Common area ventilation system	entilation system		Common area lighting	
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
resi switch room	ventilation (supply + exhaust)	thermostatically controlled	light-emitting diode	manual on / manual off	Yes
Central Thermal Plant	ventilation (supply + exhaust)	none ie. continuous	light-emitting diode	manual on / manual off	Yes
Pool plant	ventilation exhaust only	none ie. continuous	light-emitting diode	manual on / manual off	Yes
Ground floor lobby type (No. 1)	air conditioning system	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	Yes
Hallway/lobby type (No. 1)	ventilation supply only	time clock or BMS controlled light-emitting diode	light-emitting diode	time clock and motion sensors	Yes

	Building management system installed?: yes Active power factor correction installed?: yes	Other
Pump controlled by timer: yes	Heating source: gas	Pool (No. 1)
Rated electrical output (min): 37.0 peak kW	Photovoltaic system	Alternative energy supply
Energy source: gas boiler	fan coil + heated water	Central heating system (No. 1)
Energy source: electric driven compressor  Heat rejection method: cooling tower  Unit efficiency (min): high - COP > 4.5	chilled water fan coil units	Central cooling system (No. 1)
Piping insulation (ringmain & supply risers): (b) Piping internal to building: R1.0 (~38 mm)	gas-fired boiler	Central hot water system (No. 1)
Specification	Туре	Central energy systems

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## 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.

# Legeno

- 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 it is required to monitor in relation to the building or part, has been fulfilled). 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

BASIX



Certificate Number: **O7DE01M3VN** Date of Certificate: **6 Mar 2020** 

★ Average star rating: 6.1



#### **Assessor details**

Accreditation

number: **101142** 

Name: Christopher Mann

Organisation: WSP

Email: chris.mann@wsp.com

Phone: **0411644164** 

Declaration No potential conflicts of interest to

of interest: declare

Software: See individual certificates

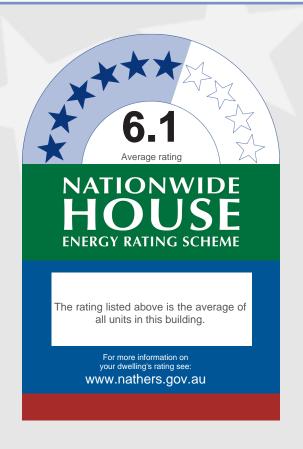
AAO: ABSA

#### **Dwelling details**

Address: 19a Evans Avenue - Building D&J

Suburb: Eastlakes
State: NSW
Postcode: 2018

### **Summary of all dwellings**



#### **Certification details**

		Annual the	rmal performance loa	ds (MJ/m2)	
Certificate number	Unit number	Heating load	Cooling load	Total load	Star rating
HK0FWUI3K4	D-1001	38.4	22.5	60.9	5.3
IWD0YFW4CP	D-1002	28.3	20.5	48.8	6.2
7N3T0J0X1X	D-1003	21.6	17.9	39.5	6.9
YSPZZLTFO4	D-1004	17.8	16.3	34.1	7.4
ZSJHD22GWM	D-1005	34.6	19.6	54.2	5.8
KK44N3QGON	D-1006	35	20.5	55.5	5.7
3VBWG0GOBN	D-1007	40.4	16.1	56.5	5.6
SUVYNCZTBC	D-1008	36	26.2	62.2	5.2
QTBPNNXUL5	D-1009	43.6	11.8	55.4	5.7
4M0BADQWBN	D-1010	40.4	19.8	60.2	5.4
VNFIZ25WE8	D-1101	43.9	21.6	65.5	5
Z40Q7JTWJ2	D-1102	31.7	24.1	55.8	5.7
CWCFSK0OIW	D-1103	32.2	18	50.2	6.1
8RUCMCO2ZU	D-1104	29.3	18.1	47.4	6.3
SBQNGAWKE0	D-1105	44.7	18.6	63.3	5.2
U4NIK9L90P	D-1106	43.7	23.6	67.3	4.9
					continue

\* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au



Date of Certificate: 6 Mar 2020

★ Average star rating: 6.1



### **Summary of all dwellings continued**

Cartificate number	Unit mumb on		rmal performance load		Cton notine
Certificate number	Unit number	Heating load	Cooling load	Total load	Star rating
UVKZE7S7DI	D-1108	37.8	29	66.8	4.9
XQKRCEEL2M	D-1109	45.2	12.3	57.5	5.5
9TMW7ULXUY	D-1110	40.5	24	64.5	5.1
CQORAIKXD4	D11-D-1107	45.1	16.8	61.9	5.3
8ZT8ENL0SG	D-201	34.8	20.6	55.4	5.7
KKAH8X188A	D-202	21.5	27.4	48.9	6.2
UPZJ0MJBWB	D-203	14.6	28.4	43	6.7
V4H581YC7B	D-204	11.7	31.2	42.9	6.7
OGTREY3817	D-205	33.8	23.2	57	5.6
NLMXZS9JI2	D-206	35.4	28.6	64	5.1
8ZA7VO6IFB	D-207	27.7	28.6	56.3	5.6
FGHLZGS5OA	D-208	20.7	25.3	46	6.4
1O4F7FBC7Y	D-209	34.9	14.5	49.4	6.1
VX0V8XLPBL	D-210	32.7	28.2	60.9	5.3
W1EGI29P2K	D-301	36.1	21.2	57.3	5.6
7S92OT549Q	D-302	24.3	24.7	49	6.2
M3KQQ5UZZA	D-303	18.3	18.9	37.2	7.1
8CS33AKX7E	D-304	15.4	18	33.4	7.4
GVJX0CX7GP	D-305	33.5	21.8	55.3	5.7
2QPU92RX0M	D-306	35.2	21.2	56.4	5.6
IJ02L4AG9O	D-307	34.7	23	57.7	5.5
JH75K0TWZN	D-308	34.5	21.2	55.7	5.7
O6CF2GGKP6	D-309	30.8	28.3	59.1	5.4
SX7U665QM6	D-310	38.7	12.3	51	6
S6YDJXPJCP	D-311	36.2	22.2	58.4	5.4
CR81FVTTKI	D-401	41.8	18.5	60.3	5.4
I47NEU1PV3	D-402	25.1	23.7	48.8	6.2
GCM85WKN9O	D-403	18.7	18.8	37.5	
BKCJ4MEBFS	D-404	14.9	19.6	34.5	7.3
LBF362RMDI	D-405	35.9	20.3	56.2	5.6
200S0O0BFU	D-406	35.7	22.2	57.9	5.5

<sup>\*</sup> Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au



Date of Certificate: 6 Mar 2020

★ Average star rating: 6.1



### **Summary of all dwellings continued**

Cortificate number	Unit number		rmal performance load		Ctor roting
Certificate number	Unit number	Heating load	Cooling load	Total load	Star rating
U0SZ68AB9C	D-407	36.3	21.4	57.7	5.5
V0ZOEQ15HQ	D-408	36.1	20.3	56.4	5.6
9A6MOL9RM0	D-409	30.7	27.4	58.1	5.4
8EXV1YZUPL	D-410	38.1	12.5	50.6	6
GCF4XLTTSQ	D-411	36.5	23	59.5	5.4
FP5SZ9FA6T	D-501	36.8	23.5	60.3	5.4
KGU6OGUDBN	D-502	23.7	24.5	48.2	6.2
6AK84CP0GH	D-503	18.7	19.9	38.6	7
VD5V7USP67	D-504	16	17.4	33.4	7.4
2QNAXBALOJ	D-505	37.3	19.5	56.8	5.6
X53ZNRUYCU	D-506	36.7	19.9	56.6	5.6
PQSSRS5ERT	D-507	35.7	21.7	57.4	5.5
7L8JXZZFGV	D-508	36.2	19.8	56	5.6
IHQSMMNK9G	D-509	31.1	27.6	58.7	5.4
VY4VL2T1HV	D-510	39.2	12.4	51.6	5.9
LHFJ30JFHP	D-511	36.7	23.3	60	5.4
DWSCPEF6YW	D-601	36.7	23.4	60.1	5.4
UO3YXUI7W9	D-602	24.4	24.3	48.7	6.2
82902IFZXC	D-603	19.3	18.4	37.7	7.1
A4NMSM85SF	D-604	16.2	17	33.2	7.4
G645LL6UBY	D-605	36.5	19.2	55.7	5.7
2PRRJHKIZ1	D-606	37.5	20.3	57.8	5.5
IZ7BTD7W1L	D-607	36.9	20.1	57	5.6
13WBPONK7R	D-608	37.3	19.3	56.6	5.6
U4EBYXTE67	D-609	33.4	30.8	64.2	5.1
JKDR0H5G70	D-610	40.9	12.4	53.3	5.8
4ZESXUM6CK	D-611	37	23.2	60.2	5.4
TWEHWLX1JH	D-701	36.5	24.4	60.9	5.3
9PJVE74IVN	D-702	23.6	23.7	47.3	6.3
MNYSZYZRAU	D-703	19.5	18.2	37.7	7.1

<sup>\*</sup> Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au



Date of Certificate: 6 Mar 2020

★ Average star rating: 6.1



### **Summary of all dwellings continued**

Certificate number	Unit number	Heating load	Cooling load	Total load	Star rating
BZF16Q83LI	D-704	16.5	16.9	33.4	7.4
OJ20682QC4	D-705	35.6	19.7	55.3	5.7
4ALI7TVON8	D-706	37.6	20.5	58.1	5.4
1BUQJCX5F8	D-707	36.5	20.7	57.2	5.6
PT8ZDV6NWY	D-708	36.3	19.9	56.2	5.6
1HRHIEJ56N	D-709	29.8	24.9	54.7	5.7
XQVBE4ARN3	D-710	40.3	12.3	52.6	5.9
264HQAN74N	D-711	35.8	23.9	59.7	5.4
MWUUNF8WS7	D-801	36.4	24	60.4	5.3
WF1Y3AXMDI	D-802	23.6	24.2	47.8	6.3
NSJ3062XN5	D-803	19.8	17.9	37.7	7.1
5UPNRMYLR4	D-804	16.8	16.7	33.5	7.4
YHEGI0OHTM	D-805	36.4	20.5	56.9	5.6
WI2ZG4GNAI	D-806	32.9	23.8	56.7	5.6
Y0A1C5EVI0	D-807	36.7	19.8	56.5	5.6
12829ZT8P9	D-808	37.7	27.4	65.1	5.1
812S0X20GW	D-809	40.8	12.2	53	5.9
GLLIGU7TAT	D-810	36.2	23.8	60	5.4
GROPPBLAKM	D-901	40.9	20.8	61.7	5.3
JQU4K67SBP	D-902	28.3	20.6	48.9	6.2
CNOVTUJXV3	D-903	21.6	16.5	38.1	7.1
7BZI9RNNCY	D-904	18.7	14.5	33.2	7.4
L1P4MZ0Q8J	D-905	39.5	16.7	56.2	5.6
WORVR2C254	D-906	35.4	19.3	54.7	5.7
1XOROI0M53	D-907	40.2	16.4	56.6	5.6
7JHQY0ET0R	D-908	32.2	26	58.2	5.4
VJKBO8LTCL	D-909	43.3	11.5	54.8	5.7
P67KS6F7KK	D-910	40	20.3	60.3	5.4
7RB2BDZ334	J1-1001	33.8	19.2	53	5.9
86GRL7TLOU	J1-1002	28.9	13.5	42.4	6.7

<sup>\*</sup> Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au



Date of Certificate: 6 Mar 2020

★ Average star rating: 6.1



### **Summary of all dwellings continued**

Certificate number	Unit number		rmal performance loa	Total load	Stor roting
		Heating load	Cooling load		Star rating
GQ3X08FW97	J1-1003	32.4	25.9	58.3	5.4
7NO35C7HKQ	J1-1004	45	15.9	60.9	5.3
80OJ5P4YAC	J1-1005	27.6	16.8	44.4	6.6
S35ROEJRMH	J1-201	20.3	29	49.3	6.1
RXVXW5HCLX	J1-202	12	24	36	7.2
DA483U77E7	J1-203	24.9	23.1	48	6.2
6NJ8EVO6GJ	J1-204	16.9	29.4	46.3	6.4
XRLRUDOWSB	J1-205	23.2	21.8	45	6.4
QYLBH46WFD	J1-206	10.2	21.3	31.5	7.5
UALUFF3JG9	J1-301	33.6	15.5	49.1	6.2
ECBKGTF3BN	J1-302	14.5	11.6	26.1	7.9
BF4HMYV2PT	J1-303	32.2	14.6	46.8	6.4
RL5B4HZ4V5	J1-304	23.1	24.1	47.2	6.3
7DMSQHCI1K	J1-305	34.8	16.9	51.7	5.9
Y20DVLU2PJ	J1-306	20	15.3	35.3	7.3
S8TEMV2DCP	J1-401	33.5	16	49.5	6.1
QUBPVG4OUP	J1-402	14	14.6	28.6	7.8
CYGZXJHRDA	J1-403	32.1	14.8	46.9	6.3
Y5XC2FPQ59	J1-404	25.5	24.4	49.9	6.1
I532FI0PD8	J1-405	36.7	16.4	53.1	5.9
5CE270WT8H	J1-406	19.2	15.8	35	7.3
468A6UCN9L	J1-501	36.1	14.9	51	6
3F8A96OZX5	J1-502	16.7	12.2	28.9	7.8
T1NEFW15FC	J1-503	32.5	14.6	47.1	6.3
S6RXQJMZQT	J1-504	22.9	23.8	46.7	6.4
PWNYRKAZG1	J1-505	35	14.6	49.6	6.1
5I9TY1VO8Z	J1-506	18.4	16.3	34.7	7.3
R23TE52EEM	J1-601	37.6	13.3	50.9	6
CK889DP53I	J1-602	15.1	11.5	26.6	7.9
JNAPUSKWFD	J1-603	33	14.3	47.3	6.3

<sup>\*</sup> Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au



Date of Certificate: 6 Mar 2020

★ Average star rating: 6.1



### **Summary of all dwellings continued**

		Annual the	rmal performance load	ds (MJ/m2)	
Certificate number	Unit number	Heating load	Cooling load	Total load	Star rating
CKF6R7IV19	J1-604	23.1	24.5	47.6	6.3
0FS3P6PLO9	J1-605	34.1	16.1	50.2	6.1
9412LYSJRM	J1-606	19.5	16.8	36.3	7.2
10WDR3CADB	J1-701	45.2	14.6	59.8	5.4
XG44SR8N39	J1-702	23.3	12.6	35.9	7.2
X3KTB2ECRB	J1-703	33.7	13.9	47.6	6.3
44E40QUQLY	J1-704	24.5	23	47.5	6.3
M2YRC9CMSC	J1-705	34.7	14.2	48.9	6.2
6RBFJRLRDF	J1-706	21.3	15.2	36.5	7.2
INCAA9LE2F	J1-801	23.2	26.3	49.5	6.1
8L8969SPLW	J1-802	16	14.9	30.9	7.6
3PIMCR3WS4	J1-803	21.4	25.2	46.6	6.4
MAFM99CFAR	J1-804	32.9	18	50.9	6
00SACVSCIJ	J1-805	17.4	18.4	35.8	7.2
P00PLK74KE	J1-901	32	20	52	5.9
Q6CKLVSMWI	J1-902	30.5	10.5	41	6.8
AMB7WQCT1K	J1-903	25.8	22.2	48	6.2
DRV7RGW8SU	J1-904	36.7	14.6	51.3	5.9
FD6FACXD7K	J1-905	22.7	13.3	36	7.2
KJL8QQ2QP4	J2-1001	43.1	13.7	56.8	5.6
VSJZOJSTS8	J2-1002	45.3	13.9	59.2	5.4
JB0AY3WYG2	J2-1003	44.6	12.7	57.3	5.5
VPFBYUD7BV	J2-1004	45.3	10.2	55.5	5.7
W3VBH8BDET	J2-101	32.4	13.8	46.2	6.4
VK5250V1WT	J2-102	9.7	25.7	35.4	7.3
1RY5EHJHRT	J2-103	24.8	16.2	41	6.8
C76H0705RY	J2-104	24.2	22.8	47	6.3
8VM8OHGHVD	J2-105	27.3	17.1	44.4	6.6
67K5QV6TN4	J2-106	22.9	20.7	43.6	6.6
FUD8ER3JX4	J2-108	31.7	28.1	59.8	5.4

<sup>\*</sup> Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au



Date of Certificate: 6 Mar 2020

★ Average star rating: 6.1



### **Summary of all dwellings continued**

Certificate number	Unit number	Heating load	Cooling load	Total load	Star rating
4Q6IR2Y2FB	J2-109	44.1	26	70.1	4.8
1JFZU6HTBD	J2-201	30.6	19.5	50.1	6.1
B315WWOR9T	J2-202	21	21	42	6.8
CG6ZGDRM8L	J2-203	18.2	25.6	43.8	6.6
KVEKR0PYUS	J2-204	15.8	24.1	39.9	6.9
9USMFW6BJF	J2-205	20.6	26.5	47.1	6.3
RL3S3JER0T	J2-206	12.4	22.1	34.5	7.3
M7ZB02AGEK	J2-207	43.8	12.9	56.7	5.6
H63EGYKP55	J2-207	33.8	15.4	49.2	6.1
PK52VGLSOV	J2-208	21.9	21.5	43.4	6.6
XI30GMV2UY	J2-209	36.4	29.3	65.7	5
7EDTAJIIWX	J2-209	42.6	27.7	70.3	4.8
6134LVDT6Z	J2-301	33.2	15.3	48.5	6.2
S7I66UNCAU	J2-302	26.2	14.2	40.4	6.9
PEKHRU4ZIR	J2-303	22.8	15.4	38.2	7.1
DTPLGU93ZC	J2-304	22.8	22.6	45.4	6.4
R59CJKADJD	J2-305	25.7	16.7	42.4	6.7
FS4CKWCS3V	J2-306	22.3	22.8	45.1	6.4
QMFJ474D8P	J2-307	38.6	13.1	51.7	5.9
DY2SEUPCSO	J2-308	30.2	15.6	45.8	6.4
0PRW92QTZH	J2-401	34.8	18.2	53	5.9
0R6ODT94V3	J2-402	25.5	14.4	39.9	6.9
ZZ4WPTIRZ5	J2-403	23.7	14.5	38.2	7.1
BTM3G79ZN0	J2-404	20.8	22.9	43.7	6.6
P7IF6HKLJO	J2-405	25.5	16.4	41.9	6.8
RI9SBA00BA	J2-406	21.6	22	43.6	6.6
MUO4WV7R9T	J2-407	35.3	11.7	47	6.3
F9HO0QQ5W1	J2-408	30.3	15.1	45.4	6.4
1YF5A8ALMY	J2-409	45.3	20	65.3	5
ZC4LB5356I	J2-501	35.5	16.6	52.1	5.9

<sup>\*</sup> Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au



Date of Certificate: 6 Mar 2020

★ Average star rating: 6.1



### **Summary of all dwellings continued**

		Annual the	rmal performance loa	ds (MJ/m2)	
Certificate number	Unit number	Heating load	Cooling load	Total load	Star rating
Z6WB9MEYUJ	J2-502	25.5	15.9	41.4	6.8
X12BPLD603	J2-503	25.5	16.2	41.7	6.8
MC7VDQJ8EL	J2-504	21.7	14.2	35.9	7.2
03N19I57HP	J2-505	26	16.7	42.7	6.7
80RAYBXKHY	J2-506	45.2	14.8	60	5.4
FRQUSV9C1O	J2-507	45.4	21.3	66.7	4.9
BU6O4MH30Z	J2-601	33.9	18.4	52.3	5.9
70TW7X4TQN	J2-602	26.1	14.8	40.9	6.8
21MC2U6YLJ	J2-603	26	15.4	41.4	6.8
1G7EMUN3FB	J2-604	21.3	14	35.3	7.3
NMET84O3JV	J2-605	26.6	13.9	40.5	6.9
TE8DKTKVVK	J2-606	44.2	11.3	55.5	5.7
98DOHQNFAW	J2-607	45.3	22.2	67.5	4.9
Q5HCK5M55S	J2-607	45.3	21.7	67	4.9
TRHMSG7MYL	J2-701	33.8	16.6	50.4	6
H5ZPL95LCT	J2-702	26.5	15	41.5	6.8
W3I3Z59NP3	J2-703	25.8	15.7	41.5	6.8
ZKJOVZ19B6	J2-704	21.9	22.3	44.2	6.6
9FGOHXHGQ3	J2-705	26.9	15.3	42.2	6.7
OVJABKQJJE	J2-706	39.5	11.3	50.8	6
QINREQ1IJQ	J2-801	34.4	15.2	49.6	6.1
U9BM29YEME	J2-802	40	14.4	54.4	5.8
6UYUKRTS5B	J2-803	33.1	12.5	45.6	6.4
KSVBEYKSSX	J2-804	29.5	16.8	46.3	6.4
QAQF97EEBW	J2-805	45.4	10.9	56.3	5.6
9NJNE0O00G	J2-806	44.9	21.4	66.3	4.9
AFJMCUNPDO	J2-901	36.9	13.6	50.5	6
426929Z2TI	J2-902	39.7	14.7	54.4	5.8
3T4VIK919J	J2-903	35.7	13.2	48.9	6.2
0AE4V9KEJF	J2-904	45.3	12.4	57.7	5.5

This building achieves an average star rating of: **6.1** 

<sup>\*</sup> Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Certificate Number: PQIWQ82JX8 Date of Certificate: 6 Mar 2020

★ Average star rating: 5.6



#### **Assessor details**

Accreditation

number: **101142** 

Name: Christopher Mann

Organisation: WSP

Email: chris.mann@wsp.com

Phone: **0411644164** 

Declaration No potential conflicts of interest to

of interest: declare

Software: See individual certificates

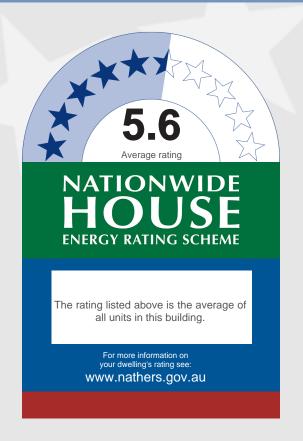
AAO: ABSA

#### **Dwelling details**

Address: 19a Evans Avenue - Building E, F & G

Suburb: Eastlakes
State: NSW
Postcode: 2018

### **Summary of all dwellings**



#### **Certification details**

		Annual the	rmal performance load	ds (MJ/m2)	
Certificate number	Unit number	Heating load	Cooling load	Total load	Star rating
EK9LKAN1LT	E0105	22.9	37.8	60.7	5.3
0QA5OLF8BD	E0201	46.5	16.4	62.9	5.2
BBP664X0HK	E0201	46.5	16.4	62.9	5.2
WPN3CFCW6G	E0202	21.2	26.7	47.9	6.3
JIF0K28GAM	E0203	18.6	35.4	54	5.8
01BSN4UIJQ	E0204	23.3	29.8	53.1	5.9
U2TXJLAJZE	E0205	23.7	36.6	60.3	5.4
0EEDKSLKUW	E0206	23.7	34.3	58	5.4
V3NQB8I3PK	E0208	49.2	23.9	73.1	4.6
OG5RWWX8H5	E0209	45.2	15.7	60.9	5.3
XSMC871XBL	E0301	51.4	13.4	64.8	5.1
JR4KIFEQC0	E0302	24.4	19.8	44.2	6.6
HPXUZLF0L6	E0303	21.6	25.5	47.1	6.3
W759X642TY	E0304	24.3	23.1	47.4	6.3
5966VBPNO8	E0305	25.9	25.4	51.3	5.9
B5IIIH52NW	E0306	26.5	24.5	51	6
					continue

\* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au



Date of Certificate: 6 Mar 2020

★ Average star rating: **5.6** 



### **Summary of all dwellings continued**

Certificate number	Unit number	Heating load	rmal performance load  Cooling load	Total load	Star rating
M98YM4N5PI	E0307	34.5	17.7	52.2	5.9
1AMFYLW5WL	E0307	34.5	17.7	52.2	5.9
LL7N4HS18Y	E0308	53.6	18.4	72	4.7
51LN41ZW0P	E0309	49.9	12.4	62.3	5.2
PU1CX074OB	E0402	24.6	20.3	44.9	6.5
YD4Y0AY9L7	E0403	22.2	25	47.2	6.3
W9EHKJ6AQ9	E0404	26.6	22.6	49.2	6.2
35IZ07H0F6	E0406	27	23.6	50.6	6
GYPKYPPT1N	E0407	35.1	17.5	52.6	5.9
7KV6HF26UN	E0408	54.1	18.3	72.4	4.6
YPBCHHZ4KE	E0409	50.6	12.1	62.7	5.2
65G4YH1FCE	E0501	52.5	12.4	64.9	5.1
IF6ZSWK4TB	E0502	25.1	20	45.1	6.4
T5GTYQGCWV	E0503	22.5	24.8	47.3	6.3
2JG5RCE0H9	E0504	26.9	22.5	49.4	6.1
OW3PFTTLTV	E0505	27.6	23.9	51.5	5.9
64LJUBYWGI	E0506	27.3	23.4	50.7	6
BYTRL89AHQ	E0507	35.6	17.4	53	5.9
RUWUX7B1OF	E0508	54.3	18.6	72.9	4.6
64SBZ787LQ	E0509	51.2	11.9	63.1	5.2
N3QOZL3KWQ	E0602	34	49.9	83.9	4.2
87R20W2QK9	E0604	25.8	22.7	48.5	6.2
11T9A18ZWV	E0606	39.4	28.8	68.2	4.9
PHNCKXVRX0	E101	55.8	16.1	71.9	4.7
NCXIN2GXUL	E102	27.1	29.4	56.5	5.6
WRDT07YO1B	E103	17.5	33.5	51	5.9
IPNIPN2X70	E104	23.7	31.5	55.2	5.7
PACN5NKWU4	E105	19.2	37.5	56.7	5.6
MXH4TOFOXZ	E601	39.8	11.7	51.5	5.9
M70AH6B3RK	E603	19.5	16	35.5	7.3
O27XVFLY2I	E605	21.4	25.9	47.3	6.3

<sup>00111111010</sup> 



★ Average star rating: 5.6



### **Summary of all dwellings continued**

Certificate number	Unit number	Heating load	Cooling load	Total load	Star rating
5LNTP1VOMA	E607	35.8	18.6	54.4	5.8
HXCIY26K2X	F101	25	24.3	49.3	6.1
GWKCKWPZYM	F102	43.7	36.3	80	4.3
WB46VBCL81	F103	36.5	33	69.5	4.8
1K9GNMM3AD	F104	36.6	35.6	72.2	4.7
OVNGFJBCVZ	F201	26.1	48.7	74.8	4.5
5H8IEYIAXN	F202	44.8	29.9	74.7	4.5
M3Y8SZV0OY	F203	30	24.3	54.3	5.8
EYZCEB6ELF	F204	27.6	21	48.6	6.2
202EEAUIPR	F205	27.2	32.5	59.7	5.4
UJK550KRW1	F206	33.4	25.9	59.3	5.4
VUQVUYENDR	F207	48.8	33.3	82.1	4.2
US9GJ8MC83	F208	62.3	21.8	84.1	4.2
WRAWA93ZLG	F209	41.1	35.1	76.2	4.4
V6NFQTYD18	F301	20.3	20.2	40.5	6.9
KIL9TZENW7	F302	37.6	17.3	54.9	5.7
91UVLE0P1F	F303	28.4	12.5	40.9	6.8
0051KDXXOE	F304	27.9	14.5	42.4	6.7
GATEKF3IWK	F305	29.3	14.5	43.8	6.6
G9NL8W81OZ	F306	32.5	18	50.5	6
2BLE5ZJY3J	F307	52	24.9	76.9	4.4
OSNZ3TRDKV	F308	55.2	23.1	78.3	4.4
PFPDMITE9L	F309	44.7	19.6	64.3	5.1
DJG3KMSNPP	F401	18.2	20	38.2	7.1
XC9MLSUVX9	F402	34	17.5	51.5	5.9
Z0X4J0SW7B	F403	28.9	12.3	41.2	6.8
YOG2R9UJ3R	F404	28.2	15.1	43.3	6.6
VMNAA2I8KK	F405	28.8	14.5	43.3	6.6
Q83CVMVLTU	F406	28.1	16.8	44.9	6.5
45QN0J6G4M	F407	43.8	28.1	71.9	4.7

<sup>\*</sup> Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au



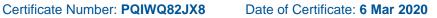
★ Average star rating: 5.6



### **Summary of all dwellings continued**

	Annual thermal performance loads (MJ/m2)						
Certificate number	Unit number	Heating load	Cooling load	Total load	Star rating		
7L1FNNNW4R	F408	55.9	22.8	78.7	4.4		
STMWV0UDHF	F409	45.4	19.7	65.1	5.1		
NIZJXZ59J1	F501	15	18.9	33.9	7.4		
5BE8MEGYZH	F502	27.9	18	45.9	6.4		
63JDHGJJHB	F503	29.3	11.5	40.8	6.9		
XI8F0WMZ7H	F504	28.8	15	43.8	6.6		
G2DQXTLC7U	F505	29.6	13.8	43.4	6.6		
IWZRDPTDTE	F506	28.6	16.8	45.4	6.4		
73J0BI5IDV	F507	44	26.8	70.8	4.7		
I0CD4E02PY	F508	53.9	22.6	76.5	4.4		
4HLW2ATQCK	F509	46.6	18.5	65.1	5.1		
3579HC8L2X	F601	30.6	17.5	48.1	6.2		
88RCCLT429	F602	35.4	19.6	55	5.7		
Y39Z8ZVSSX	F603	36.6	12.5	49.1	6.2		
RONCWQPOJQ	F604	36.7	15.5	52.2	5.9		
U6O9GO1XHM	F605	37.4	14.1	51.5	5.9		
YKZ7NY7455	F606	37.7	18	55.7	5.7		
TXGB0UVOQV	F607	44.7	21.6	66.3	4.9		
MO0SLSZAU2	F608	38.4	19.7	58.1	5.4		
O6YLHTNDHQ	G0101	54.4	15.5	69.9	4.8		
HP6834ZCW2	G0102	29.9	28.2	58.1	5.4		
FYBOXBRPKV	G0105	13.2	32.8	46	6.4		
1LRNSS4ECI	G0201	45.6	17.6	63.2	5.2		
QS01NDO1NW	G0202	19.5	41.4	60.9	5.3		
01QIB0SRJW	G0203	36.5	46.4	82.9	4.2		
MS40Y1WYWB	G0204	36.6	49.7	86.3	4.1		
M95N8HEVHH	G0205	24.7	44.6	69.3	4.8		
AN4P67X9DW	G0207	32.2	29.5	61.7	5.3		
R0ELJ05DK3	G0208	30.3	26.5	56.8	5.6		
V7JCOQLR4Y	G0209	46	17.5	63.5	5.2		

<sup>\*</sup> Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au



★ Average star rating: 5.6



### **Summary of all dwellings continued**

Certificate number	Annual thermal performance loads (MJ/m2)				
	Unit number	Heating load	Cooling load	Total load	Star rating
6NM4B8EQQA	G0301	50.2	13.2	63.4	5.2
UFRVZR15DF	G0302	23.3	32.6	55.9	5.7
E19RGCD2AP	G0303	41.4	24.6	66	4.9
WGEP0ENJJL	G0304	39.9	40	79.9	4.3
HB7D7PVE67	G0305	29.1	35.4	64.5	5.1
X85V6TPDCK	G0306	31.3	32.5	63.8	5.1
TXX45QIGI8	G0307	35.6	22.5	58.1	5.4
D2J38E8UBS	G0308	33.1	22.1	55.2	5.7
BTT3QQNEFD	G0309	50.5	13.2	63.7	5.1
QIDR6SOLN4	G0401	54.4	22.7	77.1	4.4
0SQ13YAA4U	G0402	35.2	50.7	85.9	4.1
WJOL0OIQTK	G0403	31	14.8	45.8	6.4
5HR4FD4F19	G0404	36.7	19.8	56.5	5.6
6FI6Y1CSSW	G0405	23.3	16.1	39.4	6.9
L8XYSK0T06	G0406	30.8	40	70.8	4.7
ZS72NO54AY	G0407	53.3	28.5	81.8	4.2
C4BU17PM8D	G103	45	26.7	71.7	4.7
8GWJ3ZOG27	G104	32.5	37.9	70.4	4.8
IU6AZ9KH30	G106	41.1	27.2	68.3	4.9
CH1Q990ZC0	G107	48.5	9.7	58.2	5.4
MGABI40CV1	G108	14.6	14.8	29.4	7.7
3M2VXC3BXY	G109	26.9	10.2	37.1	7.1
DKYV1XWGGV	G206	24	37.7	61.7	5.3

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