

BASIX Assessment
for the proposed development known as
**Australia Towers,
Sydney Olympic Park**

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1.0 Introduction

This study investigates the estimated thermal comfort and water and energy usage of Towers 1 and 2 of the proposed development known as Australia Towers, located in Sydney Olympic Park. The assessment is carried out using online BASIX and BERS Pro Thermal Performance assessment tool. This assessment is based on the architectural drawings prepared by Bates Smart, revision P5 dated March, 2011, and are attached in Appendix A of this report.

2.0 Analysis

A BASIX assessment is split into three sections; Water, Thermal Comfort and Energy. Each section measures the efficiency of the development in these areas. For the Water and Energy sections, the development is given a score based on the efficiency. BASIX sets a minimum score in these areas that the development must satisfy. The Thermal Performance section of the BASIX assessment requires a BERS Pro simulation to be undertaken. BASIX sets requirements on the maximum heating and cooling loads for each residential apartment of the development. The results of this are rated in BASIX as either a pass or fail.

2.1 Water Usage

The water usage of the development is measured based on the area of gardens/lawn and the number and efficiency of permanent fixtures within the development (such as showerheads, taps and toilets). The development is given a rating, with BASIX requiring a minimum rating of 40% to pass this section.

Bonus points are available in this section by using a rainwater tank. Water from a rainwater tank can be used for the outdoor landscape, private garden/lawn, laundry and toilets.

2.2 Thermal Comfort

The thermal comfort of the development is measured using the BERS Pro Thermal Performance assessment tool. This gives an expected level of energy consumption (expressed in MegaJoules used per square metre per annum) for the heating and cooling loads.

The thermal comfort of the development can be improved by using higher performance building materials (such as performance glazing) and/or insulation materials. BASIX sets a maximum heating and cooling load that the development is to achieve. This is given as a weighted average heating and cooling load for the entire development, **and** for each individual unit to achieve. Bonus points can be obtained for the cooling load through natural ventilation throughout the development.

2.3 Energy Usage

The energy section of the BASIX assessment measures the energy efficiency of the development based on the efficiency of the fixed appliances to be used. This includes the hot water system, air-conditioning system, exhaust fans, lighting and the cook top/oven. If a pool is to be included in the proposal then the efficiency measure of the pool heater and the pool pump is also required. The development is given a rating, with BASIX requiring a minimum rating of 20% to pass this section.

3.0 Results of the BASIX Assessment

3.1 Water

The target score in BASIX to achieve water usage compliance is **40%**. For the proposed development a score of **40%** is achieved through the following;

- The alternative water supply available under the Sydney Olympic Park Authority will be used for all public landscaping (5200m²) within the proposed development
- All common area showerheads will have a rating of at least 3.0 Stars (>7.5 but ≤9L/min).
- All common area toilet and taps will have a rating of at least 3.0 Stars.
- All showerheads within each residential dwelling of the proposed development should have a water efficiency rating of at least 3.0 Stars (>7.5 but ≤9L/min).
- All toilets, kitchen and bathroom taps within each residential dwelling of the proposed development should have a water efficiency rating of at least 3.0 Stars.
- All clothes washers and dishwashers within each residential dwelling of the proposed development should have a water efficiency rating of at least 2.0 Stars.

3.2 Thermal Comfort

The BERS Pro assessments take into account the following fundamental aspects of energy efficient design:

- The orientation and size of the walls.
- The location, proportion and type of windows and doors, and any internal or external coverings to them.
- The materials and colours of the exterior of the building.
- Internal floor, wall and ceiling materials.
- Cross ventilation.
- Provision of any insulation in walls, roof or ceiling.
- Overshadowing to walls and windows from eaves, other parts of the development and neighbours.
- The topography and climate of the area around the proposed development.

In BASIX, the required weighted averaged maximum heating and cooling loads of the **entire** proposed development are **51.0 MJ/m²/year for heating** and **45.0 MJ/m²/year for cooling** and **for each individual unit** a maximum heating and cooling load of **66.0 MJ/m²/year for heating** and **59.0 MJ/m²/year for cooling**. The required heating and cooling loads for the individual residential units are indicated in Tables 1 and 2. Note that the overall weighted average heating and cooling loads are significantly harder to achieve than the individual unit requirements indicated in Tables 1 and 2.

3.2.1 Initial Results

The following construction materials were initially selected for the assessment. Note that the materials described are not prescriptive. The construction materials used on the subject development should be selected to have similar performance characteristics as the ones detailed below so as not to effect the overall thermal performance rating of each apartment. The U-value and Solar Heat Gain Coefficient (SHGC) for the glazing is also indicated.

- The external walls of the building are Concrete Blocks. No external wall insulation has been initially proposed.
- The internal walls within the development are Plasterboard on Studs, Hebel Panel System and Concrete Block. No internal wall insulation has been initially proposed.
- The glazing **systems** will have the following properties: U = 6.57, SHGC = 0.74. This typically represents a standard single-glazed clear glazing system set within standard aluminium frames.

- The floor coverings will be carpet in the living and bedrooms, with tiles for the kitchen, bathroom and ensuite. The floors will be concrete slabs. No initial insulation is proposed for the floors.
- The ceilings will be plasterboard suspended from concrete with no initial insulation proposed.
- The roof will be a concrete slab with no initial insulation proposed.

The climate zone selected for analysis was Climate Zone 56 (Sydney East). The results of the analysis, indicated in Table 3, indicate that several of the residential units within the proposed development will not satisfy the individual thermal requirements of BASIX. The weighted average heating and cooling loads for the proposed development, with the construction materials listed above, are listed below.

- **Heating Load: 52.4 MJ/m²/year**
- **Cooling Load: 38.1 MJ/m²/year**

Hence treatment is required to some of the residential units of the development.

3.2.2 Results with Treatments

Further analysis of the proposed development resulted in some recommended treatments to achieve the BASIX requirements for thermal performance. Note that the following unit numbers listed are in accordance with those indicated in Appendix A of this report. The recommended treatments are listed in the following Tables 1 and 2 for Towers 1 and 2 respectively:

Table 1: Recommended Treatments – Tower 1

Unit Numbers	Recommended Treatment(s)
L01-U01, L01-U02, L01-U03	• R1.0 insulation is to be installed in all floors.
L01-U04, L01-U05, L01-U06, L01-U07, L01-U08, L02-U08, L02-U12, L02-U13	• R1.0 insulation is to be installed in all floors. • All glazing systems should have properties that satisfy the following: U-value = 4.70 Solar Heat Gain Coefficient = 0.63 This typically represents a single Low E glazing system set within standard aluminium frames.

Table 1: Recommended Treatments – Tower 1 (cont...)

Unit Numbers	Recommended Treatment(s)
L02-U10, L02-U11	- R1.0 insulation is to be installed in all floors. - All glazing systems should have properties that satisfy the following: U-value = 4.70 Solar Heat Gain Coefficient = 0.63 This typically represents a single Low E glazing system set within standard aluminium frames. - Foil (reflective one side, anti-glare other) is to be used in all external walls.
L03-U13, L04-U13, L05-U13, L06-U13, L07-U13, L08-U13, L09-U13, L10-U13, L11-U08, L12-U01, L12-U07, L12-U08, L13-U01, L13-U07, L13-U08, L14-U01, L14-U07, L14-U08, L15-U01, L15-U07, L15-U08, L16-U01, L16-U07, L16-U08, L17-U01, L17-U07, L17-U08, L18-U01, L18-U07, L18-U08, L19-U01, L19-U07, L19-U08, L20-U01, L20-U07, L20-U08, L21-U01, L21-U03, L21-U08, L22-U01, L22-U02, L22-U03, L22-U04, L22-U05, L22-U06, L23-U01, L23-U04, L23-U05, L23-U06	All glazing systems should have properties that satisfy the following: U-value = 4.70 Solar Heat Gain Coefficient = 0.63 This typically represents a single Low E glazing system set within standard aluminium frames.
L03-U10, L03-U11, L04-U10, L04-U11, L05-U10, L05-U11, L06-U10, L06-U11, L07-U10, L07-U11, L08-U10, L08-U11, L09-U10, L09-U11, L10-U10, L10-U11, L11-U10, L11-U11, L12-U09, L12-U10, L13-U09, L13-U10, L14-U09, L14-U10, L15-U09, L15-U10, L16-U09, L16-U10, L17-U09, L17-U10, L18-U09, L18-U10, L19-U09, L19-U10, L20-U09, L20-U10, L21-U09, L21-U10, L22-U08	- All glazing systems should have properties that satisfy the following: U-value = 4.70 Solar Heat Gain Coefficient = 0.63 This typically represents a single Low E glazing system set within standard aluminium frames. - Foil (reflective one side, anti-glare other) is to be used in all external Concrete Block walls.

Table 1: Recommended Treatments – Tower 1 (cont...)

Unit Numbers	Recommended Treatment(s)
L11-U01, L11-U13, L21-U07	- All glazing systems should have properties that satisfy the following: U-value = 4.70 Solar Heat Gain Coefficient = 0.63 This typically represents a single Low E glazing system set within standard aluminium frames. - Foil (reflective one side, anti-glare other) Ceiling/ roof insulation
All remaining units	No Treatment Required

Table 2: Recommended Treatments – Tower 2

Unit Numbers	Recommended Treatment(s)
L01-U01, L02-U07, L02-U09	R1.0 insulation is to be installed in all floors.
L01-U02, L02-U10	- R1.0 insulation is to be installed in all floors. - All glazing systems should have properties that satisfy the following: U-value = 4.70 Solar Heat Gain Coefficient = 0.63 This typically represents a single Low E glazing system set within standard aluminium frames.
L01-U03, L01-U04, L01-U05, L02-U08, L02-U11, L02-U12	- R1.0 insulation is to be installed in all floors. - All glazing systems should have properties that satisfy the following: U-value = 4.70 Solar Heat Gain Coefficient = 0.63 This typically represents a single Low E glazing system set within standard aluminium frames. - Foil (reflective one side, anti-glare other) is to be used in all external walls.

Table 2: Recommended Treatments – Tower 2 (cont...)

Unit Numbers	Recommended Treatment(s)
L02-U02, L03-U05, L03-U08, L04-U05, L04-U08, L05-U05, L05-U08, L06-U05, L06-U08, L07-U05, L07-U08, L08-U05, L08-U08, L09-U05, L09-U08, L10-U05, L10-U08, L11-U05, L11-U08, L12-U05, L12-U08, L13-U05, L13-U08, L14-U05, L14-U08, L15-U05, L15-U08, L16-U05, L16-U08, L17-U05, L17-U08, L18-U05, L18-U08, L19-U05, L19-U08, L20-U05, L20-U08, L21-U05, L21-U08, L22-U05, L22-U08, L23-U02, L23-U05, L23-U08, L24-U01, L25-U01, L26-U01, L26-U06, L27-U01, L27-U04, L28-U01, L28-U04, L29-U01, L29-U06, L29-U07	All glazing systems should have properties that satisfy the following: U-value = 4.70 Solar Heat Gain Coefficient = 0.63 This typically represents a single Low E glazing system set within standard aluminium frames.
L02-U05, L03-U11, L04-U11, L05-U11, L06-U11, L07-U11, L08-U11, L09-U11, L10-U11, L11-U11, L12-U11, L13-U11, L14-U11, L15-U11, L16-U11, L17-U11, L18-U11, L19-U11, L20-U11, L21-U11, L22-U11, L23-U11, L23-U12	- All glazing systems should have properties that satisfy the following: U-value = 4.70 Solar Heat Gain Coefficient = 0.63 This typically represents a single Low E glazing system set within standard aluminium frames. - Foil (reflective one side, anti-glare other) is to be used in all external Concrete Block walls.
L29-U04	- All glazing systems should have properties that satisfy the following: U-value = 4.70 Solar Heat Gain Coefficient = 0.63 This typically represents a single Low E glazing system set within standard aluminium frames. - R2.5 Ceiling/ roof insulation
All remaining units	No Treatment Required

The glazing types selected for the windows of the proposed development should *at least* satisfy the required performance data listed in this report. Higher performing glass types than those listed in this report are also acceptable. Reducing the amount of glazing in each unit is expected to significantly increase the thermal performance of each unit. That is,

alternative glazing systems or specifications may be used if their U value is lower, and the SHGC value is less than 10% higher or lower, than the U and SHGC values of the product specified above.

With these treatments in place the weighted average maximum heating and cooling loads are **44.4 MJ/m²/year for heating** and **36.9 MJ/m²/year for cooling**.

The BASIX requirements for the weighted averaged maximum heating and cooling loads of the entire proposed development are **51.0 MJ/m²/year for heating** and **45.0 MJ/m²/year for cooling**. Hence, with the recommended treatments listed above, the proposed development will satisfy the thermal performance requirements of BASIX.

Table 3: Thermal Performance Results – Tower 1

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T1-L01-U01	66	59	77.7	46.3	60.5	49.8
T1-L01-U02	66	59	53.5	26.4	39.5	27.6
T1-L01-U03	66	59	58.6	32.8	44	35.1
T1-L01-U04	66	59	85.8	26.6	61.3	23.2
T1-L01-U05	66	59	75.2	54.5	58.2	43.4
T1-L01-U06	66	59	81.1	29.8	44.5	24.6
T1-L01-U07	66	59	95.4	32.2	53.8	26.7
T1-L01-U08	66	59	103.4	66.2	63.4	54.3
T1-L02-U01	66	59	59.4	45.7	59.4	45.7
T1-L02-U02	66	59	33.3	39	33.3	39
T1-L02-U03	66	59	48.3	35	48.3	35
T1-L02-U04	66	59	61.1	57.9	61.1	57.9
T1-L02-U05	66	59	35.4	58.9	35.4	58.9
T1-L02-U06	66	59	32.1	57.8	32.1	57.8
T1-L02-U07	66	59	63.4	56	63.4	56
T1-L02-U08	66	59	77	65.8	56.4	55.7
T1-L02-U09	66	59	64.1	45	64.1	45
T1-L02-U10	66	59	93	21.8	58.5	16.6
T1-L02-U11	66	59	117.4	48	61.2	37.3
T1-L02-U12	66	59	72.8	41	53.9	32.5
T1-L02-U13	66	59	86.1	52.3	60.6	46.1
T1-L03-U01	66	59	59.4	45.7	59.4	45.7

Table 3: Thermal Performance Results – Tower 1 (cont...)

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T1-L03-U02	66	59	33.3	39	33.3	39
T1-L03-U03	66	59	48.3	35	48.3	35
T1-L03-U04	66	59	42.4	34.6	42.4	34.6
T1-L03-U05	66	59	22.2	33.9	22.2	33.9
T1-L03-U06	66	59	27.6	42.8	27.6	42.8
T1-L03-U07	66	59	24.6	45.6	24.6	45.6
T1-L03-U08	66	59	56.8	33.9	56.8	33.9
T1-L03-U09	66	59	51.2	28.4	51.2	28.4
T1-L03-U10	66	59	83.2	28.6	57.8	23.5
T1-L03-U11	66	59	105.7	38.1	66	28.7
T1-L03-U12	66	59	42.6	35.2	42.6	35.2
T1-L03-U13	66	59	86.1	52.3	60.6	46.1
T1-L04-U01	66	59	59.4	45.7	59.4	45.7
T1-L04-U02	66	59	33.3	39	33.3	39
T1-L04-U03	66	59	48.3	35	48.3	35
T1-L04-U04	66	59	42.4	34.6	42.4	34.6
T1-L04-U05	66	59	22.2	33.9	22.2	33.9
T1-L04-U06	66	59	27.6	42.8	27.6	42.8
T1-L04-U07	66	59	24.6	45.6	24.6	45.6
T1-L04-U08	66	59	56.8	33.9	56.8	33.9
T1-L04-U09	66	59	51.2	28.4	51.2	28.4
T1-L04-U10	66	59	83.2	28.6	57.8	23.5
T1-L04-U11	66	59	105.7	38.1	66	28.7
T1-L04-U12	66	59	42.6	35.2	42.6	35.2
T1-L04-U13	66	59	86.1	52.3	60.6	46.1
T1-L05-U01	66	59	59.4	45.7	59.4	45.7
T1-L05-U02	66	59	33.3	39	33.3	39
T1-L05-U03	66	59	48.3	35	48.3	35
T1-L05-U04	66	59	42.4	34.6	42.4	34.6
T1-L05-U05	66	59	22.2	33.9	22.2	33.9
T1-L05-U06	66	59	27.6	42.8	27.6	42.8
T1-L05-U07	66	59	24.6	45.6	24.6	45.6

Table 3: Thermal Performance Results – Tower 1 (cont...)

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T1-L05-U08	66	59	56.8	33.9	56.8	33.9
T1-L05-U09	66	59	51.2	28.4	51.2	28.4
T1-L05-U10	66	59	83.2	28.6	57.8	23.5
T1-L05-U11	66	59	105.7	38.1	66	28.7
T1-L05-U12	66	59	42.6	35.2	42.6	35.2
T1-L05-U13	66	59	86.1	52.3	60.6	46.1
T1-L06-U01	66	59	59.4	45.7	59.4	45.7
T1-L06-U02	66	59	33.3	39	33.3	39
T1-L06-U03	66	59	48.3	35	48.3	35
T1-L06-U04	66	59	42.4	34.6	42.4	34.6
T1-L06-U05	66	59	22.2	33.9	22.2	33.9
T1-L06-U06	66	59	27.6	42.8	27.6	42.8
T1-L06-U07	66	59	24.6	45.6	24.6	45.6
T1-L06-U08	66	59	56.8	33.9	56.8	33.9
T1-L06-U09	66	59	51.2	28.4	51.2	28.4
T1-L06-U10	66	59	83.2	28.6	57.8	23.5
T1-L06-U11	66	59	105.7	38.1	66	28.7
T1-L06-U12	66	59	42.6	35.2	42.6	35.2
T1-L06-U13	66	59	86.1	52.3	60.6	46.1
T1-L07-U01	66	59	59.4	45.7	59.4	45.7
T1-L07-U02	66	59	33.3	39	33.3	39
T1-L07-U03	66	59	48.3	35	48.3	35
T1-L07-U04	66	59	42.4	34.6	42.4	34.6
T1-L07-U05	66	59	22.2	33.9	22.2	33.9
T1-L07-U06	66	59	27.6	42.8	27.6	42.8
T1-L07-U07	66	59	24.6	45.6	24.6	45.6
T1-L07-U08	66	59	56.8	33.9	56.8	33.9
T1-L07-U09	66	59	51.2	28.4	51.2	28.4
T1-L07-U10	66	59	83.2	28.6	57.8	23.5
T1-L07-U11	66	59	105.7	38.1	66	28.7
T1-L07-U12	66	59	42.6	35.2	42.6	35.2
T1-L07-U13	66	59	86.1	52.3	60.6	46.1

Table 3: Thermal Performance Results – Tower 1 (cont...)

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T1-L08-U01	66	59	59.4	45.7	59.4	45.7
T1-L08-U02	66	59	33.3	39	33.3	39
T1-L08-U03	66	59	48.3	35	48.3	35
T1-L08-U04	66	59	42.4	34.6	42.4	34.6
T1-L08-U05	66	59	22.2	33.9	22.2	33.9
T1-L08-U06	66	59	27.6	42.8	27.6	42.8
T1-L08-U07	66	59	24.6	45.6	24.6	45.6
T1-L08-U08	66	59	56.8	33.9	56.8	33.9
T1-L08-U09	66	59	51.2	28.4	51.2	28.4
T1-L08-U10	66	59	83.2	28.6	57.8	23.5
T1-L08-U11	66	59	105.7	38.1	66	28.7
T1-L08-U12	66	59	42.6	35.2	42.6	35.2
T1-L08-U13	66	59	86.1	52.3	60.6	46.1
T1-L09-U01	66	59	59.4	45.7	59.4	45.7
T1-L09-U02	66	59	33.3	39	33.3	39
T1-L09-U03	66	59	48	35.1	48	35.1
T1-L09-U04	66	59	39.9	32.9	39.9	32.9
T1-L09-U05	66	59	22.2	33.9	22.2	33.9
T1-L09-U06	66	59	27.6	42.8	27.6	42.8
T1-L09-U07	66	59	24.6	45.6	24.6	45.6
T1-L09-U08	66	59	56.8	33.9	56.8	33.9
T1-L09-U09	66	59	51.2	28.4	51.2	28.4
T1-L09-U10	66	59	83.2	28.6	57.8	23.5
T1-L09-U11	66	59	103.3	39.3	64.8	30.3
T1-L09-U12	66	59	42.6	35.2	42.6	35.2
T1-L09-U13	66	59	86.1	52.3	60.6	46.1
T1-L10-U01	66	59	59.4	45.7	59.4	45.7
T1-L10-U02	66	59	33.3	39	33.3	39
T1-L10-U03	66	59	48	35.1	48	35.1
T1-L10-U04	66	59	39.9	32.9	39.9	32.9
T1-L10-U05	66	59	22.2	33.9	22.2	33.9
T1-L10-U06	66	59	27.6	42.8	27.6	42.8

Table 3: Thermal Performance Results – Tower 1 (cont...)

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T1-L10-U07	66	59	24.6	45.6	24.6	45.6
T1-L10-U08	66	59	56.8	33.9	56.8	33.9
T1-L10-U09	66	59	51.2	28.4	51.2	28.4
T1-L10-U10	66	59	83.2	28.6	57.8	23.5
T1-L10-U11	66	59	103.3	39.3	64.8	30.3
T1-L10-U12	66	59	42.6	35.2	42.6	35.2
T1-L10-U13	66	59	86.1	0	60.6	46.1
T1-L11-U01	66	59	88.4	80.9	64.2	58.1
T1-L11-U02	66	59	45.7	57.4	45.7	57.4
T1-L11-U03	66	59	48	35.1	48	35.1
T1-L11-U04	66	59	39.9	32.9	39.9	32.9
T1-L11-U05	66	59	22.2	33.9	22.2	33.9
T1-L11-U06	66	59	27.6	42.8	27.6	42.8
T1-L11-U07	66	59	24.6	45.6	24.6	45.6
T1-L11-U08	66	59	67.5	61.8	47.6	50.4
T1-L11-U09	66	59	63	44.7	63	44.7
T1-L11-U10	66	59	83.2	28.6	57.8	23.5
T1-L11-U11	66	59	103.3	39.3	64.8	30.3
T1-L11-U12	66	59	42.6	35.2	42.6	35.2
T1-L11-U13	66	59	88.3	77.3	62.9	58.4
T1-L12-U01	66	59	49.1	70.2	32.5	54.9
T1-L12-U02	66	59	33.9	19.5	33.9	19.5
T1-L12-U03	66	59	60.5	56.2	60.5	56.2
T1-L12-U04	66	59	39.9	32.9	39.9	32.9
T1-L12-U05	66	59	22.2	33.9	22.2	33.9
T1-L12-U06	66	59	27.6	42.8	27.6	42.8
T1-L12-U07	66	59	54.4	70.6	39.5	56.7
T1-L12-U08	66	59	66.2	39.1	45.1	31.3
T1-L12-U09	66	59	83.2	28.6	57.8	23.5
T1-L12-U10	66	59	103.3	39.3	64.8	30.3
T1-L12-U11	66	59	42.6	35.2	42.6	35.2
T1-L13-U01	66	59	49.1	70.2	32.5	54.9

Table 3: Thermal Performance Results – Tower 1 (cont...)

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T1-L13-U02	66	59	33.9	19.5	33.9	19.5
T1-L13-U03	66	59	57.6	28	57.6	28
T1-L13-U04	66	59	39.9	32.9	39.9	32.9
T1-L13-U05	66	59	22.2	33.9	22.2	33.9
T1-L13-U06	66	59	27.6	42.8	27.6	42.8
T1-L13-U07	66	59	47.9	60.2	31.7	48.6
T1-L13-U08	66	59	64.4	38.4	64.4	38.4
T1-L13-U09	66	59	83.2	28.6	57.8	23.5
T1-L13-U10	66	59	103.3	39.3	64.8	30.3
T1-L13-U11	66	59	42.6	35.2	42.6	35.2
T1-L14-U01	66	59	49.1	70.2	32.5	54.9
T1-L14-U02	66	59	33.9	19.5	33.9	19.5
T1-L14-U03	66	59	57.6	28	57.6	28
T1-L14-U04	66	59	39.9	32.9	39.9	32.9
T1-L14-U05	66	59	22.2	33.9	22.2	33.9
T1-L14-U06	66	59	27.6	42.8	27.6	42.8
T1-L14-U07	66	59	47.9	60.2	31.7	48.6
T1-L14-U08	66	59	64.4	38.4	64.4	38.4
T1-L14-U09	66	59	83.2	28.6	57.8	23.5
T1-L14-U10	66	59	103.3	39.3	64.8	30.3
T1-L14-U11	66	59	42.6	35.2	42.6	35.2
T1-L15-U01	66	59	49.1	70.2	32.5	54.9
T1-L15-U02	66	59	33.9	19.5	33.9	19.5
T1-L15-U03	66	59	57.6	28	57.6	28
T1-L15-U04	66	59	39.9	32.9	39.9	32.9
T1-L15-U05	66	59	22.2	33.9	22.2	33.9
T1-L15-U06	66	59	27.6	42.8	27.6	42.8
T1-L15-U07	66	59	47.9	60.2	31.7	48.6
T1-L15-U08	66	59	64.4	38.4	64.4	38.4
T1-L15-U09	66	59	83.2	28.6	57.8	23.5
T1-L15-U10	66	59	103.3	39.3	64.8	30.3
T1-L15-U11	66	59	42.6	35.2	42.6	35.2

Table 3: Thermal Performance Results – Tower 1 (cont...)

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T1-L16-U01	66	59	49.1	70.2	32.5	54.9
T1-L16-U02	66	59	33.9	19.5	33.9	19.5
T1-L16-U03	66	59	57.6	28	57.6	28
T1-L16-U04	66	59	39.9	32.9	39.9	32.9
T1-L16-U05	66	59	22.2	33.9	22.2	33.9
T1-L16-U06	66	59	27.6	42.8	27.6	42.8
T1-L16-U07	66	59	47.9	60.2	31.7	48.6
T1-L16-U08	66	59	64.4	38.4	64.4	38.4
T1-L16-U09	66	59	83.2	28.6	57.8	23.5
T1-L16-U10	66	59	103.3	39.3	64.8	30.3
T1-L16-U11	66	59	42.6	35.2	42.6	35.2
T1-L17-U01	66	59	49.1	70.2	32.5	54.9
T1-L17-U02	66	59	33.9	19.5	33.9	19.5
T1-L17-U03	66	59	57.6	28	57.6	28
T1-L17-U04	66	59	39.9	32.9	39.9	32.9
T1-L17-U05	66	59	22.2	33.9	22.2	33.9
T1-L17-U06	66	59	27.6	42.8	27.6	42.8
T1-L17-U07	66	59	47.9	60.2	31.7	48.6
T1-L17-U08	66	59	64.4	38.4	64.4	38.4
T1-L17-U09	66	59	83.2	28.6	57.8	23.5
T1-L17-U10	66	59	103.3	39.3	64.8	30.3
T1-L17-U11	66	59	42.6	35.2	42.6	35.2
T1-L18-U01	66	59	49.1	70.2	32.5	54.9
T1-L18-U02	66	59	33.9	19.5	33.9	19.5
T1-L18-U03	66	59	57.6	28	57.6	28
T1-L18-U04	66	59	39.9	32.9	39.9	32.9
T1-L18-U05	66	59	22.2	33.9	22.2	33.9
T1-L18-U06	66	59	27.6	42.8	27.6	42.8
T1-L18-U07	66	59	47.9	60.2	31.7	48.6
T1-L18-U08	66	59	64.4	38.4	64.4	38.4
T1-L18-U09	66	59	83.2	28.6	57.8	23.5
T1-L18-U10	66	59	103.3	39.3	64.8	30.3

Table 3: Thermal Performance Results – Tower 1 (cont...)

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T1-L18-U11	66	59	42.6	35.2	42.6	35.2
T1-L19-U01	66	59	49.1	70.2	32.5	54.9
T1-L19-U02	66	59	33.9	19.5	33.9	19.5
T1-L19-U03	66	59	57.6	28	57.6	28
T1-L19-U04	66	59	39.9	32.9	39.9	32.9
T1-L19-U05	66	59	22.2	33.9	22.2	33.9
T1-L19-U06	66	59	27.6	42.8	27.6	42.8
T1-L19-U07	66	59	47.9	60.2	31.7	48.6
T1-L19-U08	66	59	64.4	38.4	64.4	38.4
T1-L19-U09	66	59	83.2	28.6	57.8	23.5
T1-L19-U10	66	59	103.3	39.3	64.8	30.3
T1-L19-U11	66	59	42.6	35.2	42.6	35.2
T1-L20-U01	66	59	49.1	70.2	32.5	54.9
T1-L20-U02	66	59	33.9	19.5	33.9	19.5
T1-L20-U03	66	59	57.6	28	57.6	28
T1-L20-U04	66	59	39.9	32.9	39.9	32.9
T1-L20-U05	66	59	22.2	33.9	22.2	33.9
T1-L20-U06	66	59	27.6	42.8	27.6	42.8
T1-L20-U07	66	59	47.9	60.2	31.7	48.6
T1-L20-U08	66	59	64.4	38.4	64.4	38.4
T1-L20-U09	66	59	83.2	28.6	57.8	23.5
T1-L20-U10	66	59	103.3	39.3	64.8	30.3
T1-L20-U11	66	59	42.6	35.2	42.6	35.2
T1-L21-U01	66	59	49.1	70.2	32.5	54.9
T1-L21-U02	66	59	51.6	33.4	51.6	33.4
T1-L21-U03	66	59	64.4	45	64.4	45
T1-L21-U04	66	59	39.9	32.9	39.9	32.9
T1-L21-U05	66	59	22.2	33.9	22.2	33.9
T1-L21-U06	66	59	27.6	42.8	27.6	42.8
T1-L21-U07	66	59	57.5	71.1	38.4	58
T1-L21-U08	66	59	77	49.3	55.7	40.2
T1-L21-U09	66	59	83.2	28.6	57.8	23.5

Table 3: Thermal Performance Results – Tower 1 (cont...)

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T1-L21-U10	66	59	103.3	39.3	64.8	30.3
T1-L21-U11	66	59	42.6	35.2	42.6	35.2
T1-L22-U01	66	59	46.2	58.3	30.6	44.6
T1-L22-U02	66	59	73.2	53.9	59.2	45.3
T1-L22-U03	66	59	28	38.2	28	38.2
T1-L22-U04	66	59	21.1	34.5	21.1	34.5
T1-L22-U05	66	59	27.6	42.8	27.6	42.8
T1-L22-U06	66	59	68.7	58.3	47.4	48.7
T1-L22-U07	66	59	57.9	34.9	57.9	34.9
T1-L22-U08	66	59	100.9	43.8	63.2	33.5
T1-L22-U09	66	59	32.4	50	32.4	50
T1-L23-U01	66	59	14.8	62.1	13	52.3
T1-L23-U02	66	59	16.5	30.5	16.5	30.5
T1-L23-U03	66	59	16.1	56.8	16.1	56.8
T1-L23-U04	66	59	18.9	69.2	16.3	54.1
T1-L23-U05	66	59	22.8	74.1	19.2	56.9
T1-L23-U06	66	59	30.1	67.8	26.1	53.6
T1-L23-U07	66	59	33.6	42.8	33.6	42.8
T1-L23-U08	66	59	48.9	46	48.9	46
T1-L23-U09	66	59	32.4	50	32.4	50
T1-L23-U10	66	59	51.5	51.8	51.5	51.8

Table 4: Thermal Performance Results – Tower 2

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T2-L01-U01	66	59	83.8	19	59.7	19.3
T2-L01-U02	66	59	109.2	59.2	63.4	35.1
T2-L01-U03	66	59	103.1	40.7	64.6	26.6
T2-L01-U04	66	59	102.5	20.2	43.2	17.6
T2-L01-U05	66	59	79.6	25.4	38	22.2
T2-L02-U01	66	59	53.1	51.7	53.1	51.7
T2-L02-U02	66	59	66.6	62	51	50.1
T2-L02-U03	66	59	36	49.3	36	49.3
T2-L02-U04	66	59	54.2	37.8	54.2	37.8
T2-L02-U05	66	59	85.3	56.7	60.8	47.7
T2-L02-U06	66	59	58.5	19.7	58.5	19.7
T2-L02-U07	66	59	81.2	39.2	64.4	39.2
T2-L02-U08	66	59	99.7	54.8	65.5	43.3
T2-L02-U09	66	59	66.4	49.5	47.5	51.1
T2-L02-U10	66	59	84.4	26	62.9	19.5
T2-L02-U11	66	59	116.1	34.9	64.6	29.4
T2-L02-U12	66	59	95.2	45.6	63.1	36.1
T2-L03-U01	66	59	46.8	35.8	46.8	35.8
T2-L03-U02	66	59	44	56.9	44	56.9
T2-L03-U03	66	59	31.3	34.7	31.3	34.7
T2-L03-U04	66	59	50.5	21.6	50.5	21.6
T2-L03-U05	66	59	75.8	36	60.1	31.1
T2-L03-U06	66	59	58.5	19.7	58.5	19.7
T2-L03-U07	66	59	51	25.2	51	25.2
T2-L03-U08	66	59	73.5	35.2	50.2	28.9
T2-L03-U09	66	59	46.9	35.4	46.9	35.4
T2-L03-U10	66	59	36.6	21.1	36.6	21.1
T2-L03-U11	66	59	103.1	28.5	64	22.9
T2-L03-U12	66	59	61.4	28	61.4	28
T2-L04-U01	66	59	46.8	35.8	46.8	35.8
T2-L04-U02	66	59	44	56.9	44	56.9
T2-L04-U03	66	59	31.3	34.7	31.3	34.7

Table 4: Thermal Performance Results – Tower 2

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T2-L04-U04	66	59	50.5	21.6	50.5	21.6
T2-L04-U05	66	59	75.8	36	60.1	31.1
T2-L04-U06	66	59	58.5	19.7	58.5	19.7
T2-L04-U07	66	59	51	25.2	51	25.2
T2-L04-U08	66	59	73.5	35.2	50.2	28.9
T2-L04-U09	66	59	46.9	35.4	46.9	35.4
T2-L04-U10	66	59	36.6	21.1	36.6	21.1
T2-L04-U11	66	59	103.1	28.5	64	22.9
T2-L04-U12	66	59	61.4	28	61.4	28
T2-L05-U01	66	59	46.8	35.8	46.8	35.8
T2-L05-U02	66	59	44	56.9	44	56.9
T2-L05-U03	66	59	31.3	34.7	31.3	34.7
T2-L05-U04	66	59	50.5	21.6	50.5	21.6
T2-L05-U05	66	59	75.8	36	60.1	31.1
T2-L05-U06	66	59	58.5	19.7	58.5	19.7
T2-L05-U07	66	59	51	25.2	51	25.2
T2-L05-U08	66	59	73.5	35.2	50.2	28.9
T2-L05-U09	66	59	46.9	35.4	46.9	35.4
T2-L05-U10	66	59	36.6	21.1	36.6	21.1
T2-L05-U11	66	59	103.1	28.5	64	22.9
T2-L05-U12	66	59	61.4	28	61.4	28
T2-L06-U01	66	59	46.8	35.8	46.8	35.8
T2-L06-U02	66	59	44	56.9	44	56.9
T2-L06-U03	66	59	31.3	34.7	31.3	34.7
T2-L06-U04	66	59	50.5	21.6	50.5	21.6
T2-L06-U05	66	59	75.8	36	60.1	31.1
T2-L06-U06	66	59	58.5	19.7	58.5	19.7
T2-L06-U07	66	59	51	25.2	51	25.2
T2-L06-U08	66	59	73.5	35.2	50.2	28.9
T2-L06-U09	66	59	46.9	35.4	46.9	35.4
T2-L06-U10	66	59	36.6	21.1	36.6	21.1
T2-L06-U11	66	59	103.1	28.5	64	22.9

Table 4: Thermal Performance Results – Tower 2

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T2-L06-U12	66	59	61.4	28	61.4	28
T2-L07-U01	66	59	46.8	35.8	46.8	35.8
T2-L07-U02	66	59	44	56.9	44	56.9
T2-L07-U03	66	59	31.3	34.7	31.3	34.7
T2-L07-U04	66	59	50.5	21.6	50.5	21.6
T2-L07-U05	66	59	75.8	36	60.1	31.1
T2-L07-U06	66	59	58.5	19.7	58.5	19.7
T2-L07-U07	66	59	51	25.2	51	25.2
T2-L07-U08	66	59	73.5	35.2	50.2	28.9
T2-L07-U09	66	59	46.9	35.4	46.9	35.4
T2-L07-U10	66	59	36.6	21.1	36.6	21.1
T2-L07-U11	66	59	103.1	28.5	64	22.9
T2-L07-U12	66	59	61.4	28	61.4	28
T2-L08-U01	66	59	46.8	35.8	46.8	35.8
T2-L08-U02	66	59	44	56.9	44	56.9
T2-L08-U03	66	59	31.3	34.7	31.3	34.7
T2-L08-U04	66	59	50.5	21.6	50.5	21.6
T2-L08-U05	66	59	75.8	36	60.1	31.1
T2-L08-U06	66	59	58.5	19.7	58.5	19.7
T2-L08-U07	66	59	51	25.2	51	25.2
T2-L08-U08	66	59	73.5	35.2	50.2	28.9
T2-L08-U09	66	59	46.9	35.4	46.9	35.4
T2-L08-U10	66	59	36.6	21.1	36.6	21.1
T2-L08-U11	66	59	103.1	28.5	64	22.9
T2-L08-U12	66	59	61.4	28	61.4	28
T2-L09-U01	66	59	46.8	35.8	46.8	35.8
T2-L09-U02	66	59	44	56.9	44	56.9
T2-L09-U03	66	59	31.3	34.7	31.3	34.7
T2-L09-U04	66	59	50.5	21.6	50.5	21.6
T2-L09-U05	66	59	76.6	36.8	59.9	31
T2-L09-U06	66	59	58	21.7	58	21.7
T2-L09-U07	66	59	51	25.2	51	25.2

Table 4: Thermal Performance Results – Tower 2

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T2-L09-U08	66	59	73.5	35.2	50.2	28.9
T2-L09-U09	66	59	46.9	35.4	46.9	35.4
T2-L09-U10	66	59	36.6	21.1	36.6	21.1
T2-L09-U11	66	59	80.5	30.1	58	25.6
T2-L09-U12	66	59	60	29.3	60	29.3
T2-L10-U01	66	59	46.8	35.8	46.8	35.8
T2-L10-U02	66	59	44	56.9	44	56.9
T2-L10-U03	66	59	31.3	34.7	31.3	34.7
T2-L10-U04	66	59	50.5	21.6	50.5	21.6
T2-L10-U05	66	59	76.6	36.8	59.9	31
T2-L10-U06	66	59	58	21.7	58	21.7
T2-L10-U07	66	59	51	25.2	51	25.2
T2-L10-U08	66	59	73.5	35.2	50.2	28.9
T2-L10-U09	66	59	46.9	35.4	46.9	35.4
T2-L10-U10	66	59	36.6	21.1	36.6	21.1
T2-L10-U11	66	59	80.5	30.1	58	25.6
T2-L10-U12	66	59	60	29.3	60	29.3
T2-L11-U01	66	59	46.8	35.8	46.8	35.8
T2-L11-U02	66	59	44	56.9	44	56.9
T2-L11-U03	66	59	31.3	34.7	31.3	34.7
T2-L11-U04	66	59	50.5	21.6	50.5	21.6
T2-L11-U05	66	59	76.6	36.8	59.9	31
T2-L11-U06	66	59	58	21.7	58	21.7
T2-L11-U07	66	59	51	25.2	51	25.2
T2-L11-U08	66	59	73.5	35.2	50.2	28.9
T2-L11-U09	66	59	46.9	35.4	46.9	35.4
T2-L11-U10	66	59	36.6	21.1	36.6	21.1
T2-L11-U11	66	59	80.5	30.1	58	25.6
T2-L11-U12	66	59	64	55.7	64	55.7
T2-L12-U01	66	59	46.8	35.8	46.8	35.8
T2-L12-U02	66	59	44	56.9	44	56.9
T2-L12-U03	66	59	31.3	34.7	31.3	34.7

Table 4: Thermal Performance Results – Tower 2

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T2-L12-U04	66	59	50.5	21.6	50.5	21.6
T2-L12-U05	66	59	75.5	36	59.2	31.2
T2-L12-U06	66	59	56.4	20.6	56.4	20.6
T2-L12-U07	66	59	51	25.2	51	25.2
T2-L12-U08	66	59	73.5	35.2	50.2	28.9
T2-L12-U09	66	59	46.9	35.4	46.9	35.4
T2-L12-U10	66	59	36.6	21.1	36.6	21.1
T2-L12-U11	66	59	95.4	31	58.1	25.6
T2-L12-U12	66	59	57.2	33.8	57.2	33.8
T2-L13-U01	66	59	46.8	35.8	46.8	35.8
T2-L13-U02	66	59	44	56.9	44	56.9
T2-L13-U03	66	59	31.3	34.7	31.3	34.7
T2-L13-U04	66	59	50.5	21.6	50.5	21.6
T2-L13-U05	66	59	75.5	36	59.2	31.2
T2-L13-U06	66	59	56.4	20.6	56.4	20.6
T2-L13-U07	66	59	51	25.2	51	25.2
T2-L13-U08	66	59	73.5	35.2	50.2	28.9
T2-L13-U09	66	59	46.9	35.4	46.9	35.4
T2-L13-U10	66	59	36.6	21.1	36.6	21.1
T2-L13-U11	66	59	95.4	31	58.1	25.6
T2-L13-U12	66	59	57.2	33.8	57.2	33.8
T2-L14-U01	66	59	46.8	35.8	46.8	35.8
T2-L14-U02	66	59	44	56.9	44	56.9
T2-L14-U03	66	59	31.3	34.7	31.3	34.7
T2-L14-U04	66	59	50.5	21.6	50.5	21.6
T2-L14-U05	66	59	75.5	36	59.2	31.2
T2-L14-U06	66	59	56.4	20.6	56.4	20.6
T2-L14-U07	66	59	51	25.2	51	25.2
T2-L14-U08	66	59	73.5	35.2	50.2	28.9
T2-L14-U09	66	59	46.9	35.4	46.9	35.4
T2-L14-U10	66	59	36.6	21.1	36.6	21.1
T2-L14-U11	66	59	95.4	31	58.1	25.6

Table 4: Thermal Performance Results – Tower 2

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T2-L14-U12	66	59	57.2	33.8	57.2	33.8
T2-L15-U01	66	59	46.8	35.8	46.8	35.8
T2-L15-U02	66	59	44	56.9	44	56.9
T2-L15-U03	66	59	31.3	34.7	31.3	34.7
T2-L15-U04	66	59	50.5	21.6	50.5	21.6
T2-L15-U05	66	59	75.5	36	59.2	31.2
T2-L15-U06	66	59	56.4	20.6	56.4	20.6
T2-L15-U07	66	59	51	25.2	51	25.2
T2-L15-U08	66	59	73.5	35.2	50.2	28.9
T2-L15-U09	66	59	46.9	35.4	46.9	35.4
T2-L15-U10	66	59	36.6	21.1	36.6	21.1
T2-L15-U11	66	59	95.4	31	58.1	25.6
T2-L15-U12	66	59	57.2	33.8	57.2	33.8
T2-L16-U01	66	59	46.8	35.8	46.8	35.8
T2-L16-U02	66	59	44	56.9	44	56.9
T2-L16-U03	66	59	31.3	34.7	31.3	34.7
T2-L16-U04	66	59	50.5	21.6	50.5	21.6
T2-L16-U05	66	59	75.5	36	59.2	31.2
T2-L16-U06	66	59	56.4	20.6	56.4	20.6
T2-L16-U07	66	59	51	25.2	51	25.2
T2-L16-U08	66	59	73.5	35.2	50.2	28.9
T2-L16-U09	66	59	46.9	35.4	46.9	35.4
T2-L16-U10	66	59	36.6	21.1	36.6	21.1
T2-L16-U11	66	59	95.4	31	58.1	25.6
T2-L16-U12	66	59	57.2	33.8	57.2	33.8
T2-L17-U01	66	59	46.8	35.8	46.8	35.8
T2-L17-U02	66	59	44	56.9	44	56.9
T2-L17-U03	66	59	31.3	34.7	31.3	34.7
T2-L17-U04	66	59	50.5	21.6	50.5	21.6
T2-L17-U05	66	59	75.5	36	59.2	31.2
T2-L17-U06	66	59	56.4	20.6	56.4	20.6
T2-L17-U07	66	59	51	25.2	51	25.2

Table 4: Thermal Performance Results – Tower 2

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T2-L17-U08	66	59	73.5	35.2	50.2	28.9
T2-L17-U09	66	59	46.9	35.4	46.9	35.4
T2-L17-U10	66	59	36.6	21.1	36.6	21.1
T2-L17-U11	66	59	95.4	31	58.1	25.6
T2-L17-U12	66	59	57.2	33.8	57.2	33.8
T2-L18-U01	66	59	46.8	35.8	46.8	35.8
T2-L18-U02	66	59	44	56.9	44	56.9
T2-L18-U03	66	59	31.3	34.7	31.3	34.7
T2-L18-U04	66	59	50.5	21.6	50.5	21.6
T2-L18-U05	66	59	75.5	36	59.2	31.2
T2-L18-U06	66	59	56.4	20.6	56.4	20.6
T2-L18-U07	66	59	51	25.2	51	25.2
T2-L18-U08	66	59	73.5	35.2	50.2	28.9
T2-L18-U09	66	59	46.9	35.4	46.9	35.4
T2-L18-U10	66	59	36.6	21.1	36.6	21.1
T2-L18-U11	66	59	95.4	31	58.1	25.6
T2-L18-U12	66	59	57.2	33.8	57.2	33.8
T2-L19-U01	66	59	46.8	35.8	46.8	35.8
T2-L19-U02	66	59	44	56.9	44	56.9
T2-L19-U03	66	59	31.3	34.7	31.3	34.7
T2-L19-U04	66	59	50.5	21.6	50.5	21.6
T2-L19-U05	66	59	75.5	36	59.2	31.2
T2-L19-U06	66	59	56.4	20.6	56.4	20.6
T2-L19-U07	66	59	51	25.2	51	25.2
T2-L19-U08	66	59	73.5	35.2	50.2	28.9
T2-L19-U09	66	59	46.9	35.4	46.9	35.4
T2-L19-U10	66	59	36.6	21.1	36.6	21.1
T2-L19-U11	66	59	95.4	31	58.1	25.6
T2-L19-U12	66	59	57.2	33.8	57.2	33.8
T2-L20-U01	66	59	46.8	35.8	46.8	35.8
T2-L20-U02	66	59	44	56.9	44	56.9
T2-L20-U03	66	59	31.3	34.7	31.3	34.7

Table 4: Thermal Performance Results – Tower 2

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T2-L20-U04	66	59	50.5	21.6	50.5	21.6
T2-L20-U05	66	59	75.5	36	59.2	31.2
T2-L20-U06	66	59	56.4	20.6	56.4	20.6
T2-L20-U07	66	59	51	25.2	51	25.2
T2-L20-U08	66	59	73.5	35.2	50.2	28.9
T2-L20-U09	66	59	46.9	35.4	46.9	35.4
T2-L20-U10	66	59	36.6	21.1	36.6	21.1
T2-L20-U11	66	59	95.4	31	58.1	25.6
T2-L20-U12	66	59	57.2	33.8	57.2	33.8
T2-L21-U01	66	59	46.8	35.8	46.8	35.8
T2-L21-U02	66	59	44	56.9	44	56.9
T2-L21-U03	66	59	31.3	34.7	31.3	34.7
T2-L21-U04	66	59	50.5	21.6	50.5	21.6
T2-L21-U05	66	59	75.5	36	59.2	31.2
T2-L21-U06	66	59	56.4	20.6	56.4	20.6
T2-L21-U07	66	59	51	25.2	51	25.2
T2-L21-U08	66	59	73.5	35.2	50.2	28.9
T2-L21-U09	66	59	46.9	35.4	46.9	35.4
T2-L21-U10	66	59	36.6	21.1	36.6	21.1
T2-L21-U11	66	59	95.4	31	58.1	25.6
T2-L21-U12	66	59	57.2	33.8	57.2	33.8
T2-L22-U01	66	59	46.8	35.8	46.8	35.8
T2-L22-U02	66	59	44	56.9	44	56.9
T2-L22-U03	66	59	31.3	34.7	31.3	34.7
T2-L22-U04	66	59	50.5	21.6	50.5	21.6
T2-L22-U05	66	59	75.5	36	59.2	31.2
T2-L22-U06	66	59	56.4	20.6	56.4	20.6
T2-L22-U07	66	59	51	25.2	51	25.2
T2-L22-U08	66	59	73.5	35.2	50.2	28.9
T2-L22-U09	66	59	46.9	35.4	46.9	35.4
T2-L22-U10	66	59	36.6	21.1	36.6	21.1
T2-L22-U11	66	59	95.4	31	58.1	25.6

Table 4: Thermal Performance Results – Tower 2

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T2-L22-U12	66	59	57.2	33.8	57.2	33.8
T2-L23-U01	66	59	49.9	53.4	49.9	53.4
T2-L23-U02	66	59	68.2	65.5	53.1	53.1
T2-L23-U03	66	59	31.3	34.7	31.3	34.7
T2-L23-U04	66	59	50.5	21.6	50.5	21.6
T2-L23-U05	66	59	75.5	36	59.2	31.2
T2-L23-U06	66	59	56.4	20.6	56.4	20.6
T2-L23-U07	66	59	51	25.2	51	25.2
T2-L23-U08	66	59	73.5	35.2	50.2	28.9
T2-L23-U09	66	59	46.9	35.4	46.9	35.4
T2-L23-U10	66	59	36.6	21.1	36.6	21.1
T2-L23-U11	66	59	77.2	37.9	46	29.9
T2-L23-U12	66	59	78.8	53.5	58.1	41.8
T2-L24-U01	66	59	16.9	57.6	9.7	43.9
T2-L24-U02	66	59	7.6	38.1	7.6	38.1
T2-L24-U03	66	59	7.7	29.9	7.7	29.9
T2-L24-U04	66	59	36.9	39.7	36.9	39.7
T2-L24-U05	66	59	31.5	28.5	31.5	28.5
T2-L24-U06	66	59	18.3	27.3	18.3	27.3
T2-L24-U07	66	59	36.2	48.7	36.2	48.7
T2-L24-U08	66	59	11.2	54.4	11.2	54.4
T2-L24-U09	66	59	6.2	36.5	6.2	36.5
T2-L24-U10	66	59	18.8	55.9	18.8	55.9
T2-L24-U11	66	59	21.5	57	21.5	57
T2-L25-U01	66	59	13.2	58.1	13.2	58.1
T2-L25-U02	66	59	14.8	45.8	14.8	45.8
T2-L25-U03	66	59	17.5	45.3	17.5	45.3
T2-L25-U04	66	59	31.5	28.5	31.5	28.5
T2-L25-U05	66	59	18.3	27.3	18.3	27.3
T2-L25-U06	66	59	36.2	48.7	36.2	48.7
T2-L25-U07	66	59	11.2	54.4	11.2	54.4
T2-L25-U08	66	59	6.2	36.5	6.2	36.5

Table 4: Thermal Performance Results – Tower 2

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T2-L25-U09	66	59	18.8	55.9	18.8	55.9
T2-L25-U10	66	59	21.5	57	21.5	57
T2-L26-U01	66	59	13.2	58.1	13.2	58.1
T2-L26-U02	66	59	14.8	45.8	14.8	45.8
T2-L26-U03	66	59	26.7	40.1	26.7	40.1
T2-L26-U04	66	59	35.2	51.5	35.2	51.5
T2-L26-U05	66	59	29.8	33.7	29.8	33.7
T2-L26-U06	66	59	61.8	66.9	49.5	54.6
T2-L26-U07	66	59	11.2	54.4	11.2	54.4
T2-L26-U08	66	59	6.2	36.5	6.2	36.5
T2-L26-U09	66	59	18.8	55.9	18.8	55.9
T2-L26-U10	66	59	21.5	57	21.5	57
T2-L27-U01	66	59	13.2	58.1	13.2	58.1
T2-L27-U02	66	59	8.9	35.6	8.9	35.6
T2-L27-U03	66	59	7.6	43.3	7.6	43.3
T2-L27-U04	66	59	23.4	71.2	13.9	57.6
T2-L27-U05	66	59	6.2	36.5	6.2	36.5
T2-L27-U06	66	59	18.8	55.9	18.8	55.9
T2-L27-U07	66	59	21.5	57	21.5	57
T2-L28-U01	66	59	13.2	58.1	13.2	58.1
T2-L28-U02	66	59	8.9	35.6	8.9	35.6
T2-L28-U03	66	59	7.6	43.3	7.6	43.3
T2-L28-U04	66	59	23.4	71.2	13.9	57.6
T2-L28-U05	66	59	6.2	36.5	6.2	36.5
T2-L28-U06	66	59	18.8	55.9	18.8	55.9
T2-L28-U07	66	59	21.5	57	21.5	57
T2-L29-U01	66	59	34.8	67.5	27.7	50.7
T2-L29-U02	66	59	47.2	47.9	47.2	47.9
T2-L29-U03	66	59	47.9	47.8	47.9	47.8
T2-L29-U04	66	59	27.3	73	17.6	56.2
T2-L29-U05	66	59	34.3	45.5	34.3	45.5
T2-L29-U06	66	59	46.9	65.2	38.8	57.8

Table 4: Thermal Performance Results – Tower 2

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T2-L29-U07	66	59	48.4	66.3	65.9	48.3
T2-L01-U01	66	59	83.8	19	59.7	19.3
T2-L01-U02	66	59	109.2	59.2	63.4	35.1
T2-L01-U03	66	59	103.1	40.7	64.6	26.6
T2-L01-U04	66	59	102.5	20.2	43.2	17.6
T2-L01-U05	66	59	79.6	25.4	38	22.2
T2-L02-U01	66	59	53.1	51.7	53.1	51.7
T2-L02-U02	66	59	66.6	62	51	50.1
T2-L02-U03	66	59	36	49.3	36	49.3
T2-L02-U04	66	59	54.2	37.8	54.2	37.8
T2-L02-U05	66	59	85.3	56.7	60.8	47.7
T2-L02-U06	66	59	58.5	19.7	58.5	19.7
T2-L02-U07	66	59	81.2	39.2	64.4	39.2
T2-L02-U08	66	59	99.7	54.8	65.5	43.3
T2-L02-U09	66	59	66.4	49.5	47.5	51.1
T2-L02-U10	66	59	84.4	26	62.9	19.5
T2-L02-U11	66	59	116.1	34.9	64.6	29.4
T2-L02-U12	66	59	95.2	45.6	63.1	36.1
T2-L03-U01	66	59	46.8	35.8	46.8	35.8
T2-L03-U02	66	59	44	56.9	44	56.9
T2-L03-U03	66	59	31.3	34.7	31.3	34.7
T2-L03-U04	66	59	50.5	21.6	50.5	21.6
T2-L03-U05	66	59	75.8	36	60.1	31.1
T2-L03-U06	66	59	58.5	19.7	58.5	19.7
T2-L03-U07	66	59	51	25.2	51	25.2
T2-L03-U08	66	59	73.5	35.2	50.2	28.9
T2-L03-U09	66	59	46.9	35.4	46.9	35.4
T2-L03-U10	66	59	36.6	21.1	36.6	21.1
T2-L03-U11	66	59	103.1	28.5	64	22.9
T2-L03-U12	66	59	61.4	28	61.4	28
T2-L04-U01	66	59	46.8	35.8	46.8	35.8
T2-L04-U02	66	59	44	56.9	44	56.9

Table 4: Thermal Performance Results – Tower 2

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T2-L04-U03	66	59	31.3	34.7	31.3	34.7
T2-L04-U04	66	59	50.5	21.6	50.5	21.6
T2-L04-U05	66	59	75.8	36	60.1	31.1
T2-L04-U06	66	59	58.5	19.7	58.5	19.7
T2-L04-U07	66	59	51	25.2	51	25.2
T2-L04-U08	66	59	73.5	35.2	50.2	28.9
T2-L04-U09	66	59	46.9	35.4	46.9	35.4
T2-L04-U10	66	59	36.6	21.1	36.6	21.1
T2-L04-U11	66	59	103.1	28.5	64	22.9
T2-L04-U12	66	59	61.4	28	61.4	28
T2-L05-U01	66	59	46.8	35.8	46.8	35.8
T2-L05-U02	66	59	44	56.9	44	56.9
T2-L05-U03	66	59	31.3	34.7	31.3	34.7
T2-L05-U04	66	59	50.5	21.6	50.5	21.6
T2-L05-U05	66	59	75.8	36	60.1	31.1
T2-L05-U06	66	59	58.5	19.7	58.5	19.7
T2-L05-U07	66	59	51	25.2	51	25.2
T2-L05-U08	66	59	73.5	35.2	50.2	28.9
T2-L05-U09	66	59	46.9	35.4	46.9	35.4
T2-L05-U10	66	59	36.6	21.1	36.6	21.1
T2-L05-U11	66	59	103.1	28.5	64	22.9
T2-L05-U12	66	59	61.4	28	61.4	28
T2-L06-U01	66	59	46.8	35.8	46.8	35.8
T2-L06-U02	66	59	44	56.9	44	56.9
T2-L06-U03	66	59	31.3	34.7	31.3	34.7
T2-L06-U04	66	59	50.5	21.6	50.5	21.6
T2-L06-U05	66	59	75.8	36	60.1	31.1
T2-L06-U06	66	59	58.5	19.7	58.5	19.7
T2-L06-U07	66	59	51	25.2	51	25.2
T2-L06-U08	66	59	73.5	35.2	50.2	28.9
T2-L06-U09	66	59	46.9	35.4	46.9	35.4
T2-L06-U10	66	59	36.6	21.1	36.6	21.1

Table 4: Thermal Performance Results – Tower 2

Unit Number	BASIX Requirements (MJ/m ² /year)		Initial Results (MJ/m ² /year) (no treatments)		Final Results (MJ/m ² /year) (with treatments)	
	Heating	Cooling	Heating	Cooling	Heating	Cooling
T2-L06-U11	66	59	103.1	28.5	64	22.9
T2-L06-U12	66	59	61.4	28	61.4	28
T2-L07-U01	66	59	46.8	35.8	46.8	35.8
T2-L07-U02	66	59	44	56.9	44	56.9
T2-L07-U03	66	59	31.3	34.7	31.3	34.7
T2-L07-U04	66	59	50.5	21.6	50.5	21.6
T2-L07-U05	66	59	75.8	36	60.1	31.1
T2-L07-U06	66	59	58.5	19.7	58.5	19.7
T2-L07-U07	66	59	51	25.2	51	25.2

3.3 Energy

The target score in BASIX to achieve energy usage compliance is **20%**. A score of **20%** is achieved for the development through the following;

- The central hot water systems are to be gas solar boosted system with a solar collector area of 10m². All piping (internal and external) for the system is to include R0.45 (~20mm) insulation.
- The lift system in the development is to be gearless traction with VVVF motor.
- The mechanical ventilation system within the Gyms will be an air conditioning system and is to be controlled by time clocks.
- No mechanical ventilation system has been proposed within the Level 0 car park areas of the proposed development.
- The mechanical ventilation system within the underground B1 and B2 car park areas will be ventilation exhaust only and is to be controlled by carbon monoxide monitor and VSD fans.
- The mechanical ventilation system within the underground B3 and B4 car park areas will be ventilation supply and exhaust, and is to be controlled by carbon monoxide monitor and VSD fans.
- The mechanical ventilation system within the garbage rooms within the proposed development will be ventilation exhaust only.
- The mechanical ventilation system within the Community rooms will be an air conditioning system and is to be controlled by time clocks.
- The mechanical ventilation system within the electrical plant and switch rooms will be ventilation supply only and is to be thermostatically controlled.
- The mechanical ventilation system within the storage and other internal common areas will be ventilation supply only and is to be controlled by time clocks.
- No mechanical ventilation system has been proposed in the hallways and lobbies within the proposed development.
- All lighting within the Gym, car parks, lifts, hallways, switch, plant, garbage, storage and other internal common areas are to be compact fluorescent.
- The lighting system in the Gym, Community rooms and lobbies is to be controlled by time clocks.
- The lighting system in all car parks is to be controlled by time clocks and motion sensors.
- The lighting system in each lift is to be connected to the lift call button.

- The lighting system in all switch, plant, garbage, storage and other internal common areas is to be controlled by a manual on/off switch.
- Bathrooms with external windows within the residential units of the proposed development will be naturally ventilated. The remaining bathrooms are to have motorised damper into central duct + VSD fans and are to be controlled by manual on/off switches.
- The kitchen exhaust fans of all residential units are individual fans, not ducted to the façade and are to be controlled by manual on/off switches.
- The laundry exhaust fans of all residential units are to be motorised damper into central duct + VSD fans and are to be controlled by manual on/off switches.
- Single-phase air-conditioning systems are to be installed in the living room and bedrooms of each residential unit. Each system is to have an energy efficiency rating (EER) of at least 3.0 for heating and cooling. The system is to be used for heating and cooling.
- The living room, kitchen, bathroom, laundry and hallways within each residential dwelling of the proposed development will be primarily lit by fluorescent or LED lamps (i.e. at least 80% of the light fittings in the room) with dedicated fittings.
- A gas cook top and electric oven will be installed in each kitchen in the development.
- All refrigerator units are to be installed in all residential dwellings of the proposed development and should have an energy efficiency rating of at least 3.0 stars. A ventilated fridge space is to be included within all residential dwellings of the proposed development. They should be placed such that at least one face (other than the front) is exposed to open air (this can be the top of the fridge as well).
- All dishwasher units are to be installed in all residential dwellings of the proposed development and should have an energy efficiency rating of at least 3.0 stars.
- All clothes dryer units are to be installed in all residential dwellings of the proposed development and should have an energy efficiency rating of at least 3.0 stars.
- Indoor clothes drying line is to be installed in all residential dwellings of the proposed development.

Note that if any of the above systems are to be substituted by less efficient systems, an update to the BASIX certificate would also be required.

4.0 Conclusion

A BASIX assessment of Towers 1 and 2 of the proposed development known as Australia Towers, located in Sydney Olympic Park has been carried out. The results of the assessment indicate that the development will satisfy the requirements of BASIX if all of the items outlined in this report are carried out.

The certified architectural drawings, ABSA certificate and BASIX certificate are attached in the following appendices of this report.

Appendix A

Certified Architectural Drawings

Appendix B

ABSA Certificate

Appendix C

DRAFT BASIX Certificate

BASIX[®]Report

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

Project summary		
Project name	Australia Towers, Sydney Olympic Park	
Street address	1 Australia Avenue Homebush Bay 2127	
Local Government Area	Auburn Council	
Plan type and plan number	deposited 1134933	
Lot no.	2	
Section no.	-	
No. of unit buildings	2	
No. of units in unit buildings	600	
No. of attached dwelling houses	0	
No. of separate dwelling houses	0	
Project score		
Water	40	Target 40
Thermal Comfort	Pass	Target Pass
Energy	20	Target 20

Water score comprises:

- Sydney Olympic Park Authority reticulated alternative water: 0.1
- Other water efficiency commitments: 39.9

Description of project

Project address

Project name	Australia Towers, Sydney Olympic Park
Street address	1 Australia Avenue Homebush Bay 2127
Local Government Area	Auburn Council
Plan type and plan number	deposited 1134933
Lot no.	2
Section no.	-

Project type

No. of unit buildings	2
No. of units in unit buildings	600
No. of attached dwelling houses	0
No. of separate dwelling houses	0

Site details

Site area (m ²)	10484
Roof area (m ²)	2900
Non-residential floor area (m ²)	1200
Residential car spaces	798
Non-residential car spaces	133

Common area landscape

Common area lawn (m ²)	0
Common area garden (m ²)	5200
Area of indigenous or low water use species (m ²)	3000

Assessor details

Assessor number	20887
Certificate number	12345867
Climate zone	56

Project score

Water	40	Target 40
Thermal Comfort	Pass	Target Pass
Energy	20	Target 20

Water score comprises:

- Sydney Olympic Park Authority reticulated alternative water: 0.1
- Other water efficiency commitments: 39.9

Description of project

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

Unit building - Tower 1, 270 dwellings, 25 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0101	2	89.0	14.0	0	0
0105	2	75.0	13.0	0	0
0201	2	89.0	14.0	0	0
0205	1	53.0	9.0	0	0
0209	1	56.0	7.0	0	0
0213	2	68.0	17.0	0	0
0304	1	53.0	8.0	0	0
0308	2	78.0	6.0	0	0
0312	2	73.0	10.0	0	0
0403	2	76.0	13.0	0	0
0407	1	45.0	7.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0102	4 or more bedrooms	121.0	16.0	0	0
0106	1	63.0	9.0	0	0
0202	4 or more bedrooms	120.0	18.0	0	0
0206	1	49.0	7.0	0	0
0210	2	75.0	11.0	0	0
0301	2	89.0	14.0	0	0
0305	1	53.0	9.0	0	0
0309	1	56.0	7.0	0	0
0313	2	68.0	17.0	0	0
0404	1	53.0	8.0	0	0
0408	2	78.0	6.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0103	2	75.0	13.0	0	0
0107	1	61.0	5.0	0	0
0203	2	76.0	13.0	0	0
0207	1	45.0	7.0	0	0
0211	2	68.0	7.0	0	0
0302	4 or more bedrooms	120.0	18.0	0	0
0306	1	49.0	7.0	0	0
0310	2	75.0	11.0	0	0
0401	2	89.0	14.0	0	0
0405	1	53.0	9.0	0	0
0409	1	56.0	7.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0104	2	80.0	13.0	0	0
0108	2	71.0	13.0	0	0
0204	1	53.0	8.0	0	0
0208	2	78.0	6.0	0	0
0212	2	73.0	10.0	0	0
0303	2	76.0	13.0	0	0
0307	1	45.0	7.0	0	0
0311	2	68.0	7.0	0	0
0402	4 or more bedrooms	120.0	18.0	0	0
0406	1	49.0	7.0	0	0
0410	2	75.0	11.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0411	2	68.0	7.0	0	0
0502	4 or more bedrooms	120.0	18.0	0	0
0506	1	49.0	7.0	0	0
0510	2	75.0	11.0	0	0
0601	2	89.0	14.0	0	0
0605	1	53.0	9.0	0	0
0609	1	53.0	7.0	0	0
0613	2	68.0	17.0	0	0
0704	1	53.0	8.0	0	0
0708	2	78.0	6.0	0	0
0712	2	73.0	10.0	0	0
0803	2	76.0	13.0	0	0
0807	1	45.0	7.0	0	0
0811	2	68.0	7.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0412	2	73.0	10.0	0	0
0503	2	76.0	13.0	0	0
0507	1	45.0	7.0	0	0
0511	2	68.0	7.0	0	0
0602	4 or more bedrooms	120.0	18.0	0	0
0606	1	49.0	7.0	0	0
0610	2	75.0	11.0	0	0
0701	2	89.0	14.0	0	0
0705	1	53.0	9.0	0	0
0709	1	56.0	7.0	0	0
0713	2	68.0	17.0	0	0
0804	1	53.0	8.0	0	0
0808	2	78.0	6.0	0	0
0812	2	73.0	10.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0413	2	68.0	17.0	0	0
0504	1	53.0	8.0	0	0
0508	2	78.0	6.0	0	0
0512	2	73.0	10.0	0	0
0603	2	76.0	13.0	0	0
0607	1	45.0	7.0	0	0
0611	2	68.0	7.0	0	0
0702	4 or more bedrooms	120.0	18.0	0	0
0706	1	49.0	7.0	0	0
0710	2	75.0	11.0	0	0
0801	2	89.0	14.0	0	0
0805	1	53.0	9.0	0	0
0809	1	56.0	7.0	0	0
0813	2	68.0	17.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0501	2	89.0	14.0	0	0
0505	1	53.0	9.0	0	0
0509	1	56.0	7.0	0	0
0513	2	68.0	17.0	0	0
0604	1	53.0	8.0	0	0
0608	2	78.0	6.0	0	0
0612	2	73.0	10.0	0	0
0703	2	76.0	13.0	0	0
0707	1	45.0	7.0	0	0
0711	2	68.0	7.0	0	0
0802	4 or more bedrooms	120.0	18.0	0	0
0806	1	49.0	7.0	0	0
0810	2	75.0	11.0	0	0
0901	2	89.0	14.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0902	4 or more bedrooms	120.0	18.0	0	0
0906	1	49.0	7.0	0	0
0910	2	75.0	11.0	0	0
1001	2	89.0	14.0	0	0
1005	1	53.0	9.0	0	0
1009	1	56.0	7.0	0	0
1013	2	68.0	17.0	0	0
1104	1	53.0	8.0	0	0
1108	2	78.0	6.0	0	0
1112	2	73.0	10.0	0	0
1203	2	77.0	13.0	0	0
1207	3	95.0	12.0	0	0
1211	2	73.0	10.0	0	0
1304	1	53.0	8.0	0	0
1308	2	78.0	10.0	0	0
1401	3	113.0	15.0	0	0
1405	1	53.0	9.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0903	2	76.0	13.0	0	0
0907	1	45.0	7.0	0	0
0911	2	68.0	7.0	0	0
1002	4 or more bedrooms	120.0	18.0	0	0
1006	1	49.0	7.0	0	0
1010	2	75.0	11.0	0	0
1101	2	89.0	14.0	0	0
1105	1	53.0	9.0	0	0
1109	1	56.0	7.0	0	0
1113	2	68.0	17.0	0	0
1204	1	53.0	8.0	0	0
1208	2	79.0	10.0	0	0
1301	3	113.0	15.0	0	0
1305	1	53.0	9.0	0	0
1309	2	75.0	11.0	0	0
1402	1	62.0	7.0	0	0
1406	1	49.0	7.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0904	1	53.0	8.0	0	0
0908	2	78.0	6.0	0	0
0912	2	73.0	10.0	0	0
1003	2	76.0	13.0	0	0
1007	1	45.0	7.0	0	0
1011	2	86.0	7.0	0	0
1102	4 or more bedrooms	120.0	18.0	0	0
1106	1	49.0	7.0	0	0
1110	2	75.0	11.0	0	0
1201	3	113.0	15.0	0	0
1205	1	53.0	9.0	0	0
1209	2	75.0	11.0	0	0
1302	1	62.0	7.0	0	0
1306	1	49.0	7.0	0	0
1310	2	68.0	7.0	0	0
1403	2	71.0	13.0	0	0
1407	3	95.0	12.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0905	1	53.0	9.0	0	0
0909	1	56.0	7.0	0	0
0913	2	68.0	17.0	0	0
1004	1	53.0	8.0	0	0
1008	2	78.0	6.0	0	0
1012	2	73.0	10.0	0	0
1103	2	76.0	13.0	0	0
1107	1	45.0	7.0	0	0
1111	2	68.0	7.0	0	0
1202	1	62.0	7.0	0	0
1206	1	49.0	7.0	0	0
1210	2	68.0	7.0	0	0
1303	2	71.0	13.0	0	0
1307	3	95.0	12.0	0	0
1311	2	73.0	10.0	0	0
1404	1	53.0	8.0	0	0
1408	2	78.0	10.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
1409	2	75.0	11.0	0	0
1502	1	62.0	7.0	0	0
1506	1	49.0	7.0	0	0
1510	2	68.0	7.0	0	0
1603	2	71.0	13.0	0	0
1607	3	95.0	12.0	0	0
1611	2	73.0	10.0	0	0
1704	1	53.0	8.0	0	0
1708	2	78.0	10.0	0	0
1801	3	113.0	15.0	0	0
1805	1	53.0	9.0	0	0
1809	2	75.0	11.0	0	0
1902	1	62.0	7.0	0	0
1906	1	49.0	7.0	0	0
1910	2	68.0	7.0	0	0
2003	2	71.0	13.0	0	0
2007	3	95.0	12.0	0	0
2011	2	73.0	10.0	0	0
2104	1	53.0	8.0	0	0
2108	2	78.0	10.0	0	0
2201	3	113.0	15.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
1410	2	68.0	7.0	0	0
1503	2	71.0	13.0	0	0
1507	3	95.0	12.0	0	0
1511	2	73.0	10.0	0	0
1604	1	53.0	8.0	0	0
1608	2	78.0	10.0	0	0
1701	3	113.0	15.0	0	0
1705	1	53.0	9.0	0	0
1709	2	75.0	11.0	0	0
1802	1	62.0	7.0	0	0
1806	1	49.0	7.0	0	0
1810	2	68.0	7.0	0	0
1903	2	71.0	13.0	0	0
1907	3	95.0	12.0	0	0
1911	2	73.0	10.0	0	0
2004	1	53.0	8.0	0	0
2008	2	78.0	10.0	0	0
2101	3	113.0	15.0	0	0
2105	1	53.0	9.0	0	0
2109	2	75.0	11.0	0	0
2202	3	110.0	21.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
1411	2	73.0	10.0	0	0
1504	1	53.0	8.0	0	0
1508	2	78.0	10.0	0	0
1601	3	113.0	15.0	0	0
1605	1	53.0	9.0	0	0
1609	2	75.0	11.0	0	0
1702	1	62.0	7.0	0	0
1706	1	49.0	7.0	0	0
1710	2	68.0	7.0	0	0
1803	2	71.0	13.0	0	0
1807	3	95.0	12.0	0	0
1811	2	73.0	10.0	0	0
1904	1	53.0	8.0	0	0
1908	2	78.0	10.0	0	0
2001	3	113.0	15.0	0	0
2005	1	53.0	9.0	0	0
2009	2	75.0	11.0	0	0
2102	1	62.0	7.0	0	0
2106	1	49.0	7.0	0	0
2110	2	68.0	7.0	0	0
2203	1	53.0	8.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
1501	3	113.0	15.0	0	0
1505	1	53.0	9.0	0	0
1509	2	75.0	11.0	0	0
1602	1	62.0	7.0	0	0
1606	1	49.0	7.0	0	0
1610	2	68.0	7.0	0	0
1703	2	71.0	13.0	0	0
1707	3	95.0	12.0	0	0
1711	2	73.0	10.0	0	0
1804	1	53.0	8.0	0	0
1808	2	78.0	10.0	0	0
1901	3	113.0	15.0	0	0
1905	1	53.0	9.0	0	0
1909	2	75.0	11.0	0	0
2002	1	62.0	7.0	0	0
2006	1	49.0	7.0	0	0
2010	2	68.0	7.0	0	0
2103	2	70.0	13.0	0	0
2107	3	93.0	12.0	0	0
2111	2	73.0	10.0	0	0
2204	1	53.0	9.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2205	1	49.0	7.0	0	0
2209	2	73.0	10.0	0	0
2304	3	175.0	41.0	0	0
2308	2	70.0	21.0	0	0
2402	3	80.0	20.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2206	4 or more bedrooms	152.0	25.0	0	0
2301	3	167.0	87.0	0	0
2305	3	162.0	38.0	0	0
2309	3	88.0	13.0	0	0
2403	3	80.0	20.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2207	2	75.0	11.0	0	0
2302	2	112.0	45.0	0	0
2306	2	112.0	24.0	0	0
2310	1	54.0	8.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2208	2	68.0	7.0	0	0
2303	2	139.0	54.0	0	0
2307	3	170.0	75.0	0	0
2401	2	89.0	14.0	0	0

Unit building - Tower 2, 330 dwellings, 30 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0101	1	61.0	5.0	0	0
0105	2	72.0	13.0	0	0
0204	1	53.0	7.0	0	0
0208	2	80.0	8.0	0	0
0212	2	77.0	11.0	0	0
0304	1	53.0	7.0	0	0
0308	2	80.0	8.0	0	0
0312	2	77.0	11.0	0	0
0404	1	53.0	7.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0102	1	62.0	8.0	0	0
0201	2	79.0	9.0	0	0
0205	1	54.0	7.0	0	0
0209	1	50.0	8.0	0	0
0301	2	79.0	9.0	0	0
0305	1	54.0	7.0	0	0
0309	1	50.0	8.0	0	0
0401	2	79.0	9.0	0	0
0405	1	54.0	7.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0103	2	78.0	13.0	0	0
0202	3	94.0	12.0	0	0
0206	2	72.0	13.0	0	0
0210	2	73.0	11.0	0	0
0302	3	94.0	12.0	0	0
0306	2	77.0	11.0	0	0
0310	2	73.0	11.0	0	0
0402	3	94.0	12.0	0	0
0406	2	77.0	11.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0104	2	80.0	13.0	0	0
0203	1	50.0	6.0	0	0
0207	1	56.0	7.0	0	0
0211	2	70.0	7.0	0	0
0303	1	50.0	6.0	0	0
0307	1	56.0	7.0	0	0
0311	2	70.0	7.0	0	0
0403	1	50.0	6.0	0	0
0407	1	56.0	7.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0408	2	80.0	8.0	0	0
0412	2	77.0	11.0	0	0
0504	1	53.0	7.0	0	0
0508	2	80.0	8.0	0	0
0512	2	77.0	11.0	0	0
0604	1	53.0	7.0	0	0
0608	2	80.0	8.0	0	0
0612	2	77.0	11.0	0	0
0704	1	53.0	7.0	0	0
0708	2	80.0	8.0	0	0
0712	2	77.0	11.0	0	0
0804	1	53.0	7.0	0	0
0808	2	80.0	8.0	0	0
0812	2	77.0	11.0	0	0
0904	1	53.0	7.0	0	0
0908	2	80.0	8.0	0	0
0912	2	77.0	11.0	0	0
1004	1	53.0	7.0	0	0
1008	2	80.0	8.0	0	0
1012	2	77.0	11.0	0	0
1104	1	53.0	7.0	0	0
1108	2	80.0	8.0	0	0
1112	2	77.0	11.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0409	1	50.0	8.0	0	0
0501	2	79.0	9.0	0	0
0505	1	54.0	7.0	0	0
0509	1	50.0	8.0	0	0
0601	2	79.0	9.0	0	0
0605	1	54.0	7.0	0	0
0609	1	50.0	8.0	0	0
0701	2	79.0	9.0	0	0
0705	1	54.0	7.0	0	0
0709	1	50.0	8.0	0	0
0801	2	79.0	9.0	0	0
0805	1	54.0	7.0	0	0
0809	1	50.0	8.0	0	0
0901	2	79.0	9.0	0	0
0905	1	54.0	7.0	0	0
0909	1	50.0	8.0	0	0
1001	2	79.0	9.0	0	0
1005	1	54.0	7.0	0	0
1009	1	50.0	8.0	0	0
1101	2	79.0	9.0	0	0
1105	1	54.0	7.0	0	0
1109	1	50.0	8.0	0	0
1201	2	79.0	9.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0410	2	73.0	11.0	0	0
0502	3	94.0	12.0	0	0
0506	2	77.0	11.0	0	0
0510	2	73.0	11.0	0	0
0602	3	94.0	12.0	0	0
0606	2	77.0	11.0	0	0
0610	2	73.0	11.0	0	0
0702	3	94.0	12.0	0	0
0706	2	77.0	11.0	0	0
0710	2	73.0	11.0	0	0
0802	3	94.0	12.0	0	0
0806	2	77.0	11.0	0	0
0810	2	73.0	11.0	0	0
0902	3	94.0	12.0	0	0
0906	2	72.0	13.0	0	0
0910	2	73.0	11.0	0	0
1002	3	94.0	12.0	0	0
1006	2	72.0	13.0	0	0
1010	2	73.0	11.0	0	0
1102	3	94.0	12.0	0	0
1106	2	72.0	13.0	0	0
1110	2	73.0	11.0	0	0
1202	3	94.0	12.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
0411	2	70.0	7.0	0	0
0503	1	50.0	6.0	0	0
0507	1	56.0	7.0	0	0
0511	2	70.0	7.0	0	0
0603	1	50.0	6.0	0	0
0607	1	56.0	7.0	0	0
0611	2	70.0	7.0	0	0
0703	1	50.0	6.0	0	0
0707	1	56.0	7.0	0	0
0711	2	70.0	7.0	0	0
0803	1	50.0	6.0	0	0
0807	1	56.0	7.0	0	0
0811	2	70.0	7.0	0	0
0903	1	50.0	6.0	0	0
0907	1	56.0	7.0	0	0
0911	2	70.0	7.0	0	0
1003	1	50.0	6.0	0	0
1007	1	56.0	7.0	0	0
1011	2	70.0	7.0	0	0
1103	1	50.0	6.0	0	0
1107	1	56.0	7.0	0	0
1111	2	70.0	7.0	0	0
1203	1	50.0	6.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
1204	1	53.0	7.0	0	0
1208	2	80.0	8.0	0	0
1212	2	75.0	11.0	0	0
1304	1	53.0	7.0	0	0
1308	2	80.0	8.0	0	0
1312	2	75.0	11.0	0	0
1404	1	53.0	7.0	0	0
1408	2	80.0	8.0	0	0
1412	2	75.0	11.0	0	0
1504	1	53.0	7.0	0	0
1508	2	80.0	8.0	0	0
1512	2	75.0	11.0	0	0
1604	1	53.0	7.0	0	0
1608	2	80.0	8.0	0	0
1612	2	75.0	11.0	0	0
1704	1	53.0	7.0	0	0
1708	2	80.0	8.0	0	0
1712	2	75.0	11.0	0	0
1804	1	53.0	7.0	0	0
1808	2	80.0	8.0	0	0
1812	2	75.0	11.0	0	0
1904	1	53.0	7.0	0	0
1908	2	80.0	8.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
1205	1	54.0	7.0	0	0
1209	1	50.0	8.0	0	0
1301	2	79.0	9.0	0	0
1305	1	54.0	7.0	0	0
1309	1	50.0	8.0	0	0
1401	2	79.0	9.0	0	0
1405	1	54.0	7.0	0	0
1409	1	50.0	8.0	0	0
1501	2	79.0	9.0	0	0
1505	1	54.0	7.0	0	0
1509	1	50.0	8.0	0	0
1601	2	79.0	9.0	0	0
1605	1	54.0	7.0	0	0
1609	1	50.0	8.0	0	0
1701	2	79.0	9.0	0	0
1705	1	54.0	7.0	0	0
1709	1	50.0	8.0	0	0
1801	2	79.0	9.0	0	0
1805	1	54.0	7.0	0	0
1809	1	50.0	8.0	0	0
1901	2	79.0	9.0	0	0
1905	1	54.0	7.0	0	0
1909	1	50.0	8.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
1206	2	72.0	13.0	0	0
1210	2	73.0	11.0	0	0
1302	3	94.0	12.0	0	0
1306	2	72.0	13.0	0	0
1310	2	73.0	11.0	0	0
1402	3	94.0	12.0	0	0
1406	2	72.0	13.0	0	0
1410	2	73.0	11.0	0	0
1502	3	94.0	12.0	0	0
1506	2	72.0	13.0	0	0
1510	2	73.0	11.0	0	0
1602	3	94.0	12.0	0	0
1606	2	72.0	13.0	0	0
1610	2	73.0	11.0	0	0
1702	3	94.0	12.0	0	0
1706	2	72.0	13.0	0	0
1710	2	73.0	11.0	0	0
1802	3	94.0	12.0	0	0
1806	2	72.0	13.0	0	0
1810	2	73.0	11.0	0	0
1902	3	94.0	12.0	0	0
1906	2	72.0	13.0	0	0
1910	2	73.0	11.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
1207	1	56.0	7.0	0	0
1211	2	70.0	7.0	0	0
1303	1	50.0	6.0	0	0
1307	1	56.0	7.0	0	0
1311	2	70.0	7.0	0	0
1403	1	50.0	6.0	0	0
1407	1	56.0	7.0	0	0
1411	2	70.0	7.0	0	0
1503	1	50.0	6.0	0	0
1507	1	56.0	7.0	0	0
1511	2	70.0	7.0	0	0
1603	1	50.0	6.0	0	0
1607	1	56.0	7.0	0	0
1611	2	70.0	7.0	0	0
1703	1	50.0	6.0	0	0
1707	1	56.0	7.0	0	0
1711	2	70.0	7.0	0	0
1803	1	50.0	6.0	0	0
1807	1	56.0	7.0	0	0
1811	2	70.0	7.0	0	0
1903	1	50.0	6.0	0	0
1907	1	56.0	7.0	0	0
1911	2	70.0	7.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
1912	2	75.0	11.0	0	0
2004	1	53.0	7.0	0	0
2008	2	80.0	8.0	0	0
2012	2	75.0	11.0	0	0
2104	1	53.0	7.0	0	0
2108	2	80.0	8.0	0	0
2112	2	75.0	11.0	0	0
2204	1	53.0	7.0	0	0
2208	2	80.0	8.0	0	0
2212	2	75.0	11.0	0	0
2304	1	53.0	7.0	0	0
2308	2	80.0	8.0	0	0
2312	2	77.0	11.0	0	0
2404	1	54.0	16.0	0	0
2408	1	50.0	13.0	0	0
2501	4 or more bedrooms	144.0	51.0	0	0
2505	1	56.0	16.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2001	2	79.0	9.0	0	0
2005	1	54.0	7.0	0	0
2009	1	50.0	8.0	0	0
2101	2	79.0	9.0	0	0
2105	1	54.0	7.0	0	0
2109	1	50.0	8.0	0	0
2201	2	79.0	9.0	0	0
2205	1	54.0	7.0	0	0
2209	1	50.0	8.0	0	0
2301	2	79.0	9.0	0	0
2305	1	54.0	7.0	0	0
2309	1	50.0	8.0	0	0
2401	4 or more bedrooms	144.0	50.0	0	0
2405	2	72.0	22.0	0	0
2409	2	73.0	25.0	0	0
2502	2	70.0	27.0	0	0
2506	2	80.0	20.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2002	3	94.0	12.0	0	0
2006	2	72.0	13.0	0	0
2010	2	73.0	11.0	0	0
2102	3	94.0	12.0	0	0
2106	2	72.0	13.0	0	0
2110	2	73.0	11.0	0	0
2202	3	94.0	12.0	0	0
2206	2	72.0	13.0	0	0
2210	2	73.0	11.0	0	0
2302	3	94.0	12.0	0	0
2306	2	72.0	13.0	0	0
2310	2	73.0	11.0	0	0
2402	1	50.0	15.0	0	0
2406	1	56.0	16.0	0	0
2410	2	74.0	12.0	0	0
2503	2	79.0	31.0	0	0
2507	1	50.0	13.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2003	1	50.0	6.0	0	0
2007	1	56.0	7.0	0	0
2011	2	70.0	7.0	0	0
2103	1	50.0	6.0	0	0
2107	1	56.0	7.0	0	0
2111	2	70.0	7.0	0	0
2203	1	50.0	6.0	0	0
2207	1	56.0	7.0	0	0
2211	2	70.0	7.0	0	0
2303	1	50.0	6.0	0	0
2307	1	56.0	7.0	0	0
2311	2	70.0	7.0	0	0
2403	1	53.0	17.0	0	0
2407	2	80.0	20.0	0	0
2411	2	70.0	22.0	0	0
2504	2	72.0	22.0	0	0
2508	2	73.0	25.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2509	2	74.0	12.0	0	0
2603	2	79.0	30.0	0	0
2607	1	50.0	13.0	0	0
2701	4 or more bedrooms	144.0	51.0	0	0
2705	2	73.0	25.0	0	0
2802	3	102.0	38.0	0	0
2806	2	74.0	12.0	0	0
2903	3	114.0	45.0	0	0
2907	2	70.0	22.0	0	0
3004	3	80.0	20.0	0	0
4001	3	80.0	20.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2510	2	70.0	22.0	0	0
2604	2	72.0	22.0	0	0
2608	2	73.0	25.0	0	0
2702	3	102.0	38.0	0	0
2706	2	74.0	12.0	0	0
2803	3	114.0	45.0	0	0
2807	2	70.0	22.0	0	0
2904	4 or more bedrooms	158.0	42.0	0	0
3001	3	80.0	20.0	0	0
3005	3	80.0	20.0	0	0
4002	3	80.0	20.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2601	4 or more bedrooms	144.0	51.0	0	0
2605	1	56.0	15.0	0	0
2609	2	74.0	12.0	0	0
2703	3	114.0	45.0	0	0
2707	2	70.0	22.0	0	0
2804	4 or more bedrooms	158.0	42.0	0	0
2901	4 or more bedrooms	145.0	51.0	0	0
2905	2	73.0	25.0	0	0
3002	3	80.0	20.0	0	0
3006	3	80.0	20.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2602	2	70.0	27.0	0	0
2606	2	80.0	19.0	0	0
2610	2	70.0	22.0	0	0
2704	4 or more bedrooms	158.0	42.0	0	0
2801	4 or more bedrooms	144.0	51.0	0	0
2805	2	73.0	25.0	0	0
2902	3	102.0	38.0	0	0
2906	2	74.0	12.0	0	0
3003	3	80.0	20.0	0	0
3007	3	80.0	20.0	0	0

Description of project

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

Common areas of unit building - Tower 1

Common area	Floor area (m²)
Lift car (No. 1)	-
Garbage room (No. 2)	130

Common area	Floor area (m²)
Lift car (No. 2)	-
Plant or service room (No. 3)	280

Common area	Floor area (m²)
Lift car (No. 3)	-
Hallway/lobby type (No. 1)	1750

Common areas of unit building - Tower 2

Common area	Floor area (m²)
Lift car (No. 4)	-
Garbage room (No. 3)	190

Common area	Floor area (m²)
Lift car (No. 5)	-
Plant or service room (No. 4)	480

Common area	Floor area (m²)
Lift car (No. 6)	-
Hallway/lobby type (No. 2)	2250

Common areas of the development (non-building specific)

Common area	Floor area (m²)
Gym (No. 1)	450
Car park area (B3 and B4)	15334
Plant or service room (No. 1)	690
Mail Room	40

Common area	Floor area (m²)
Car park area (Ground Level)	2536
Garbage room (No. 1)	200
Plant or service room (No. 2)	800
Change rooms/WC	140

Common area	Floor area (m²)
Car park area (B1 and B2)	15334
Community room (No. 1)	310
Storage (No. 1)	2100
Ground floor lobby type (No. 1)	600

Schedule of BASIX commitments

1. Commitments for unit building - Tower 1

(a) Dwellings

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

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

2. Commitments for unit building - Tower 2

(a) Dwellings

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

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

3. Commitments for attached dwelling houses

4. Commitments for separate dwelling houses

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

- (i) Water
- (ii) Energy

Schedule of BASIX commitments

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

1. Commitments for unit building - Tower 1

(a) Dwellings

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star (> 7.5 but <= 9 L/min)	3 star	3 star	3 star	-	2 star	2 star	-	-	-	-	-	-	-

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

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

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
0103, 0203, 0210, 0303, 0310, 0403, 0410, 0503, 0510, 0603, 0610, 0703, 0710, 0803, 0810, 0903, 0904, 0910, 1003, 1004, 1010, 1103, 1104, 1110, 1203, 1204, 1209, 1303, 1304, 1309, 1403, 1404, 1409, 1503, 1504, 1509, 1603, 1604, 1609, 1703, 1704,	central hot water system 1	no mechanical ventilation (ie. natural)	-	individual fan, not ducted	manual switch on/off	motorised damper into central duct + VSD	manual switch on/off

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
1709, 1803, 1804, 1809, 1903, 1904, 1909, 2003, 2004, 2009, 2103, 2104, 2109, 2203, 2207							

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
0101, 0102, 0104, 0105, 0106, 0107, 0108, 0201, 0202, 0204, 0205, 0206, 0207, 0208, 0209, 0211, 0212, 0213, 0301, 0302, 0304, 0305, 0306, 0307, 0308, 0309, 0311, 0312, 0313, 0401, 0402, 0404, 0405, 0406, 0407, 0408, 0409, 0411, 0412, 0413, 0501,	central hot water system 1	motorised damper into central duct + VSD	manual switch on/off	individual fan, not ducted	manual switch on/off	motorised damper into central duct + VSD	manual switch on/off

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
0502, 0504, 0505, 0506, 0507, 0508, 0509, 0511, 0512, 0513, 0601, 0602, 0604, 0605, 0606, 0607, 0608, 0609, 0611, 0612, 0613, 0701, 0702, 0704, 0705, 0706, 0707, 0708, 0709, 0711, 0712, 0713, 0801, 0802, 0804, 0805, 0806, 0807, 0808, 0809, 0811,							

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
0812, 0813, 0901, 0902, 0905, 0906, 0907, 0908, 0909, 0911, 0912, 0913, 1001, 1002, 1005, 1006, 1007, 1008, 1009, 1011, 1012, 1013, 1101, 1102, 1105, 1106, 1107, 1108, 1109, 1111, 1112, 1113, 1201, 1202, 1205, 1206, 1207, 1208, 1210, 1211, 1301,							

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
1302, 1305, 1306, 1307, 1308, 1310, 1311, 1401, 1402, 1405, 1406, 1407, 1408, 1410, 1411, 1501, 1502, 1505, 1506, 1507, 1508, 1510, 1511, 1601, 1602, 1605, 1606, 1607, 1608, 1610, 1611, 1701, 1702, 1705, 1706, 1707, 1708, 1710, 1711, 1801, 1802,							

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
1805, 1806, 1807, 1808, 1810, 1811, 1901, 1902, 1905, 1906, 1907, 1908, 1910, 1911, 2001, 2002, 2005, 2006, 2007, 2008, 2010, 2011, 2101, 2102, 2105, 2106, 2107, 2108, 2110, 2111, 2201, 2202, 2204, 2205, 2206, 2208, 2209, 2301, 2302, 2303, 2304,							

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
2305, 2306, 2307, 2308, 2309, 2310, 2401, 2402, 2403							

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

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	3 star (new rating)	yes	3 star	3 star	-	yes	no

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

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
0101	60.5	49.8
0102	39.5	27.6
0103	44	35.1
0104	61.3	23.2
0105	58.2	43.4

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
0106	44.5	24.6
0107	53.8	26.7
0108	63.4	54.3
0204	61.1	57.9
0205	35.4	58.9
0206	32.1	57.8
0207	63.4	56
0208	56.4	55.7
0209	64.1	45
0210	58.5	16.6
0211	61.2	37.3
0212	53.9	32.5
0506	27.9	42.8
1101	64.2	58.1
1102	45.7	57.4
1108	47.6	50.4
1109	63	44.7
1113	62.9	58.4
1203	60.5	56.2
1207	39.5	56.7
1208	45.1	31.3
2102	51.6	33.4
2103	64.4	45
2107	38.4	58
2108	55.7	40.2
2201	30.6	44.6
2202	59.2	45.3

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
2203	28	38.2
2204	21.1	34.5
2206	47.4	48.7
2207	57.9	34.9
2208	63.2	33.5
2301	13	52.3
2302	16.5	30.5
2303	16.1	56.8
2304	16.3	54.1
2305	19.2	56.9
2306	26.1	53.6
2307	33.6	42.8
2308	48.9	46
2310	51.5	51.8
2209, 2309	32.4	50
0903, 1003, 1103	48	35.1
2401, 2402, 2403	51	45
0304, 0404, 0504, 0604, 0704, 0804	42.4	34.6
0311, 0411, 0511, 0611, 0711, 0811	66	28.7
0203, 0303, 0403, 0503, 0603, 0703, 0803	48.3	35
0308, 0408, 0508, 0608, 0708, 0808, 0908, 1008	56.8	33.9
0309, 0409, 0509, 0609, 0709, 0809, 0909, 1009	51.2	28.4
1303, 1403, 1503, 1603, 1703, 1803, 1903, 2003	57.6	28

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
1307, 1407, 1507, 1607, 1707, 1807, 1907, 2007	31.7	48.6
1308, 1408, 1508, 1608, 1708, 1808, 1908, 2008	64.4	38.4
0201, 0301, 0401, 0501, 0601, 0701, 0801, 0901, 1001	59.4	45.7
0202, 0302, 0402, 0502, 0602, 0702, 0802, 0902, 1002	33.3	39
0213, 0313, 0413, 0513, 0613, 0713, 0813, 0913, 1013	60.6	46.1
0307, 0407, 0507, 0607, 0707, 0807, 0907, 1007, 1107	24.6	45.6
1202, 1302, 1402, 1502, 1602, 1702, 1802, 1902, 2002	33.9	19.5
1201, 1301, 1401, 1501, 1601, 1701, 1801, 1901, 2001, 2101	32.5	54.9
0904, 1004, 1104, 1204, 1304, 1404, 1504, 1604, 1704, 1804, 1904, 2004, 2104	39.9	32.9
0911, 1011, 1111, 1210, 1310, 1410, 1510, 1610, 1710, 1810, 1910, 2010, 2110	64.8	30.3
0305, 0405, 0505, 0605, 0705, 0805, 0905, 1005, 1105, 1205, 1305, 1405, 1505, 1605, 1705, 1805, 1905, 2005, 2105	22.2	33.9
0306, 0406, 0606, 0706, 0806, 0906, 1006, 1106, 1206, 1306, 1406, 1506, 1606, 1706, 1806, 1906, 2006, 2106, 2205	27.6	42.8
0310, 0410, 0510, 0610, 0710, 0810, 0910, 1010, 1110, 1209, 1309, 1409, 1509, 1609, 1709, 1809, 1909, 2009, 2109	57.8	23.5
All other dwellings	42.6	35.2

(b) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	3 star (> 7.5 but ≤ 9 L/min)	3 star	3 star	no common laundry facility

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

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Lift car (No. 1)		-	compact fluorescent	connected to lift call button	No
Lift car (No. 2)		-	compact fluorescent	connected to lift call button	No
Lift car (No. 3)		-	compact fluorescent	connected to lift call button	No
Garbage room (No. 2)	ventilation exhaust only	-	compact fluorescent	manual on / manual off	No
Plant or service room (No. 3)	ventilation supply only	thermostatically controlled	compact fluorescent	manual on / manual off	No
Hallway/lobby type (No. 1)	no mechanical ventilation	-	compact fluorescent	time clocks	No

Central energy systems	Type	Specification
Central hot water system (No. 1)	solar - gas boosted	Solar collector area (minimum, in square metres): 10 Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.45 (~20 mm); (b) Piping internal to building: R0.45 (~20 mm)
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 29
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 29
Lift (No. 3)	gearless traction with V V V F motor	Number of levels (including basement): 29

2. Commitments for unit building - Tower 2

(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.	✓	✓	✓

Dwelling no.	Fixtures					Appliances		Individual pool				Individual spa		
	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star (> 7.5 but <= 9 L/min)	3 star	3 star	3 star	-	2 star	2 star	-	-	-	-	-	-	-

Alternative water source								
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up

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

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
0105, 0206, 0212, 0306, 0312, 0406, 0412, 0506, 0512, 0606, 0612, 0706, 0712, 0806, 0812, 0906, 0912, 1006, 1012, 1106, 1112, 1206, 1212, 1306, 1312, 1406, 1412, 1506, 1512, 1606, 1612, 1706, 1712, 1806, 1812, 1906, 1912, 2006, 2012, 2106, 2112,	central hot water system 2	no mechanical ventilation (ie. natural)	-	individual fan, not ducted	manual switch on/off	motorised damper into central duct + VSD	manual switch on/off

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
2206, 2212, 2306, 2312, 2405, 2504, 2604							

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
0101, 0102, 0103, 0104, 0201, 0202, 0203, 0204, 0205, 0207, 0208, 0209, 0210, 0211, 0301, 0302, 0303, 0304, 0305, 0307, 0308, 0309, 0310, 0311, 0401, 0402, 0403, 0404, 0405, 0407, 0408, 0409, 0410, 0411, 0501, 0502, 0503, 0504, 0505, 0507, 0508,	central hot water system 2	motorised damper into central duct + VSD	manual switch on/off	individual fan, not ducted	manual switch on/off	motorised damper into central duct + VSD	manual switch on/off

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
0509, 0510, 0511, 0601, 0602, 0603, 0604, 0605, 0607, 0608, 0609, 0610, 0611, 0701, 0702, 0703, 0704, 0705, 0707, 0708, 0709, 0710, 0711, 0801, 0802, 0803, 0804, 0805, 0807, 0808, 0809, 0810, 0811, 0901, 0902, 0903, 0904, 0905, 0907, 0908, 0909,							

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
0910, 0911, 1001, 1002, 1003, 1004, 1005, 1007, 1008, 1009, 1010, 1011, 1101, 1102, 1103, 1104, 1105, 1107, 1108, 1109, 1110, 1111, 1201, 1202, 1203, 1204, 1205, 1207, 1208, 1209, 1210, 1211, 1301, 1302, 1303, 1304, 1305, 1307, 1308, 1309, 1310,							

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
1311, 1401, 1402, 1403, 1404, 1405, 1407, 1408, 1409, 1410, 1411, 1501, 1502, 1503, 1504, 1505, 1507, 1508, 1509, 1510, 1511, 1601, 1602, 1603, 1604, 1605, 1607, 1608, 1609, 1610, 1611, 1701, 1702, 1703, 1704, 1705, 1707, 1708, 1709, 1710, 1711,							

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
1801, 1802, 1803, 1804, 1805, 1807, 1808, 1809, 1810, 1811, 1901, 1902, 1903, 1904, 1905, 1907, 1908, 1909, 1910, 1911, 2001, 2002, 2003, 2004, 2005, 2007, 2008, 2009, 2010, 2011, 2101, 2102, 2103, 2104, 2105, 2107, 2108, 2109, 2110, 2111, 2201,							

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
2202, 2203, 2204, 2205, 2207, 2208, 2209, 2210, 2211, 2301, 2302, 2303, 2304, 2305, 2307, 2308, 2309, 2310, 2311, 2401, 2402, 2403, 2404, 2406, 2407, 2408, 2409, 2410, 2411, 2501, 2502, 2503, 2505, 2506, 2507, 2508, 2509, 2510, 2601, 2602, 2603,							

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
2605, 2606, 2607, 2608, 2609, 2610, 2701, 2702, 2703, 2704, 2705, 2706, 2707, 2801, 2802, 2803, 2804, 2805, 2806, 2807, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 3001, 3002, 3003, 3004, 3005, 3006, 3007, 4001, 4002							

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

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	3 star (new rating)	yes	3 star	3 star	-	yes	no

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

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
0101	59.7	19.3
0102	63.4	35.1
0103	64.6	26.6
0104	43.2	17.6
0105	38	22.2
0201	53.1	51.7
0202	51	50.1
0203	36	49.3
0204	54.2	37.8
0205	60.8	47.7
0207	64.4	39.2
0208	65.5	43.3
0209	47.5	51.1
0210	62.9	19.5
0211	64.6	29.4

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
0212	63.1	36.1
0504	50.5	21.9
0506	58.8	19.7
1112	64	55.7
2301	49.9	53.4
2302	53.1	53.1
2311	46	29.9
2312	58.1	41.8
2401	9.7	43.9
2402	7.6	38.1
2403	7.7	29.9
2404	36.9	39.7
2503	17.5	45.3
2603	26.7	40.1
2604	35.2	51.5
2605	29.8	33.7
2606	49.5	54.6
2901	27.7	50.7
2902	47.2	47.9
2903	47.9	47.8
2904	17.6	56.2
2905	34.3	45.5
2906	38.8	57.8
2907	65.9	48.3
0912, 1012	60	29.3
2405, 2504	31.5	28.5
2406, 2505	18.3	27.3

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
2407, 2506	36.2	48.7
2502, 2602	14.8	45.8
2702, 2802	8.9	35.6
2703, 2803	7.6	43.3
2704, 2804	13.9	57.6
0905, 1005, 1105	59.9	31
0906, 1006, 1106	58	21.7
0911, 1011, 1111	58	25.6
2408, 2507, 2607	11.2	54.4
2501, 2601, 2701, 2801	13.2	58.1
2409, 2508, 2608, 2705, 2805	6.2	36.5
2410, 2509, 2609, 2706, 2806	18.8	55.9
2411, 2510, 2610, 2707, 2807	21.5	57
0206, 0306, 0406, 0606, 0706, 0806	58.5	19.7
0305, 0405, 0505, 0605, 0705, 0805	60.1	31.1
0311, 0411, 0511, 0611, 0711, 0811	64	22.9
0312, 0412, 0512, 0612, 0712, 0812	61.4	28
3001, 3002, 3003, 3004, 3005, 3006, 3007, 4001, 4002	51	45
1211, 1311, 1411, 1511, 1611, 1711, 1811, 1911, 2011, 2111, 2211	58.1	25.6
1212, 1312, 1412, 1512, 1612, 1712, 1812, 1912, 2012, 2112, 2212	57.2	33.8

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
1205, 1305, 1405, 1505, 1605, 1705, 1805, 1905, 2005, 2105, 2205, 2305	59.2	31.2
1206, 1306, 1406, 1506, 1606, 1706, 1806, 1906, 2006, 2106, 2206, 2306	56.4	20.6
0301, 0401, 0501, 0601, 0701, 0801, 0901, 1001, 1101, 1201, 1301, 1401, 1501, 1601, 1701, 1801, 1901, 2001, 2101, 2201	46.8	35.8
0302, 0402, 0502, 0602, 0702, 0802, 0902, 1002, 1102, 1202, 1302, 1402, 1502, 1602, 1702, 1802, 1902, 2002, 2102, 2202	44	56.9
0304, 0404, 0604, 0704, 0804, 0904, 1004, 1104, 1204, 1304, 1404, 1504, 1604, 1704, 1804, 1904, 2004, 2104, 2204, 2304	50.5	21.6
0303, 0403, 0503, 0603, 0703, 0803, 0903, 1003, 1103, 1203, 1303, 1403, 1503, 1603, 1703, 1803, 1903, 2003, 2103, 2203, 2303	31.3	34.7
0307, 0407, 0507, 0607, 0707, 0807, 0907, 1007, 1107, 1207, 1307, 1407, 1507, 1607, 1707, 1807, 1907, 2007, 2107, 2207, 2307	51	25.2
0308, 0408, 0508, 0608, 0708, 0808, 0908, 1008, 1108, 1208, 1308, 1408, 1508, 1608, 1708, 1808, 1908, 2008, 2108, 2208, 2308	50.2	28.9

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
0309, 0409, 0509, 0609, 0709, 0809, 0909, 1009, 1109, 1209, 1309, 1409, 1509, 1609, 1709, 1809, 1909, 2009, 2109, 2209, 2309	46.9	35.4
All other dwellings	36.6	21.1

(b) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	3 star (> 7.5 but ≤ 9 L/min)	3 star	3 star	no common laundry facility

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

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Lift car (No. 4)		-	compact fluorescent	connected to lift call button	No
Lift car (No. 5)		-	compact fluorescent	connected to lift call button	No
Lift car (No. 6)		-	compact fluorescent	connected to lift call button	No
Garbage room (No. 3)	ventilation exhaust only	-	compact fluorescent	manual on / manual off	No
Plant or service room (No. 4)	ventilation supply only	thermostatically controlled	compact fluorescent	manual on / manual off	No
Hallway/lobby type (No. 2)	no mechanical ventilation	-	compact fluorescent	time clocks	No

Central energy systems	Type	Specification
Central hot water system (No. 2)	solar - gas boosted	Solar collector area (minimum, in square metres): 10 Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.45 (~20 mm); (b) Piping internal to building: R0.45 (~20 mm)
Lift (No. 4)	geared traction with V V A C motor	Number of levels (including basement): 35
Lift (No. 5)	gearless traction with V V V F motor	Number of levels (including basement): 35
Lift (No. 6)	gearless traction with V V V F motor	Number of levels (including basement): 35

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

(b) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	3 star (> 7.5 but <= 9 L/min)	3 star	3 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Reticulated alternative water supply	-	Installation of plumbing to make provision for connection to Sydney Olympic Park Authority reticulated alternative water supply.	- irrigation of 5200 square metres of common landscaped area on the site - car washing in car washing bays on the site
Fire sprinkler system (No. 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.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Gym (No. 1)	air conditioning system	time clock or BMS controlled	compact fluorescent	time clocks	No
Car park area (Ground Level)	no mechanical ventilation	-	compact fluorescent	time clock and motion sensors	No
Car park area (B1 and B2)	ventilation exhaust only	carbon monoxide monitor + VSD fan	compact fluorescent	time clock and motion sensors	No
Car park area (B3 and B4)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	compact fluorescent	time clock and motion sensors	No
Garbage room (No. 1)	ventilation exhaust only	-	compact fluorescent	manual on / manual off	No
Community room (No. 1)	air conditioning system	time clock or BMS controlled	compact fluorescent	time clocks	No
Plant or service room (No. 1)	no mechanical ventilation	-	compact fluorescent	manual on / manual off	No
Plant or service room (No. 2)	ventilation supply only	thermostatically controlled	compact fluorescent	manual on / manual off	No
Storage (No. 1)	ventilation supply only	time clock or BMS controlled	compact fluorescent	manual on / manual off	No
Mail Room	ventilation supply only	time clock or BMS controlled	compact fluorescent	manual on / manual off	No
Change rooms/WC	ventilation supply only	time clock or BMS controlled	compact fluorescent	time clocks	No
Ground floor lobby type (No. 1)	no mechanical ventilation	-	compact fluorescent	time clocks	No

Notes

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

Legend

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