

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 1071239S_04

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

Secretary

Date of issue: Tuesday, 28 July 2020

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



Planning,
Industry &
Environment

Project summary

Project name	83 Bower St_04
Street address	83 Bower Street Manly 2095
Local Government Area	Northern Beaches Council
Plan type and plan number	deposited 8075
Lot no.	76
Section no.	-
Project type	separate dwelling house
No. of bedrooms	4

Project score

Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 61	Target 50

Certificate Prepared by

Name / Company Name: Evans & Green

ABN (if applicable): 14122014998

Description of project

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Site details

Site area (m ²)	1397
Roof area (m ²)	375
Conditioned floor area (m2)	299.5
Unconditioned floor area (m2)	39.0
Total area of garden and lawn (m2)	702

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Project score

Water	 40	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 61	Target 50

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.

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 120 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 7.5 but ≤ 9 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
The applicant must install a rainwater tank of at least 12000 litres on the site. This rainwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.	✓	✓	✓
The applicant must configure the rainwater tank to collect rain runoff from at least 350 square metres of the roof area of the development (excluding the area of the roof which drains to any stormwater tank or private dam).		✓	✓
The applicant must connect the rainwater tank to: <ul style="list-style-type: none"> all toilets in the development the cold water tap that supplies each clothes washer in the development at least one outdoor tap in the development (Note: NSW Health does not recommend that rainwater be used for human consumption in areas with potable water supply.) a tap that is located within 10 metres of the swimming pool in the development 		✓ ✓ ✓ ✓	✓ ✓ ✓ ✓

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Swimming pool			
The swimming pool must not have a volume greater than 50 kilolitres.	✓	✓	
The swimming pool must be outdoors.	✓	✓	
Outdoor Spa			
The spa must not have a volume greater than 4 kilolitres.	✓	✓	

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
General features			
The dwelling must not have more than 2 storeys.	✓	✓	✓
The conditioned floor area of the dwelling must not exceed 300 square metres.	✓	✓	✓
The dwelling must not contain open mezzanine area exceeding 25 square metres.	✓	✓	✓
The dwelling must not contain third level habitable attic room.	✓	✓	✓
Floor, walls and ceiling/roof			
The applicant must construct the floor(s), walls, and ceiling/roof of the dwelling in accordance with the specifications listed in the table below.	✓	✓	✓

Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground, 56 square metres	nil	
floor - suspended floor above enclosed subfloor, 127 square metres, concrete	1.20 (or 1.8 including construction) (down)	
floor - above habitable rooms or mezzanine, 104 square metres, framed	nil	
floor - suspended floor above garage, framed	nil	
external wall - brick veneer	2.86 (or 3.40 including construction)	
external wall - framed (weatherboard, fibre cement, metal clad)	3.00 (or 3.40 including construction)	
external wall - cavity brick	0.50 (or 1.17 including construction)	
internal wall shared with garage - single skin masonry	nil	
ceiling and roof - raked ceiling / pitched or skillion roof, framed	ceiling: 5 (up), roof: foil backed blanket (75 mm)	framed; medium (solar absorptance 0.475-0.70)
ceiling and roof - flat ceiling / flat roof, framed	ceiling: 5 (up), roof: foil backed blanket (75 mm)	framed; medium (solar absorptance 0.475-0.70)

Note • Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

- Note
- In some climate zones, insulation should be installed with due consideration of condensation and associated interaction with adjoining building materials.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed doors and skylights			
The applicant must install the windows, glazed doors and shading devices described in the table below, in accordance with the specifications listed in the table. Relevant overshadowing specifications must be satisfied for each window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) which is not listed in the table.	✓	✓	✓
<p>The following requirements must also be satisfied in relation to each window and glazed door:</p> <ul style="list-style-type: none"> For the following glass and frame types, the certifier check can be performed by visual inspection. <ul style="list-style-type: none"> Aluminium single clear Aluminium double (air) clear Timber/uPVC/fibreglass single clear Timber/uPVC/fibreglass double (air) clear For other glass or frame types, each window and glazed door must be accompanied with certification showing a U value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) within the range of those listed. Total system U values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. Frame and glass types shown in the table below are for reference only. Vertical external louvres and blinds must fully shade the window or glazed door beside which they are situated when fully drawn or closed. Overshadowing buildings/vegetation must be of the height and distance from the centre and the base of the window and glazed door, as specified in the 'overshadowing' column. 	✓	✓	✓ ✓ ✓
The applicant must install the skylights described in the table below, in accordance with the specifications listed in the table. Total skylight area must not exceed 3 square metres (the 3 square metre limit does not include the optional additional skylight of less than 0.7 square metres that does not have to be listed in the table).	✓	✓	✓

Skylight no.	Maximum area (square metres)	Type	Shading device
S01	1.00	timber, low-E/double/argon fill	no shading
S02	1.50	timber, low-E/double/argon fill	no shading

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
North facing					
W02	2700	2400	aluminium, single, clear	verandah 4000 mm, 3000 mm above base of window or glazed door	not overshadowed
W01	1500	1000	aluminium, single, clear	verandah 4000 mm, 3000 mm above base of window or glazed door	not overshadowed
W03	2700	4200	aluminium, single, clear	external louvre/vertical blind (adjustable)	not overshadowed
W04	1800	900	U-value: 5.4, SHGC: 0.522 - 0.638 (aluminium, single, Hi-Tsol Low-e)	eave 800 mm, 200 mm above head of window or glazed door	not overshadowed
W07	2400	3100	U-value: 5.6, SHGC: 0.369 - 0.451 (aluminium, single, Lo-Tsol Low-e)	eave 1200 mm, 300 mm above head of window or glazed door	not overshadowed
W06	2400	3000	U-value: 5.6, SHGC: 0.369 - 0.451 (aluminium, single, Lo-Tsol Low-e)	eave 1200 mm, 200 mm above head of window or glazed door	not overshadowed
W05	1500	2500	U-value: 5.4, SHGC: 0.522 - 0.638 (aluminium, single, Hi-Tsol Low-e)	external louvre/vertical blind (adjustable)	not overshadowed
East facing					
W28	600	900	aluminium, single, clear	eave 150 mm, 100 mm above head of window or glazed door	not overshadowed
W10	600	1800	U-value: 5.6, SHGC: 0.369 - 0.451 (aluminium, single, Lo-Tsol Low-e)	eave 150 mm, 100 mm above head of window or glazed door	not overshadowed
W11	600	2400	U-value: 5.6, SHGC: 0.369 - 0.451 (aluminium, single, Lo-Tsol Low-e)	eave 150 mm, 100 mm above head of window or glazed door	not overshadowed
W09	1200	1500	U-value: 5.6, SHGC: 0.369 - 0.451 (aluminium, single, Lo-Tsol Low-e)	none	>4 m high, 2-5 m away
W08	1300	800	U-value: 5.6, SHGC: 0.369 - 0.451 (aluminium, single, Lo-Tsol Low-e)	none	>4 m high, 2-5 m away
W29	600	900	aluminium, single, clear	eave 150 mm, 100 mm above head of window or glazed door	not overshadowed
South facing					
W35	1000	600	U-value: 4.5, SHGC: 0.549 - 0.671 (aluminium, double (argon), clear)	external louvre/vertical blind (adjustable)	not overshadowed

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
W30	750	1300	U-value: 3, SHGC: 0.243 - 0.297 (aluminium: thermally broken, double (argon), Lo-Tsol Low-e/clear)	eave 500 mm, 400 mm above head of window or glazed door	not overshadowed
W15	700	1700	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	none	not overshadowed
W16	2400	900	U-value: 3.5, SHGC: 0.423 - 0.517 (aluminium: thermally broken, double (argon), clear)	none	>4 m high, 5-8 m away
W12	2700	3600	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	eave 800 mm, 200 mm above head of window or glazed door	>4 m high, 2-5 m away
W13	1850	950	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	eave 800 mm, 400 mm above head of window or glazed door	2-4 m high, 5-8 m away
West facing					
W22	1100	600	U-value: 5.6, SHGC: 0.324 - 0.396 (aluminium, single, Lo-Tsol Low-e)	none	>4 m high, 8-12 m away
W26	1300	2400	U-value: 5.6, SHGC: 0.369 - 0.451 (aluminium, single, Lo-Tsol Low-e)	external louvre/vertical blind (adjustable)	not overshadowed
W21	2700	2100	U-value: 5.6, SHGC: 0.324 - 0.396 (aluminium, single, Lo-Tsol Low-e)	none	>4 m high, 8-12 m away
W34	1200	800	aluminium, single, clear	eave 600 mm, 300 mm above head of window or glazed door	>4 m high, 8-12 m away
W34	1500	800	aluminium, single, clear	none	not overshadowed
W23	1850	900	U-value: 5.6, SHGC: 0.324 - 0.396 (aluminium, single, Lo-Tsol Low-e)	eave 800 mm, 400 mm above head of window or glazed door	>4 m high, 8-12 m away
W19	1800	850	U-value: 5.6, SHGC: 0.324 - 0.396 (aluminium, single, Lo-Tsol Low-e)	eave 800 mm, 1300 mm above head of window or glazed door	>4 m high, 5-8 m away
W33	1500	2700	aluminium, single, clear	external louvre/vertical blind (adjustable)	not overshadowed
W24	2700	2100	U-value: 5.6, SHGC: 0.324 - 0.396 (aluminium, single, Lo-Tsol Low-e)	eave 800 mm, 400 mm above head of window or glazed door	>4 m high, 8-12 m away


Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
W31	1500	2200	aluminium, single, clear	external louvre/vertical blind (adjustable)	not overshadowed
W20	2700	2100	U-value: 5.6, SHGC: 0.324 - 0.396 (aluminium, single, Lo-Tsol Low-e)	none	>4 m high, 8-12 m away
W17	2700	2900	U-value: 5.6, SHGC: 0.369 - 0.451 (aluminium, single, Lo-Tsol Low-e)	external louvre/vertical blind (adjustable)	not overshadowed
W32	1500	500	aluminium, single, clear	verandah 5000 mm, 1800 mm above base of window or glazed door	not overshadowed
W18	2700	3900	U-value: 5.6, SHGC: 0.369 - 0.451 (aluminium, single, Lo-Tsol Low-e)	verandah 4000 mm, 3000 mm above base of window or glazed door	not overshadowed
W25	2100	900	U-value: 5.6, SHGC: 0.369 - 0.451 (aluminium, single, Lo-Tsol Low-e)	verandah 4000 mm, 2700 mm above base of window or glazed door	>4 m high, 5-8 m away
W27	900	700	U-value: 5.6, SHGC: 0.369 - 0.451 (aluminium, single, Lo-Tsol Low-e)	eave 600 mm, 300 mm above head of window or glazed door	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: electric storage.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans + 3-phase airconditioning; Energy rating: EER 2.5 - 3.0		✓	✓
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: ceiling fans + 3-phase airconditioning; Energy rating: EER 2.5 - 3.0		✓	✓
Heating system			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: 3-phase airconditioning; Energy rating: EER 2.5 - 3.0		✓	✓
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: 3-phase airconditioning; Energy rating: EER 2.5 - 3.0		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development:			
At least 1 Bathroom: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Artificial lighting			
The applicant must ensure that the "primary type of artificial lighting" is fluorescent or light emitting diode (LED) lighting in each of the following rooms, and where the word "dedicated" appears, the fittings for those lights must only be capable of accepting fluorescent or light emitting diode (LED) lamps:			
• at least 5 of the bedrooms / study;		✓	✓
• at least 3 of the living / dining rooms;		✓	✓
• the kitchen;		✓	✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in the kitchen of the dwelling for natural lighting.	✓	✓	✓
The applicant must install a window and/or skylight in 4 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
Swimming pool			
The applicant must install the following heating system for the swimming pool in the development (or alternatively must not install any heating system for the swimming pool): electric heat pump		✓	
The applicant must install a timer for the swimming pool pump in the development.		✓	
Outdoor spa			
The applicant must install the following heating system for the spa in the development (or alternatively must not install any heating system for the spa): electric heat pump		✓	
The applicant must install a timer for the spa pump in the development.		✓	
Alternative energy			
The applicant must install a photovoltaic system with the capacity to generate at least 9 peak kilowatts of electricity as part of the development. The applicant must connect this system to the development's electrical system.	✓	✓	✓
Other			
The applicant must install a gas cooktop & electric oven in the kitchen of the dwelling.		✓	
The applicant must install a fixed outdoor clothes drying line as part of the development.		✓	

Legend

In these commitments, "applicant" means the person carrying out the development.

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).

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.

Commitments identified with a  in the "Certifier check" column must be certified by a certifying authority as having been fulfilled, before a final occupation certificate (either interim or final) for the development may be issued.