BASIX® Certificate

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

Single Dwelling

Certificate number: 1348841S

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

Secretary
Date of issue: Wednesday, 16 November 2022
To be valid, this certificate must be lodged within 3 months of the date of issue.

NSW GOVERNMENT | Planning, Industry & Environment

Project summary	
Project name	Bilgola Tree House
Street address	61 LOOMBAH Street BILGOLA PLATEAU 2107
Local Government Area	Northern Beaches Council
Plan type and plan number	deposited 221639
Lot no.	128
Section no.	-
Project type	separate dwelling house
No. of bedrooms	5

Project score		
Water	✔ 41	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 61	Target 50

Certificate Prepared by
Name / Company Name: Studio Haptic P/L
ABN (if applicable): 68 135 726 975

Description of project

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Site details	
Site area (m²)	979
Roof area (m²)	128
Conditioned floor area (m2)	197.0
Unconditioned floor area (m2)	3.0
Total area of garden and lawn (m2)	80

Assessor details and thermal loads		
Assessor number	n/a	
Certificate number	n/a	
Climate zone	n/a	
Area adjusted cooling load (MJ/m².year)	n/a	
Area adjusted heating load (MJ/m².year)	n/a	
Ceiling fan in at least one bedroom	n/a	
Ceiling fan in at least one living room or other conditioned area	n/a	
Project score		
Water	✔ 41	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 80 square metres of the site.	✔	✔	
Fixtures			
The applicant must install showerheads with a minimum rating of 4 star (> 6 but <= 7.5 L/min plus spray force and/or coverage tests) 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 2000 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 128 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 configure the rainwater tank so that overflow is diverted to a stormwater tank.		✔	✔
The applicant must connect the rainwater tank to: • 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.)		✔	✔
Stormwater tank			
The applicant must install a stormwater tank with a capacity of at least 5000 litres on the site. This stormwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.	✔	✔	✔

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
The applicant must configure the stormwater tank to collect overflow from the rainwater tank.		✔	✔
The applicant must configure the stormwater tank to collect runoff from: • at least 25 square metres of impervious areas • at least 100 square metres of garden and lawn		✔ ✔	✔ ✔
The applicant must connect the stormwater tank to: • a sub-surface or non-aerosol irrigation system, or if the stormwater has been appropriately treated in accordance with applicable regulatory requirements, to at least one outdoor tap in the development (Note: NSWHealth does not recommend that stormwater be used to irrigate edible plants which are consumed raw.)		✔	✔

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 - suspended floor above open subfloor, 119 square metres, framed	1.3 (or 2 including construction) (down)	
floor - above habitable rooms or mezzanine, 66 square metres, framed	nil	
external wall - framed (weatherboard, fibre cement, metal clad)	3.00 (or 3.40 including construction)	
ceiling and roof - flat ceiling / flat roof, framed	ceiling: 5 (up), roof: foil backed blanket (55 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.	✔	✔	✔
The following requirements must also be satisfied in relation to each window and glazed door:	✔	✔	✔
• For the following glass and frame types, the certifier check can be performed by visual inspection.			✔
- 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).	✔	✔	✔
The following requirements must also be satisfied in relation to each skylight:		✔	✔
• External awnings and louvres must fully shade the skylight above which they are situated when fully drawn or closed		✔	✔

Skylight no.	Maximum area (square metres)	Type	Shading device
S01	0.68	aluminium, moulded plastic single clear	adjustable awning or blind

Skylight no.	Maximum area (square metres)	Type	Shading device
S02	2.28	aluminium, moulded plastic single clear	adjustable awning or blind

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
North-East facing					
W0.01	2040	550	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	solid overhang 850 mm, 300 mm above head of window or glazed door	2-4 m high, 2 m away
W0.02	1100	1500	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	external louvre/vertical blind (adjustable)	>4 m high, 2-5 m away
D0.01	2040	5800	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	external louvre/vertical blind (adjustable)	>4 m high, 5-8 m away
W1.01	1400	1900	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	eave 250 mm, 0 mm above head of window or glazed door	2-4 m high, 2 m away
W1.02	1500	500	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	none	not overshadowed
W1.14	1050	800	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	none	>4 m high, 5-8 m away
South-East facing					
W0.03	1100	1500	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	none	>4 m high, 2-5 m away
W0.04	800	2400	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	none	>4 m high, 2-5 m away
W1.03	800	750	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	none	>4 m high, 5-8 m away

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
W1.04	450	2400	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	none	>4 m high, 2-5 m away
South-West facing					
W0.05	1450	1300	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	none	>4 m high, <2 m away
D0.02	2400	5000	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	solid overhang 3600 mm, 300 mm above head of window or glazed door	>4 m high, 2-5 m away
D0.03	2400	5200	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	solid overhang 3600 mm, 300 mm above head of window or glazed door	>4 m high, 2-5 m away
W1.05	1450	1300	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	none	>4 m high, <2 m away
W1.06	1200	450	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	none	>4 m high, <2 m away
W1.09	1050	800	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	none	>4 m high, 2-5 m away
D1.01	2000	5400	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	external louvre/vertical blind (adjustable)	>4 m high, 5-8 m away
W0.5A	1450	500	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	none	>4 m high, <2 m away
W1.05A	1450	500	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	none	>4 m high, <2 m away
North-West facing					
W0.06	650	1700	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	none	>4 m high, 5-8 m away

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
W1.07	1050	800	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	external louvre/vertical blind (adjustable)	>4 m high, 2-5 m away
W1.08	1050	1700	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	external louvre/vertical blind (adjustable)	>4 m high, 2-5 m away
W1.10	1050	2060	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	external louvre/vertical blind (adjustable)	>4 m high, 2-5 m away
W1.11	1050	800	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	external louvre/vertical blind (adjustable)	>4 m high, 8-12 m away
W1.12	1050	800	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	external louvre/vertical blind (adjustable)	>4 m high, 8-12 m away
W1.13	1050	1700	U-value: 3.5, SHGC: 0.576 - 0.704 (aluminium: thermally broken, double (argon), clear)	external louvre/vertical blind (adjustable)	>4 m high, 8-12 m away

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: airconditioning ducting only; Energy rating: n/a		✔	✔
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: airconditioning ducting only; Energy rating: n/a		✔	✔
Heating system			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: airconditioning ducting only; Energy rating: n/a		✔	✔
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: airconditioning ducting only; Energy rating: n/a		✔	✔
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: interlocked to light		✔	✔
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✔	✔
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✔	✔
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; dedicated		✔	✔
• at least 1 of the living / dining rooms; dedicated		✔	✔
• the kitchen; dedicated		✔	✔

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
• all bathrooms/toilets; dedicated		✔	✔
• the laundry; dedicated		✔	✔
• 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 2 bathroom(s)/toilet(s) in the development for natural lighting.	✔	✔	✔
Alternative energy			
The applicant must install a photovoltaic system with the capacity to generate at least 3.2 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 an induction cooktop & electric oven in the kitchen of the dwelling.		✔	
The applicant must construct each refrigerator space in the development so that it is "well ventilated", as defined in the BASIX definitions.		✔	
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.