

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 992988S




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: Monday, 11 February 2019

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



Project summary		
Project name	24 Chisholm	
Street address	24 Chisholm Avenue Avalon Beach 2107	
Local Government Area	Northern Beaches Council	
Plan type and plan number	deposited 1170985	
Lot no.	3	
Section no.	-	
Project type	separate dwelling house	
No. of bedrooms	4	
Project score		
Water	 42	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 51	Target 50

Certificate Prepared by
Name / Company Name: Richard Smith Architect
ABN (if applicable): 19748805485

Description of project

Project address

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Site details

Site area (m ²)	2597
Roof area (m ²)	210
Conditioned floor area (m2)	284.0
Unconditioned floor area (m2)	30.0
Total area of garden and lawn (m2)	900

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	 42	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 51	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 750 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 6 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 6 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 6 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
The applicant must install a rainwater tank of at least 8000 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 210 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: <ul style="list-style-type: none"> 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 12000 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: <ul style="list-style-type: none"> • at least 120 square metres of impervious areas • at least 30 square metres of planter box area 		✓ ✓	✓ ✓
The applicant must connect the stormwater tank to: <ul style="list-style-type: none"> • 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 - concrete slab on ground, 100 square metres	1 (slab edge)	in-slab heating system
floor - suspended floor above open subfloor, 35 square metres, framed	0.8 (or 1.5 including construction) (down)	
floor - above habitable rooms or mezzanine, 122 square metres, framed	nil	
floor - suspended floor above garage, concrete	nil	in-slab heating system
external wall - reverse brick veneer	2.86 (or 3.40 including construction)	
external wall - cavity brick	0.50 (or 1.17 including construction)	
external wall - framed (weatherboard, fibre cement, metal clad)	3.00 (or 3.40 including construction)	
ceiling and roof - flat ceiling / flat roof, framed	ceiling: 4.5 (up), roof: foil backed blanket (55 mm)	framed; medium (solar absorptance 0.475-0.70)

Note	<ul style="list-style-type: none"> Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.
Note	<ul style="list-style-type: none"> 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 clearAluminium double (air) clearTimber/uPVC/fibreglass single clearTimber/uPVC/fibreglass double (air) clearFor 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.	✓	✓	✓

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
North facing					
W02	3000	4260	U-value: 4.3, SHGC: 0.450 - 0.550 (timber/UPVC/fibreglass, single, Hi-Tsol Low-e)	none	>4 m high, 5-8 m away
W03	1900	2265	timber/UPVC/fibreglass, single, clear	none	>4 m high, 5-8 m away
W04	2400	900	timber/UPVC/fibreglass, single, clear	none	>4 m high, 5-8 m away
W21	2200	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	>4 m high, 5-8 m away

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
East facing					
W05	2190	1820	timber/UPVC/fibreglass, single, clear	solid overhang 5820 mm, 650 mm above head of window or glazed door	not overshadowed
W06	2540	650	timber/UPVC/fibreglass, single, clear	solid overhang 4850 mm, 0 mm above head of window or glazed door	>4 m high, 5-8 m away
W07	2540	650	timber/UPVC/fibreglass, single, clear	solid overhang 800 mm, 0 mm above head of window or glazed door	>4 m high, 5-8 m away
W08	2400	4470	timber/UPVC/fibreglass, single, clear	solid overhang 8050 mm, 1250 mm above head of window or glazed door	>4 m high, 5-8 m away
W09	2400	2000	timber/UPVC/fibreglass, single, clear	solid overhang 3250 mm, 800 mm above head of window or glazed door	>4 m high, 5-8 m away
W21	920	4470	timber/UPVC/fibreglass, single, clear	solid overhang 8050 mm, 200 mm above head of window or glazed door	>4 m high, 8-12 m away
South facing					
W10	2540	880	timber/UPVC/fibreglass, single, clear	solid overhang 1420 mm, 0 mm above head of window or glazed door	>4 m high, 5-8 m away
W11	2540	3465	timber/UPVC/fibreglass, single, clear	none	>4 m high, 5-8 m away
W12	2400	960	timber/UPVC/fibreglass, single, clear	none	>4 m high, 5-8 m away
W13	2700	4720	timber/UPVC/fibreglass, single, clear	none	>4 m high, 5-8 m away
W19	2400	3600	timber/UPVC/fibreglass, single, clear	none	>4 m high, 5-8 m away
West facing					
W14	2440	3660	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (adjustable)	>4 m high, 5-8 m away
W15	2400	960	timber/UPVC/fibreglass, single, 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
W16	2400	840	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (adjustable)	>4 m high, 5-8 m away
W17	2400	840	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (adjustable)	>4 m high, 5-8 m away
W18	3000	4300	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (adjustable)	>4 m high, 5-8 m away
W20	2200	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	>4 m high, 5-8 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: solar (gas boosted, flat plate).	✓	✓	✓
Cooling system			
The living areas must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: gas hydronic system; 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: gas hydronic system; 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: 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 4 of the bedrooms / study; dedicated		✓	✓
• at least 2 of the living / dining rooms; dedicated		✓	✓
• the kitchen; dedicated		✓	✓


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 1 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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.		✓	
The applicant must install a fixed indoor or sheltered 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.