

# BASIX<sup>®</sup>Certificate

Building Sustainability Index [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

## Single Dwelling

Certificate number: 1410272S

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](http://www.basix.nsw.gov.au)

Secretary  
Date of issue: Thursday, 27 July 2023  
To be valid, this certificate must be lodged within 3 months of the date of issue.



Project summary		
Project name	Swirling Waters_04 mod	
Street address	2&4 Bilgola Avenue Bilgola Beach 2107	
Local Government Area	Northern Beaches Council	
Plan type and plan number	deposited 11978	
Lot no.	25	
Section no.	-	
Project type	separate dwelling house	
No. of bedrooms	3	
Project score		
Water	✓ 67	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 97	Target 50

### Certificate Prepared by

Name / Company Name: Peter Stutchbury Architecture

ABN (if applicable): 838 596 38915

# Description of project

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Project type	
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No. of bedrooms	3
Site details	
Site area (m <sup>2</sup> )	1510
Roof area (m <sup>2</sup> )	257
Conditioned floor area (m <sup>2</sup> )	273.0
Unconditioned floor area (m <sup>2</sup> )	27.62
Total area of garden and lawn (m <sup>2</sup> )	1076

Assessor details and thermal loads		
Assessor number	n/a	
Certificate number	n/a	
Climate zone	n/a	
Area adjusted cooling load (MJ/m <sup>2</sup> .year)	n/a	
Area adjusted heating load (MJ/m <sup>2</sup> .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	✔ 67	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 97	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
<b>Landscape</b>			
The applicant must plant indigenous or low water use species of vegetation throughout 290 square metres of the site.	✓	✓	
<b>Fixtures</b>			
The applicant must install showerheads with a minimum rating of 4 star (> 4.5 but ≤ 6 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 5 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 5 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 5 star in each bathroom in the development.		✓	
<b>Alternative water</b>			
<b>Rainwater tank</b>			
The applicant must install a rainwater tank of at least 50000 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 256.78 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"> <li>all toilets in the development</li> <li>the cold water tap that supplies each clothes washer in the development</li> <li>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.)</li> </ul>		✓ ✓ ✓	✓ ✓ ✓

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<b>General features</b>			
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.	✓	✓	✓
<b>Floor, walls and ceiling/roof</b>			
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, 175 square metres	1 (slab edge)	in-slab heating system
floor - above habitable rooms or mezzanine, 110 square metres, framed	nil	
floor - suspended floor above garage, concrete	nil	in-slab heating system
external wall - mudbrick or rammed earth (500 mm)	nil	
external wall - framed (weatherboard, fibre cement, metal clad)	2.00 (or 2.40 including construction)	
ceiling and roof - flat ceiling / flat roof, concrete/bare internal	ceiling: 3.5 (up), roof: foil backed blanket (100 mm)	concrete/bare internal; dark (solar absorptance > 0.70)

Note	<ul style="list-style-type: none"> <li>Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.</li> </ul>
Note	<ul style="list-style-type: none"> <li>In some climate zones, insulation should be installed with due consideration of condensation and associated interaction with adjoining building materials.</li> </ul>

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<b>Windows, glazed doors and skylights</b>			
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: <ul style="list-style-type: none"> <li>For the following glass and frame types, the certifier check can be performed by visual inspection. <ul style="list-style-type: none"> <li>- Aluminium single clear</li> <li>- Aluminium double (air) clear</li> <li>- Timber/uPVC/fibreglass single clear</li> <li>- Timber/uPVC/fibreglass double (air) clear</li> </ul> </li> <li>Vertical external louvres and blinds must fully shade the window or glazed door beside which they are situated when fully drawn or closed.</li> <li>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.</li> </ul>	✓	✓	✓ ✓ ✓
	✓	✓	✓

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
<b>North facing</b>					
W01	2400	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	>4 m high, 2-5 m away
W02	2400	1850	timber/UPVC/fibreglass, single, clear	solid overhang 4000 mm, 2800 mm above head of window or glazed door	not overshadowed
W03	2400	1200	timber/UPVC/fibreglass, single, clear	eave 300 mm, 2800 mm above head of window or glazed door	>4 m high, 5-8 m away
W04	2400	1200	timber/UPVC/fibreglass, single, clear	eave 300 mm, 0 mm above head of window or glazed door	2-4 m high, 5-8 m away
W06	2000	560	timber/UPVC/fibreglass, single, clear	none	not overshadowed

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
W07	2600	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	not overshadowed
W08	2400	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	>4 m high, 2-5 m away
W09	2400	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	not overshadowed
W08b	2400	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	>4 m high, 2-5 m away
W08c	2400	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	>4 m high, 2-5 m away
<b>East facing</b>					
W10	1800	780	timber/UPVC/fibreglass, single, clear	eave 300 mm, 2800 mm above head of window or glazed door	>4 m high, 5-8 m away
W11	2400	780	timber/UPVC/fibreglass, single, clear	none	>4 m high, 5-8 m away
W12	2400	780	timber/UPVC/fibreglass, single, clear	none	>4 m high, 5-8 m away
W13	1800	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	>4 m high, 5-8 m away
W14	1800	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	>4 m high, 5-8 m away
W15	1800	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	>4 m high, 5-8 m away
W16	2400	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	not overshadowed
W17	2400	780	timber/UPVC/fibreglass, single, clear	none	not overshadowed
W18	2400	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	not overshadowed
W19	2400	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	not overshadowed
<b>South facing</b>					
W20	2400	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (adjustable)	not overshadowed
W26	2400	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (adjustable)	not overshadowed
W23	2800	780	timber/UPVC/fibreglass, single, clear	none	not overshadowed
W24	2400	900	timber/UPVC/fibreglass, single, clear	none	not overshadowed
W25	2400	900	timber/UPVC/fibreglass, single, clear	none	not overshadowed
W27	1500	1900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	not overshadowed
W21	1900	2000	timber/UPVC/fibreglass, single, clear	eave 300 mm, 0 mm above head of window or glazed door	not overshadowed

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
W22	1900	2000	timber/UPVC/fibreglass, single, clear	eave 300 mm, 0 mm above head of window or glazed door	not overshadowed
<b>West facing</b>					
W34	500	350	timber/UPVC/fibreglass, single, clear	none	>4 m high, 5-8 m away
W31	2400	1400	timber/UPVC/fibreglass, single, clear	none	>4 m high, 5-8 m away
W28	2400	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	>4 m high, 5-8 m away
W29	2400	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	>4 m high, 5-8 m away
W30	1800	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	>4 m high, 5-8 m away
W32	2400	900	timber/UPVC/fibreglass, single, clear	external louvre/vertical blind (fixed)	>4 m high, 5-8 m away
W33	2400	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
<b>Hot water</b>			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: solar (gas boosted, evacuated tube) with a performance of more than 45 STCs.	✓	✓	✓
<b>Cooling system</b>			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; 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: ceiling fans; Energy rating: n/a		✓	✓
<b>Heating system</b>			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: heat pump 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: heat pump hydronic system; Energy rating: n/a		✓	✓
<b>Ventilation</b>			
<p>The applicant must install the following exhaust systems in the development:</p> <p>At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a</p> <p>Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off</p> <p>Laundry: natural ventilation only, or no laundry; Operation control: n/a</p>		<p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p>	<p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p>
<b>Artificial lighting</b>			
<p>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:</p> <ul style="list-style-type: none"> <li>• at least 4 of the bedrooms / study; dedicated</li> <li>• at least 1 of the living / dining rooms; dedicated</li> <li>• the kitchen; dedicated</li> </ul>		<p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p>	<p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p>





Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> <li>• all bathrooms/toilets; dedicated</li> <li>• the laundry; dedicated</li> <li>• all hallways; dedicated</li> </ul>		<p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p>	<p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p>
<b>Natural lighting</b>			
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.	✓	✓	✓
<b>Alternative energy</b>			
The applicant must install a photovoltaic system with the capacity to generate at least 10 peak kilowatts of electricity as part of the development. The applicant must connect this system to the development's electrical system.	✓	✓	✓
<b>Other</b>			
The applicant must install a gas 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.