

# BASIX<sup>®</sup>Certificate

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

## Single Dwelling

Certificate number: 1738085S

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, 29 February 2024

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



Project summary		
Project name	LOT 8 GEORGE ST BROADWATER DWELLING A	
Street address	22 GEORGE Street BROADWATER 2472	
Local Government Area	Richmond Valley Council	
Plan type and plan number	Deposited Plan DP1290626	
Lot no.	8	
Section no.	-	
Project type	dwelling house (detached)	
No. of bedrooms	3	
Project score		
Water	✔ 42	Target 40
Thermal Performance	✔ Pass	Target Pass
Energy	✔ 100	Target 69
Materials	✔ 4	Target n/a

Certificate Prepared by
Name / Company Name: MATTHEW BULL
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# Description of project

## Project address

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## Project type

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## Site details

Site area (m <sup>2</sup> )	379
Roof area (m <sup>2</sup> )	203
Conditioned floor area (m <sup>2</sup> )	135.0
Unconditioned floor area (m <sup>2</sup> )	17.5
Total area of garden and lawn (m <sup>2</sup> )	135
Roof area of the existing dwelling (m <sup>2</sup> )	0

## 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

## Project score

Water	 42	Target 40
Thermal Performance	 Pass	Target Pass
Energy	 100	Target 69
Materials	 4	Target n/a

## 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 10 square metres of the site.	✓	✓	
<b>Fixtures</b>			
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 1 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 3 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 3 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 5000 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 203 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>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>		✓ ✓	✓ ✓

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> <li>• a tap that is located within 10 metres of the swimming pool in the development</li> </ul>		✓	✓
Swimming Pool			
The swimming pool must not have a volume greater than 12 kilolitres.	✓	✓	
The swimming pool must have a pool cover.		✓	
The swimming pool must be outdoors.	✓	✓	

Thermal Performance and Materials commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<b>Do-it-yourself Method</b>			
General features			
The dwelling must be a Class 1 dwelling according to the National Construction Code, and 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.	✓	✓	✓
The applicant must adopt one of the options listed in the tables below to address thermal bridging in metal framed floor(s), walls and ceiling/roof of the dwelling.	✓	✓	✓
The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the tables below.			✓

Construction	Area - m <sup>2</sup>	Additional insulation required	Options to address thermal bridging	Other specifications
floor - suspended floor above open subfloor, hard wood; frame: timber - H2 treated softwood.	58.5	nil;fibreglass batts or roll	nil	
floor - suspended floor above garage, hard wood; frame: timber - H2 treated softwood.	94	nil;fibreglass batts or roll	nil	
garage floor - concrete slab on ground.	73.5	not specified	nil	

Construction	Area - m <sup>2</sup>	Additional insulation required	Options to address thermal bridging	Other specifications
external wall: framed (fibre cement sheet or boards); frame: timber - H2 treated softwood.	all external walls	1.70 (or 2.20 including construction);fibreglass batts or roll + reflective foil in the cavity	nil	wall colour: Medium (solar absorptance 0.48-0.7)
external garage wall: concrete block/plasterboard; frame: no frame.	82.7	not specified	nil	
internal wall: plasterboard; frame: timber - H2 treated softwood.	107.8	fibreglass batts or roll	nil	
ceiling and roof - flat ceiling / flat roof, framed - metal roof, timber - H2 treated softwood.	203	ceiling: 2.219999999999998 (down), roof: foil/sarking ;ceiling: fibreglass batts or roll; roof: foil/sarking.	nil	roof colour: light (solar absorptance < 0.38); ceiling area fully insulated

Note	<ul style="list-style-type: none"> <li>Insulation specified in this Certificate must be installed in accordance with the ABCB Housing Provisions (Part 13.2.2) of the National Construction Code.</li> </ul>
Note	<ul style="list-style-type: none"> <li>If the additional ceiling insulation listed in the table above is greater than R3.0, refer to the ABCB Housing Provisions (Part 13.2.3 (6)) of the National Construction Code.</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>
Note	<ul style="list-style-type: none"> <li>Thermal breaks must be installed in metal framed walls and applicable roofs in accordance with the ABCB Housing Provisions of the National Construction Code.</li> </ul>

Thermal Performance and Materials commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Ceiling fans			
The applicant must install at least one ceiling fan in at least one daytime habitable space, such as living room.	✓	✓	✓
The applicant must install at least one ceiling fan in each bedroom.	✓	✓	✓
<ul style="list-style-type: none"> <li>The minimum number and diameter of ceiling fans in a daytime habitable space must be installed in accordance with the ABCB Housing Provisions (Part 13.5.2) of the National Construction Code .</li> </ul>	✓	✓	✓

Thermal Performance and Materials commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Glazed windows, 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 glazed window and 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>The applicant must install windows and glazed doors in accordance with the height and width, frame and glazing types listed in the table.</li> </ul>	✔	✔	✔
<ul style="list-style-type: none"> <li>Each window and glazed door must have a U- value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) within the range listed. Total system U values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions.</li> </ul>		✔	✔
<ul style="list-style-type: none"> <li>Vertical external louvres and blinds must fully shade the glazed window or door beside which they are situated when fully drawn or closed.</li> </ul>	✔	✔	✔
<ul style="list-style-type: none"> <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>	✔	✔	✔
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).	✔	✔	✔

Glazed window/door no.	Orientation	Maximum height (mm)	Maximum width (mm)	Frame and glass specification	Shading device (Dimension within 10%)	Overshadowing
W A1-03	N	1500.00	1105.00	aluminium, double glazed (U-value: <=4.5, SHGC: 0.33 - 0.40)	awning (fixed) 600 mm, 1500 mm above base of window or glazed door	not overshadowed
W A2-02	N	1400.00	2200.00	aluminium, double glazed (U-value: <=4.5, SHGC: 0.22 - 0.27)	awning (fixed) 400 mm, 1400 mm above base of window or glazed door	not overshadowed



Glazed window/door no.	Orientation	Maximum height (mm)	Maximum width (mm)	Frame and glass specification	Shading device (Dimension within 10%)	Overshadowing
W A2-06	N	1400.00	2400.00	aluminium, double glazed (U-value: $\leq 4.5$ , SHGC: 0.22 - 0.27)	eave 750 mm, 650 mm above head of window or glazed door	not overshadowed
W A2-18	N	2400.00	3900.00	aluminium, double glazed (U-value: $\leq 4.5$ , SHGC: 0.22 - 0.27)	verandah 3750 mm, 2900 mm above base of window or glazed door	not overshadowed
W A2-01	N	1400.00	1105.00	aluminium, double glazed (U-value: $\leq 4.5$ , SHGC: 0.33 - 0.40)	awning (fixed) 400 mm, 1400 mm above base of window or glazed door	not overshadowed
W A1-01	E	1500.00	2490.00	aluminium, double glazed (U-value: $\leq 4.5$ , SHGC: 0.22 - 0.27)	awning (fixed) 800 mm, 1500 mm above base of window or glazed door	not overshadowed
W A2-15	E	600.00	1800.00	aluminium, double glazed (U-value: $\leq 4.5$ , SHGC: 0.33 - 0.40)	awning (fixed) 400 mm, 600 mm above base of window or glazed door	not overshadowed
W A2-16	E	600.00	1500.00	aluminium, double glazed (U-value: $\leq 4.5$ , SHGC: 0.33 - 0.40)	awning (fixed) 400 mm, 600 mm above base of window or glazed door	not overshadowed
W A2-17	E	1400.00	1105.00	aluminium, double glazed (U-value: $\leq 4.5$ , SHGC: 0.22 - 0.27)	awning (fixed) 400 mm, 1400 mm above base of window or glazed door	not overshadowed
W A1-02	E	1500.00	1105.00	aluminium, double glazed (U-value: $\leq 4.5$ , SHGC: 0.22 - 0.27)	awning (fixed) 800 mm, 1500 mm above base of window or glazed door	not overshadowed
W A2-11	S	1000.00	1500.00	aluminium, double glazed (U-value: $\leq 4.5$ , SHGC: 0.33 - 0.40)	eave 300 mm, 170 mm above head of window or glazed door	not overshadowed


Glazed window/door no.	Orientation	Maximum height (mm)	Maximum width (mm)	Frame and glass specification	Shading device (Dimension within 10%)	Overshadowing
W A2-12	S	700.00	1000.00	aluminium, double glazed (U-value: <=4.5, SHGC: 0.33 - 0.40)	eave 300 mm, 170 mm above head of window or glazed door	not overshadowed
W A2-13	S	1000.00	580.00	aluminium, double glazed (U-value: <=4.5, SHGC: 0.33 - 0.40)	external louvre/vertical blind (fixed)	not overshadowed
W A2-14	S	1300.00	1000.00	aluminium, double glazed (U-value: <=4.5, SHGC: 0.33 - 0.40)	eave 300 mm, 170 mm above head of window or glazed door	not overshadowed
W A2-07	W	1000.00	1800.00	aluminium, double glazed (U-value: <=4.5, SHGC: 0.33 - 0.40)	external louvre/vertical blind (fixed)	not overshadowed
W A2-08	W	700.00	1000.00	aluminium, double glazed (U-value: <=4.5, SHGC: 0.33 - 0.40)	eave 600 mm, 570 mm above head of window or glazed door	1-2 m high, <1.5 m away
WA2-09	W	1000.00	1800.00	aluminium, double glazed (U-value: <=4.5, SHGC: 0.33 - 0.40)	external louvre/vertical blind (fixed)	1-2 m high, <1.5 m away
WA2-10	W	1000.00	1800.00	aluminium, double glazed (U-value: <=4.5, SHGC: 0.33 - 0.40)	external louvre/vertical blind (fixed)	1-2 m high, <1.5 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: electric storage.	✓	✓	✓
<b>Cooling system</b>			
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.		✓	✓
<b>Heating system</b>			
The living areas must not incorporate any heating system, or any ducting which is designed to accommodate a heating system.		✓	✓
The bedrooms must not incorporate any heating system, or any ducting which is designed to accommodate a heating system.		✓	✓
<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: no mechanical ventilation (ie. natural); Operation control: n/a</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>			
The applicant must ensure that a minimum of 80% of light fixtures are fitted with fluorescent, compact fluorescent, or light-emitting-diode (LED) lamps.		✓	✓
<b>Natural lighting</b>			
The applicant must install a window and/or skylight in the kitchen of the dwelling for natural lighting.	✓	✓	✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
The applicant must install a window and/or skylight in 3 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
<b>Swimming pool</b>			
The development must not incorporate any heating system for the swimming pool.		✓	
The applicant must install the following pump for the swimming pool in the development, or a pump with a higher energy rating: single speed.		✓	
The applicant must install a timer for the swimming pool pump in the development.		✓	
<b>Alternative energy</b>			
The applicant must install a photovoltaic system as part of the development. The applicant must connect this system to the development's electrical system.	✓	✓	✓
The photovoltaic system must consist of: <ul style="list-style-type: none"> <li>• photovoltaic collectors with the capacity to generate at least 5 peak kilowatts of electricity, installed at an angle between 25 degrees and 35 degrees to the horizontal facing north</li> </ul>	✓	✓	✓
<b>Other</b>			
The applicant must install an induction 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.