

# BASIX<sup>®</sup>Certificate

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

## Single Dwelling

Certificate number: 979063S




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

Secretary

Date of issue: Monday, 17 December 2018

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



Project summary		
Project name	14396	
Street address	790A Barrenjoey Road Palm Beach 2108	
Local Government Area	Northern Beaches Council	
Plan type and plan number	deposited 838513	
Lot no.	2	
Section no.	-	
Project type	separate dwelling house	
No. of bedrooms	4	
Project score		
Water	 40	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 52	Target 50

Certificate Prepared by



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Revision of Certificates not lodged within 3 months of the date of issue will incur further BASIX issuing fees.

# Description of project

## Project address

Project name	14396
Street address	790A Barrenjoey Road Palm Beach 2108
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Lot no.	2
Section no.	-

## Project type

Project type	separate dwelling house
No. of bedrooms	4

## Site details

Site area (m <sup>2</sup> )	1073
Roof area (m <sup>2</sup> )	172
Conditioned floor area (m2)	184.0
Unconditioned floor area (m2)	7.0
Total area of garden and lawn (m2)	230

## Assessor details and thermal loads

Assessor number	BDAV/13/1491
Certificate number	0003487311
Climate zone	56
Area adjusted cooling load (MJ/m <sup>2</sup> .year)	21
Area adjusted heating load (MJ/m <sup>2</sup> .year)	47

## Project score

Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 52	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>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 3 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 3000 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 90 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>Simulation Method</b>			
The applicant must attach the certificate referred to under "Assessor Details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for an occupation certificate for the proposed development.			
The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX certificate, including the Cooling and Heating loads shown on the front page of this certificate.			
The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Assessor Certificate requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor to certify that this is the case. The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.	✓	✓	✓
The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
The applicant must construct the floors and walls of the dwelling in accordance with the specifications listed in the table below.	✓	✓	✓

Floor and wall construction	Area
floor - suspended floor/open subfloor	All or part of floor area square metres
floor - suspended floor above garage	All or part of floor area

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 heat pump with a performance of 26 to 30 STCs or better.	✓	✓	✓
<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: 1-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: 1-phase airconditioning; Energy rating: EER 2.5 - 3.0		✓	✓
The cooling system must provide for day/night zoning between living areas and bedrooms.		✓	✓
<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: 1-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: 1-phase airconditioning; Energy rating: EER 2.5 - 3.0		✓	✓
The heating system must provide for day/night zoning between living areas and bedrooms.		✓	✓
<b>Ventilation</b>			
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		✓	✓
<b>Artificial lighting</b>			
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:			
<ul style="list-style-type: none"> <li>at least 4 of the bedrooms / study;</li> </ul>		✓	✓

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> <li>• at least 3 of the living / dining rooms;</li> <li>• the kitchen;</li> <li>• all bathrooms/toilets;</li> <li>• the laundry;</li> <li>• all hallways;</li> </ul>		    	    
<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 3 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 0.5 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 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.

# Assessor Certificate

Assessed and issued in accordance with the BASIX  
Thermal Comfort Protocol for the Simulation Method



Date: 17 December 2018 BSA File ref: 14396

## Assessor

Name: Gavin Chambers Company: Building Sustainability Assessments Assessor #: BDAV/13/1491

Address: 7 William Street, HAMILTON NSW 2303

Phone: (02) 4962 3439

Email: enquiries@buildingsustainability.net.au

Declaration of interest in the project design: None

## Project

Address: 790A Barrenjoey Road

PALM BEACH NSW 2108

## Assessment

Software: BERS Pro 4.3

BERS File Run Ref: 14396 - R\_15

## Documentation

All details, upon which this assessment has been based, are included in the project documentation that has been stamped and signed by the Assessor issuing this certificate, as identified below:

Drawings used for this assessment: (Title, Ref.#, Revision, Issue date, etc)

David Lamb for J + R Ritchie 10/11/2018

Thermal Performance Specification (copy below)  
is attached to the drawings and is on page: 1

November 2018		BSA Reference: 14396		
Building Sustainability Assessments		Ph: (02) 4962 3439		
enquiries@buildingsustainability.net.au		www. buildingsustainability.net.au		
Important Note				
The following specification was used to achieve the thermal performance values indicated on the Assessor Certificate and takes precedence over any other specification.				
If different construction elements are applied then the Assessor Certificate is no longer valid.				
Thermal Performance Specifications (does not apply to garage)				
External Wall Construction		Added Insulation		
Lightweight		R2.7		
Internal Wall Construction		Added Insulation		
Plasterboard on studs		None		
Ceiling Construction		Added Insulation		
Plasterboard		R3.5 to ceilings adjacent to roof space		
Roof Construction		Colour	Added Insulation	
Metal		Any	Foil + R1.0 blanket	
Floor Construction		Covering	Added Insulation	
Timber		As drawn	R2.0 to floors adjacent to garage and where open below	
Windows	Glass and frame type	U Value	SHGC Range	Area sq m
Performance glazing Type A		5.40	0.44 - 0.54	As drawn
Performance glazing Type B		5.40	0.52 - 0.64	As drawn
Performance glazing Type A		4.30	0.38 - 0.46	As drawn
Performance glazing Type B		4.30	0.45 - 0.55	As drawn
Type A windows are awning windows, bifolds, casements, tilt 'n' turn windows, entry doors, french doors				
Type B windows are double hung windows, sliding windows & doors, fixed windows, stacker doors, louvres				
Skylights	Glass and frame type	U Value	SHGC	Area sq m
U and SHGC values are according to AFRC. Alternate products may be used if the U value is lower and the SHGC is within the range specified				
External Window Shading		(eaves, verandahs, pergolas, awnings etc)		
All shade elements modelled as drawn				
Ceiling Penetrations		(downlights, exhaust fans, flues etc)		
No adjustment has been made for losses to insulation arising from ceiling penetrations.				

## BASIX Project Details

(enter these details on the Site Details page)

Conditioned Floor Area: 184 m<sup>2</sup>

Unconditioned Floor Area: 7 m<sup>2</sup>

## BASIX Thermal Comfort Details

(enter these details on the Assessor Details page)

Assessor Number: BDAV/13/1491

Certificate Number: 0003487311

Climate Zone: 56

(enter these details on the Construction page)

Concrete slab on ground: - m<sup>2</sup>

Suspended floor open subfloor: yes m<sup>2</sup>

Suspended floor enclosed subfloor: - m<sup>2</sup>

Suspended floor above garage: yes

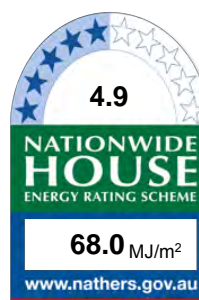
(enter these details on the Thermal Loads page)

Heating: 47 (MJ/m<sup>2</sup>/annum)

Cooling: 21 (MJ/m<sup>2</sup>/annum)

Total: 68 (MJ/m<sup>2</sup>/annum)

Stars: 4.9 (NatHERS)



Certificate no.: 0003487311  
Assessor Name: Gavin Chambers  
Accreditation no.: VIC/BDAV/13/1491  
Certificate date: 17 Dec 2018  
Dwelling Address:

790A Barrenjoey Road  
Palm Beach, NSW  
2108



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