

# BASIX<sup>®</sup>Certificate

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

## Single Dwelling

Certificate number: 974249S




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: Wednesday, 10 April 2019

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



Project summary		
Project name	25 Loch St	
Street address	25 Loch Street Freshwater 2096	
Local Government Area	Northern Beaches Council	
Plan type and plan number	deposited 14040	
Lot no.	8	
Section no.	-	
Project type	separate dwelling house	
No. of bedrooms	4	
Project score		
Water	 48	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 53	Target 50

Certificate Prepared by
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# Description of project

## Project address

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## Site details

Site area (m <sup>2</sup> )	750
Roof area (m <sup>2</sup> )	261
Conditioned floor area (m2)	532.0
Unconditioned floor area (m2)	24.0
Total area of garden and lawn (m2)	316

## Assessor details and thermal loads

Assessor number	BDAV/12/1473
Certificate number	0003350691-02
Climate zone	56
Area adjusted cooling load (MJ/m <sup>2</sup> .year)	18
Area adjusted heating load (MJ/m <sup>2</sup> .year)	39

## Project score

Water	✓ 48	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 53	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 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 2 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 4000 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 159 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"> <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>		✓ ✓ ✓	✓ ✓ ✓

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>		✓	✓
<ul style="list-style-type: none"> <li>a tap that is located within 10 metres of the outdoor spa in the development</li> </ul>		✓	✓
<b>Stormwater tank</b>			
The applicant must install a stormwater tank with a capacity of at least 9000 litres on the site. This stormwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.	✓	✓	✓
The applicant must configure the stormwater tank to collect overflow from the rainwater tank.		✓	✓
<p>The applicant must configure the stormwater tank to collect runoff from:</p> <ul style="list-style-type: none"> <li>at least 289 square metres of roof area of the development (excluding the area of the roof which drains to any rainwater tank or private dam)</li> <li>at least 83 square metres of impervious areas</li> </ul>		✓ ✓	✓ ✓
<p>The applicant must connect the stormwater tank to:</p> <ul style="list-style-type: none"> <li>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.)</li> </ul>		✓	✓
<b>Swimming pool</b>			
The swimming pool must not have a volume greater than 16 kilolitres.	✓	✓	
The swimming pool must be outdoors.	✓	✓	
<b>Outdoor Spa</b>			
The spa must not have a volume greater than 2 kilolitres.	✓	✓	
The spa must have a spa cover.		✓	

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.		✓	✓
Where there is an in-slab heating or cooling system, the applicant must install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab, and underneath the slab if it is a suspended floor.	✓	✓	✓
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 - concrete slab on ground	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: gas instantaneous.	✓	✓	✓
The applicant must install a heat exchanger for hot water pre-heating (desuperheater), connected to the hot water storage and the ground source heat pump.		✓	✓
<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: 1 Star		✓	✓
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: 1 Star		✓	✓
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: ground source heat pump (closed loop); Energy rating: EER 4.5 - 5.0		✓	✓
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: 1 Star		✓	✓
A certificate of specifications issued by the supplier or installer must be attached with the BASIX certificate. Information contained in the certificate must be consistent with ground source heat pump installed in the development.			✓
The applicant must connect the ground source heat pump (closed loop) to the hydronic floor heating system.		✓	✓
<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>			

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<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 5 of the bedrooms / study; dedicated</li> <li>• at least 5 of the living / dining rooms; dedicated</li> <li>• the kitchen; dedicated</li> <li>• all bathrooms/toilets; dedicated</li> <li>• the laundry; dedicated</li> <li>• all hallways; dedicated</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 5 bathroom(s)/toilet(s) in the development for natural lighting.			
<b>Swimming pool</b>			
The applicant must install the following heating system for the swimming pool in the development (or alternatively must not install any heating system for the swimming pool): electric heat pump			
The applicant must install a timer for the swimming pool pump in the development.			
<b>Outdoor spa</b>			
The applicant must install the following heating system for the spa in the development (or alternatively must not install any heating system for the spa): electric heat pump			
The applicant must install a timer for the spa pump in the development.			
<b>Alternative energy</b>			

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
The applicant must install a photovoltaic system with the capacity to generate at least 2.5 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 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.