



STATEMENT OF ENVIRONMENTAL EFFECTS

Project:

Two storey dwelling with a rear loaded garage

And

Studio above

Site:

Lot 2220, D.P. 1171491

William Hart Crescent

Thornton, Penrith

NSW 2750

APPLICATION DETAILS:

Builder

Zac Homes Pty Ltd

Site location

Lot 2220, William Hart Crescent, Thornton Penrith 2750, NSW

Purpose of proposal

Proposed: New Double Storey with rear loaded garage and Studio above.

Zoning: Low Density Residential

This report has been prepared pursuant to

- Penrith City Council's Development Control Plans
- Thornton Estate Design Guidelines
- Section 79C of the Environmental Planning and Assessment Act 1979
- Along with Penrith City Council's LEP.

Proposed Development

This Statement of Environmental Effects has been prepared as a proposal for a new double storey single dwelling and rear loaded garage with studio above on Lot 2220, William Hart Crescent, Thornton Penrith 2750, NSW, in accordance with Penrith City Council's Development Control Plan and the Thornton Estate guidelines, along with Penrith City Council's LEP.

Careful consideration has been given in determining the design and layout of the proposed dwelling to ensure that the amenity of the surrounding area will not be compromised and that the work provides a high standard of residential development compatible and sympathetic with the existing and likely future built and natural environment.

The Statement of Environmental Effects addresses the relevant statutory planning framework within which the application is to be assessed and determined.

Plans detailing the proposed development accompany this application.

SITE DETAILS:

Site Area

The existing lot is approximately 289sqm.

Site Owner

The current owner of the lot to be developed is: Zac Homes

Site Analysis

- The site is located within William Hart Crescent in Thornton.
- The site analysis has not identified any major constraints on the site.
- The site maintains sufficient area for the proposed dwelling and private open space area.
- The site is currently vacant.
- Construction will not require the removal of any trees.
- The site's inland location results in the development likely to experience winds from the North-east in the summer and Southerlies during the winter. These prevailing winds will assist in ventilation of the property.
- Minimal privacy issues are raised as a result of the development. The majority of living areas are located on the ground floor.
- In order to permit the construction of the proposed dwelling it will be necessary to undertake minor site clearing and minimal earthworks to the site.
- The new dwelling will connect to the provided stormwater and sewage system.
- The development has been designed so as to achieve a built form that is appropriate having regard to the existing character of the locality.

Current Lot uses

The current lot is undeveloped and vacant

Neighbouring Land uses

The subject Lot will be predominantly surrounded by residential dwellings. Such dwellings will include single and double storeys.

Utility Services

The subject lot has access to a range of utility services such as gas, electricity, telephone, mail delivery, local waste collection and water.

ZONING CONTROLS:

Aboriginal Heritage

The site does not include items of Aboriginal heritage.

Coastal Hazards

The development is not subject to Coastal Hazards.

Mine Subsidence

The subject site is not located within a Mine Subsidence District.

Bushfire

The proposed dwelling is not located within an area that is identified as Bush Fire prone land.

Heritage Matters

The proposed dwelling is not located within a Heritage Precinct.

DEVELOPMENT PROPOSAL:

Proposed Development

The architectural designs have been prepared by Zac Homes Pty Ltd.

The proposal provides for the construction of a double storey dwelling which will consist of a single rear loaded garage with a studio above. The main dwelling contains four bedrooms, one dining and family room presented in an open plan style with an additional living room at the front. The dwelling's facade will consist of mixed materials such as face brickwork and fibre – cement cladding.

The overall design will be aesthetically pleasing and is considered to complement the existing neighbourhood streetscape.

Proposed Development

The amount of disturbance on the land caused by the proposed dwelling has been minimised with the site being cut and filled to form a level building platform.

Appropriate erosion and sediment control measures such as silt fencing will be put in place to limit sediment laid in stormwater discharge and restrict stormwater flows over exposed areas during construction. Due to the level nature of the land it is unlikely that any sediment will leave the site.

Setbacks

Front setback= 3000mm

Rear Setback= 6620 to the garage

Side 1 setback= 900mm

Side 2 setback= 110mm

All setbacks comply with Council's DCP and all related policies. The dwelling does not encroach over any easements or land restriction zones.

Site Coverage

The total site coverage including all hard surfaces= 60.51%

The site coverage complies with Council's DCP and all related policies.

Landscaped area

The total landscaped area= 39.49%

The landscape area complies with Council's DCP and all related policies.

Building Height

The proposed building height to the ridge line= 7.94m

The building height complies with Council's DCP and all related policies.

Floor Space Ratio

The proposed F.S.R= 87.45%

The F.S.R complies with Council's DCP and all related policies.

Private open space

The proposed P.O.S= 20.0%

The P.O.S complies with Council's DCP and all related policies.

Streetscape and building Facade

Selected materials and colours utilised on the proposal will be aesthetically pleasing and is considered to complement the overall streetscape.

The Facade design and colour selection complies with Council's DCP, Developer controls and all related policies.

ACCESS AND TRAFFIC:

Site access

Vehicle access to the proposed dwelling is via a proposed concrete driveway which complies with the Australian standard (AS2890.1) for the driveway gradient.

Vehicle Parking

The proposed main dwelling provides a rear loaded single garage which will cover 1 vehicle for the residents. The studio also has a single garage next to the main dwelling garage which will cover 1 vehicle.

Vehicle Parking complies with Council's DCP and all related policies.

Traffic

The proposed dwelling is unlikely to impact local traffic movement in the area.

AIR AND NOISE:

Noise and vibration

The local amenity is generally perceived as being relative to the acoustic impact of land uses within the local area.

The existing amenity within the subject locality is presently diminished by:

- Traffic movement along William Hart Crescent
- Noise normally associated with residential type activities.
- The proposed dwelling is unlikely to further emit noise above existing background noise.

Air and Odours

The proposed dwelling is unlikely to have an impact on the quality of air in the local area. Air and odours emanating from the proposed dwelling will be consistent with all neighbouring developments and unlikely to affect the adjoining lots.

PRIVACY, VIEWS AND OVERSHADOWING:

Views

The proposed dwelling is unlikely to impede the view of adjoining lots and future developments.

Overshadowing

The proposed dwelling is of double storey construction and will have minor overshadowing to the surrounding neighbours. Solar access for the adjoining properties is shown on the provided shadow diagrams.

The shadow diagrams comply with Council's DCP and all related policies.

Privacy

The privacy of adjoining lots will be respected and not interrupted by the proposed dwelling. Privacy shall be achieved by maintaining appropriate setbacks from the neighbouring boundaries and fencing.

SOIL AND WATER:

Site contours

The site is subject to minor natural surface flow from the rear boundary to the front boundary.

Stormwater and drainage

The stormwater from the main dwelling will be adequately discharged to the rainwater tank from which the overflow will then be directed via a pipe to the drainage system in the street.

The stormwater from the studio will be adequately discharged to the rainwater tank from which the overflow will then be directed via a pipe to the drainage system in the rear lane.

FLORA AND FAUNA:

Existing vegetation

There are no existing trees or vegetation to be removed for construction of the proposed dwelling.

Proposed vegetation

The proposal will comply with Council's DCP and all related policies in regards to landscape requirements and required vegetation plantation.

Basix/Energy

The proposed dwelling will meet with all BASIX requirements and construction will include insulation to external walls and ceiling space along with sarking to the underside of the roof tiles.

WASTE DISPOSAL:

Utility service and waste

The site is adequately serviced with local council garbage and waste collection. The proposed dwelling will not place any additional demands upon these services.

The proposed dwelling will connect to the provided sewage system.

Building waste is to be contained within the building site in a suitable screened area for the duration of construction. This waste is to be removed by a contractor after completion.

CONCLUSION:

The development complies with the standards and objectives of the State Environmental Planning Policy and other relevant controls that apply to this subject site, the Architectural design, character, scale, materials and details of this project will match the existing neighbourhood area so as to ensure maximum cohesion.

The proposal will enhance the existing streetscape elevation and compliment the general neighbourhood.

The proposed residential development will have minimal adverse environmental effects, and shall prove to become a positive asset to the amenity of the neighbourhood.

Report completed by:

Zac Homes Pty Ltd
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Penrith, NSW, 2750
Phone: (02) 4724 2500
Email: info@zachomes.com.au

Colour Consultant: Rachael Horwood

Email: rachael@zachomes.com.au

Job No.: 214027

Client: Urban Growth

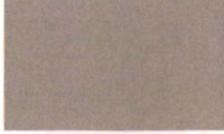
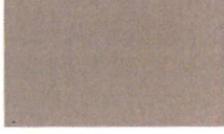
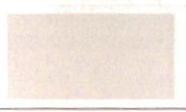
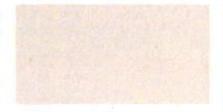
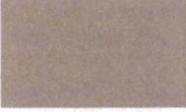
Site Address: Lot 2220 William Hart Cresnet Thornton

External Board: Chiffon

Date: 05.05.14



HOMES

	ROOF Monier – Traditional Barramundi		GARAGE DOOR Profile – Tuscan Wood grain Colour – Wallaby
	BRICKWORK Austral – Urban One – Chiffon Ironed – off white		TIMBER PERGOLA/PRIVACY SCREEN (if applicable) Colour – Wallaby
	APPLIED FINISH Taubmans Moroka Col 01 – Gemini Silver NH 46		FRONT DOOR Taubmans Colour- Gemini Silver NH 46
	CLADDING/MOROKA COL 2 (if applicable) Profile – Primeline Chamfer Col 02– June Fog NH51		DRIVEWAY Colour Concrete - Gunmetal (Onyx)
	WINDOW FRAMES Colour – Anodic Silver Grey		
	GUTTER, DOWNPIPES Colour – Wallaby		
	FASCIA Colour – Wallaby		



Waste Management Policy and Contractors Responsibilities

Waste Management Policy

Sydney Bobcat Profiler Pty Ltd has adopted a new policy to help manage on site waste and recycling more effectively and efficiently. It is in the best interest of Zac Homes that all contractors MUST comply in order to avoid additional site cleaning charges and upkeep site tidiness for Workplace Health and Safety obligations.

Compliance with the policy and responsibilities outlined here within will be closely monitored by SBP representatives and by Workcover Officers. Please carefully read and become familiar with the following conditions imposed by the new company policy:

- 1) All sites will comprise of two (2) designated waste areas as nominated by the Site Supervisor:
 - 1st area will be for **"Masonry Waste Only"**
(This includes bricks, tiles and concrete etc.)
NO OTHER WASTE IS TO BE PLACED HERE
 - 2nd area will be a waste compound for all other **"General Waste Only"**
- 2) All reusable pallets and waffle pods are to be stacked in a separate pile out the front for removal by the relevant supplier.
- 3) **ALL OTHER WASTE** is to be put in the general waste compound provided. This includes:
 - Packaging; PVC material; strapping; plastic wrap; steel; bracing; empty paint tins; metal fascia & gutter off cuts and food scraps.
- 4) If compound is full please notify your supervisor immediately so they can arrange for it to be emptied. We would appreciate contractors to report anyone not complying with our company policy.

Contractor Responsibilities

Every contractor is responsible for their own waste and under no circumstances should waste be spread across the site or backyard. All waste is to be brought to the **front** and placed in the waste compound (if applicable) or in a neat pile away from water meters. Back charges will apply for non-conformance by any contractor to these strict conditions.

Plasterers: All plasterboard off-cuts must be placed in one area for removal by relevant supplier. SBP is **not** responsible for any gypsum waste removal from site. Any waste left over and rejected by the relevant supplier pick up will incur additional charges.

Roofilers: Pallets are to be stacked at the **front** of the house in a separate pile to be taken away by the supplier. All broken roof tiles must be placed in area marked **"Brick, Tile and Concrete"** at the **front** of the house **away from water meters**.

Bricklayers: Brick separators must be placed in the general waste compound. Brick straps, cement bags and plastic wrap are also to be placed in the general waste compound. Broken bricks are to be placed in area marked **"Brick, Tile and Concrete"** at the front of the house **away from water meters**.

Carpenters: All timber off cuts must be placed in the general waste compound.

Painters: All **EMPTY** paint tins must be placed in the general waste compound.

Facia & Gutter Contractors: All metal fascia & gutter off-cuts must be placed in general waste compound.

Slab contractors: All leftover waffle pods must be removed by contractor or supplier. Any excess concrete or wash out is to be spread in driveway.

Electrical contractor: All leftover wiring material and conduit must be placed in general waste compound provided.

Plumbers and Drainers: All waste PVC products must be placed in general waste compound.

All plant and machine operators: Under no circumstances should plant operators place spoil in the waste compound or brick pile. Any waste contamination will incur a back charge.

Any contractor failing to fulfil their responsibly in order to maintain a clean and safe worksite will be back charged \$350.00 by Zac Homes.

BASIX[®]Certificate

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

Multi Dwelling

Certificate number: 569965M

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 29/06/2009 published by Planning & Infrastructure. This document is available at www.basix.nsw.gov.au

Director-General

Date of issue: Friday, 22 August 2014

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



Project summary	
Project name	ZAC023
Street address	- William Hart Crescent THORNTON 2750
Local Government Area	Penrith City Council
Plan type and plan number	deposited 1171491
Lot no.	2220
Section no.	-
No. of residential flat buildings	0
No. of units in residential flat buildings	0
No. of multi-dwelling houses	2
No. of single dwelling houses	0

Project score		
Water	✓ 44	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 40	Target 40

Certificate Prepared by

Name / Company Name: Thermal Performance

ABN (if applicable): 64 137 428 767

Description of project

Project address

Project name	ZAC023
Street address	- William Hart Crescent THORNTON 2750
Local Government Area	Penrith City Council
Plan type and plan number	deposited 1171491
Lot no.	2220
Section no.	-

Project type

No. of residential flat buildings	0
No. of units in residential flat buildings	0
No. of multi-dwelling houses	2
No. of single dwelling houses	0

Site details

Site area (m ²)	289
Roof area (m ²)	174
Non-residential floor area (m ²)	0
Residential car spaces	3
Non-residential car spaces	0

Common area landscape

Common area lawn (m ²)	0
Common area garden (m ²)	0
Area of indigenous or low water use species (m ²)	0

Assessor details

Assessor number	20731
Certificate number	1006774770
Climate zone	28

Project score

Water	✓ 44	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 40	Target 40

Description of project

The tables below describe the dwellings and common areas within the project

Multi-dwelling houses

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
1	4 or more bedrooms	171.9	11.5	94	0
Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2	1	43.4	0.0	20	0

Description of project

The tables below describe the dwellings and common areas within the project

Schedule of BASIX commitments

1. Commitments for multi-dwelling houses

(a) Dwellings

(i) Water

(ii) Energy

(iii) Thermal Comfort

2. Commitments for single dwelling houses

3. Commitments for common areas and central systems/facilities for the development (non-building specific)

(i) Water

(ii) Energy

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.

1. Commitments for multi-dwelling houses

(a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install: <ul style="list-style-type: none"> (aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and (bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling. 		✓	✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

Dwelling no.	Fixtures					Appliances		Individual pool				Individual spa		
	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	4 star	-	-	-	-	-	-	-	-	-	-

Dwelling no.	Alternative water source								
	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up	
1	individual water tank (no. 1)	Tank size (min) 3000 litres	To collect run-off from at least: 110 square metres of roof area; 0 square metres of impervious area; 0 square metres of garden and lawn area; and 0 square metres of planter box area.	yes	yes	yes	no	no	
All other dwellings	individual water tank (no. 1)	Tank size (min) 2000 litres	To collect run-off from at least: 40 square metres of roof area; 0 square metres of impervious area; 0 square metres of garden and lawn area; and 0 square metres of planter box area.	yes	yes	yes	no	no	

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓ ✓ ✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	
(j) The applicant must install the photovoltaic system specified for the dwelling under the "Photovoltaic system" heading of the "Alternative energy" column of the table below, and connect the system to that dwelling's electrical system.	✓	✓	✓

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	gas instantaneous 5 star	individual fan, ducted to façade or roof	interlocked to light	individual fan, not ducted	manual switch on/off	natural ventilation only, or no laundry	-

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
1	3-phase airconditioning EER 2.5 - 3.0 (zoned)	5	4	yes	no	no	no	1	no			
2	1-phase airconditioning EER 2.5 - 3.0	-	1-phase airconditioning EER 2.5 - 3.0	-	1	1	yes	no	no	no	0	no

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	no	-	-	-	no	yes

	Alternative energy
Dwelling no.	Photovoltaic system (min rated electrical output in peak kW)
All dwellings	-

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) 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 a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol 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.			
(e) 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.			
(f) 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.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
1	60.2	25.4
All other dwellings	92.2	59.4

Construction of floors and walls					
Dwelling no.	Concrete slab on ground(m ²)	Suspended floor with open subfloor (m ²)	Suspended floor with enclosed subfloor (m ²)	Suspended floor above garage (m ²)	Primarily rammed earth or mudbrick walls
1	90	-	-	-	No
All other dwellings	4	-	-	39	No

3. Commitments for common areas and central systems/facilities for the development (non-building specific)

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Notes

1. In these commitments, "applicant" means the person carrying out the development.
2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate.
3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes.
4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building).
5. If a star or other rating is specified in a commitment, this is a minimum rating.
6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply.

Legend

1. 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).
2. 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.
3. Commitments identified with a "✓" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).

NatHERS Certificate

New Dwelling

6.0 Stars

Simulation Software

Software Name BERS Pro 4.2
Software Version Release 110811/A
Engine Version CHENATH V2.13

Simulation Details

Project Name ZAC023_1
Date 22/08/2014
Location PENRITH PC 2750
Climate file climat28.TXT
Adjusted Star Rating 6.0 Stars
Conditioned Area 171.89 m²
Unconditioned Area 11.45 m²
Adjusted Cooling 25.4 MJ/m²
Adjusted Heating 60.2 MJ/m²
Adjusted Total 85.6 MJ/m²

Dwelling Address

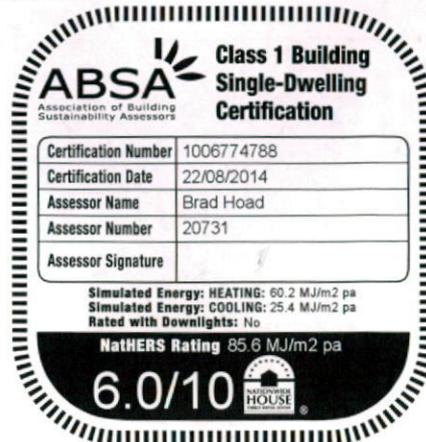
DP Number 1171491
Unit Number
Lot Number 2220
House Number
Street Name William Hart Crescent
Development Name
Suburb THORNTON NSW 2750

Client Details

Name Hayley - ZAC Homes
Phone (02) 4724-2500 Fax
Email hayley@zachomes.com.au
Postal Address 232 Coreen Avenue PENRITH NSW 2750
Street Details 232 Coreen Avenue PENRITH NSW 2750

Assessor Details

Name Brad Hoad
Phone 0458-221-211 Fax (02) 9629-3072
Email brad@thermalperformance.com.au
Postal Address 12 Livorno Grove GLENWOOD NSW 2768
Street Details 12 Livorno Grove GLENWOOD NSW 2768



Signed by the Assessor.....Date 22 / 08 / 2014

*Tilted roof windows with blinds cannot be modelled using this version of BERSPro.
All windows are modelled with Holland Blinds for regulatory purposes.*

Project ZAC023 Run 1
 ENRITH PC 2750 Lat -33.80 Long 150.70 Climate File climat28.TXT

Summary
 Unconditioned Area 171.9 m²
 Conditioned Area 11.4 m²
 Total Floor Area 183.3 m²
 Total Glazed Area 29.5 m²
 Total External Solid door Area 1.7 m²
 Glass to Floor Area 16.1 %
 Gross External Wall Area 207.2 m²
 Net External Wall Area 176.0 m²

PLEASE NOTE

This simulation has been carried out with surface mounted lighting & unsealed exhaust fans. Should recessed down lights without fireproof, sealed down light guards be included at a later stage or clearances for exhaust fans or a/c vents exceed 0.5% of the ceiling area then a revised simulation & Basix Certificate will be required as compliance with the NCC and Development Approval will not be achieved. Check compliance with the PCA

Window
 7.8 m² GGG-05-001a Generics Uval 6.57 SHGC 0.74
 Glass Single Glazed Clear
 Frame Aluminium
 1.7 m² GGG-05-002a Generics Uval 5.55 SHGC 0.73
 Glass Single Glazed Clear
 Frame Timber

External Wall
 76.0 m² Brick Veneer Bulk Insulation R 2.0

Internal Wall
 49.6 m² Cavity Panel 70mm gap No Insulation

External Floor
 7.8 m² Concrete Slab on Ground Ceramic Tiles 8mm Bulk Insulation in Contact with Floor R 0.5
 0.5 m² Concrete Slab on Ground Carpet 10mm Bulk Insulation in Contact with Floor R 0.5
 1.6 m² Suspended Timber Floor Carpet 10mm No Insulation
 1.9 m² Suspended Timber Floor Ceramic Tiles 8mm No Insulation

External Ceiling
 7.8 m² Plasterboard Bulk Insulation R3.0 Unventilated roofspace

Internal Floor/Ceiling
 8.3 m² Timber Above Plasterboard No Insulation

Roof (Horizontal area)
 7.8 m² Roof Tiles Foil, Gap Above, Reflective Side Down, Anti-glare Up 25° slope Hip roof



Project Certification Number	1006774770
Certification Date	22/08/2014
Assessor Name	Brad Hoad
Assessor Number	20731
Assessor Company	Thermal Performance
Assessor Signature	

Client Details	Zac Homes
Project Address	Lot 2220 William Hart Crescent THORNTON NSW 2750

Software	BERS Professional v4.2.110811/A(BERS Professional)	Climate Zone	28
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Class 1 Dwelling Thermal Performance Specifications

Dwelling Number	Certificate Number	Floor Area		Simulated Loads (area adjusted MJ/m ² /y)		NatHERS	Rated with Downlights
		Conditioned	Unconditioned	Heating	Cooling	Star Rating	
1	1006774788	171.9	11.5	60.2	25.4	6.0/10	No
2	1006774796	43.4	37.9	92.2	59.4	3.5/10	No



NatHERS Rated 6.0/10 STARS*

*www.nathers.gov.au



BUILDING ENERGY EFFICIENCY CERTIFICATE

Zac Homes

ISSUED TO

Unit 1 William Hart Crescent

ADDRESS

Site Lot 2220

THORNTON

NSW

2750

1006774788

CERTIFICATION NUMBER

22/08/2014

DATE

28

CLIMATE ZONE

BERS Professional - v4.2.110811/A (BERS Professional)

SOFTWARE

60.2 MJ/m² pa

SIMULATED ENERGY CONSUMPTION - HEATING

25.4 MJ/m² pa

SIMULATED ENERGY CONSUMPTION - COOLING

85.6 MJ/m² pa

TOTAL SIMULATED ENERGY CONSUMPTION

171.9 m²

FLOOR AREA - CONDITIONED

11.5 m²

FLOOR AREA - UNCONDITIONED

183.4 m²

FLOOR AREA - TOTAL

Brad Hoad

ASSESSOR NAME

20731

ASSESSOR NUMBER

Thermal Performance

COMPANY

ASSESSOR SIGNATURE

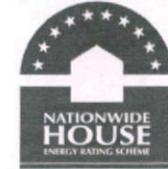
Issued by a BUILDING THERMAL PERFORMANCE ASSESSOR accredited by the Association of Building Sustainability Assessors to provide NatHERS house energy ratings.

This house energy rating has been based on information provided at the time of rating. Modifications made to the design or onsite substitution of materials may effect the rating.



NatHERS Rated
3.5/10 STARS*

*www.nathers.gov.au



BUILDING ENERGY EFFICIENCY CERTIFICATE

1006774796
 CERTIFICATION NUMBER
 22/08/2014
 DATE
 28
 CLIMATE ZONE
 BERS Professional - v4.2.110811/A (BERS Professional)
 SOFTWARE
 92.2 MJ/m² pa
 SIMULATED ENERGY CONSUMPTION - HEATING
 59.4 MJ/m² pa
 SIMULATED ENERGY CONSUMPTION - COOLING
 151.6 MJ/m² pa
 TOTAL SIMULATED ENERGY CONSUMPTION
 43.4 m²
 FLOOR AREA - CONDITIONED
 37.9 m²
 FLOOR AREA - UNCONDITIONED
 81.3 m²
 FLOOR AREA - TOTAL

Zac Homes
 ISSUED TO
 Unit 2 William Hart Crescent
 ADDRESS
 Site Lot 2220
 THORNTON
 NSW
 2750

Brad Hoad
 ASSESSOR NAME
 20731
 ASSESSOR NUMBER
 Thermal Performance
 COMPANY

ASSESSOR SIGNATURE

 Issued by a REGISTERED THERMAL PERFORMANCE ASSESSOR
 accredited by the Association of Building Sustainability Assessors to
 provide NatHERS building energy ratings.