

Appendix T

BASIX Assessment

Assessor Certificate

Multiple Dwellings

Certificate Version 6.1. Prior versions not valid after 1 March 2006

Issued in accordance with
BASIX Thermal Comfort Simulation Method.



Assessor			
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Declaration of interest:	None		
Client			
Name:	C/- Terry Roche	Company:	Rustring Pty Ltd No. 2
Address:	153 Morgan Street, Merewether NSW 2291		
Phone:	0418 495 741	Fax:	
Email:			
Project			
Address:	216-222 Main Road, Toukley		
Applicant:	Rustring Pty Ltd No. 2	LGA:	Wyong City Council
Assessment			
Date:	7/04/2009	File ref:	621-656WCCTR
Software:	BERS Pro		Version: 4.1
Documentation			

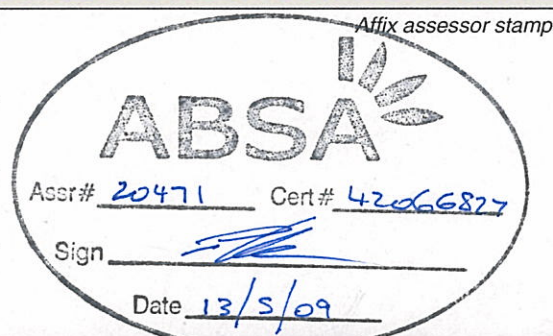
All details, upon which this assessment has been based, are included in the project documentation that has been stamped and signed by the Assessor issuing this certificate, as identified below:

Thermal Performance Spec:

Attached, Affixed to drawings Page#: 1

Drawings: (Title, Ref.#, Revision, Issue date, etc)
0809

Building Specifications: (Title, Ref.#, Revision, Issue date, etc)
P1



ABSA Assessor Certificate		Assessor # 20471		Certificate # 42066827		Issued: 7/04/2009	
Thermal performance specifications						Page 1 of 3	
Unit number(s)	Certificate number	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Concessions	Qualify for ventilation bonus
		Cond.	Uncond.	Heat	Cool (Sens & Lat)		
G-01	42066827	89	0	12	6	None	No
G-02	71920264	89	0	11	7	None	No
G-03	42066827	89	0	12	6	None	No
G-04	59188856	98	0	18	8	None	No
1-01	91202988	98	0	14	13	None	No
1-02	73313818	89	0	8	13	None	No
1-03	80122135	89	0	12	12	None	No
1-04	73313818	89	0	8	13	None	No
1-05	80122135	89	0	12	12	None	No
1-06	73226148	98	0	12	14	None	No
1-07	45928329	89	0	8	11	None	No
1-08	67660648	92	0	3	10	None	No
1-09	81966775	117	0	35	17	None	No
2-01	87402256	66	0	11	12	None	No

Assessor # 20471

Certificate # 42066827

Issued: 7/04/2009

Thermal Performance Specifications

These are the Specifications upon which the Certified Assessment is based. If details included in these Specifications vary from other drawings or written specifications, these Specifications shall take precedence. If only one specification option is detailed for a building element, that specification must apply to all instances of that element for the project. If alternate specifications are detailed for a building element, the location and extent of alternate specifications must be detailed below and / or clearly indicated on referenced documents

Windows	Product ID	Glass	Frame	U value	SHGC	Area M ²	Detail
		Single Clear	Aluminium				

Skylights	Product ID	Glass	Frame	U value	SHGC	Area M ²	Detail
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Window and skylight U and SHGC values, if specified, are according to ANAC 2005. Alternate products or specifications may be used if their U value is lower, and the SHGC value is less than 10% higher or lower, than the U and SHGC values of the product specified above.

External walls	Construction	Insulation	Colour – solar abs.	Detail
Concrete 140mm + Brick Outer		None	Medium	As Per Plans

Internal walls	Construction	Insulation	Detail
Plasterboard on studs		None	

Floors	Construction	Insulation	Covering	Detail
Concrete Slab		None	Carpet	As Per Plans
			Ceramic Tile	As Per Plans

Ceilings	Construction	Insulation	Detail
Concrete		None	
Plasterboard		R2.5	Top Floor

Roof	Construction	Insulation	Colour – solar abs.	Detail
Metal Colorbond		Foil	Medium	Top Floor

Window cover	Internal (curtains)	External (awnings, shutters, etc)
None		None

Fixed shading	Eaves (width - inc. gutters, h't above windows)	Verandahs, Pergolas (type, description)
0	0	As per plans

Overshadowing	Overshadowing structures	Overshadowing trees
As Per Plans		None

Orientation, Exposure, Ventilation and Infiltration

Orientation of nominal north:	40
Terrain category:	Suburban
Roof ventilation:	Standard
Cross ventilation:	Standard
Subfloor:	On Ground
Living area open to entry:	Yes
Doors separate living areas:	No
Stair open to heated areas:	No
Seals to windows and doors:	Yes
Exhaust fans without dampers:	No
Ventilated skylights:	No
Open fire, unflued gas heat:	No
Vented downlights:	No
Wall and ceiling vents:	No

ABSA Assessor stamp



Thermal performance specifications
Page 3 of 3

Unit number(s)	Certificate number	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Concessions	Qualify for ventilation bonus
		Cond.	Uncond.	Heat	Cool (Sens & Lat)		
2-02	75539056	92	0	12	16	None	No
2-03	74825819	92	0	40	12	None	No
2-04	80381178	88	0	44	14	None	No
2-05	28781569	66	0	36	11	None	No
2-06	48839612	92	0	15	16	None	No
2-07	91202988	98	0	14	13	None	No
2-08	73313818	89	0	8	13	None	No
2-09	80122135	89	0	12	12	None	No
2-10	73313818	89	0	8	13	None	No
2-11	80122135	89	0	12	12	None	No
2-12	73226148	98	0	12	14	None	No
2-13	45928329	89	0	8	11	None	No
2-14	67660648	92	0	3	10	None	No
2-15	81966775	117	0	35	17	None	No
3-01	87402256	66	0	11	12	None	No
3-02	75539056	92	0	12	16	None	No
3-03	74825819	92	0	40	12	None	No
3-04	33736827	92	0	27	11	None	No
3-05	89695501	108	0	41	10	None	No
3-06	48839612	92	0	15	16	None	No
3-07	28338743	92	0	12	12	None	No
3-08	91202988	98	0	14	13	None	No
3-09	73313818	89	0	8	13	None	No
3-10	80122135	89	0	12	12	None	No
3-11	40428068	89	0	18	20	None	No
3-12	96695593	89	0	25	20	None	No
3-13	64743928	98	0	24	24	None	No
3-14	73171331	117	0	38	33	None	No
3-15	54308963	117	0	63	24	None	No
4-01	58442388	66	0	21	14	None	No
4-02	76974544	92	0	23	22	None	No
4-03	96353863	92	0	51	18	None	No
4-04	34445568	92	0	39	18	None	No
4-05	69675553	108	0	53	19	None	No
4-06	58153872	92	0	27	26	None	No
4-07	43238659	92	0	23	22	None	No
4-08	72465214	98	0	27	20	None	No
4-09	10756284	89	0	20	21	None	No
4-10	24064755	117	0	29	25	None	No

BASIX Certificate

Certificate number: 241280M

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 05/11/2008 published by the Department of Planning. This document is available at www.basix.nsw.gov.au

Director-General

Date of issue: Monday, 11 May 2009



NSW GOVERNMENT
Department of Planning

Score

- ✓ Water: 41 (Target 40)
- ✓ Thermal comfort: pass (Target pass)
- ✓ Energy: 30 (Target 30)

Description of project

Project address	
Project name	Toukley Seniors Living Main Road, Toukley
Street address	222 Main Road Toukley 2263
Local Government Area	Wyong Shire Council
Plan type and plan number	deposited 213097
Lot no.	2
Section no.	-
Project type	
No. of unit buildings	1
No. of units in unit buildings	53
No. of attached dwelling houses	0
No. of separate dwelling houses	0
Site details	
Site area (m ²)	5287
Roof area (m ²)	2355
Non-residential floor area (m ²)	230
Residential car spaces	73
Non-residential car spaces	0
Common area landscape	
Common area lawn (m ²)	2000
Common area garden (m ²)	0
Area of indigenous or low water use species (m ²)	0
Assessor details	
Assessor number	20471
Certificate number	42066827
Climate zone	15

Description of project

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

Common areas of unit building - Building1

Common area	Floor area (m ²)
Gym (No. 1)	70
Car park area (West) Level 1	1395
Garbage compactor (Ground)	31
Garbage room (Level 2) East	10
Garbage room (Level 3) West	10
Plant or service room (Level 1)	20
Hallway/lobby type (Level 4)	60
Hallway/lobby type (Level 2)	170

Common area	Floor area (m ²)
Car park area (East)	317
Lift car (No. 1)	-
Garbage room (Level 1) East	10
Garbage room (Level 2) West	10
Garbage room (Level 4) West	10
Plant or service room (Level 2)	20
Ground floor lobby type	160
Hallway/lobby type (Level 3)	195

Common area	Floor area (m ²)
Car park area (West) Ground	1395
Lift car (No. 2)	-
Garbage compactor (Level 1) West	35
Garbage room (Level 2) East	10
Community room (No. 1)	113
Plant or service room (Level 3)	20
Hallway/lobby type (Level 1)	160

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 unit building - Building1

(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 "Hot water recirculation" column of the table below.		✓	✓
(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	Hot water recirculation	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	3 star	3 star	3 star	no	not rated	3 star	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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".		✓	

	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	manual switch on/off	individual fan, not ducted	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

	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
205	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1	1	yes	yes	yes	yes	0	yes
201, 301, 401	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1	1	yes	yes	yes	yes	0	no
202, 303, 305, 405, 410	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	2	1	yes	yes	yes	yes	0	yes

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	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
409, G01, G02, G03, G04												

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	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	-	-	-	-	electric cooktop & electric oven	-	yes	3.5 star	-	2.5 star	yes	no

(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.			

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
406	27	26
408	27	20
409	20	21
410	29	25
G02	11	7
G04	18	8
106, 212	12	14
107, 213	8	11
108, 214	3	10
109, 215	35	17
201, 301	11	12
202, 302	12	16
203, 303	40	12
206, 306	15	16
402, 407	23	22
G01, G03	12	6
101, 207, 308	14	13
102, 104, 208, 210, 309	8	13
All other dwellings	12	12

(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.	✓	✓	✓

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Gym (No. 1)	no mechanical ventilation	-	fluorescent	time clocks	No
Car park area (East)	ventilation exhaust only	carbon monoxide monitor + VSD fan	fluorescent	time clock and motion sensors	Yes
Car park area (West) Ground	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	fluorescent	time clock and motion sensors	Yes
Car park area (West) Level 1	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	fluorescent	time clock and motion sensors	Yes
Lift car (No. 1)	-	-	fluorescent	connected to lift call button	No
Lift car (No. 2)	-	-	fluorescent	connected to lift call button	No
Garbage compactor (Ground)	ventilation exhaust only	-	fluorescent	motion sensors	No
Garbage room (Level 1) East	ventilation exhaust only	-	compact fluorescent	motion sensors	No
Garbage compactor (Level 1) West	ventilation exhaust only	-	fluorescent	motion sensors	No
Garbage room (Level 2) East	ventilation exhaust only	-	compact fluorescent	manual on / manual off	No
Garbage room (Level 2) West	ventilation exhaust only	-	compact fluorescent	manual on / manual off	No