

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563037S

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, 15 August 2014

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



Planning &
Infrastructure

Project summary

Project name	Dudley Road_Lot 5_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	deposited 436503
Lot no.	2
Section no.	-
Project type	attached dwelling house
No. of bedrooms	3

Project score

Water	✓ 44	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 5_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Deposited Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	3

Site details

Site area (m ²)	287
Roof area (m ²)	132
Conditioned floor area (m2)	129
Unconditioned floor area (m2)	3
Total area of garden and lawn (m2)	123

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 44	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 31 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but ≤ 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
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 129 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:			
• all toilets in the development		✓	✓
• 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.)		✓	✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
floor - suspended floor above garage, framed	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓

Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W1	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
W2	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
D1	NW	4.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W3	NW	1.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W4	SE	5.20	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
D2	SE	1.65	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 1,500-2,000 mm	not overshadowed


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
D3	SE	6.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed
W5	SE	5.70	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	awning (fixed) 600-1,200 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 6 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 3 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> • all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> • the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> • all hallways; dedicated 		✓	✓
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.		✓	

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.

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563062S

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, 15 August 2014

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



Project summary

Project name	Dudley Road_Lot 6_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	deposited 436503
Lot no.	2
Section no.	-
Project type	attached dwelling house
No. of bedrooms	4

Project score

Water	✓ 48	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 55	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 6_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Deposited Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	4

Site details

Site area (m ²)	235
Roof area (m ²)	132
Conditioned floor area (m2)	125
Unconditioned floor area (m2)	8
Total area of garden and lawn (m2)	67

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 48	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 55	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 13.5 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but ≤ 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
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 132 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:			
• all toilets in the development		✓	✓
• 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.)		✓	✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
floor - suspended floor above garage, framed	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓
<ul style="list-style-type: none"> Pergolas with adjustable shading may have adjustable blades or removable shade cloth (not less than 80% shading ratio). Adjustable blades must overlap in plan view. 		✓	✓

Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W1	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
W2	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
D1	NW	4.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W3	NW	1.10	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	pergola (adjustable shade) >2,000 mm	not overshadowed
W4	NE	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W5	SE	5.20	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
D2	SE	3.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 1,500-2,000 mm	not overshadowed
D3	SE	5.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed
D4	SE	4.30	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 6 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 4 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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.		✓	

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).

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BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563074S




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Director-General

Date of issue: Friday, 15 August 2014

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



Project summary		
Project name	Dudley Road_Lot 7_14_026	
Street address	142-146 Dudley Road Whitebridge 2290	
Local Government Area	Lake Macquarie City Council	
Plan type and plan number	deposited 436503	
Lot no.	2	
Section no.	-	
Project type	attached dwelling house	
No. of bedrooms	4	
Project score		
Water	 49	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 60	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 7_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Deposited Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	4

Site details

Site area (m ²)	235
Roof area (m ²)	132
Conditioned floor area (m2)	125
Unconditioned floor area (m2)	8
Total area of garden and lawn (m2)	67

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 60	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 13.5 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but <= 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
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 132 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:			
• all toilets in the development		✓	✓
• 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.)		✓	✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
floor - suspended floor above garage, framed	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓
<ul style="list-style-type: none"> Pergolas with adjustable shading may have adjustable blades or removable shade cloth (not less than 80% shading ratio). Adjustable blades must overlap in plan view. 		✓	✓

Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W1	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
W2	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
D1	NW	4.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W3	NW	1.10	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	pergola (adjustable shade) >2,000 mm	not overshadowed
W4	SW	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W5	SE	4.70	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
D2	SE	9.10	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed
D3	SE	1.70	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 1,500-2,000 mm	not overshadowed
W6	SE	5.00	improved aluminium, single pyrolytic low-e (U-value:4.48, SHGC:0.46)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: solar (gas boosted) with a performance of 36 to 40 RECs or better.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 4 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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.		✓	

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.

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563076S




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, 15 August 2014

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



Project summary		
Project name	Dudley Road_Lot 8_14_026	
Street address	142-146 Dudley Road Whitebridge 2290	
Local Government Area	Lake Macquarie City Council	
Plan type and plan number	deposited 436503	
Lot no.	2	
Section no.	-	
Project type	attached dwelling house	
No. of bedrooms	3	
Project score		
Water	 49	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 50	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 8_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Deposited Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	3

Site details

Site area (m ²)	208
Roof area (m ²)	131
Conditioned floor area (m2)	122
Unconditioned floor area (m2)	10
Total area of garden and lawn (m2)	42

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 12 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but ≤ 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
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 131 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:			
• all toilets in the development		✓	✓
• 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.)		✓	✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
floor - suspended floor above garage, framed	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓

Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W1	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
W2	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
D1	NW	4.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W3	NW	1.10	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W4	SE	4.30	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
D2	SE	1.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 1,500-2,000 mm	not overshadowed


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
D3	SE	4.30	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed
D4	SE	5.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 6 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 3 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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.		✓	

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.

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563085S

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, 15 August 2014

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



Planning &
Infrastructure

Project summary

Project name	Dudley Road_Lot 9_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	deposited 436503
Lot no.	2
Section no.	-
Project type	attached dwelling house
No. of bedrooms	4

Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 55	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 9_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Deposited Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	4

Site details

Site area (m ²)	235
Roof area (m ²)	132
Conditioned floor area (m2)	125
Unconditioned floor area (m2)	8
Total area of garden and lawn (m2)	57

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 55	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 13.6 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but ≤ 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
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 132 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:			
• all toilets in the development		✓	✓
• 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.)		✓	✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
floor - suspended floor above garage, framed	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓

Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W1	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
W2	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
D1	NW	4.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W3	NW	1.10	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W4	NE	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W5	SE	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
D2	SE	1.70	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 1,500-2,000 mm	not overshadowed
D3	SE	5.30	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed
W6	SE	6.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 6 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 3 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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.		✓	

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.

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563088S

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, 15 August 2014

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



Planning &
Infrastructure

Project summary

Project name	Dudley Road_Lot 10_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	deposited 436503
Lot no.	2
Section no.	-
Project type	attached dwelling house
No. of bedrooms	4

Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 55	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 10_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Deposited Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	4

Site details

Site area (m ²)	235
Roof area (m ²)	132
Conditioned floor area (m2)	127
Unconditioned floor area (m2)	5
Total area of garden and lawn (m2)	57

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 55	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 13.6 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but ≤ 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
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 132 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:			
• all toilets in the development		✓	✓
• 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.)		✓	✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
floor - suspended floor above garage, framed	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓

Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W1	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
W2	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
D2	NW	4.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W3	NW	1.10	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W4	NE	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
D2	SE	5.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
D3	SE	5.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed
D4	SE	1.70	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 1,500-2,000 mm	not overshadowed
W5	SE	5.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 6 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 4 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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.		✓	

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.

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563090S

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, 15 August 2014

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



Project summary

Project name	Dudley Road_Lot 11_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	deposited 436503
Lot no.	2
Section no.	-
Project type	attached dwelling house
No. of bedrooms	4

Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 55	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 11_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Deposited Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	4

Site details

Site area (m ²)	235
Roof area (m ²)	133
Conditioned floor area (m2)	128
Unconditioned floor area (m2)	5
Total area of garden and lawn (m2)	57

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 55	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 13.6 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but ≤ 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
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 133 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:			
• all toilets in the development		✓	✓
• 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.)		✓	✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
floor - suspended floor above garage, framed	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓

Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W1	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
W2	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
D1	NW	4.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W3	NW	1.10	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W4	NE	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
D2	SE	5.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
D3	SE	5.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed
D4	SE	1.70	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 1,500-2,000 mm	not overshadowed
W5	SE	5.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 6 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 4 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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.		✓	

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.

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563093S

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, 15 August 2014

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



Planning &
Infrastructure

Project summary

Project name	Dudley Road_Lot 12_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	deposited 436503
Lot no.	2
Section no.	-
Project type	attached dwelling house
No. of bedrooms	3

Project score

Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 49	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 12_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Deposited Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	3

Site details

Site area (m ²)	235
Roof area (m ²)	133
Conditioned floor area (m2)	126
Unconditioned floor area (m2)	7
Total area of garden and lawn (m2)	57

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
------	-----

Project score

Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 49	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 13.6 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but ≤ 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
The applicant must install a rainwater tank of at least 2000 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 133 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"> 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.) 		✓	✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
floor - suspended floor above garage, framed	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓

Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W1	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
W2	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
D2	NW	4.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W3	NW	1.10	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W4	SW	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W5	SE	5.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
D2	SE	5.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed
D3	SE	1.70	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 1,500-2,000 mm	not overshadowed
W6	SE	5.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 5.5 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 3 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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.		✓	

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.

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563096S

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, 15 August 2014

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



Project summary

Project name	Dudley Road_Lot 13_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	strata 436503
Lot no.	2
Section no.	-
Project type	attached dwelling house
No. of bedrooms	4

Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 55	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 13_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Strata Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	4

Site details

Site area (m ²)	235
Roof area (m ²)	133
Conditioned floor area (m2)	124
Unconditioned floor area (m2)	9
Total area of garden and lawn (m2)	57

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 55	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 13.6 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but <= 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
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 133 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:			
• all toilets in the development		✓	✓
• 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.)		✓	✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
floor - suspended floor above garage, framed	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓

Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W1	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
W2	NW	4.60	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed
D1	NW	4.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W3	NW	1.10	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
D2	SE	5.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed
D3	SE	5.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
D4	SE	1.70	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 1,500-2,000 mm	not overshadowed
W4	SE	5.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 601-750 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 6 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 4 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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.		✓	

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.

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563100S




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, 15 August 2014

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



Project summary		
Project name	Dudley Road_Lot 14_14_026	
Street address	142-146 Dudley Road Whitebridge 2290	
Local Government Area	Lake Macquarie City Council	
Plan type and plan number	deposited 436503	
Lot no.	2	
Section no.	-	
Project type	attached dwelling house	
No. of bedrooms	3	
Project score		
Water	 49	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 50	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 14_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Deposited Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	3

Site details

Site area (m ²)	257
Roof area (m ²)	134
Conditioned floor area (m2)	129
Unconditioned floor area (m2)	5
Total area of garden and lawn (m2)	47

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 9.5 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but <= 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
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 134 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:			
• all toilets in the development		✓	✓
• 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.)		✓	✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
D1	NW	7.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed
W1	SW	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W2	SW	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W3	SE	4.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W4	SE	1.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
D2	SE	9.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 6 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 3 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> • all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> • the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> • all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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.		✓	

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.

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563102S

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, 15 August 2014

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



Planning &
Infrastructure

Project summary

Project name	Dudley Road_Lot 15_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	deposited 436503
Lot no.	2
Section no.	-
Project type	attached dwelling house
No. of bedrooms	3

Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 15_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Deposited Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	3

Site details

Site area (m ²)	257
Roof area (m ²)	134
Conditioned floor area (m2)	134
Unconditioned floor area (m2)	0
Total area of garden and lawn (m2)	47

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 9.5 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but ≤ 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
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 134 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:			
• all toilets in the development		✓	✓
• 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.)		✓	✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
D1	NW	7.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed
W1	NE	0.90	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W2	NE	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W3	SE	4.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W4	SE	1.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
D2	SE	9.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 6 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 3 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> • all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> • the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> • all hallways; dedicated 		✓	✓
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.		✓	

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.

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563105S

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, 15 August 2014

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



Planning &
Infrastructure

Project summary

Project name	Dudley Road_Lot 16_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	deposited 436503
Lot no.	2
Section no.	-
Project type	attached dwelling house
No. of bedrooms	3

Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 16_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Deposited Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	3

Site details

Site area (m ²)	257
Roof area (m ²)	134
Conditioned floor area (m2)	134
Unconditioned floor area (m2)	0
Total area of garden and lawn (m2)	47

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 9.5 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but ≤ 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
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 134 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"> all toilets in the development 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.) 		✓ ✓	✓ ✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
D1	NW	7.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed
W1	SW	0.90	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W2	SW	0.90	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W3	SE	4.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W4	SE	1.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
D2	SE	9.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 6 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 3 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> • all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> • the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> • all hallways; dedicated 		✓	✓
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.		✓	

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.

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563107S

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, 15 August 2014

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



Project summary

Project name	Dudley Road_Lot 17_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	deposited 436503
Lot no.	2
Section no.	-
Project type	attached dwelling house
No. of bedrooms	3

Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 17_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Deposited Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	3

Site details

Site area (m ²)	257
Roof area (m ²)	134
Conditioned floor area (m2)	129
Unconditioned floor area (m2)	5
Total area of garden and lawn (m2)	47

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 49	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 9.5 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but ≤ 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
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 134 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:			
• all toilets in the development		✓	✓
• 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.)		✓	✓

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
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.	✓	✓	✓

Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note	Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.
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Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
D1	NW	7.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 901-1,200 mm	not overshadowed
W1	NE	0.90	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W2	NE	0.90	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W3	SE	4.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W4	SE	1.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
D2	SE	9.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 6 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 3 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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.		✓	

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.

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563110S

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, 15 August 2014

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



Planning &
Infrastructure

Project summary

Project name	Dudley Road_Lot 18_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	strata 436503
Lot no.	2
Section no.	-
Project type	attached dwelling house
No. of bedrooms	3

Project score

Water	✓ 48	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 18_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Strata Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	3

Site details

Site area (m ²)	258
Roof area (m ²)	132
Conditioned floor area (m2)	123
Unconditioned floor area (m2)	9
Total area of garden and lawn (m2)	50

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 48	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 9.5 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but ≤ 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
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 131.5 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:			
• all toilets in the development		✓	✓
• 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.)		✓	✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
floor - suspended floor above garage, framed	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓

Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
D1	NW	7.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W1	NW	2.70	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W2	SW	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
D2	SW	1.70	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W3	SW	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W4	SW	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W5	SE	3.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W6	SE	9.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 1,201-1,500 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 6 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 3 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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.		✓	

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.

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563111S

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, 15 August 2014

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



Planning &
Infrastructure

Project summary

Project name	Dudley Road_Lot 19_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	deposited 436503
Lot no.	2
Section no.	-
Project type	attached dwelling house
No. of bedrooms	3

Project score

Water	✓ 48	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 19_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Deposited Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	3

Site details

Site area (m ²)	260
Roof area (m ²)	132
Conditioned floor area (m2)	123
Unconditioned floor area (m2)	9
Total area of garden and lawn (m2)	50

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 48	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 9.5 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but ≤ 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
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 131.5 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"> all toilets in the development 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.) 		✓ ✓	✓ ✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
floor - suspended floor above garage, framed	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓
<ul style="list-style-type: none"> 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. 	✓	✓	✓

Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
D1	NW	7.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W1	NW	2.70	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W2	NE	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	2-4m high, 2-5 m away
D2	NE	1.70	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	2-4m high, 2-5 m away
W3	NE	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	2-4m high, 2-5 m away


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W4	NE	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	2-4m high, 2-5 m away
W5	SE	3.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W6	SE	9.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 1,201-1,500 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 6 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 3 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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.		✓	

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.

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 563117S

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, 15 August 2014

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



Planning &
Infrastructure

Project summary

Project name	Dudley Road_Lot 20_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	deposited 436503
Lot no.	2
Section no.	-
Project type	attached dwelling house
No. of bedrooms	3

Project score

Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

Certificate Prepared by

Name / Company Name: Smith & Tzannes

ABN (if applicable): 96142020693

Description of project

Project address

Project name	Dudley Road_Lot 20_14_026
Street address	142-146 Dudley Road Whitebridge 2290
Local Government Area	Lake Macquarie City Council
Plan type and plan number	Deposited Plan 436503
Lot no.	2
Section no.	-

Project type

Project type	attached dwelling house
No. of bedrooms	3

Site details

Site area (m ²)	264
Roof area (m ²)	132
Conditioned floor area (m2)	123
Unconditioned floor area (m2)	9
Total area of garden and lawn (m2)	60

Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m ² .year)	n/a
Area adjusted heating load (MJ/m ² .year)	n/a

Other

none	n/a
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Project score

Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 40

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 9.5 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but <= 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
The applicant must install a rainwater tank of at least 2500 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 131.5 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"> 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.) 		✓	✓

Thermal Comfort Commitments

Show on
DA plans

Show on CC/CDC
plans & specs

Certifier
check

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.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
floor - suspended floor above garage, framed	nil	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
external wall - brick veneer	1.36 (or 1.90 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 0.45 (up), roof: foil backed blanket (100mm)	unventilated; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed 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 window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are 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"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. 			✓
<ul style="list-style-type: none"> The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. 	✓	✓	✓
<ul style="list-style-type: none"> Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. 		✓	✓
<ul style="list-style-type: none"> Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. 		✓	✓
<ul style="list-style-type: none"> 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. 	✓	✓	✓

Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
D1	NW	7.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
W1	NW	2.70	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W2	SW	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	2-4m high, 2 m away
D2	SW	1.70	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	2-4m high, 2 m away
W3	SW	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	2-4m high, 2 m away


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W4	SW	0.75	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	2-4m high, 2 m away
W5	SE	3.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W6	SE	9.40	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 1,201-1,500 mm	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 5.5 stars.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: ceiling fans; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
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.		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development: At least 1 Bathroom: no mechanical ventilation (ie. natural); Operation control: n/a		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: interlocked to light		✓	✓
Artificial lighting			
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"> at least 3 of the bedrooms / study; dedicated at least 1 of the living / dining rooms; dedicated the kitchen; dedicated 		✓ ✓ ✓	✓ ✓ ✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 1 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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.		✓	

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.