Lend Lease

2504

JORDANSPRINGS

19th July 2013

Attention: Marcus Charleston
Tribeca Homes
PO Box 898
SPRINGWOOD, QLD 4127

Dear Marcus,

The design plans for your new home you are building at Lot 2221 Greenwood Parkway, Jordan Springs are now stamped and ready for submission to Penrith City Council or your Private Certifier.

Sydney Water is currently implementing 'low infiltration' systems and we recommend that you consult with Sydney Water to confirm whether this system will impact your design in any way. Should this system alter the design in any way please ensure these plans are submitted to Lend Lease for re-approval.

Please note: Jordan Springs is a Fibre Connected Community and arrangements for connections and related costs will be required. Please visit http://www.opticomm.net.au for further information.

We look forward to the opportunity of welcoming your residents to the Jordan Spring community and to working with you when you choose to design again at Jordan Springs.

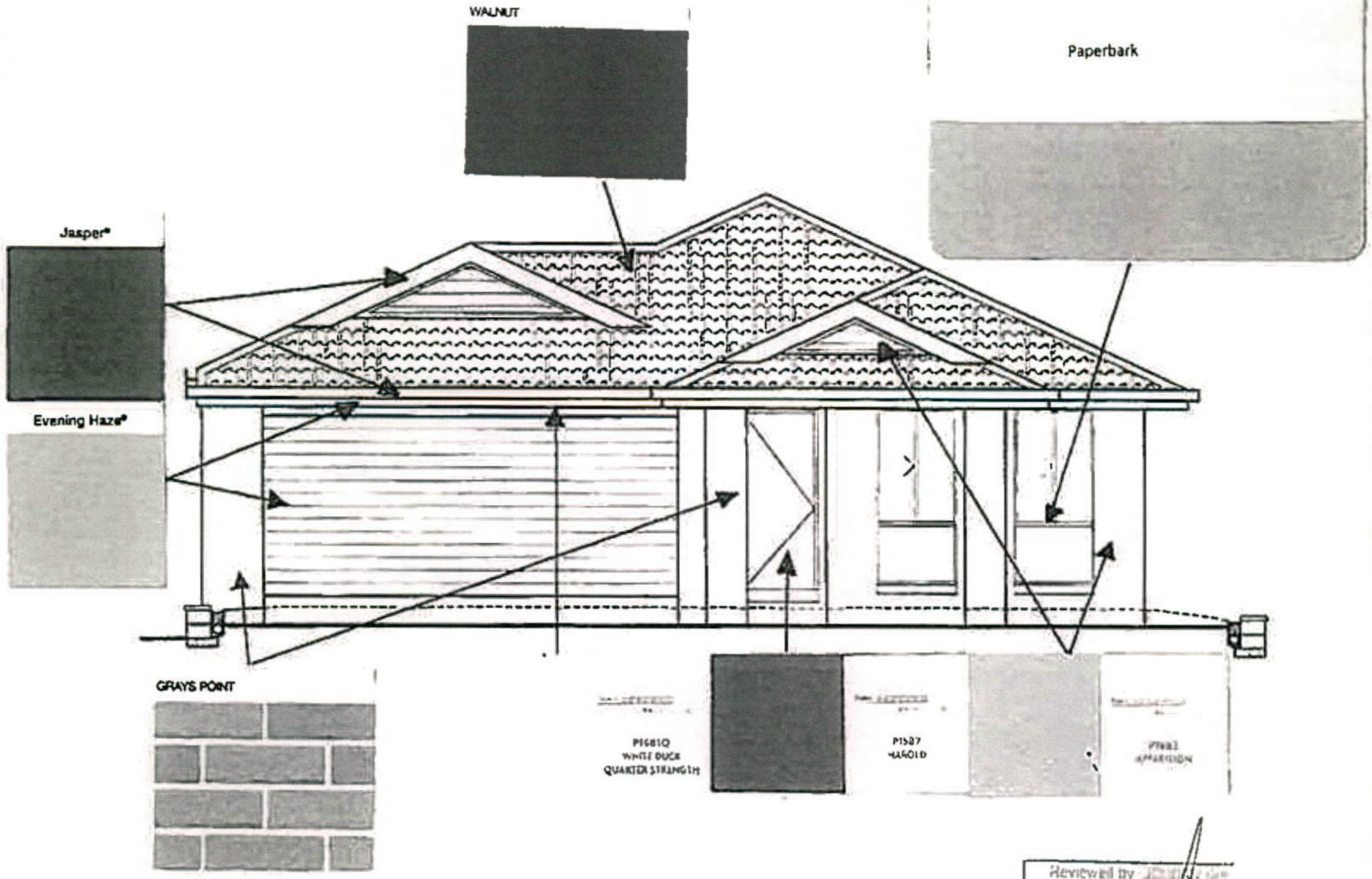
However, in the meantime, remember we are here to help with any questions or concerns you may have, so please don't hesitate to contact us.

Yours sincerely,

Rebecca Minney
Design Coordinator,
Jordan Springs

Maryland Development Company Pty Ltd
ABN 45 069 368 896
www.jordansprings.com.au
Telephone 1800 086 6556

Lakeside Parade
Jordan Springs NSW 2747
PO Box 1870
Penrith NSW 2751



Reviewed by
19 JUL 2013
SIGNED

TRIBECA HOMES

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QBSA Lic. No 1137696

DESIGN Noosa H04 MOD	
CLIENT R & C GILLETTE LOT 2221 NABILLA STREET JORDAN SPRINGS ESTATE JORDAN SPRINGS	
DRAWN MV	DATE 27.06.2013
SCALE 1:50	WIND RATING N2
JOB No 2504 C	SHEET

BASIX® Certificate

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

Single Dwelling

Certificate number: 491151S

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 the Department of Planning. This document is available at www.basix.nsw.gov.au

Director-General
Date of issue: Tuesday, 02 July 2013
To be valid, this certificate must be lodged within 3 months of the date of issue.

NSW | Planning & Infrastructure

Project summary	
Project name	Lot 2221 Jordan Springs Estate
Street address	Nabilla Street Jordan Springs 2747
Local Government Area	Penrith City Council
Plan type and plan number	deposited 1168992
Lot no.	2221
Section no.	-
Project type	separate dwelling house
No. of bedrooms	4

Project score		
Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 46	Target 40

Reviewed by JORDAN SPRINGS LANDSCAPE SECTION
19 JUL 2013
SIGNED

Certificate Prepared by
Name / Company Name: Craig Guyer
ABN (if applicable): 50414996141

Description of project

Project address	
Project name	Lot 2221 Jordan Springs Estate
Street address	n/a Nabilla Street Jordan Springs 2747
Local Government Area	Penrith City Council
Plan type and plan number	Deposited Plan 1168992
Lot no.	2221
Section no.	-
Project type	
Project type	separate dwelling house
No. of bedrooms	4
Site details	
Site area (m²)	386
Roof area (m²)	229
Conditioned floor area (m2)	123
Unconditioned floor area (m2)	7
Total area of garden and lawn (m2)	89

Assessor details and thermal loads		
Assessor number	n/a	
Certificate number	n/a	
Climate zone	n/a	
Area adjusted cooling load (MJ/m².year)	n/a	
Area adjusted heating load (MJ/m².year)	n/a	
Other		
none	n/a	
Project score		
Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 46	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
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 7.5 but <= 9 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 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 5 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
The applicant must install a rainwater tank of at least 5000 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 49 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		✓	✓
• the cold water tap that supplies each clothes washer 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	1.66 (or 2.20 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 3 (up), roof: foil/sarking	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:	✓	✓	✓
• 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.			✓
• 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.	✓	✓	✓
• Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35.		✓	✓
• 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
Bed 2	S	1.89	improved aluminium, single clear (U-value:6.44, SHGC:0.75)	eave/verandah/pergola/balcony 1,201-1,500 mm	not overshadowed
Bed 2	S	1.89	improved aluminium, single clear (U-value:6.44, SHGC:0.75)	eave/verandah/pergola/balcony 451-600 mm	not overshadowed
Bed 4	E	2.16	improved aluminium, single clear (U-value:6.44, SHGC:0.75)	eave/verandah/pergola/balcony 451-600 mm	not overshadowed
Bath	E	1.8	improved aluminium, single clear (U-value:6.44, SHGC:0.75)	eave/verandah/pergola/balcony 451-600 mm	not overshadowed
WC	E	0.54	improved aluminium, single clear (U-value:6.44, SHGC:0.75)	eave/verandah/pergola/balcony 451-600 mm	not overshadowed
Bed 3	E	2.16	improved aluminium, single clear (U-value:6.44, SHGC:0.75)	eave/verandah/pergola/balcony 451-600 mm	not overshadowed

Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
Living	E	1.89	improved aluminium, single clear (U-value:6.44, SHGC:0.75)	eave/verandah/pergola/balcony 451-600 mm	not overshadowed
Living	N	3.78	improved aluminium, single clear (U-value:6.44, SHGC:0.75)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
Living	NE	4.41	improved aluminium, single clear (U-value:6.44, SHGC:0.75)	eave/verandah/pergola/balcony >2,000 mm	not overshadowed
Dining	N	1.89	improved aluminium, single clear (U-value:6.44, SHGC:0.75)	eave/verandah/pergola/balcony 451-600 mm	not overshadowed
Dining	N	1.89	improved aluminium, single clear (U-value:6.44, SHGC:0.75)	eave/verandah/pergola/balcony 451-600 mm	not overshadowed
Kitchen	W	1.89	improved aluminium, single clear (U-value:6.44, SHGC:0.75)	eave/verandah/pergola/balcony 451-600 mm	not overshadowed
Bed 1	W	4.41	improved aluminium, single clear (U-value:6.44, SHGC:0.75)	eave/verandah/pergola/balcony 451-600 mm	not overshadowed
Ens	W	0.54	improved aluminium, single clear (U-value:6.44, SHGC:0.75)	eave/verandah/pergola/balcony 451-600 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 3 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 + 1-phase airconditioning; Energy rating: 1 Star (new rating)		✓	✓
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: ceiling fans; Energy rating: n/a		✓	✓
Heating system			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: 1-phase airconditioning; Energy rating: 1 Star (new rating)		✓	✓
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: individual fan, not ducted; Operation control: manual switch on/off		✓	✓
Kitchen: individual fan, not ducted; Operation control: manual switch on/off		✓	✓
Laundry: natural ventilation only, or no laundry; Operation control: n/a		✓	✓
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:			
• at least 4 of the bedrooms / study;		✓	✓
• the laundry;		✓	✓
• all hallways;		✓	✓

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Natural lighting			
The applicant must install a window and/or skylight in the kitchen of the dwelling for natural lighting.	✓	✓	✓
The applicant must install a window and/or skylight in 3 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
Other			
The applicant must install a gas cooktop & electric oven in the kitchen of the dwelling.		✓	
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.

HIA GENERAL HOUSING SPECIFICATIONS - NSW (INCORPORATING THE HIA GUIDE TO MATERIALS & WORKMANSHIP) REVISED SEPTEMBER 2009

1. INTRODUCTION

1.1 General

This Specification forms part of the *Contract* documents referred to in the building *Contract* and details the works to be executed and the materials to be used in carrying out those works at the site.

This Specification shall be read as a general specification only. The extent of the works shall be governed by the approved plans and other requirements under the *Contract*.

Any works not fully detailed shall, where appropriate, be sufficiently performed if carried out in accordance with the *Building Code of Australia* (*BCA*), the relevant manufacturer's recommendations or *Engineer's Recommendations*.

1.2 Preliminary Use

This Specification forms part of the *Contract* and should be read in conjunction with the other contract documents.

1.3 Prevailing Documents

Where there is a difference between the plans and this Specification, this Specification will take precedence. The *Builder* must at all times maintain a legible copy of the plans and this Specification bearing the approval of the relevant *Local Authority*.

Otherwise to the extent of any conflict between documents, the order of precedence set out in the building contract shall apply.

1.4 Size and Dimensions

All sizes and dimensions given in this Specification are in millimetres unless otherwise stated and are nominal only.

1.5 Prime Cost and Provisional Sum Items

Prime cost items and provisional sum items are listed in the Schedule of Works.

1.6 Definitions

In this Specification:

- "*BCA*" refers to the publication entitled Building Code of Australia Class 1 and Class 10 Buildings, Housing Provisions, Volume 2 published by the Australian Building Codes Board.
- "*Engineer's Recommendations*" includes any soil classification report, preliminary footing report, construction footing report and any other report, recommendation, site or other instruction, calculations or plans prepared by an engineer in respect of the works.
- Where the words "*Local Authority*" are mentioned they shall mean the local council, or other governing authority or private certifier with statutory responsibility for the compliance of the work performed.
- Where referred to in this Specification, "*Regulations*" shall mean the building *Regulations* and codes (including the *BCA*, as amended) statutorily enforceable at the time application is made for a construction certificate or other permits, consents or approvals relating to the *Contract*.
- The "*HIA Guide*" means the HIA Guide to Materials & Workmanship for Residential Building Work.

Unless the context suggests otherwise, terms used in this Specification shall have the same meaning as in the HIA Plain Language Building Contract between the *Owner* and the *Builder* ("*Contract*").

2. STATUTORY REQUIREMENTS

2.1 The Building Works

The building works shall be constructed in accordance with:

- the *Regulations* and in particular the Performance Requirements referred to in the *BCA*, Housing Provisions, Volume 2;
- any conditions imposed by the relevant development consent or complying development certificate; and
- commitments outlined in the relevant BASIX Certificate

in so far as the *Builder* is required in accordance with the Schedule of Works annexed to this Specification.

2.2 Compliance with Requirements of Authorities

The *Builder* is to comply with the requirements of all legally constituted authorities having jurisdiction over the building works and the provisions of the *Home Building Act 1989*.

2.3 Electricity

Where there is no existing building, the *Builder* is to make arrangements for any electrical power to be used in the construction of the building works and is to pay fees and costs incurred therein. The cost of providing and installing any additional poles, wiring, service risers or underground wiring etc., as may be required by the electricity supply authority, shall be borne by the *Owner*.

2.4 Sanitary Accommodation

Prior to the commencement of the building works, unless toilet facilities exist on the site, the *Builder* shall provide temporary toilet accommodation for the use of subcontractors. Where the *Local Authority* requires the temporary toilet to be connected to sewer mains, the additional cost of this work shall be borne by the *Owner*. On completion the *Builder* shall remove the convenience.

3. *OWNER*'S OBLIGATIONS

3.1 Engineer's Recommendations

If the *Contract* so indicates, the *Owner* shall, at the *Owner*'s expense, provide the *Builder* with reports and recommendations (including soil classification) as to the foundations or footings requirements for the building works prepared by an engineer.

In these circumstances, if the *Builder* instructs any party to provide such recommendations, the *Builder* does so only as agent for the *Owner*.

3.2 Trades Persons Engaged by *Owner*

The *Owner* shall not engage or employ any tradesperson, trade-contractor or any other person to work on the site without the consent of the *Builder* whose consent may be subject to such terms and conditions as the *Builder* may stipulate.

3.3 Items Supplied by *Owner*

For all items referred to in this Specification to be supplied by the *Owner*, it is the responsibility of the *Owner* to arrange payment for delivery of and protection against damage and theft of all these items.

3.4 Water Supply

Where there is no existing building on the site, the *Owner* shall, at the *Owner*'s expense, supply adequate water to the site for construction purposes. Unless otherwise specified, the *Builder* shall pay the standard water meter connection fee to the water supply authority provided this service is pre-laid to the site ready for use. The *Owner* shall be responsible for any fee to be paid in excess of the standard water meter connection fee.

3.5 Sanitation

Unless otherwise specified:

- the *Owner* shall, at the *Owner*'s expense, supply sewerage connection riser or common effluent drainage connection riser on the site;
- the *Builder* shall pay the standard sewer connection fee to the sewerage supply authority provided this service is pre-laid to the site and ready for use; and

- the *Owner* shall be responsible for any fee to be paid in excess of the standard sewer connection fee.

4. PLANS, PERMITS AND APPLICATION FEES

4.1 Permits and Fees

Subject to a contrary requirement under the *Contract*, the *Builder* shall lodge all necessary application notices, plans and details with the *Local Authority* for approval prior to commencement of construction.

4.2 Mines Subsidence

In areas affected by mines subsidence, the appropriate authority is to be consulted and any work carried out in accordance with the authority's requirements.

4.3 Setting,Out

The *Builder* shall accurately set out the building works in accordance with the site plan and within the boundaries of the site.

5. EXCAVATIONS

5.1 Excavations

The part of the site to be covered by the proposed building or buildings and an area at least 1000mm wide around that part of the site or to the boundaries of the site, whichever is the lesser, shall be cleared or graded as indicated on the site works plan.

Top soil shall be cut to a depth sufficient to remove all vegetation.

Excavations for all footings shall be in accordance with the *Engineer's Recommendations* or the *BCA* requirements.

6. FOUNDATIONS AND FOOTINGS

6.1 Underfloor Fill

Underfloor fill shall be in accordance with the *BCA*.

6.2 Termite Risk Management

Termite treatment shall be carried out in accordance with the *BCA*.

6.3 Vapour Barrier

The underfloor vapour barrier shall be 0.2 mm nominal thickness, high impact resistance polyethylene film installed in accordance with the *BCA*.

6.4 Reinforcement

Reinforcement shall conform and be placed in accordance with the *Engineer's Recommendations* and the *BCA*.

Support to all reinforcement shall be used to correctly position and avoid any undue displacement of reinforcement during the concrete pour.

6.5 Concrete

Structural concrete shall not be less than Grade N20 except where otherwise approved by the engineer and in accordance with the *BCA*.

Pre-mixed concrete shall be manufactured in accordance with AS 1379 with delivery dockets kept on site and available for inspection by the engineer.

Concrete shall be placed and compacted in accordance with good building practice.

6.6 Curing

All concrete slabs shall be cured in accordance with AS 3600.

6.7 Footings and Slabs on Ground

Concrete slabs and footings shall not be poured until approval to pour concrete is given by the engineer or the *Local Authority*.

NOTE: Bench levels and floor levels on the site works plan shall be regarded as nominal, unless specified otherwise.

6.8 Suspended Slabs

All concrete slabs, other than those supported on solid ground or properly compacted filling, shall be constructed as suspended slabs. These slabs shall be constructed in accordance with the *Engineer's Recommendations*.

6.9 Foundation Walls

On footings as previously specified, brick walls are to be built to the thickness shown on plan to level underside of floor bearers or plates.

6.10 Sub- Floor Ventilation

Where required, adequate cross ventilation will be provided to the space under suspended ground floor. Construction is to meet the requirements of the *BCA*. No section of the under floor area wall to be constructed in such a manner that will hold pockets of still air.

6.11 Sub-Floor Access

If required, access will be provided under suspended floors in position where indicated on plan.

7. RETAINING WALLS

7.1 Retaining Walls

Where the *Builder* is required by the Schedule of Works annexed to this Specification, the *Builder* shall construct retaining walls as shown on the approved plans. Where a retaining wall is not included in the Schedule of Works, the construction of the retaining wall shall be the responsibility of the *Owner*.

8. EFFLUENT DISPOSAL/DRAINAGE

8.1 Effluent Disposal/Drainage

In both sewered and unsewered areas:

(a) bath, wash basin, kitchen, wash tubs, pedestal pan and floor grate shall be fitted to shower recess in positions shown on plan (refer to Schedule of Works); and

(b) waste pipes with traps shall be provided to the above fittings and connected to the drainage system.

The whole of the work is to be performed in accordance with the rules and requirements of the sewerage authority concerned.

8.2 Septic System

The *Builder* will provide and install a septic system where applicable to the requirements of the *Local Authority* and in accordance with the manufacturer's recommendations.

8.3 Storm Water Drainage

Stormwater drainage shall be carried out in accordance with the *BCA*.

The *Builder* will allow for the supplying and laying of stormwater drains where shown on the site plan

9. TIMBER FRAMING

9.1 Generally

All timber framework sizes, spans, spacing, notching, checking and fixing to all floor, wall and roof structures shall comply with the *BCA* or AS 1684. Alternative structural framing shall be to structural engineer's details and certification.

The work shall be carried out in a proper and tradesperson like manner and shall be in accordance with recognised and accepted building practices.

9.2 Floor Framing

All floors not specified to be concrete are to be framed at the level shown. Span and spacing of bearers is to conform to the requirements of the span tables for the appropriate member size. Deep joists to upper floors, where shown, are to be fitted with solid blocking or herringbone strutting as required. All sizes and stress grades of timber members and tie down methods are to be in accordance with AS 1684.

9.3 Wall Framing

Plates may be trenched to provide uniform thickness where studs occur. Where plates are machine gauged to a uniform thickness, trenching may be omitted. Wall framing is to be erected plumb and straight and securely fastened to floor framing. The *Builder* will provide a clear space of 40mm between outer face of wall frame and inner face of brick veneer walls. The *Builder* will tie brickwork to studs with approved veneer ties. Ties are to slope downwards towards the veneer wall.

Studs in each panel of walling shall be stiffened by means of solid noggings or bridging pieces at not more than 1350 mm centres over the height of the wall. Bottom plates shall be fixed to the floor structure in accordance with AS 1684.

9.4 Heads Over Opening (Lintels)

All sizes, stress grades and bearing areas shall conform to AS 1684. Heads exceeding 175 mm in depth shall be seasoned or a low shrinkage timber species will be used. Plywood web lintels conforming to the requirements of the Plywood Association of Australia may be used. Glue laminated beams conforming to AS 1328 or laminated veneer lumber beams to manufacturer's specification and data sheets may be used.

9.5 Roof Trusses

Where roof truss construction is used, trusses shall be designed in accordance with AS 1720 and fabricated in a properly equipped factory and erected, fixed and braced in accordance with the fabricator's written instructions.

9.6 Bracing

Bracing units shall be determined and installed in accordance with AS 1684 as appropriate for the design wind velocity for the site. Bracing shall be evenly distributed throughout the building.

9.7 Flooring

Floor joists will be covered with strip or sheet flooring as shown on plan with particular regard to ground clearance and installation in wet areas as required by the *BCA*. Thickness of the flooring is to be appropriate for the floor joist spacing.

Strip and sheet flooring shall be installed in accordance with AS 1684.

When listed in Schedule of Works, floors shall be sanded to provide an even surface and shall be left clean throughout.

9.8 Roof Framing

Roofs are to be pitched to the slope shown on plan. The *Builder* will provide tie-down as required for the appropriate design, wind speed and roof covering. The *Builder* will provide all rafters, ridges, hips, valleys, purlins, struts, collar ties and wind bracing as appropriate with all sizes and stress grades in accordance with AS 1684.

Metal fascias shall be installed in accordance with the manufacturer's recommendations and shall meet the requirements of AS 1684.

9.9 Timber Posts

Posts supporting carports, verandas and porches shall be timber suitable for external use, or as otherwise specified, supported on galvanised or treated metal post shoes, unless otherwise specified. Posts shall be bolted to all adjoining beams as required by AS 1684 for the wind speed classification assessed for the site.

9.10 Corrosion Protection

All metal brackets, facing plates and other associated fixings used in structural timber joints and bracing must have appropriate corrosion protection.

9.11 Hot Water Storage Tank Platforms

Where a hot water storage tank is to be installed in the roof space, the tank platform shall be supported directly off the wall plates and must not be supported on ceiling joists. Where installed in the roof space the storage tank shall be fitted with an appropriate spill tray and overflow drain pipe.

Where a hot water storage tank is supported by the roof structure the structure shall be specifically designed to support all imposed loads

10. STEEL FRAMING

10.1 Generally

Steel floor, wall or roof framing shall be installed in accordance with the manufacturer's recommendations and the *BCA*.

11. ROOFING

All roof cladding is to comply with the relevant structural performance and weathering requirements of the *BCA* and be installed as per the manufacturer's recommendations.

11.1 Tiled Roofing

The *Builder* will cover the roof of the dwelling with approved tiles as selected. The tiles are to be fixed (as required for the appropriate design and wind speed) to battens of sizes appropriate to the spacing of rafters/trusses in accordance with manufacturer's recommendations. The *Builder* will cover hips and ridges with capping and all necessary accessories including starters and apex caps. Capping and verge tiles are to be well bedded and neatly pointed. Roofing adjacent to valleys should be fixed so as to minimise water penetration as far as practicable. As roof tiles are made of natural products slight variation in colour is acceptable.

11.2 Metal Roofing

The *Builder* will provide and install a metal roof together with accessories all in accordance with the manufacturer's recommendations.

Except where design prohibits, sheets shall be in single lengths from fascia to ridge. Fixing of sheets shall be strictly in accordance with the manufacturer's recommendations as required for the appropriate design and wind speed. Incompatible materials shall not be used for flashings, fasteners or downpipes.

11.3 Gutters and Downpipes

Gutters and downpipes shall be manufactured and installed in accordance with the *BCA*. Gutters and downpipes are to be compatible with other materials used.

11.4 Sarking

Sarking under roof coverings must comply with and be fixed in accordance with AS/NZS 4200.1 for materials and AS/NZS 4200.2 for installation.

11.5 Sealants

Appropriate sealants shall be used where necessary and in accordance with manufacturer's recommendations.

11.6 Flashing

Flashings shall comply with, and be installed in accordance with the *BCA*.

12. MASONRY

12.1 Bricks

All clay bricks and brickwork shall comply with AS 3700 and the *BCA*. Clay bricks are a natural kiln fired product and as such their individual size may vary.

Tolerances shall only be applied to the total measurements over 20 units, not to the individual units.

12.2 Concrete Blocks

Concrete blocks are to be machine pressed, of even shape, well cured and shall comply with AS 3700. Concrete blockwork shall be constructed in accordance with the *BCA*.

Autoclaved aerated concrete blocks shall be in accordance with the manufacturer's product specification at the time the work is being carried out.

12.3 Damp Proof Courses

All damp proof courses shall comply with the *BCA* and Clause 1.0.10. The damp proof membrane shall be visible in the external face of the masonry member in which it is placed and shall not be bridged by any applied coatings, render or the like.

12.4 Cavity Ventilation (Weepholes)

Open perpendicular joints (weepholes) must be created in the course immediately above any DPC or flashing at centres not exceeding 1.2m and must be in accordance with the *BCA*.

12.5 Mortar and Joining

Mortar shall comply with the *BCA*. Joint tolerances shall be in accordance with AS 3700.

12.6 Masonry Accessories

Masonry accessories shall comply with the *BCA* and accepted building practices. Wall ties are to meet the corrosion resistant rating appropriate for the exposure conditions of the site. The *Builder* will provide appropriate ties to articulated joints in masonry.

12.7 Lintels

Lintels used to support brickwork opening in walls must be suitable for the purpose as required by the *BCA*. The *Builder* will provide one lintel to each wall leaf. The *Builder* will provide corrosion protection in accordance with the *BCA* Part 3.4.4 as appropriate for the site environment and location of the lintels in the structure.

12.8 Cleaning

The *Builder* will clean all exposed brickwork with an approved cleaning system. Care should be taken not to damage brickwork or joints and other fittings.

13. CLADDING AND LININGS

13.1 External Claddings

Sheet materials or other external cladding shall be fixed in accordance with the manufacturer's recommendations and any applicable special details.

Where required in open verandas, porches and eaves soffits, material indicated on the plans shall be installed.

13.2 Internal Wall and Ceilings Linings

The *Builder* will provide gypsum plasterboards or other selected materials to walls and ceilings. Plasterboard sheets are to have recessed edges and will be a minimum of 10mm thick. Internal angles in walls from floor to ceiling are to be set. Suitable cornice moulds shall be fixed at the junction of all walls and ceilings or the joint set as required. The lining of wet area walls shall be constructed in accordance with the *BCA*. Wet area lining is to be fixed in accordance with the manufacturer's recommendations.

The ceiling access hole shall be of similar material to the adjacent ceiling.

13.3 Waterproofing

All internal wet areas and balconies over internal habitable rooms are to be waterproofed in accordance with the *BCA*.

14 JOINERY

14.1 General

All joinery work (metal and timber) shall be manufactured and installed according to accepted building practices.

14.2 Door Frames

External door frames shall be a minimum of 32 mm thick solid rebated 12 mm deep to receive doors. Internal jamb linings shall be a minimum of 18 mm thick fit with 12 mm thick door stops. Metal door frames shall be installed where indicated on drawings in accordance with the manufacturer's recommendations.

14.3 Doors and Doorsets

All internal and external timber door and door sets shall be installed in accordance with accepted building practices. Unless listed otherwise in the Schedule of Works, doors and door sets shall be manufactured in accordance with AS 2688 and AS 2689.

14.4 Window and Sliding Doors

Sliding and other timber windows and doors shall be manufactured and installed in accordance with AS2047.

Sliding and other aluminium windows and doors shall be installed in accordance with manufacturer's recommendations and AS2047.

All glazing shall comply with the *BCA* and any commitments outlined in the relevant BASIX Certificate

14.5 Architraves and Skirting

The *Builder* will provide architraves and skirting as nominated on the plans or listed in the Schedule of Works.

14.6 Cupboards/Kitchens/Bathroom

Units shall be installed to manufacturer's recommendations. Bench tops shall be of a water resistant material.

14.7 Stairs, Balustrades and other Barriers

The *Builder* will provide stairs or ramps to any change in levels, and balustrades or barriers to at least one side of ramps, landings and balconies as per the *BCA*.

15. SERVICES

15.1 Plumbing

All plumbing shall comply with the requirements of the relevant supply authority and AS 3500. The work is to be carried out by a licensed plumber.

Fittings, as listed in the Schedule of Works, shall be supplied and installed to manufacturer's recommendations. Fittings, hot water systems and any rainwater harvesting facilities shall be appropriate to satisfy any commitment outlined in the relevant BASIX Certificate

15.2 Electrical

The *Builder* will provide all labour and materials necessary for the proper installation of the electricity service by a licensed electrician in accordance with AS/NZS 3000 and the requirements of the relevant supply authority. Unless otherwise specified, the electrical service shall be 240 volt, single phase supply.

15.3 Gas

All installation (including LPG) shall be carried out in accordance with the rules and requirements of the relevant supply authority.

15.4 Smoke Detectors

The *Builder* will provide and install smoke alarms manufactured in accordance with AS 3786 as specified or as indicated on the plans and in accordance with the *BCA*.

15.5 Thermal Insulation

Where thermal insulation is used in the building fabric or services, such as air conditioning ducting or hot water systems, it shall be installed in accordance with manufacturer's recommendations to achieve the R-Values required by the *BCA* or as outlined in the relevant BASIX Certificate.

16. TILING

16.1 Materials

Cement mortar and other adhesives shall comply with AS 3958.1 or tile manufacturer's recommendations.

16.2 Installation

Installation of tiles shall be in accordance with AS 3958.1, manufacturer's recommendations or accepted building practices.

Where practicable, spacing between tiles should be even and regular. The *Builder* will provide expansion joints where necessary. All vertical and horizontal joints between walls and fixtures e.g. bench top, bath, etc. and wall/floor junctions to be filled with flexible mould resistant sealant. All joints in the body of tiled surfaces shall be neatly filled with appropriate grout material as specified by the tile manufacturer or accepted building practice. As tiles are made of natural products a slight variation in colour is acceptable.

16.3 Walls

The *Builder* will cover wall surfaces where indicated on the drawings with selected tiles. Tiles are to be fixed to the wall substrate with adhesives compatible with the substrate material. The *Builder* will provide all required strips, vent tiles and recess fittings.

16.4 Floors

The *Builder* will lay selected floor tiles in sand and cement mortar, or adhesive compatible with the substrate material, to areas indicated on the drawings. Where required, the *Builder* will fit approved edge strips or metal angle to exposed edges in doorways or hobless showers in wet areas in accordance with the *BCA*. The *Builder* will provide adequate and even fall to wastes where required.

17. PAINTING

17.1 General

All paint used shall be of a quality suitable for the purpose intended and the application shall be as per the manufacturer's recommendations. The colours used shall be as listed in the Schedule of Works or other relevant contract document. All surfaces to be painted shall be properly prepared to manufacturer's recommendations.

18. WORKMANSHIP STANDARDS AND TOLERANCES

18.1 General

These general specifications incorporate the *HIA Guide*. By agreeing to these specifications, the *Owner* agrees that he/she has been provided a copy and has had the opportunity to read the *HIA Guide*.

The *HIA Guide* is to be used by the *Builder* and *Owner* as a point of reference for information on workmanship standards and tolerances, and amongst things, in deciding whether an alleged defect exists and/or whether the materials used and/or workmanship are in accordance with the plans and specifications.

The parties agree to use the *HIA Guide* in precedence over any other non legislated guide to standards and tolerances.

ANNEXURE

Schedule of Works