

**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