

GENERAL ARCHITECTURAL SPECIFICATION

ISSUED — **FOR CERTIFICATION**

| | |
|----------------|--------------------------------------|
| PROJECT: | PROPOSED WAREHOUSE AND OFFICE |
| CLIENT: | TRADING METALS |
| SITE LOCATION: | LOT 10 INGLIS CIRCUIT GILLMAN |
| JOB NO: | 4426-18 |

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1.0 PRELIMINARIES

1.1 General

This Specification details the works to be executed and the materials to be used in carrying out the works at the Site.

This Specification shall be read as a general specification only. The parts of the Specification which do not apply to the works shall be disregarded. The extent of the works shall be governed by Architectural Drawings, Engineer's Details, Special Details, Specification and the Finishes Schedule.

Any works not fully detailed shall, where appropriate, be sufficiently performed if carried out in accordance with applicable Manufacturer's Recommendations or Engineer's Recommendations.

1.2 Definitions

"The Site" means the site as delineated on the Drawings

"The Drawings" means all drawings and plans in connection with and defining or detailing, wholly or in part, the works.

"The Works" means the works to be carried out by the Builder for the Owner pursuant to, and as defined by the Contract, the Drawings, any Special Details, this Specification so far as applicable and the Finishes Schedule.

"Special Details" means any drawings, plans, specifications, calculations or other document (including Engineer's Recommendations) prepared in order to define or detail the work to be done and the materials to be used.

"Engineer's Recommendations" includes any Soil Classification Report, Footing Report and any other Report, Recommendation, instructions or drawings prepared by an Engineer in respect of the Works.

"Local Authority" means the Local Municipal Council or other Governing Authority with Statutory responsibility for the compliance of the work performed.

"AS" means current Standards Association of Australia.

"BCA" means current Building Code of Australia including amendments (National Construction Code Series).

1.3 Statutory Requirements

The works

The Works shall be constructed in accordance with the regulations under the current Development Act as amended and the current BCA. All tradespersons shall be appropriately licensed in accordance with the Building Contractors Act.

Materials

Unless otherwise specified, materials used throughout these works shall be new, of merchantable quality and fit for the purpose and be in general conformity to the applicable Specifications and Codes of Practice laid down by the current Australian Standard where such exist, or any amendments thereto.

Site signage

The Builder prior to commencement of the works shall erect a sign on the Site to the approval of the Architect (min. 900x700mm) displaying the Architect's, Engineer's & Builder's name (license no.), address and phone number.

Sanitary accommodation

Prior to the commencement of any works, unless toilet facilities exist on Site, the Builder shall provide a sanitary convenience in accordance with the requirements of the South Australian Health Commission, and on completion the Builder shall remove the convenience.

1.4 Drawings and Specifications

Prevailing documents

To the extent of any conflict between documents the following order of precedence shall apply: The Building Contract, Specific Details (including Engineer's Recommendations), The Drawings, the Finishes Schedule and this Specification.

Dimensions

All dimensions are metric and unless specified otherwise are to be read as millimetres (mm).

Omissions and discrepancies

When an item or finish is specified but omitted from any drawing or conversely, drawn but not specified, that item or finish will apply irrespectively.

1.5 Owners Obligations

Unless otherwise specified in the Specification or Contract the following applies:

Engineer's recommendations

The Owner shall, at the Owner's expense, provide the Builder with reports and recommendations (including soil classifications) as to the foundations and/or footings and any other structural requirements for the works prepared by an Engineer.

Surveyor's certificate

The Owner shall, at the Owner's expense, obtain a certified survey of the Site. If no survey is required, the Owner hereby certifies that the placement of the existing survey pegs or fences on the Site is correct.

Tradespersons engaged by owner

The Owner shall not engage or employ any tradespersons, sub-contractor or any other person to work on the Site without the consent of the Builder.

Water supply

The Owner shall, at the Owner's expense, supply adequate water to the Site for construction purposes. The Builder shall pay the standard water meter connection fee to the S.A. Water Department or Local Authority (as applicable) providing this service is pre-laid to the Site and ready for use. The Owner shall be responsible for any fee to be paid in excess of the standard water meter connection fee.

Sanitation

The Owner shall, at the Owner's expense supply a sewerage connection riser or common effluent drainage connection riser to the Site. The Builder shall pay the standard sewer connection fee to the S.A. Water Department or Local Authority (as applicable) providing this service is pre-laid to the Site and ready for use. The owner shall be responsible for any fee to be paid in excess of the standard sewer connection fee.

Permits and fees

The Owner shall, at the Owner's expense, lodge all necessary application notices, plans and details with the Local Authority for Building Approval prior to the commencement of construction.

1.6 Setting Out

The Builder shall accurately set out the works according to the Drawings and Special Details (including Surveyor's Certificate if applicable).

1.7 Upon Completion

The Builder shall upon completion clean the Site, clearing all building rubbish and surplus building materials (which remain the property of the Builder) from the Site.

The Builder shall remove any stains or replace damaged materials.

1.8 Labour, Plant and Materials

Tradespersons and labourers shall carry out work in a competent manner. Only skilled labour shall be employed in all trades. All materials shall be new (as per Cl.1.3b) and only clean fresh water shall be used. The Builder shall provide all necessary items of plant, including scaffolding, lifting appliances, tools, pumps and other machines or equipment for the proper carrying out of the work included in the contract.

1.9 Inspection on Site

The Builder shall have inspected the Site and have become conversant with all visible existing conditions, on or surrounding the Site and has allowed for all such factors in his Tender. The Builder shall be responsible for checking the positions of any existing services which are apparent and shall make due allowances for them as required.

1.10 Bushfire Prone Areas

Where the building is to be constructed in a Declared Bushfire Prone Area, adequate protection must be carried out in accordance with Minister's Specification SA G5.101

1.11 As Constructed Services Drawings

The Builder shall plot and record data for locations of installed underground services during the contract. As Constructed services drawing are required prior to Practical Completion. Drawings for the following services are required; Sewer, Stormwater, Water, Electrical, Gas, Telephone.

1.12 Permits and Fees

The Owner is to obtain development approval and pay the CITB levy. The Builder shall lodge all notices and pay all fees required to service Authorities and Local Authority having jurisdiction over the works, prior to commencement.

The Builder shall lodge and pay the standard water meter connection or Schedule B fees to SA Water and pay any other fees necessary, including inspection fees, to connect to the existing water supply.

The Builder shall arrange for any temporary power to the site, make necessary applications and pay all fees. The electrical supply shall be arranged in the Builder's name and the Builder shall allow in the tender sum to pay all power supply and use costs during the contract. The Builder shall arrange for termination reading on completion.

The Builder shall provide a connection to the gas supply and lodge and pay the standard gas connection fees to the appropriate energy supply company to connect to the existing gas meter or arrange and pay for the installation of a replacement meter if none exists on site.

1.13 Asbestos Removal

General: Give notice immediately hazardous materials or conditions are found, including the following:

- Asbestos or material containing asbestos
- Flammable or explosive liquids or gases
- Toxic, infective or contaminated materials
- Radiation or radioactive materials
- Noxious or explosive chemicals
- Tanks or other containers which have been used for storage of explosive, toxic, infective or contaminated substances.

Asbestos removal requirements

Licensing Requirement: Where asbestos related products are discovered or are known to be present in the buildings or part of buildings now to be demolished, have such material removed by an approved person holding a current relevant 'Asbestos Removal Licence' as issued by the Director, Department for Premier and Cabinet, Safework SA under the Occupational Health, Safety and Welfare Regulations, 1995.

Work Procedure: The removal of all materials containing asbestos shall comply with the Occupational Health, Safety and Welfare Regulations 1995, Division 4.2 – Asbestos and the Approved Code of Practice for the Safe Removal of Asbestos.

Approvals: The successful asbestos removal contractor shall obtain all necessary approvals prior to commencing any asbestos removal work on the site in accordance with the Occupational Health, Safety and Welfare Regulations 1995, Division 4.2 – Asbestos.

Inspection: The area of the removal work shall be inspected by a competent person as described under the Occupational Health, Safety and Welfare Regulations before any other work in or reinstatement of the area is commenced.

Waste Disposal: Ensure that all asbestos and asbestos contaminated waste materials are properly treated, stored and cleared from the site in accordance with the Environmental Protection Authority approved methods for the safe handling, transporting, storage and disposal of waste containing asbestos.

On completion of the asbestos removal, and prior to any further activity in the affected area, provide the Superintendent with a fully detailed independent clearance certificate completed by a suitably competent/qualified person.

Photocopy the relevant section of the site Asbestos Register and provide a written update of items removed and new materials used to replace removed materials where applicable. A copy of this updated section is to be left on site, 2 copies are to be forwarded to the Superintendent's Representative within 14 days of completion of all removal/reinstatement works.

2.0 EXCAVATIONS AND FILLING

2.1 Site Clearance

Unless otherwise specified the Builder shall provide general levelling, remove all trees, stumps and other obstructions, provide filling for depressions and remove surplus soil. Any imported soil shall be clean and free from debris.

Protection of trees

Trees that are to remain are marked on Drawings. The Builder shall be responsible for the preservation of these trees and the cost of replacement should they be damaged.

2.2 Demolition

Where demolition work is to be included in the Contract, the Builder shall allow to remove from the Site all demolition materials, including any footing beams and slabs, and back fill where necessary with an approved material to the original ground level.

Make good any damage arising out of demolition work.

Encroachment

General: Prevent the encroachment of demolished materials onto adjoining property, including public places.

Weather protection

General: If walls or roofs are opened for alterations and additions or the surfaces of adjoining buildings are exposed, provide temporary covers to prevent water penetration. Provide covers to protect existing plant, equipment and materials intended for re-use.

Dust protection

General: Provide dust-proof screens, bulkheads and covers to protect existing finishes and the immediate environment from dust and debris.

Security

General: If a wall or roof is opened for alterations and additions, provide security against unauthorised entry to the building.

Temporary screens

General: Fill the whole of designated temporary openings or other spaces using dust and weatherproof temporary screens, fixed securely to the existing structure, and install to ensure appropriate shedding of water to avoid damage to retained existing elements or adjacent structures and contents.

Type: Timber framed screens sheeted with 12 mm plywood and painted. Seal the junctions between the screens and the openings.

Temporary access

General: Provide a substantial temporary door set fitted with a rim deadlock and remove on completion of demolition.

Exposed surfaces

General: Where necessary protect and weatherproof the surfaces of adjacent structures exposed by demolition.

Recovered items

General: Recover all components associated with the listed items that are essential for their re-use. Minimise damage during removal.

Temporary support

General: Clear away at completion of demolition.

2.3 Excavations

Subject to Cl. 2.1, the Site covered by the building and an area at least equal to all perimeter paving or 1 metre wide around building (whichever is greater), shall be cleared and/or graded as indicated on Drawings.

Top-soil shall be cut to a depth sufficient to remove all vegetable matter.

Excavations for all footings shall be in accordance with Engineer's Recommendations.

2.4 Underfloor Fill

Underfloor Fill shall be in accordance with AS 2870.

Fill the area beneath the floor as necessary (due to falls of site) and build up to suit the indicated floor level with suitable granular quarry material.

2.5 Termite Treatment

The whole of the sub-floor area, including under concrete slabs placed directly on the ground, shall be provided with a treatment complying with AS 3660.1. The treatment shall be carried out immediately after the completion of all underfloor excavation work but prior to the placing of any underfloor vapour barrier.

Supplementary termite treatments shall be carried out in accordance with AS 3660.1

Option 1

Provide a termite management system using a physical barrier to comply with the requirements of AS 3660.1 - 2000. The system must be accredited with a Certificate of Conformity to the Building Code of Australia and must abide by the conditions and limitations stated thereon. Engineer the slab through the use of adequate detailing and sufficient reinforcement to ensure that it acts as a barrier by limiting the crack widths. Construct the slab using good compaction and curing techniques to limit shrinkage crack widths. Ensure that where slab edge exposure is used as part of the termite barrier the exposed face of the slab has a Class "2" off-form finish in accordance with AS 3610 – 1995.

Option 2

Install a reticulated perimeter and penetrations chemical re-treatment system accredited with a Certificate of Conformity to the Building Code of Australia. The materials and workmanship shall comply with the provisions of AS3660.1 - 2000 and the conditions and limitations stated on the Certificate of Conformity. Engineer the slab through the use of adequate detailing and sufficient reinforcement to ensure that it acts as a barrier by limiting the crack widths. Construct the slab using good compaction and curing techniques to limit shrinkage crack widths. Ensure that where slab edge exposure is used as part of the termite barrier the exposed face of the slab has a Class "2" off-form finish in accordance with AS 3610 – 1995.

This option must include maintenance and periodic chemical re-treatment of the system as specified for the ten-year warranty period.

3.0 CONCRETE AND FOOTINGS

3.1 Vapour Barrier

Under-slab polythene vapour barrier shall be in accordance with AS 2870. Membrane underlay shall be orange coloured high impact resistant polythene conforming to IR3 grade of AS 2870 in 300um (0.3mm) minimum thickness and maximum possible width, branded Fortecon Super or equal approved.

3.2 Formwork

Formwork shall be suitable for its purpose, sound and of good quality, fixed in its final position prior to pouring of any concrete and shall be easily removable without causing any damage. Unless otherwise specified all formwork shall be Class 4, all in accordance with AS 3600 and AS 2870.

3.3 Reinforcement

Reinforcement shall conform and be placed in accordance with AS 3600, AS 2870.1 and 2, and the Engineer's Recommendations.

Support to all reinforcement shall be used if necessary to avoid any undue displacement of reinforcement during the concrete pour. If needed, the following is permissible: concrete blocks, steel cradles, or (if approved by the Engineer) improvised rods and tie wire.

3.4 Concrete

Concrete shall be not less than N20 except where otherwise approved by the Engineer, Structural concrete shall be in accordance with Section 4 of AS 3600.

Ready mixed concrete shall be in accordance with AS 1379 with delivery dockets kept on site and available for inspection by the Engineer.

All concrete shall be mechanically vibrated.

3.5 Footings and Slabs

Concrete slabs and footings shall not be poured until approval to pour concrete is given by the Engineer. Finished floor levels shall be in accordance with the Engineer's Recommendations (where applicable).

All suspended reinforced concrete work (including slabs, stairs, landings, hoods, etc.) shall be constructed in accordance with the Engineer's Recommendations. All slabs shall be cured in accordance with AS 3600 and AS 2870.

Where pipes are to be embedded or set downs provided in the slab, the slab shall be constructed as specified by the Engineer.

Edge rebates for masonry shall be a minimum of 20mm depth in accordance with CI 6.1.5 of AS 2870.1, or as per Drawings and Details.

3.6 Precast Concrete

Unless otherwise specified for a particular item, concrete for precast units shall be N25. Fabricate, supply on site and install in positions and to numbers indicated, as detailed and specified by the Engineer.

3.7 Sub-Floor Ventilation

All sub-floor areas, except areas under concrete slabs placed directly on the ground, shall be provided with sub-floor vents to ventilate and cross-ventilate sub-floor areas in accordance with the requirements of section F4.10 of the BCA.

4.0 MASONRY

4.1 Retaining Walls

Retaining walls and brick foundation walling (build-up) shall be constructed as shown on the Drawings and/or Special Details. Where they are 1 metre or higher in height, they shall be constructed in accordance with the Engineer's Recommendations.

4.2 Bricks and Blockwork

Except where otherwise specified, all brickwork and blockwork are to have regularity of bonding (straight horizontal lines and perpend), carried up true and plumb to the various heights shown on the Drawings. Beds and joints shall be generally 10mm in thickness. Bricks shall be laid on a full bed of mortar. All exposed brickwork must be cleaned down on completion of laying.

Clay bricks: shall comply with AS 1225. They shall be of clay and/or shale origin and sound, hard, well-burnt, and of good even colour, shape and size.

Clay bricks are to be well-wetted at time of laying.

Concrete blocks: are to be machine pressed, of even shape and well cured in accordance with AS 2733. Concrete blocks shall be dry at time of laying.

4.3 Damp Proofing

All external and internal walls shall have a continuous damp proof course membrane made of embossed black polyethylene film not less than 0.5 mm thick prior to embossing, complying with SA F1.9 and F1.9 of the BCA and AS 2904 & AS 3700.

Where fill or concrete floors abut masonry walls, a vertical damp proof membrane shall be provided between them. Rendering to footings or masonry and the placing of paths shall not bridge the damp proof course.

A damp proof course membrane shall protrude at least 20 mm past the external face of the masonry member in which it is placed, so that moisture from the ground is prevented from entering any part of the wall.

Cavity brick construction

The damp proof course membrane shall be placed directly on the concrete slab at floor level under the outer leaf and shall extend across the cavity and then vertically up the cavity face of the internal leaf for a minimum height of one brick course and shall then be tucked not less than 30 mm into the inner leaf masonry joint. The inner leaf and all internal walls shall have a separate damp proof course membrane placed directly on the concrete slab at floor level.

Brick veneer construction

The damp proof course membrane shall be placed directly on the concrete slab at floor level under the face brickwork and shall then be carried up to a minimum height of 150 mm and fixed to the face of studwork. A separate damp proof course membrane shall be provided between the concrete slab and the bottom wall plate of all internal timber walls.

4.4 Weep Holes

Cavities shall be cleared of all mortar droppings and weep holes shall not exceed 1200mm centres or in accordance with Cl. 6.5.1 of AS 3700.

4.5 Mortar and Jointing

Mortar shall comply with Cl. 2.2 and Table 2.1 of AS 3700.

Generally, the following types of mortar may be used:-

| | |
|---------------|---------------------------------|
| Cement Mortar | 1 cement : 1/10th lime : 3 sand |
| Lime Mortar | 1 hydrated lime : 3 sand |
| Compo Mortar | 1 cement : 1 lime : 6 sand |

Unless otherwise specified, all walling and pointing to flashings shall use compo mortar and all brick foundation walling (build-up) shall use cement mortar but without lime. All mortar shall be thoroughly mixed and only clean fresh water, fresh Portland Cement (where required) and clean sharp sand free from impurities shall be used. The use of additives to mortar as a substitute for lime is not acceptable.

Joint tolerances shall not be outside the provisions of Table 8.1 of AS 3700.

4.6 Wall Ties and Masonry Anchors

All wall ties shall be manufactured in accordance with AS 2699 and be installed in accordance with Section 3 of AS 3700.

Wall ties are to be hot dipped galvanised, and not less than 4mm diameter for cavities up to 80mm width. They shall be placed to tie the outer leaf of a cavity wall or a brick veneer wall to its backing. Wall ties shall be spaced at not more than 600mm centres in each direction except where adjacent to lateral supports and control joints or around openings in masonry in which case they shall be spaced at not more than 400mm maximum along the line of the lateral support or control joint or around the perimeter of the opening and located within 300mm from that line of support, control joint or perimeter of opening.

Each wall tie shall be embedded to a minimum depth of 50 mm in the mortar joint in each leaf of masonry and, in brick veneer construction, each tie shall be fixed to the load-bearing frame with a 25 x 2.5 mm galvanised clout.

5.0 METALWORK

5.1 Structural Steelwork

Allow to supply and fabricate in approved workshop the steelwork as included on Drawings and Details. Ensure accuracy in relation to other work and supply the Architect and Engineer with a copy of the Fabricator's shop drawing for inspection where necessary.

5.2 Steel Framing

Steel floor, wall and/or roof framing shall be approved by the Local Authority and shall be installed in accordance with the Manufacturer's Recommendations.

5.3 Lintels

Lintels in masonry may be –

1. Steel lintels complying with this Part; or
2. Steel lintels complying with AS 4100, AS/NZS 4600; or
3. Reinforced concrete beams designed in accordance with AS 3600

Steel lintels must comply with AS 3700

1. The long leg of angles must be vertical; and
2. Each angle or flat can carry a maximum 110mm wall thickness; and
3. The minimum bearing length at each end of the lintel must be –
 - a. for clear spans less than 1m – 100mm; and
 - b. for clear spans more than 1m – 150mm; and
4. There must be not less than three courses of brickwork over openings; and
5. All loads must be uniformly distributed (point loads are not allowed)

Lintels supporting roofs and masonry walls

Lintel Spans

Design wind speed not more than N3 – Maximum Roof load width 6.6m and 3.0m maximum floor load width for Load type A.

| Steel Section | | Construction Type Refer figure 12.10 & 12.11 below | | | |
|---------------|--|--|-----------------|-----------------|------------------|
| Angles | | A brickwork only | B Tiled roof | C Metal roof | D Timber roof |
| | | MAXIMUM CLEAR SPAN OF LINTEL (mm) | | | |
| 90x90x6EA | | 3060 | 1550 | 1930 | 1680 |
| 90x90x8EA | | 3310 | 1670 | 2100 | 1820 |
| 100x100x6EA | | 3400 | 1730 | 2160 | 1870 |
| 100x100x8EA | | 3660 | 1870 | 2340 | 2020 |
| 150x90x8UA | | 4200 | 2710 | 3380 | 2840 |
| 150 UB 14 | | 4200 | 3140 | 3840 | 3270 |
| 150 UB 18 | | 4200 | 3480 | 4140 | 3590 |
| 180 UB 22.2 | | 4200 | 4000 | 4200 | 4050 |
| Flats | | | | | |
| 75x8 | | 640 | - | - | - |
| | | | | | |

Notes:

1. The lintels noted in this table must be not less than grade 300MPa in accordance with AS/NZA 4100
2. Alternative design methods of steel lintels can be achieved by complying with AS 3700 Table 12.8 and Table 12.9

The lintel widths in the table are applicable to all heights of masonry up to 600mm for Load Type A, B and C. For load type D, there must be a masonry height of at least 2100mm above the lintel.

The minimum wall thickness for use of a lintel supporting load type D shall be 140mm.

Cold formed lintel sections may be used when installed strictly in accordance with the Manufacturer's Recommendations.

All non-galvanised lintels shall be primed with Red Oxide Zinc Chromate or cold galvanising or other approved anti rust priming compounds. This does not apply to lintels exposed to the elements within 1 km of the sea, in which case hot-dipped galvanised bars or angles must be used.

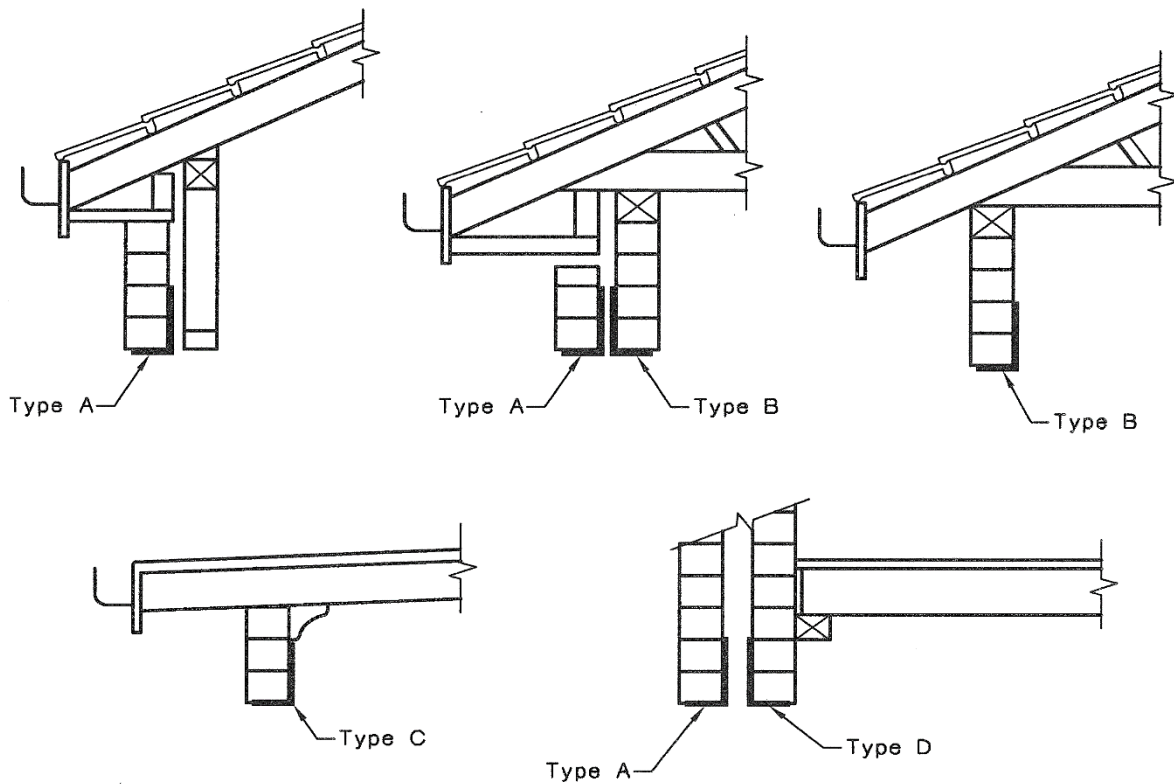
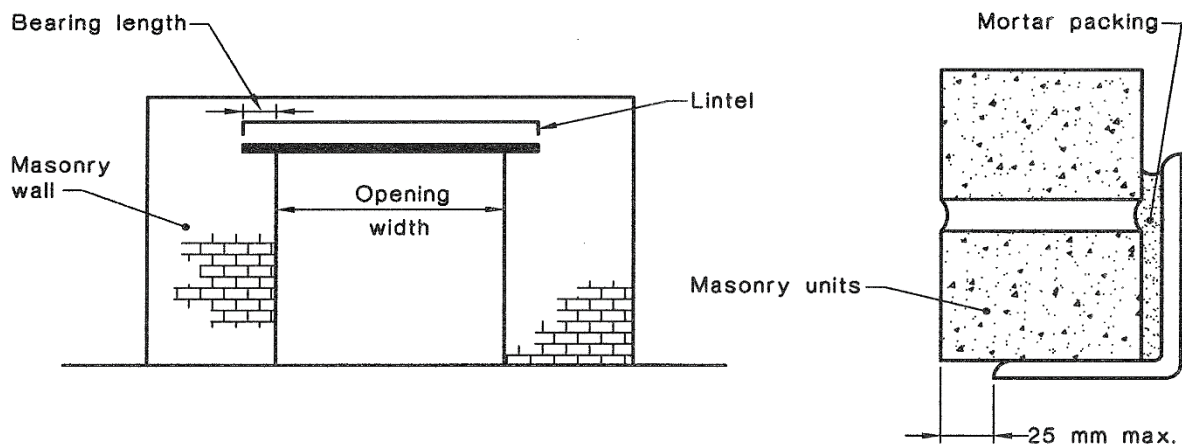


FIGURE 12.10 LINTEL DETAILS AND LOAD TYPE



SECTION OF LINTEL

FIGURE 12.11 INSTALLATION OF LINTELS

5.4 Aluminium Window and Door Frames

Aluminium window and door (sliding) frames and sashes complete with jamb and sill flashing shall be manufactured in accordance with AS 2047 and installed in accordance with AS 2048.

6.0 CARPENTRY

6.1 Timber Framing

All timber framing shall comply with the requirements of AS 1684 & AS 1720 in respect to the manner of construction. The type of timber, the stress grade, the sizes, the spans and the spacings to be used in the structure shall be approved by the Local Authority. The work shall be carried out in a proper and workmanlike manner and shall be in accordance with acceptable and recognised trade practices.

In respect of timber framing, and to the extent applicable, the following Australian Standards shall be complied with:

Grading

| | |
|---------|--|
| AS 2858 | Timber - Softwood - Visually Stress-Graded for Structural Purposes |
| AS 2082 | Visually Stress-Graded Hardwood for Structural Purposes |
| AS 2440 | Sawn Douglas Fir (Oregon) and Sawn Western Hemlock (Canada Pine) (as amended by AS 2858) |

Flooring

| | |
|---------------------|--|
| AS 2796 | Timber - Seasoned Hardwood - Milled Products |
| AS 1261 | Wood mosaic parquet |
| AS 1262 | Code for the installation of wood mosaic parquet flooring |
| AS 071 | Wood blocks for parquet flooring |
| AS CA39 | Code for the sanding of interior wooden floors |
| AS 1492 | Flooring milled from radiata pine |
| AS 1782 | Flooring milled from Australian grown conifers (softwoods) (excluding Radiata pine and cypress pine) |
| AS 1810 | Flooring milled from cypress pine |
| AS 2269 | Plywood sheet flooring |
| AS 1859 and AS 1860 | Particle board sheet flooring |

General

| | |
|---------|--|
| AS 1684 | SAA Timber Framing Code |
| AS 1720 | SAA Timber Engineering Code |
| AS 1694 | Code for Physical Barriers used in Protection of buildings against Subterranean Termites |
| AS 1604 | Preservative-treated Sawn Timber, Veneer and Plywood |

6.2 Flooring

The ends of timber floor-boards shall be 12 mm clear of all walls. With particular regard to ground clearance and installation in wet areas, structural steel flooring shall be used strictly in accordance with the Manufacturer's Recommendations.

Timber species, stress grades, sizes and spans and spacings shall be in accordance with AS 1684 and/or in accordance with the Engineer's recommendations.

Fixing shall be in accordance with the applicable flooring code referred to in Cl. 6.1. When specified, floors shall be given a basic machine sanding to provide an even surface and shall be left clean throughout.

Flooring must not be fixed until the roof is completed, and the building is in a weather-proof condition.

6.3 Wall Framing

Noggings to walls shall be at a maximum of 1350 centres or spaced to suit linings.

Bottom plates shall be fixed to the concrete slab with 10mm diameter masonry anchors or alternatively, with power-driven fasteners or masonry rails at a maximum of 1200 centres or in accordance with AS 4055.

All stud walls adjoining wet areas shall be damp proofed in accordance with BCA F1.7 (including Table F1.7), BCA F1.9, BCA F10 and BCA F1.11. Bracing shall be installed in accordance with AS 1684.

6.4 Roof Framing

Roof Framing shall be erected in accordance with the roof framing layout approved by the Local Authority and in accordance with AS 1684.

Fascias, Bargeboards and any other dressed timbers used in roof construction shall be Oregon, Western Red Cedar, Radiata Pine (pressure preservative treated in accordance with AS 1604). Other materials approved by the Local Authority may be used.

Pitched roofs

No strutting shall be off hanging beams or ceiling joists unless directly over walls. 100 x 50 mm strutting plates at the foot of struts shall be fixed as required to adjacent ceiling joists or other framing members which provide a firm base for nailing. Blocking shall be provided off masonry walls. Stiffeners (70 mm thick x 600 mm long x plate width) on top plates of stud walls shall be provided so that strut loads are supported over two studs. Counter strutting shall be provided where necessary.

Trussed roofs

Timber roof trusses shall be designed in accordance with AS 1720.1 and constructed in accordance with the details approved by the Local Authority. Wall framing and other members supporting roof trusses shall be constructed in accordance with the details approved by the Local Authority. The truss supplier shall approve any truss modifications for the installation of hot water services or storage tanks, solar heaters, air conditioners, services or other equipment on or in the roof.

Other special forms of roof construction

Other special forms of roof constructions complying with AS 1684 and AS 1720.1 are permissible if constructed in accordance with the Engineer's Recommendations and drawings as may be applicable.

6.5 Roof Ties

Roof ties and anchorage shall be constructed in accordance with AS 4005 and AS 1684.

In Category 1 and 2 wind areas and for roofs with wider than 1 metre, roof ties shall be installed strictly in accordance with the Engineer's Recommendations. Otherwise, the following applies:

Brick buildings

Roof Ties are to be 30mm x 0.8mm galvanised steel strips with both ends of each tie twice nailed to roof timbers and spaced at 1800mm maximum centres and at all corners and looped around 10mm diameter mild steel pins built in across the cavity as work proceeds (750mm from the top of brickwork for tiles roofs and 1200mm for other roofs).

Brick veneer and timber frame buildings

30mm x 0.8mm galvanised steel straps shall be fixed to rafters at no more than 1200mm centres and such strips are to be looped over rafters and carried down 300mm on each side of studs and double spiked to studs and rafters.

For all buildings other than tiled roofs, purlins shall be adequately secure to rafters using appropriate metal ties.

6.6 Timber Posts

Posts supporting carports, verandas and porches shall be dressed 100 x 100mm timber suitable for each external use, or otherwise specified, supported on galvanised or treated metal post shoes. Posts shall be shouldered and bolted to all adjoining beams.

6.7 External Claddings and Linings

Weatherboards of selected hardwood, Oregon, Western Red Cedar, Cypress or Baltic Pine or Radiata Pine (pressure preservative treated in accordance with AS 1604), with a maximum moisture content of 15% and in long lengths and with profiles and minimum rebated laps as required by AS 1495, AS 1496, AS 1784, AS 1787 or AS 1093 (for the relevant softwoods) shall be securely fixed and fitted with angle stops. Otherwise, boards shall be fixed in accordance with Manufacturer's Recommendations.

7.0 JOINERY

7.1 General

All joinery work shall be manufactured and installed according to good trade practices and applicable Australian Standards.

Except where otherwise specified, timber seasoned to 12% to 15% maximum moisture content at time of manufacture shall be used. Door sills shall be hardwood.

Exterior plywoods shall conform to AS 2270. The quality and grade of all joinery timber shall comply with the Australian Standard applicable to the use to which the joinery is to be applied.

7.2 Doors and Frames

Door frames shall be at least 115 x 56 or 139 x 38 solid rebated or 115 x 38 with 10mm thick planted stops. Mullions shall be at least 38mm solid rebated or 38mm thick with 10mm thick planted stops. Frames shall be joined to 139mm x 38mm kiln dried sills. Jamb linings shall be at least 18mm thick with 10mm thick door-stops.

Internal flush doors shall be 35mm thick. External flush doors shall be 35mm thick, sheeted on each face with 4mm thick waterproof ply or tempered hardboard, edge stripped on two edges as required and hung on three 90mm butt hinges.

Full glass doors are to be not less than 35mm thick. All internal and external timber doors and doorsets shall be installed in accordance with AS 1909. Timber Doors and door sets shall be manufactured in accordance with AS 2588 and AS 2689.

7.3 Windows and Frames

Awning and Casement Frames shall be 115mm x 56mm or 139mm x 38mm solid rebated or 115mm x 422mm with 10mm thick planted stops. Mullions shall be at least 38mm thick. Sills shall be at least 38mm thick, sunk and weathered.

Box frames shall be complete with solid linings and with at least 38mm thick single sunk and weathered sills. In masonry construction sills, unless specially channelled to take sill ties fixed on slope, shall be fitted with 0.6mm galvanised weatherbars projecting down 20mm.

Awning, casement, horizontally sliding and double hung sashes shall be manufactured from stock material not less than 30mm thick. All sashes are to be properly framed with mortice and tenon or other joints approved by the Local Authority and put together with an adhesive approved by the Local Authority.

In all other respects, windows and frames shall comply with AS 1540, AS 2046 and AS 2047.

7.4 Door and Window Fixing

Each door and window frame is to be fixed with purpose made galvanised steel straps which shall be secured to the door or window frame at maximum centres of m. Alternatively, box frames may be fixed with cavity cleats which shall run the full length of the frame and fit properly into the cavity. Aluminium frames shall be fixed in accordance with the Manufacturer's Recommendations.

7.5 Trims

Storm Moulds shall be fixed to all timber external door and window frames or a caulking procedure approved by the Local Authority shall be used.

Architraves or suitable mouldings shall be provided to door and window openings where required.

Skirting where required shall be fixed at the junction of wall faces and flooring.

7.6 Cupboards

Generally, construction shall be screwed and glued, or other approved system. Fabricate units without joints wherever possible.

Generally, bench cupboards shall have their tops finished in a water-resistant material. Install cupboards plumb, level, true and straight with no distortions.

Cupboards shall be supplied and installed as detailed in the Schedule.

8.0 ROOFING

8.1 Tiled Roofing

Concrete and terracotta tiles shall comply with AS 2049 and be installed in accordance with AS 2050. Otherwise roof tiles shall be installed in accordance with the Manufacturer's Specifications. Roofs with the tiles set out below shall have minimum pitches set out below

| | Unsarked | Sarked |
|------------------|-----------------|---------------|
| Terracotta Tiles | 1:2.5 (22deg) | 1:3 (18.5deg) |
| Concrete Tiles | 1:3.3 (17.5deg) | 1:3.7 (15deg) |

Pitches may be below the above minimum if the work is carried out in accordance with Special Details and the Tile Manufacturer guarantees that the tiles will be watertight.

8.2 Steel Roofing

Steel roofing shall be manufactured and installed in accordance with AS 1397, AS 1445 and AS 1562.

Corrugated Steel Roofing shall be either 0.47mm (total coated thickness) Zinalume or 0.485mm (total coated thickness) Colorbond Sheets fixed with a minimum sidelap of 1.5 corrugations. Roofs shall have a minimum pitch of 1:12 (5deg).

Sheets shall be in single lengths from eaves to ridge unless prohibited by design. Fixing of sheets shall be strictly in accordance with Manufacturer's Recommendations.

All ridges and hips are to be covered with capping of similar gauge and material to the roof. Where the site is within 1km of the sea the Builder shall consult the manufacturer of the steel roofing as to the suitability of the product for that location.

Profiled roof decking for flat roofs shall have a minimum pitch of 1.5 degrees. Sheets shall be in single lengths from eaves to ridge. Roof decking shall be fixed in accordance with the Manufacturer's Recommendations and any special details.

8.3 Metal Rainwater Goods

Rainwater goods shall be manufactured to comply with AS 3500.3.2.

Valleys shall be 350mm wide, extend 100mm under roofing at each side, have beaded edges and have end joints lapped a minimum of 150mm.

The minimum fall for fixing gutters shall be 1 in 500 for eaves gutters and 1 in 200 for internal box gutters.

Downpipes shall be provided where indicated on the Drawings. Otherwise one 100mm x 50mm downpipe shall be provided for each 50sq. metre of roof area or part thereof or equivalent provisions shall be made (for example, one 100 x 100mm downpipe for each 100 sq. metre).

8.4 Sarking

Sarking used under roof coverings must comply with be fixed in accordance with:

- a. AS 1736 for pliable roof sarking and
- b. AS 1903 and AS 1904 for reflective foil laminate

Sarking is to consist of fire resistant, double-faced aluminium foil covered reinforced fabric, or other material approved by the Local Authority, and shall be fixed with a 100mm side lap. End laps shall be folded and fixed to rafters. The bottom end shall be secured to the top edge of the fascia or rafter, and dressed 25mm down into gutters, and so as to ensure the discharge of any water into gutters. At a valley, sarking shall turn neatly up the edge of the valley board and extend over the side heading of the valley. Care shall be taken in all instances to ensure sarking is not damaged.

Note: Sarking may be required in coastal areas and declared bushfire prone areas.

8.5 Sealants

Sealants shall be compatible with the product and paint to be used.

8.6 Flashings

Flashings shall comply with AS 2904 and SA F1.9 of the Building Code of Australia.

Flashings shall be provided around chimney stacks, vent pipes, skylights, all roof penetrations (eg air conditioning ducts), down roof slopes abutting masonry walls, canopies and whenever else required.

Unless windows have incorporated self-flashings they shall be flashed under their sills for their full length.

Sheet lead shall not be less than 15kg/sq. metre where exposed to sunlight in accordance with AS 1804. Lead flashings shall be dressed down onto roof slopes, and vertical faces embedded a minimum of 15mm into masonry to comply with Clause 3.2 of AS 3700 and pointed with mortar (or flexible caulking compound in accordance with the Manufacturer's recommendations).

9.0 PLUMBING AND SANITARY DRAINAGE

9.1 Sewer

In sewered areas sanitary and drainage plumbing and the sewer connection shall be carried out in accordance with SA Water Regulations and Directions.

Note: Specific requirements of SA Water. Department in respect of additional work to be carried out on the Site are not included unless specified otherwise.

9.2 Septic System

In unsewered areas, sanitary and drainage plumbing at the septic system will be carried out in accordance with the minimum requirements of the South Australian Health Commission or the Local Authority, whichever has authority in respect of this matter given the particular location of the site.

9.3 Plumbing

All plumbing shall be installed by a Registered Plumber and comply with the requirements of SA Water.

All appropriate plumbing fittings shall be connected to the service connection for the Site using either 18mm outside diameter type B copper tubing complying with AS 1432 or 20mm inside diameter galvanised steel pipe or Class 12 polythene or P.V.C complying with AS 1159 trenched 300mm into the ground.

Main service runs shall be kept 1000mm clear of external wall foundations where possible. All piping within the external walls shall be Type B copper tubing complying with AS 1432 and of an appropriate diameter. No piping shall be laid beneath the ground within the external walls.

9.4 Gas

All installations (including L.P.G.) shall be carried out in accordance with the Gas Act, and Australian Gas Association Advisory Code 601.

10.0 ELECTRICAL

10.1 General

All electrical work and installations shall be carried out by a qualified electrician and comply with AS 3000 and the ETSA Service Rules and Conditions of Supply.

Unless otherwise specified, the electrical services shall be 240-volt, single phase supply.

10.2 Air-Conditioning

General

Mechanical ventilation: To AS/NZS 1668.1 and AS 1668.2, as required by the Building Code of Australia.

The BCA requires that where its requirements for natural ventilation are not satisfied, mechanical ventilation must be provided. Either identify areas requiring mechanical ventilation on the drawings or include in the specification.

System compliance with AS 1668.2-1991 (and AS/NZS 3666.1) is deemed-to-satisfy BCA ventilation requirements for habitable rooms etc. under clause F4.5. The alternative is the provision of natural ventilation to BCA clause F4.6.

AS 1668.2-2002 is not currently cited by the BCA. It includes performance criteria for natural ventilation as well as for mechanical ventilation. AS 1668.2 is also deemed-to-satisfy the BCA requirements for car park ventilation, the alternative again being provision of natural ventilation (also covered in AS 1668.2).

Refrigeration systems: To AS/NZS 1677.2 and the recommendations of SAA HB 40.1 and SAA HB 40.2.

Microbial control: To AS/NZS 3666.1, AS/NZS 3666.2 and the recommendations of SAA HB 32.

Ducted air conditioners: To AS/NZS 3823.1.2.

Non-ducted air conditioners: To AS/NZS 3823.1.1.

Ductwork: To AS 4254

Conform to equipment manufacturer's recommendations for the refrigerant used.

Pipes: To AS/NZS 1571.

The value of ≥ 4.5 L/s/m² is a reasonable minimum for office areas with 2.7m ceilings. A value of 6.0 L/s/m² will give a greater degree of flexibility for partitioning changes and location of diffusers. Perimeter areas near windows and high heat load areas like conference rooms will have significantly higher supply air rates. Supply air should not be confused with Fresh air, which is typically 1 L/s/m² in offices.

11.0 PLASTERING AND LINING

11.1 Plastering

Except where finished brickwork or blockwork is used, all untiled internal wall surfaces shall be floated and set to a minimum thickness of 12mm.

The floating coat shall be 1-part Portland Cement and 6 parts clean plasterers sand free from impurities. The setting coat shall consist of 1.5 parts lime putty to 1 part of hard plaster. Unless otherwise specified, all external angles shall be set in hard plaster and rounded off to a 12mm radius.

External walls shall be cement rendered to a thickness of 12mm.

Cement Render shall be 1-part Portland Cement and 3 parts clear plasterers sand to which may be added hydrated lime in proportion 1:10. Unless a bonding agent is used masonry surfaces shall be rough cast before rendering. The use of additives for workability is permissible but not as a substitute for the cement proportion of the mix.

11.2 Internal Wall and Ceiling Linings

Wall and ceiling frames (except wet area walls) may be covered with 10mm thick Gypsum Plasterboard. Gypsum Plasterboard shall be manufactured and installed in accordance with AS 2588, AS 2592 and AS 2589. Where disappearing window screens are used, the internal wall lining is to be protected with a waterproof membrane.

The lining of wet area walls in brick veneer and timber frame buildings shall be constructed as per the BCA F1.7 (including Table F1.7), BCA F1.9, BCA F10 and BCA F1.11.

Other internal linings may be used in accordance with the Drawings and Schedule and fixed in accordance with the Manufacturer's Recommendations. Where required in open verandahs, porches and eaves soffits, ceilings of Cement Fibre Board shall be installed. The manhole cover shall be of like material to the adjacent ceiling.

11.3 Cornices

Suitable cornice moulds where required shall be fixed at the junction of all wall faces with ceilings. Unless otherwise specified cornices to be plasterboard, 55mm scotia section. Fix with cornice cement, in straight lines and with cornices mitred.

11.4 Insulation

Where specified in the Building Schedule, mineral wool or fibreglass insulation shall be laid on all ceilings (except ceiling in eaves, verandahs, porches and carports) and walls in accordance with AS 4859 and AS 2462.

12.0 TILING AND WATERPROOFING

12.1 Materials

Cement mortar and other adhesives shall comply with AS 3958.1. Sand shall be clean sharp washed sand free from impurities and tiling grout shall be compatible with adhesive.

12.2 Installation

Installation of tiles shall be in accordance with AS 3958. Cutting and drilling of tiles shall be accurately and carefully carried out. Floor tiles shall be laid on a full bed of approved adhesive or 3 in 1 sand and cement. Wall tiles shall be fixed to cement-rendered surfaces or wall sheeting with a full bed of approved adhesive. Bedding methods and materials shall be appropriate to the tile, the background and the conditions of service. Surplus adhesive and grout shall be cleaned off the face of tiles before it sets. On completion of laying all tiles all joints shall be filled solid with tiling grout. Where brass angles are fitted at doorways and construction joints, tiling shall neatly abut the back, and finish flush with the top of the angle.

Finished tiling shall have a true flat surface with uniform width of joints at all corners square and straight. No arises shall show where tiles abut.

All tiling to wet areas shall comply with the requirements of BCA F1.7 (including Table F1.7), BCA F1.9, BCA F10 and BCA F1.11.

AS 3740 including the falls, set downs, water proofing and flexible sealants.

12.3 Waterproofing

Waterproofing to be in accordance with AS 3740 and BCA F1.7 (including Table F1.7), BCA F1.9, BCA F10 and BCA F1.11.

'ABA Superflex' system water-proofing, adhesive and grout to manufacturer's recommendations to all wet areas. To comply with AS 3740. Allow membrane to cure before tiling.

Floor Wastes: Turn membrane down onto the floor waste puddle flanges and adhere to floor waste.

13.0 GLAZING

13.1 Glazing

Glazing shall comply with the appropriate sections of AS 1288 and AS 2047.

Glass shall be free from flaws, scratches and other imperfections, clean cut and set with proper clearances.

Glass shall be back-puttied, sprigged into the rebates, and weather puttied. The maximum size for Sheet, Float or Plate Glass shall be in accordance with AS 1288 - 2006 and AS 2208.

Shower doors, screen and bath enclosures shall be manufactured and fixed in accordance with AS 1288 - 2006.

Mirrors shall be 6mm mirror quality float glass, with heavy silver reflective surface, electroplated copper coat and rolled coat of backing paint. Edges shall be flat polished and arressed.

14.0 PAINTING

14.1 Painting

All paint used shall be of a quality suitable for the intended application as per the Manufacturer's Recommendations. The number of coats required shall be as per Manufacturer's Recommendations. All surfaces to be painted shall be properly prepared and painted in accordance with current trade practice and the Manufacturer's Recommendations for the particular surfaces. Paint shall be first quality proprietary brands (shelf lines) pre-mixed paint. Paint shall be delivered in the Manufacturer's sealed containers and clearly labelled.

All ironmongery or surfaces liable to damage by staining or spotting are to be clearly covered up and the contractor shall be responsible for any damage. If requested the Builder shall submit samples or prepare sample areas on the job for checking.

The colours used shall be as specified in the Building Schedule.

15.0 INTERNAL FINISHES

15.1 Floor Preparation

Clean and free of any deposit or finish which may impair adhesion or location and functioning of movement joints.

Cleaning concrete surfaces: Mechanically remove the following surface treatments:

- Sealers and hardeners
- Curing compounds

Cleaning timber surfaces: Remove oil, grease and traces of applied finishes.

Concrete substrate correction: Remove projections and fill voids and hollows with a levelling compound compatible with the adhesive.

Do not start work before the building is enclosed, wet work is complete and dry, and good lighting is available. Protect adjoining surfaces.

15.2 Material Types

Vinyl

Carpet

Carpet Tiles

Timber Flooring

15.3 Installation

Supply and install to manufacturer's recommendations.

16.0 FENCING AND SITEWORKS

16.1 Fencing

Fence sections, gates and masonry screen walls forming part of the Building Design and shown on the Drawings, shall be provided as detailed and deemed to have been included in the Contract Price.

16.2 Concrete Paving

Refer to Site Plan Drawings for extend of Paving. Unless otherwise specified by the Engineer lay concrete paving to a thickness of 75mm for paths and perimeter paving, while for driveways and crossovers provide 100mm thickness reinforced with F62 fabric.

16.3 Unit Paving

Where indicated on drawings provide Brick or Concrete Pavers (as specified) all in accordance with Manufacturer's Recommendations for materials and installation.

16.4 Bituminous Pavements

Where indicated on drawings provide bitumen paving as detailed. The sub-base, base and surface are all to be constructed as per Engineer's details. Mark any car park positions as indicated with 50mm wide white or yellow road marking paint.

16.5 Stormwater

Refer to drawings and details for Stormwater details. Unless specified otherwise provide UPVC heavy-duty stormwater pipes and fittings to AS 1254 or AS 1260 according to sizes indicated on drawings. Make all required connections to approval at the levels indicated and as applicable.

16.6 Fire Service

If required, supply install commission and test the complete fire hydrant and/or sprinkler system as shown on drawings and details.

Carry out all the works in accordance with the requirements of SA Water and S.A. Metropolitan Fire Service.

16.7 Ground Cover

Builder to supply and spread to front and rear areas with clean top soil, as necessary, to 100mm minimum below finished paving, kerbing and boundary levels. Provide minimum 100mm of filling to finished levels with sandy garden loam (60/40 mix).

17.0 SIGNS AND DISPLAY

17.1 Materials

Materials standards

Aluminium:

- Plate for engraving: Alloy and temper designation 6063-0
- For casting: To AS 1874

Stainless steel: Surface finish designation 4 (general purpose polished).

Plastics:

- PVC-U sheet: Semi-rigid sheet
- Rigid cellular polystyrene: To AS 1366.3, class VH for cut-out shapes

17.2 Workmanship

Production

General: Form graphics items accurately with clean, well defined edges or arises, free from blemishes.

Engraving to two-layer plastic laminate: Lettering excavated to expose the lower laminate.

Engraved and filled: Lettering precision excavated and filled colouring material. Clean faces of all filling material.

Casting: Produce shapes free of pits, scale, blow holes or other defects, hand or machine finished if necessary.

Laser cut: Individual vinyl letters with self-adhesive backing.

Printed lettering: Lettering and graphic images screen / digitally printed on:

- Film with self-adhesive backing
- Acrylic sheet
- Aluminium plate
- Stainless steel plate

Large format digital printing: Lettering and graphic images screen printed film with self-adhesive backing.

Signwriting: Lettering and graphic images hand painted direct to the background by a tradesman with recognised qualifications and demonstrated experience.

Fabricated: Three dimensional, formed as follows:

- Laser cutting from solid material and hand finished as necessary
- Moulding: Individual plastic hollow three dimensional characters and shapes formed by:
 - injection moulding
 - vacuum forming
- Built-up individual shapes by fabricating the faces and edges from separate pieces neatly and securely joined

Installation

General: Install signage level and plumb, securely mounted, with concealed theft-resistant fixings. Fix self-adhesive signs free of bubbles and creases.

17.3 Statutory Signs

Termite protection

| | |
|-------------|---|
| Position | Meter box or similar |
| Message | Indicate: The method of protection The date of installation The life expectancy of a chemical barrier as listed on the National Registration Authority label The installer's recommendation for inspections |
| Letter size | |
| Sign type | Laminated page(s) |
| Compliance | BCA 3.1.3.2(b), B1.4 (i)(ii) AS 3660.1 Appendix A |

Disabled access

| | |
|-------------|---|
| Position | As nominated BCA D3.3, and AS 1428.1 clause 14.5.1 To each: Sanitary facility Accessible entrance Accessible lift(s) Path of travel to accessible facilities |
| Message | International symbols to AS 1428.1 clause 14 |
| Letter size | AS 1428.2 clause 16, Table 1 |
| Sign type | Printed acrylic sheet adhesive fixed |
| Compliance | BCA Spec A1.3, D3.3(c), D3.6 AS 1428.1 |

Braille and tactile signs

| | |
|-------------|---|
| Position | To each: Sanitary facility Accessible entrance Accessible lift(s) Path of travel to accessible facilities |
| Message | International symbols to AS 1428.1 clause 14 for access or deafness |
| Letter size | BCA Specification D3.6 |
| Sign type | Adhesive fixed polyvinyl membrane with raised message |
| Compliance | BCA D3.6 AS 1428.1 |

Main switchboard, excluding Class 1 dwellings

| | |
|-------------|---|
| Position | Main entry or fire indicator panel |
| Message | Indicate location of main switchboard. Incorporate the term 'Main Switchboard'. |
| Letter size | |
| Sign type | Printed acrylic sheet adhesive fixed |
| Compliance | AS/NZS 3000 clause 2.9.2.4 |

Fire hose reels and fire hydrants

| | |
|-------------|--|
| Position | Cupboard door or adjacent the FHR |
| Message | FIRE HOSE REEL (and/or) FIRE HYDRANT |
| Letter size | External cabinets: 75 mm Internal cabinets: 50 mm |
| Sign type | White adhesive backed vinyl |
| Compliance | AS 2441 AS 2419.1 BCA E1.3 and E1.4 |

Fire hose reel location sign

| | |
|-------------|--|
| Position | Above or adjacent the FHR if located in a recess or obscure location |
| Message | To AS 2441 Figure 10.1 |
| Letter size | 16 mm |
| Sign type | Adhesive backed vinyl |
| Compliance | AS 2441 |

Fire brigade booster assembly cabinet

| | |
|-------------|--|
| Position | Cabinet doors |
| Message | FIRE HYDRANT BOOSTER, or FIRE HYDRANT AND SPRINKLER BOOSTER, or COMBINED FIRE HYDRANT AND SPRINKLER BOOSTER, as appropriate. If a feed fire hydrant is enclosed in the cabinet, add the symbol FH within a 100 mm circle of thickness and colour to match lettering. |
| Letter size | ≥ 50 mm |
| Sign type | Adhesive backed vinyl |
| Compliance | AS 2419.1 clause 7.9 |

Portable fire extinguishers

| | |
|-------------|--|
| Position | Cabinet |
| Message | FIRE EXTINGUISHER |
| Letter size | 32 mm min |
| Sign type | Adhesive backed vinyl |
| Compliance | BCA E1.6 AS 2444 clause 3.6 Fire Brigade |

Portable fire extinguishers – location signs

| | |
|-------------|---|
| Position | As nominated in AS 2444 clause 3.2 at every installed extinguisher nominated BCA Table E1.6 |
| Message | Prescribed graphic |
| Letter size | |
| Sign type | Computer generated adhesive backed vinyl graphic |
| Compliance | BCA E1.6 AS 2444 clause 3.3 Fire Brigade |

Fire blankets

| | |
|-------------|---|
| Position | As nominated in AS 2444 clause 6.4 at every blanket location |
| Message | Prescribed graphic |
| Letter size | |
| Sign type | Computer generated adhesive backed vinyl graphic |
| Compliance | BCA E1.6 AS 2444 clause 5.1, 5.3 and Fig 5.1 Fire Brigade |

Required fire door

| | |
|--|--|
| Position | Adjacent to the door, To the side of the door that faces a person seeking egress, and If the door is in the held open position, on either the wall adjacent the doorway or both sides of the door. |
| Message Auto door with auto hold open device Self closing door Door discharging from a fire isolated exit | FIRE DOOR – DO NOT OBSTRUCT FIRE DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN FIRE SAFETY DOOR – DO NOT OBSTRUCT |
| Letter size | 20 mm |
| Sign type | Printed acrylic sheet adhesive fixed |
| Compliance | BCA D2.23 |

Signs shall conform to the requirements of Australian Standard AS 1319.
Statutory signs by Builder.

18.0 FIRE PROTECTION

All relevant Australian standards referred to shall be in accordance with the version listed within Specification A1.3 of the National Construction Code – 2014.

The fire hydrant system must be installed in accordance with AS 2419.1.

Fire hose reels must be installed in accordance with AS 2441.

Portable fire extinguishers shall be selected and installed in accordance with AS 2444.

Emergency lighting and exit signs to comply with AS 2293.1.

Doors in a required exit, forming part of a required exit or in a path of travel to a required exit must be readily openable without a key from the side that faces a person seeking egress, by a single hand downward action on a single device which is located between 900mm and 1200mm from the floor.

The required exits or doors in paths of travel will be:

Where located in accessible paths as required under BCA D3:

Be such that the hand of a person who cannot grip will not slip during the operation of the latch, and have a clearance between the back of the handle and the face of the door at the centre grip of not less than 35mm and not more than 45mm, or be a single pushing action .

The automatic sliding doors serving as required exits are to auto-release upon loss of power or activation of the automatic fire alarm installation. They are to be fitted with built-in backup battery and an emergency push button release.

SIGNS ON FIRE DOORS / SMOKE DOORS to comply with BCA D2.23

All fire doors and Smoke doors (except Apartment SOU entry fire door) shall include the following 20mm high minimum capital letter signage:

For automatic doors held open by an automatic hold open device (Magnetic catch): **"FIRE SAFETY DOOR – DO NOT OBSTRUCT"**

For a self closing door: **"FIRE SAFETY DOOR – DO NOT OBSTRUCT- DO NOT KEEP OPEN"**

For a door discharging from an fire isolated exit: **"FIRE SAFETY DOOR – DO NOT OBSTRUCT"**

The Fire Hazard properties of all materials and assemblies shall comply with BCA C1.10 and Specification C1.10

All glazing shall be selected and installed in strict accordance with AS 1288 and AS 2047.

The tenancy shall be mechanically ventilated in strict accordance with AS 1668.1 and AS 1668.2.