TENDERING AND PRE-CONTRACT INFORMATION

AND

SPECIFICATION

for the construction of

Conference Centre Upgrade

for

Sydney Catchment Authority

at

Warragamba Conference Centre

Prepared by :



Ruth Newman Architect

PO Box 736, Sutherland, NSW

02-95409959

ruth.newman@tpg.com.au

March 2008

101 General

- A. Scope
 - The work of this section includes but is not limited to the following items:
 - Demolition of existing doors, wall tiles, kitchen equipment, finishes and carpets etc.
 All other items noted on drawings to be demolished
 - Cleaning the site thoroughly on completion.
- B. Examine documents: Examine parts of the drawings and this specification for requirements which affect the work of this section. In particular, take note of related work.
- C. Co-ordination: Co-ordinate with other trades affecting or affected by work of this section, co-operating as necessary to ensure steady and satisfactory progress of the work.

102 Related Work

Co-ordinate and co-operate with the following trades:

Disconnection of existing services by appropriate other trades.

103 n/a

104 References

Comply with applicable portions of the following Australian Standards: AS 2436 1981 Guide to noise control ... and demolition sites AS 2601 2001 The demolition of structures Comply also with the requirements of:

Applicable building regulations,

Statutory authority having jurisdiction, local council.

105 Public and Property Protection

Provide measures required by municipal and state ordinances, laws, and regulations for the protection of surrounding property, footpaths, streets, kerbs, the public, occupants and workmen during demolition operations. Comply with the above ordinances, laws etc. in carrying out measures including barricades, fences, warning lights and signs, rubbish chutes, etc..

No blasting for demolition purposes will be permitted.

Exercise due care in executing this work.

Make good to original condition, damage to structures to be retained and to adjacent property which results from demolition operations.

Perform restoration work without expense to the SCA.

106 Fees

Pay fees due to authority requiring same in connection with the work of this section.

107 Services

Before demolishing and removing parts of building having electrical wiring, gas and water pipes, conduit or similar items embedded in them, notify the Architect/Project Manager, authorities having jurisdiction, and make sure that these items are out of service so that they can be removed without danger.

108 n/a

PART II MATERIALS

201 Demolished Materials



Material required to be demolished becomes the property of the Contractor unless otherwise noted. Remove it from the site with recyclable materials separated for disposal.

202 Equipment

- A. Supply equipment required to perform the work of sufficient capacity to meet the time schedule.
- B. Provide disposal containers for disposal required.
- C. No containers may be located on public streets or pavements without obtaining required municipal permits for same. Co-operate with Sub-Contractors doing work in or near container locations to prevent disruption of their work.

PART III EXECUTION

301 Examine the Site Conditions

Examine carefully the following site conditions :

- Existing kitchen facility, storeroom and coolroom areas
- existing access conditions for demolition works
- existing positions available for location of bins etc. on site

Start of work means total acceptance of conditions.

- 302 n/a
- 303 n/a
- 304 n/a

305 Methods and Operations

- A. Demolish and remove completely parts of structure listed and/or drawn for demolition. The methods of cutting and removal of floors, walls, and other items to be removed are to be approved by authorities having jurisdiction.
- B. Furnish flame-cutting required to dismantle sections of equipment too large to be otherwise removed. Flame-cutting is to be performed only by experienced and qualified mechanics. Protect combustible surfaces during flame cutting. Maintain fire extinguishers, required by the Fire Authority, at hand.
- C. Do not drop or throw material more than 5 metres. Lower by means of hoists or rubbish chutes. Wet down thoroughly during demolition to prevent nuisance of dirtand dust. Equip trucks used in hauling debris with tarpaulins to cover the loads. Do not load so excessively as to spill debris on streets.
- D. Plaster removal : In general, removal of existing plaster showing cracks, bulges or drumminess is required. Refer to Architect/Project Manager if in doubt.
- E. Except as placed in approved disposal containers, do not allow combustible material and rubbish to accumulate on the site. Remove daily, or as directed. Burn no debris on site.
- F. Upon completion of wrecking, demolition and the removal of rubbish and debris, remove equipment.

306 Reinstatement

Restore to original condition, without expense to the SCA, any damaged parts of the remaining construction resulting from failure to provide adequate protection. Refer also Clause 105.

307 Completion

Complete contracted work in accordance with contract documents and written variation orders issued by the Architect/Project Manager.

Leave the site in an entirely clean condition, ready for the work of other trades.



DEMOLITION



101 Scope

The work of this section includes but is not limited to :

- Identification, removal and safe disposal of materials containing asbestos fibres.
- Refer to Hazmat document supplied as part of the contract documents.
- Nominate material to be removed.
- Examine relevant documents for requirements which will affect the work of this Section.

102 Related Work

- A. Co-ordination : Co-ordinate with other trades affecting or affected by the work of this Section. Co-operate as necessary to ensure steady and satisfactory progress of the work.
- B. Unit prices : Submit with tender a Schedule of rates for work required to be done not identified at time of tender. The Schedule of rates is required to reflect costs on a square metre rate for sheets or panels to be removed and on a metre run basis for other work. Such costs are to cover work referred to in Clause 101 above.

103 Quality Assurance

- A. Registration of Asbestos Removalists. Refer code.
- B. Submit evidence, before starting work, of the training and experience of those who will be performing the required work.
- C. Comply with CODE OF PRACTICE. Supply names of contacts, with telephone numbers, who can verify performance quality.

104 References

Perform asbestos removal in accordance with :

- A. National Code Practice for the Safe removal of Asbestos [NOHSC 2002 (1988)] <u>www.nohsc.gov.au</u> – Publications.
- B. ASBESTOS : CODE OF PRACTICE and GUIDANCE NOTES produced for WORK SAFE AUSTRALIA (National Occupational Health and Safety Commission), published by Australian Government Publishing Service, Canberra., telephone number 13 24 47.
- C. Relevant State Government Department or State Statutory Authority, which has jurisdiction over the work of this Section, and which is in force at the time of tendering.

105 Submissions

- A. Submit as and when required all of the reports and submissions required by the Statutory Authorities referred to in Clause 104 above.
- B. Submit the data required in CODE OF PRACTICE
- C. Submit tenders conforming with documents referred to in Clause 104.

106 Planning and Programming

- A. Comply with CODE OF PRACTICE.
- B. Arrange for and attend a Pre-demolition Conference. Abide by decisions and Schedules established at such conference.

107 Project Site Control

108 Notices and Fees

Provide notices to Statutory Authority which needs data relating to asbestos removal. Pay fees due to any Statutory Authority which require, by law, fees to be paid.



PART II EQUIPMENT

201 Decontamination Facilities

Where required by regulations of the controlling Statutory Authority, provide appropriate decontamination facilities as described in CODE OF PRACTICE.

202 General Hygiene Requirements

Where required by regulation of the controlling Statutory Authority, comply with General Hygiene Requirements, CODE OF PRACTICE.

203 **Protective Clothing and Equipment**

Where required by regulations of the controlling Statutory Authority, comply with Protective Clothing and Equipment, CODE OF PRACTICE.

NOTE : The use of glove-bags is described and should be used where necessary in accordance with CODE OF PRACTICE.

204 Labelling and Warning Signs

Provide necessary labels and warning signs in accordance with the requirements of "GUIDE TO THE CONTROL OF ASBESTOS HAZARDS IN BUILDINGS AND STRUCTURES."

205 Tools and Equipment

Provide tools and equipment necessary for the work. Refer to CODE OF PRACTICE.

PART III EXECUTION

301 Examination

- A. Inspect relevant site conditions.
 Establish conditions which may be discovered relevant to asbestos removal without disturbing material containing asbestos.
- B. Start of work means total acceptance of conditions.

302 Preparation

A. Prepare for asbestos removal in full accordance with the requirements of CODE OF PRACTICE.

- B. Install Decontamination Facilities in a location agreed upon with the Architect/Project Manager and other relevant Parties.
- C. Install required Labelling and Warning signs. Refer Clause 204 above.

D. Remove from the work area items which may be damaged by the work of this Section.

E. Protect item of furniture, surface, equipment or plant which may be damaged or soiled during the preparation for and action of asbestos removal. Be responsible for damage resulting from asbestos removal actions, processes and other works.

303 Asbestos Removal

- A. Advise the Superintendent in advance of proposed removal methods.
- B. Comply with the requirements of CODE OF PRACTICE and with the instructions of the authorised Superintendent of the work.
- C. Removal techniques. Comply with CODE OF PRACTICE.

304 Monitoring of Airborne Asbestos

Comply with CODE OF PRACTICE.



305 Field Quality Control

Work will be performed under the supervision of an authorised Superintendent. Comply with his requirements which are in accordance with the CODE OF PRACTICE, and other requirements to which parties have agreed.

306 Dismantling of Asbestos Removal Area Comply with CODE OF PRACTICE.

307 Removal of Asbestos Material From Site

Arrange with relevant local Authorities the identification of the place to which asbestos material is to be taken from the demolition site. Comply with requirements of the Authorities.

Remove such materials to the approved location.

308 Reinstallation

309 Cleaning

Thoroughly clean areas in which work has been performed and those adjacent to the work area.

Remove and dispose of traces of the asbestos removal process, protective materials, etc.

310 Completion

Complete contracted work in accordance with contract documents and written variation orders issued by the Architect/Project Manager, and/or Superintendent. Leave the site in a condition suitable for the work of other trades, in co-operation with Architect/Project Manager and Builder or Contractor.



101 Scope

The work of this section comprises but is not limited to excavation, disposal of surplus excavated material both on and off the site, supply of compaction and filling material and the preparation necessary to bring the areas to correct shape and level prior to building construction, and as follows:

- Site clearing •
- Excavation for footings and base of ramp

102 n/a

103 **Quality Assurance**

Provide data indicating that the tradesmen engaged for this project have a minimum of three years' experience in such work required by this Specification.

Supply names of contacts, with telephone numbers, who can verify performance quality.

104 References

A. Comply with applicable portions of the following Australian Standards : AS 1289

Methods of testing soils for Engineering purposes

There are 83 parts to this standard

AS 3798 1996 Guidelines on earthworks for commercial and residential developments

Comply with particular specifications in Building Regulations and/or Local Council publications.

B. Definitions

Rock : natural or artificial material encountered in the excavation which cannot be removed until broken up by mechanical means such as rippers, jack-hammers or percussion drills.

Rippable Rock : Means rock which can be removed by a single tine, "D9" ripper. Non-Rippable Rock : Means all other rock.

Other than Rock : other material encountered in excavation.

Sub-Grade : The natural ground below the excavations.

Filling: A general term for material spread and compacted over the sub-grade to make up finished levels or levels to the under-side of the base.

Sub-Base : Selected filling spread and compacted over the sub-grade to make up levels to the underside of the base.

Base : A selected filling layer spread and compacted to form an acceptable working surface directly under the building.

105 **Approval for Variations**

Before starting excavation work which may involve a variation (whether addition or deduction) because of the nature of the material to be excavated, obtain a determination as to the nature from the Architect/Project Manager. The variation is derived from the determination. If no prior determination has been obtained, the variation, if any, is to be made only at the Architect/Project Manager's discretion.

106 Use of Explosives

Do not use Explosives.

107 n/a

108 **Provisional Depths**

The footing or strip depths shown on the drawings are provisional.



The contractor shall confirm required depths with an engineer prior to construction. Costs for such must be included in the tender submission.

109 Site Management

Inspection : Give the Architect/Project Manager at least one working day's notice that the following are ready for inspection : -rock encountered in the excavations -excavation completed to Contract levels -filling completed to Contract levels

110 Excess Excavation

Excessive excavation and consequent backfilling and compacting may not be claimed as a reason for extra payment.

PART II EXECUTION

301 Examine Conditions

Ensure that survey pegs or markers are in place or visible. Obtain a current copy of site survey.

Start of work means total acceptance of conditions.

302 Excavations Generally

A. Suspend ground works during inclement weather which would result in unsatisfactory work.

B. Excavate accurately to shape and profile and keep free from loose earth and stones.

C. Excavate generally as required or as shown on the drawings, including but not necessarily limited to the following :

Preparation of sub-grade as necessary.

- D. Trim the sub-grade surface evenly to the profiles required.
- E. Make allowance for settlement and compaction.

F. Prepare for strip footings, footing beams, pad footings, ducts and pits, to depths required.

I. Carry out additional excavation where necessary to permit full use of suitable mechanical equipment (eg. rippers) and back-fill with appropriate material as specified in this Section.

J. Where excavation exceeds the required depth, fill back to correct depth with material as follows :

-below slabs on ground : Hardcore.

-below footings, beams and other structural elements : Concrete of strength equal to the structural element, minimum 15MPa.

303 Bad Ground

Should unsuitable material be encountered at the prescribed depths of excavation, or soft, wet and unstable areas develop during excavation, obtain instructions from the Architect/Project Manager before carrying out additional excavations. Back-fill and compact to the correct levels as directed.

304 Existing Services

Remove existing services and seal beyond the site boundaries.

Before demolishing and removing parts of building having electrical wiring, gas and water pipes, conduit or similar items embedded in them, notify the Architect/Project Manager,



Authorities having jurisdiction, and make sure that these items are out of service so that they can be removed without danger.

305 n/a

306 Shoring

Provide shoring, planking and strutting necessary to retain the sides of the excavations and to ensure safe working. Provide safety covers over holes. Provide necessary needling, shoring and strutting to adjacent buildings.

If in the opinion of the Architect/Project Manager support provided is insufficient he may order the provision of additional support.

No instruction relieves the Builder of sole responsibility for the sufficient support of the excavation.

Guard against the formation of voids outside sheeting or sheet piling if used and should voids form, fill and consolidate them to approval.

307 Clean Up

On completion of work specified above, remove surplus materials imported to the site, level off surplus excavated material, or pile such material on the site as directed by the Architect/Project Manager.

308 Completion



101 Scope

The work of this section includes but is not limited to supplying and laying a complete system of sewer pipes as specified below and as indicated on Architect/Project Managerural drawings, including :

- Sewer drains from each fitting or installation to new kitchen and toilet facility
- Sanitary pits & cleanouts if required

102 n/a

103 Quality Assurance

Perform the work of this Section using tradesmen whose experience and skills meet the requirements of controlling statutory authority.

The Architect/Project Manager and Engineer will make random inspections during the execution of the work.

104 References

Comply with applicable portions of the following Australian Standards : AS/NZS 1260 2002 PVCU pipes and fittings for drain, waste and vent applications AS 1741 1991 Vitrified clay pipes and fittings with flexible joints - Sewer quality Code of practice for installation of UPVC pipe systems AS 3500 National Plumbing and Drainage Code 3500.0 2003 Glossary of terms 3500.2.1 1996 Sanitary plumbing and drainage - Performance requirements 3500.2.2 1996 Sanitary plumbing and drainage - Acceptable solutions There are 7 other parts to this standard, 1995 - 2000

Perform work also in accordance with the regulations and requirements of the Council's Engineer, and drawings provided by Council and Engineer for the purpose. Comply with requirements of any statutory authority having jurisdiction.

105 Warranty

Provide to the SCA a warranty covering:

- A. Materials: in the form supplied by manufacturers of specified components.
- B. Installation for five years from the date of Practical Completion: the complete drainage installation.

PART II MATERIALS

201 Acceptable Manufacturers

Before ordering materials obtain and provide to the Architect/Project Manager a written statement that items to be installed are approved by Statutory authorities having jurisdiction.

202 Materials

•

Sewer Drain Pipes :

- Tested vitrified clay with rubber ring joints.
- UPVC Sewer grade pipes with solvent joints.
- Conform with local authority's requirements.
- Pits : 20 MPa and comply with local authority's requirements.

PART III EXECUTION



301 Examination

Visit site and inspect conditions, comparing conditions to drawings before delivery of materials to site.

Start of work means total acceptance of conditions.

302 Trenching

Form straight and true trenches, 600mm clear of walls, maintain sides, and free from water. Form trenches and bedding to provide constant falls as approved by the local authorities. Arrange for inspection by relevant authority before back-filling.

303 Pipe Laying

Connect with rubber rings and with inspection openings at 6 metre intervals and at bends and junctions.

Connect with materials appropriate to the pipes in accordance with manufacturer's instructions.

Provide inspection openings, bends and junctions required by authorities.

304 Pipes Below Structures

Where sewer or drain pipes are laid below or under structures, comply with requirements of local authority.

305 Connections to Other Services

Seal thoroughly with water-tight material as recommended by component manufacturer. Connect new lines to road or street sewer and drainage to the requirements of the relevant authority.

306 Testing

Cover no pipes or joints until approved by the Architect/Project Manager and tested and passed by the relevant authority.

307 Backfill

After inspection (and testing) where required, back-fill with approved material. Such material requires approval from Local Council Engineer and Architect/Project Manager. Remove materials not conforming to such requirements, without cost to the SCA.

308 Protection

Protect completed work from damage until Practical Completion. Make good damage which does occur.

309 Cleaning

Remove debris and clean areas where work has been performed, to Architect/Project Manager's satisfaction.

310 Completion



101 Scope

Supply, fabricate and install a complete structural steel system including but not limited to :

- Steelwork shown on the Architect/Project Manager Drawings specified herein, or as Α. described in his instructions issued during the currency of the work. It includes surface treatment, storage, delivery to the site, steel to steel connections and their fastenings, steel to concrete and their fastenings, miscellaneous attachments and anchor bolts.
- Β. Erection of the steelwork shown on the Architect/Project Manager Drawings and includes off-loading, erection, field welding, making steel to steel connections, connection to anchor bolts, permanent grouting and repairs to surface treatment.

102 n/a

103 Quality Assurance

Do work in accordance with the Drawings and Specifications which form part of this contract, and further details and/or instructions issued by the Architect/Project Manager/Engineer during the currency of the works.

Submit evidence of experience appropriate to the class of work required. Install under the direct supervision of a capable Foreman, experienced in the class of work under construction.

104 References

Conform to the latest edition, including amendments, of the following Australian Standards (except where varied by this Specification or the Contract Drawings):

AS/NZS 1554 Structural Steel Welding

		AS/NZS 1554.1: 2000 Welding of steel structures				
		There are 5 other parts to this standard, 1983 - 2002				
AS 1627		Metal finishing - Preparation and pretreatment of surfaces				
		There are 7 parts to this standard, 1989 - 2002				
AS/NZS 3678	1996	Structural steel - Hot rolled plates, floorplates and slabs				
AS/NZS 3679	1996	Structural steel				
		There are 2 parts to this standard				
AS/NZS 3750		Paints for steel structures				
		There are 18 parts to this standard, 1994 - 2002				
AS 4100	1998	Steel structures				
		There is 1 supplement with this standard, 1999				
AS/NZS 4600	1996	Cold-formed steel structures				
AS/NZS 4673	2001	Design of Cold-formed stainless steel structures				
AS/NZS 4680	1999	Hot dipped galvanised (zinc) coatings on fabricated ferrous				
articles						
HB48 - 1999		Steel structures design handbook				

105 **Delivery, Handling and Storage**

Handle and store materials by methods and appliances that will not over-stress or deform the members. Separate materials on site from surface of ground.

Members bent or buckled from handling or storing will be liable to rejection.

Supply bolts, nuts and washers in grit-free containers and stored in water-tight premises. Reject burred, damaged, corroded or otherwise unserviceable bolts.

PART II MATERIALS

201 Materials

General:



Supply materials required to complete the works under this Section in accordance with the Contract Documents and within the tolerances specified. Materials which do not comply will be rejected.

Steel Supply :

Unless otherwise shown on the Drawings, comply with AS/NZS 3678 and AS/NZS 3679. Do not use other types and grades of steel without written approval.

202 n/a

203 Fabrication

Fabricate finish in accordance with AS 4100.

Do not exceed the end clearances shown on the Drawings. Where these are not shown, ascertain the clearances used in the design of the connections.

204 Connections

A. General

Supply end cleats, brackets and other connections, not specifically detailed on the Drawings, to suit the location and forces shown thereon with gauge and edge distances in accordance with AS 4100.

B. Bolting General Supply bolts in bearing of such lengths that no threaded portion crosses the interface of the parts joined. Place at least one washer under the bolt head or nut, whichever is to be rotated. Provide taper washers where the part under the bolt head or nut is not perpendicular to the centre-line of the bolt.

C. Welding

Do manual welding in accordance with AS/NZS 1554

Do semi-automatic welding in accordance with AS/NZS 1554.

D. Miscellaneous Attachments

Allow for the drillings, cleat and other fitments indicated on the Contract Drawings or shown on other relevant Drawings and required by other trades.

Be entirely responsible for supply of necessary information to the Steel Fabricator.

205 Hot Dip Galvanising

Where scheduled or specified galvanised steel after chemical descaling in accordance with AS 1627 and AS/NZS 4680, so that rust, mill scale, oil grease and other foreign matter is removed leaving a clean surface of metal.

Then immerse steel in a bath of molten zinc so that when withdrawn, the zinc coating solidifies to a dry film thickness in compliance with AS/NZS 4680.

Reinstate transport and erection abrasions, site welds, etc., by thoroughly wire brushing affected areas to achieve a clean sound substrate and patch coating with an Zincrich paint with a film thickness of 100 microns.

206 Surface Treatment of Steel

Clean steelwork free from loose rust, loose mill scale, dirt, oil and grease or by sandblasting - Class 2.5. Apply a coat of inorganic zinc silicate, 100 microns thick. Refer AS 1627

207 Inspection Before Delivery

Material and work is subject to inspection before painting and delivery. Provide the necessary access and facilities.

Where steel has been inspected at the shop before being delivered to the site, such inspection does not relieve the Contractor of his responsibility to carry out the work in accordance with the Drawings and this Specification.

PART III EXECUTION



301 Examination

Inspect site conditions both before fabrication and delivery of steel.

Ensure that on delivery, materials can be directly installed.

Report discrepancies immediately they are found and instruction obtained before continuing with the affected portion of the work.

Start of work means total acceptance of conditions.

302 Erection

Comply with the requirements of AS 4100.

Adopt an erection procedure such that members can be placed and fixed in position without distortion.

Make safe, during erection, against wind and erection stresses and loading conditions, including those due to erection equipment.

Allow for the cost of temporary erection bracing required and of the Engineer's requirements in connection with such bracing.

303 Grouting of Baseplates

Set plates to precise level at centre of footing for future baseplate placement. Set plate in high strength mortar. After placement of column base plates, grout fill the void completely. Trim the grout on completion.

304 Inspection on Site

Advise Engineer and/or Architect/Project Manager when erected steel is ready for inspection.

305 Adjustments

Following erection, adjust the installation as required by Engineer. Touch up abraded or missing paint areas. Refer next clause.

306 Cleaning

Clean the installed steelwork and touch up with zinc rich primer paint of matching colour. Ensure that the touch up paint is compatible with the factory applied material.

307 Completion



101 Scope

Design, fabricate, supply and install exterior and interior handrail, and rails (which form a balustrade) including but not limited to :

- Metal pipe handrails and railings
- Solid metal handrails and railings
- Timber handrails and railings

102 n/a

103 Quality Assurance

- A. Manufacturer Qualifications : Not less than ten (10) years continuous experience in the manufacture of the product types specified.
- B. Installer Qualifications : Installer is not to have less than five (5) years continuous experience in the erection of specified material.

104 References

Comply with applicab	le portions of the following Australian Standards :					
AS/NZS 1554	Structural steel welding					
	There are 6 parts to this standard, 1983 - 2002					
AS 1627	Metal finishing - Preparation and pretreatment of surfaces					
	1627.6 2004 Chemical conversion treatment of metals.					
	There are 7 parts to this standard, 1988 - 2002					
AS 4100 1998	Steel structures					
	There is 1 supplement with this standard, 1999					
AS/NZS 4673 2001	Design of Cold-formed stainless steel structures.					
Comply with requirements of Statutory and Local Authorities.						

PART II MATERIALS

201 Acceptable Manufacturers

202 Materials/Finishes

Materials and finishes shall be as noted on the drawings and recommended by the Engineer

203 Fabrication

Before delivery to site, pre assemble where possible all items to ensure proper fit and dimension of each item. Disassemble and pack carefully for shipping to the site. On delivery and unloading, inspect for damage and arrange immediate replacement if necessary.

PART III EXECUTION

301 Examination

Inspect site conditions before fabrication, where possible, and before delivery of materials. Ensure conditions are satisfactory for installation. Arrange for rectification required. Start of work means total acceptance of relevant conditions.

302 Preparation

A. Field measurements : Do not delay job progress. Allow for adjustments and fitting of the work in the field where taking of measurements might cause delay.



B. Co-ordination with work of others : Furnish to each relevant trade foreman anchorages and setting Drawings, diagrams, templates and instructions for installation of items having integral anchors which are to be embedded in concrete or masonry construction. Co-ordinate delivery of such items to the project site.

303 Inspection and Reinstatement

- A. Check fabrications as they are unloaded at the project site for evidence of physical damage. Treat damaged fabrications as follows :
 - 1. Damage through galvanising : Perform immediate inorganic zinc silicate paint or cold-galvanising repair. Do not install until reinstated.
 - 2. Architectural metalwork : Returned to shop for repair or replacement.
- B. Verify anchors, bolts and other required anchorage items for proper size and accurate location prior to erection.

304 Installation

- A. Anchorage : Except for anchorages furnished herein but placed by other trades, set and secure necessary anchorages, including concrete and masonry inserts, bolts, wood screws and other connectors as needed. Perform cutting, drilling and fitting as needed, locating anchorages and holes to ensure proper positioning of completed work.
- B. Fit : During installation and assembly, form tight joints with exposed connections accurately fitted, and reveals uniform. Finish work accurately, plumb, level, square and true in reference to adjacent construction. Make tolerances conform to Australian Standards.

C. Finish : Do not cut or abrade shop finishes which cannot be completely restored in the field.

The use of gas-cutting torch in the field for correcting fabrication errors will not be permitted under conditions. Fabrications may be cut shorter with power hacksaws on site.

Isolate dissimilar metals likely to be subject to moisture with inert materials, not visible on completion of installation.

305 n/a

306 Protection

Cover Work : Immediately following installation, wrap or cover Architect/Project Managerural metalwork to avoid wear and tear of finish during subsequent construction.

307 Cleaning

Clean materials installed to the satisfaction of the Architect/Project Manager. Remove temporary protective coatings.

308 Completion



101 Scope

Supply and install Ceramic Tile work including but not limited to :

- A. Preparation of surfaces before tiling or bedding
- B. Bedding screeds where required
- C. Wall tile
- D. Floor tile
- E. Cleaning of finished tiled surfaces.

102 Related Work

Co-ordinate and co-operate with the following trades: Wall construction Floor construction

103 Quality Assurance

- A. Qualifications : Tiling Sub-contractor to submit to Architect/Project Manager evidence of reliability in quality of work and performance.
- B. Samples : Provide samples of tiles specified; not less than 4 units of each.
- C. Sample panel : For each tile type, floor and wall, construct a sample panel, 1 metre square. When approved by the Architect/Project Manager this sample becomes the standard for the balance of the work and remain as part of the completed work.

104 References

A. Comply with applicable portions of the following Australian Standards:

AS 2358 1990 Adhesives - For fixing ceramic tiles

AS/NZS 3661.2	Slip resistance of pedestrian surfaces – Guide to the reduction		
	of slip hazards		
AS 3740 2004	Waterproofing of wet areas within residential buildings		
AS 3958	Ceramic tiles		
	3958.1 1991 Guide to the installation of ceramic tiles		
	3958.2 1992 Guide to the selection of a ceramic tiling		
	system		
AS 3972 1997	Portland and blended cement		

B. SAA HB52 2000 "The Bathroom Book"

C. Contact <u>www.ardexaustralia.com</u> for technical advice regarding waterproofing matters & technique.

105 Submissions

Submissions Required Prior to Installation : Product specifications for : Adhesives, Primers, Prepared Grouts, Moisture Resisting Admixtures.

106 Delivery, Handling and Storage

Deliver to the site in original, unopened containers with grade, type and quality indicated on the labels. Provide secure and dry storage.

107 Warranty

Provide a warranty covering defects in materials and installation for a period of five years from the date of Practical Completion.

PART II MATERIALS

201 Screed Materials for Masonry Walls, Concrete Floors

A. Cement : Portland Cement, comply with AS 3972, cement type A.



B. Sand : Clean, washed, sharp, sieved and graded, complying with the following limits :

Sand Grade : No. 4 (4.75mm) Percent Passing Sieve : 100% Sand Grade : No.8 (2.36mm) Percent Passing Sieve : 95-100% Sand Grade : No.100 (150 microns) Percent Passing Sieve : 25% max Sand Grade : No.200 (75 microns) Percent Passing Sieve : 10% max Fineness modulus 1.6 to 2.5% Water demand, ratio by weight 0.65% maximum.

C. Fine Sand (for jointing) : As above, except that 100% is to pass a No. 100 (150 microns) sieve.

D. Ággregate for Screeds : graded as follows :

Passing 4.75mm sieve - 80%

Passing 6.00mm sieve - 90%

Passing 8.00mm sieve - 100%

E. Water : Clean drinking quality.

F. Mesh : Galvanised Steel welded wire fabric : minimum 2.5mm diameter wires at 100mm centres each way.

202 Adhesives

A. Exterior/Wet area adhesives : Cement-based ceramic tile adhesive, complying with AS 2358.

B. Interior/Dry area adhesives : Organic based adhesive, complying with AS 2358:

- 203 n/a
- 204 Tile As noted on the drawings

205 Schedule of Tile Finishes

Refer Finishes Schedule and Drawings.

206 Grout

Prepared Grout: Inorganic Portland cement integrated, ready-to-use, dry-curing grout. Colours to Architect/Project Manager's selection. Supply Waterproof grout for wet area tiling.

207 Expansion Joints

Silicone rubber, as recommended by manufacturer. Colour to Architect/Project Managers selection.

PART III EXECUTION

301 Examination

Visit site and inspect conditions, comparing conditions to Drawings, before delivery of materials to site.

Rectify any discrepancy or unsuitability of substrate.

Start of work means total acceptance of conditions.

302 Conditions of Installation

A. Install backing boards or panels in accordance with manufacturer's precise instructions.



- B. Allow cement-rendered surfaces to dry out at least 7 days, and preferably 14 days, before tiling. Longer curing times are required if recommended by adhesives' manufacturers.
- C. Rectify substrate so that when checked with a 2m straightedge, gap under the straightedge does not exceed 6mm.
- D. Allow new concrete to dry out for at least 4 weeks before rendering or direct fixing of tiles.

Wall screeds : uniform in plane and lightly combed. Floor screeds : broom finished.

303 Setting Out

- A. As far as possible, set out work so that no tile less than half size occurs. Align joints in floor tile at right angles to each other and straight with walls to conform to patterns selected. Verify locations of equipment before installing tile. Co-ordinate with plumbing and other trades. Fully tile surfaces under surface-mounted items.
- B. Expansion Joints Set out panels of tiling so that tiles may expand or contract to and from corners of tiled walls and floors. Allow for expansion in each corner of 5mm minimum. Fill expansion joints with silicone rubber.
- C. Control Joints Provide control joint
 - 1. At junctions of dissimilar wall construction.
 - 2. In walls, no more than 2.5 apart.

304 Bedding Mixing

A. Tile fixing mortar is to be adequately cohesive and water retentive but not richer than 1:3 nor leaner than 1:4 cement/sand by volume.

Within these limits the choice of the precise proportions is governed by the need to produce a mortar of the required properties with the minimum water content. These proportions will depend on the sand in use and is found by practical trial before tile fixing starts.

B. Once the proportions are established, make every attempt to minimise random variations. Batch by weight wherever possible. Do not batch with shovels.

C. The mixing of mortars by a suitable machine is to be preferred whenever it is able.

- practicable.
 - D. Volume batching : Base batching on multiples of a whole bag of cement (50kg, approximating 0.035m3 or 35 litres). In such cases measure by volume using correctly made gauge boxes or other suitable containers of fixed, measurable volume. This method allows water addition to be checked and thus permits approximate mix proportions to be established and maintained.
 - E. Where mixing by machine is not possible, mortars may be mixed on a clean nonabsorbent surface using clean hand tools. Whatever method of mixing is used, blend the materials thoroughly in the dry state before water is added. Continue mixing until the batch has a uniform consistency.
 - F. No water should be added once mixing is complete. Discard mortar which is unused within 2 hours of adding the mixing water.

305 Bedding Methods

- A. Portland Cement Bedding, Semi-Dry Mix Method :
 - 1. Mix : One (1) part cement to four (4) parts of sand by volume, mixed dry, with only sufficient water added to make a crumbly consistency which retains its shape when squeezed in the hand. It is important to ensure complete mixing of the cement and sand.



2. Before laying the mix, establish finished floor levels by means of dots. Spread roughly to a thickness slightly greater than that required for the actual bed.

Thoroughly compact and draw-off to the required level. Lay only sufficient bedding mix for one man to deal with satisfactorily in one operation.

3. Pour a slurry consisting of one (1) part cement to one (1) part sand by volume with sufficient water to make it slightly fluid, over the bedding and spread with a trowel until it is about 3mm thick.

Place tiles, which preferably are dry, in position and firmly beaten into the bedding. Form joints of at least 2mm and regulating should be done at this time.

Wash off if necessary after the joints have set thoroughly.

- 4. Minimum bedding thickness 25mm.
- B. Bedding with Adhesives (Walls Only) :

1.

- Apply adhesive to a thin bed or thick bed according to site conditions :
 - a) Apply thin bed adhesives when the background is true to within 3mm when tested with a 2 metre straightedge, at thickness not less than 1.5mm and not more than 3mm. Apply with a notched trowel.
 - b) Apply thick bed adhesives when deviations up to 6mm, over a 2 metre length, are present in the background, or when applying tiles having deep keys or ribs on their backs. Thick bed adhesives should be used at thicknesses not less than 3mm and not exceeding 12mm. Apply with either 10 x 10 x 10mm notched trowel, solid bed or buttering method.
- 2. Application Methods :
 - a) Notched Trowel Method : Apply the adhesive to the background as a screed, then form ribs by combing it with a notched trowel of the type recommended for the particular application. Do not apply adhesive in areas larger than one square metre at a time.
 - b) Solid Bed Method : Apply the adhesive to the background as a screed and bring it to a true surface, working in one square metre area at a time.
 - c) Buttering Method : Spread the adhesive evenly over the back of the tile to a thickness slightly greater than the final bed thickness required, so that when the tile is pressed or tapped firmly into position, the correct thickness is achieved and the tile is solidly bedded over its entire surface.
- 3. Apply dry tiles immediately into the adhesive, before it skins.
- 4. Press the first tile firmly into position and then remove it to check that complete contact is being made with the adhesive. Make occasional similar checks throughout the tiling work. The whole of the back of the tile is to be in good contact with the adhesive. Do not allow voids to occur beneath tiles.
- 5. Remove surplus adhesive remaining on the face of the tile or in the tile joints, after fixing, before it skins.

6. Form joints straight and constant in width. Under no circumstances fix tiles with tight joints.

- 7. Allow tiles to set for a minimum 24 hours before grouting and protect
 - from weather, water penetration, etc. during this period.

8. Expansion Joints : Refer Clause 303 B, complying with AS 3958.1. See Clause below.

C. Cement based Adhesive method for extruded, quarry or terracotta floor tiles : Secure to a prepared concrete surface with cement based adhesive 10mm thick with a 10mm notched trowel. Comply with manufacturer's current instructions

306 Installation - General

Wall tiling: Comply with the recommendations of AS 3958.1 and AS 3740.



Α.

- B. Floor tiling: Comply with the recommendations of AS 3958.1 and AS/NZS 3661.
- C. Adhesives: Comply with AS 2358 and recommendations of adhesive manufacturer.
- D. Sealing: Where tiles are cut around penetrations for taps and outlets, seal thoroughly with silicone rubber to prevent water entry behind tiles.
- E. Membrane: Install to manufacturer's instructions, with a 100% waterproof result.

307 Tolerances and Cleaning

- A. General : Install tiles in true planes so that when checked with a 2m straightedge, gap under the straightedge does not exceed 3mm. In sloped floor tiling this tolerance does not apply across intersections of fall planes. Adjust tiles within 10 minutes of fixing.
- B. Cleaning : Cleaned down using a damp cloth before cement smears and surplus mortar begin to harden on the surface or in the joint spaces, care being taken to avoid disturbance of the tiles during the setting of the bedding.
- C. Lighting : Whenever possible the lighting at the time of applying the bedded finish is not to be appreciably different from the ultimate permanent lighting.

308 Grouting

- A. Except as otherwise required, do not commence grouting for at least 24 hours after placing of tile. Follow specific instructions of materials manufacturer.
- B. Grout Mix :
 - 1. General use, except as noted below : Apply an approved pigmented prepared grout mix, one (1) part Portland cement to one (1) part fine dry sand by volume mixed to a paste consistency with the minimum of water; too wet a mix may result in the joint filling cracking or drying out.
 - 2. Floors : Prepared grout, acid resistive.
 - 3. Walls : Epoxy-based mortar grout, mildew resistant.
 - 4. Colours : as selected by the Architect/Project Manager.
- C. Grouting and Curing :
 - 1. Apply the grouting mix to as large an area as can be worked before hardening commences. Apply with a squeegee working back and forth over the area until the joints are completely filled. Remove surplus grout from the tiles with the aid of a damp, not wet, cloth and the joints then tooled. After the grouting has dried, final polish using a clean, dry cloth.
 - 2. Remove surplus grout from the floor surface; on no account use sawdust for this purpose, as there is a danger that sawdust entering moist joint surfaces may break down their strength, and cause them to become porous.
 - 3. In dry weather, grout joints after maintaining damp condition for three days by sponging down, fog-spraying or other methods. Allow floors to set 48 hours before permitting ordinary foot traffic.

309 Protection

Prevent walking on or contact with floor or wall tiles for a minimum of seven days. During that period, cover floor tiles

310 Completion



101 Scope

Supply labour, materials and equipment required for supply, delivery, storage, installation and testing for the complete carpet installation.

102 n/a.

103 Quality Assurance

The whole of the work is to be performed by thoroughly experienced and skilled tradesmen familiar with projects of this nature, under the direction of a similarly experienced Foreman.

104 References

Comply with applicable portions of the following Australian Standards :

AS 1385 1985 Textile floor coverings - Metric units and commercial tolerances for measurement

AS/NZS 2455 Textile floor coverings - Installation practice 2455.1 : 1995 General This standard provides full instructions of pre-installation requirements and installation methods 2455.2 : 1996 Carpet tiles

AS 4288 2003 Soft underlays for textile floor coverings Maintain a copy of AS/NZS 2455.1: 1995 General, - at the Project Site until Completion

105 Submissions

Submit the following data and obtain approval from the Architect/Project Manager, before ordering materials :

A. Schedule of laying rates per lineal metre.

This schedule is binding upon the Contractor and forms the basis on which additions, omissions and varied works may be carried out.

These rates include supply and installation of underlay and accessories, making and laying and allowances for profit, overhead and administration costs.

106 Delivery, Handling and Storage

Deliver manufactured materials in the original packages, containers, or bundles bearing the name of the manufacturer.

Protect materials from dampness. Store off the ground or slab, under cover and away from wet walls and other damp conditions, in an approved location in the building.

107 Warranty

Provide a written warranty stating that materials supplied and installed under this contract will remain in good condition, secure against faulty workmanship and/or defective materials for a period of seven years from date of Practical Completion.

PART II MATERIALS

201 Manufacturers

As noted on the drawings

202 Material

- A. Underlay :
 - Comply with, AS/NZS 2455.1.
- B. Carpet Fixings :



Comply with AS/NZS 2455.1, and is to be gripper type of an Architect/Project Managerural standard.

Allow for installation of fixings at perimeters and around columns etc not otherwise specified.

 C. Metal Finishing Bar : Heavy duty hammer finish aluminium bar. Allow for finishing bars to be provided at doorways and junctions with other materials, or fix carpet edge against raised vertical brass strip.

PART III EXECUTION

301 Examination

Acceptance : Visit site and inspect conditions, comparing conditions to Drawings before delivery of materials to site. Notify Architect/Project Manager of discrepancy or unsuitability of substrate. Comply with appropriate Clauses of AS/NZS 2455.1. Start of work means total acceptance of conditions.

302 Preparation

Comply with referenced standards and manufacturer's recommendations regarding environmental conditions.

Comply with AS/NZS 2455.1. Comply with Appendix B to ensure moisture content of concrete does not exceed the stated limit.

Space Enclosure : Do not install material until space is enclosed and weather-proof, and until wet-work in space is completed and nominally dry, and until ambient conditions of temperature and humidity will be continuously maintained at values near those indicated for final occupancy.

Repair by approved means imperfection of the floor surface which might impair the finished carpeted surfaces.

Broom clean or vacuum clean surfaces upon which carpet is to be laid.

On completion of cleaning, obtain Architect/Project Manager's approval of surface and follow such standard as he may determine for preparation throughout the Project.

303 Carpet Fixings

Secure to the sub-floor in accordance with the manufacturer's instructions, and the recommendations of the Standard.

304 Laying Underlay

Comply with AS/NZS 2455.1 Cover the whole area to be carpeted.

305 Stretching Carpet

Tightly stretch carpet between fixings, using power stretchers where necessary. Maintain seams in straight lines.

Comply with AS/NZS 2455.1.

306 Carpet Seams

Comply with AS/NZS 2455.1.

307 Demountable Partitions

Partitions which are shown having :

- A carpet on one side and another floor finish on the other side will be erected before the carpet is laid.
- B carpet on both sides, will be erected after the carpet is laid.

308 n/a



309 n/a

310 Cleaning and Protection

Comply with AS/NZS 2455.1.

On completion of laying each section of carpet, remove dirt, threads, scraps of left-over carpet, etc., and vacuum the surface clean and free from dust, etc.

After inspection by the Architect/Project Manager, cover the carpet in each section with an approved protective covering.

Maintain the cover in good order and condition and remove the same and finally clean the carpet at Practical Completion.

311 n/a

312 Completion



101 Scope

Supply and install timber doors and timber [or steel] door frames including but not limited to: INTERNAL DOORS

Flush panel doors - solid core Timber or metal frames (jambs) Acoustic doors Glazed doors

102 n/a

103 n/a

104 References

Comply with a	pplicabl	le portions of the	e following Australian Standards:	
AS 1288	1994	Glass in buildin	igs - Selection and installation	
AS/NZS 1859		Reconstituted wood based panels		
		1859.1 1997	Particleboard	
		1859.2 1997	MDF	
		1859.3 1996	Decorative overlaid wood panels	
		1859.4 1997	Hardboard	
		1859.5 1997	Wet-processed fibreboard	
AS/NZS 2272 1996		Plywood - Marine		
AS 2688	1984	Timber doors		
AS 2689	1984	Timber doorsets		
AS/NZS 2803		Doors - Security screen		
		2803.1 1994	Hinged	
		2803.2 1995	Sliding	
AS/NZS 2804		Installation of security screen doors		
		2804.1 1995	Hinged	
		2804.2 1996	Sliding	
AS 4145	1993	Locksets		
		There are 4 parts to this standard, 1993 - 2002		

105 n/a

106 Delivery, Handling & Storage

Deliver specified items shortly before installation is due to occur. Prevent damage and deterioration during transport and handling. Store carefully at site in a secure area. Prevent twisting and warping of doors. Note the condition requirements of Clause 304.

107 Warranty

Provide to the SCA a warranty covering faulty materials, and installation, warping of materials and other faults which may occur within five years of Practical Completion.

PART II MATERIALS

Supply materials as noted on drawings



PART III EXECUTION

301 Examination

Inspect site conditions. Ensure conditions are satisfactory for installation. Start of work means total acceptance of conditions.

302 Preparation

Prepare openings in walls or other structures before installation. Install fixing grounds and inserts as required to secure frames.

303 Installation of door frames

Erect frames plumb and true. Brace as required until surrounding structure is complete. Comply with AS 2689.

304 Installation of Doors

Comply with manufacturers instructions and AS 2689. Reject doors which do not comply with AS 2688 Appendix A. Condition doors to average humidity in area prior to hanging.

Align doors to frame for proper fit and uniform clearance at edge and machine for hardware. Seal cut surfaces after machining.

Provide clearance of 3mm at jambs and heads; 3mm at meeting stiles at pairs of door; 12mm from bottom of door to top of floor finishing or covering. At thresholds provide 6mm clearance.

305 Installation of Hardware

Refer Schedule of door furniture and hardware. Check deliveries on arrival. Keep items locked until needed. Assume responsibility for delivered items. Fit accurately and at correct heights, protect with heavy cloth until completion of project.

Label keys, and hand over to contractor.

Master key locks as instructed.

306 Adjustment and Cleaning

Adjust each door in its frame and ensure silent operation. Oil locks and hinges. Clean all surfaces marked during the installation of door frames, doors and hardware.

307 Completion



101 Scope

Supply and install door hardware including but not limited to : Wall mounted grilles for ventilation and other purposes Hinges Pivots Latches Locks Door holders Push plates

102 **Related Work**

Co-ordinate and co-operate with the following trades: Painting Wall construction Doors and door frames

103 **Quality Assurance**

Work of this Section shall be performed by experienced craftsmen familiar with the quality required in this class of work.

104 References

Comply with applicable portions of the following Australian Standards :

- AS 1909 1984 Installation of timber doorsets
- AS 2688 1984 Timber doors AS 2689 1984 Timber doorsets AS 4145 Locksets 4145.2 1993 – Mechanical locksets for doors in buildings. AS 4178

1994 Electromagnetic door holders.

Comply with requirements of statutory and local authorities.

105 **Deliver Handling & Storage**

Deliver items to site in original packaging, each clearly labeled for the relevant door by door number.

106 Warranty

Provide to the SCA a warranty covering faulty materials and installation for five years from date of Practical Completion.

PART II MATERIALS

201 Manufacturers

As noted on Architectural drawings

202 Hardware Items

Master key systems: Refer schedule provided by manufacturer

203 Miscellaneous

Fasteners: Provide required bolts, screws, inserts, fasteners, templates and other accessories required for a complete installation.

Co-ordinate with other trades as to the proper fastening systems suitable for the substrates to which the item is to be secured. Refer to Architect/Project Manager if in doubt.



PART III EXECUTION

301 Examination

Examine the materials to which door hardware is to be fixed. Ensure conditions are satisfactory for installation. Start of work means total acceptance of conditions.

302 Preparation

Remove hardware from surfaces to be painted. Replace when paint is dry.

303 Installation

Comply throughout with the written instructions of manufacturer.

304 Keys

Supply duplicate labeled keys for each lock. Provide plastic tags for each key.

Doors with bilock cylinders to be keyed to differ, with master key available for all. Offices to be keyed to differ, with master key available for all Meeting rooms to be keyed alike. Master key to match office master keys.

305 Testing

Check each key in relevant lock for satisfactory operation. Replace detective keys or locks. Clean the materials installed. Remove construction keys.

306 Coordination

Before finalising hardware order, review with security sub-contractor work related to reed switches, electric locks/strikes etc. Generally such items will be supplied by the security contractors and fitted to doors and frame by the builder.

307 Schedule

Refer following door schedule in Architectural drawings.



101 Scope

The work of this Section covers the supply and installation of manufactured casework items.

It includes but is not limited to : Cabinetry for bar area

102 Related Work

Co-ordinate and co-operate with the following trades:

Wall Finishes Floor Finishes Ceiling Finishes Plumbing Electrical Installation Other :

103 Quality Assurance

Manufacturers and installers are required to be widely experienced in the relevant aspects and class of work required for this section.

104 References

Comply with applicable portions of the Australian Standards : AS/NZS 1859 Reconstituted wood - based panels There are 5 parts to this standard, 1996 - 1997 1859.1 1997 Particleboard Adhesives - For bonding decorative thermoset laminates (contact AS 2131 1987 adhesives) AS 2754 Adhesives for timber and timber products AS 2924 1998 High pressure decorative laminates AS/NZS 4386 Domestic kitchen assemblies 4386.1 1996 Kitchen units 4386.2 1996 Installation

105 n/a.

106 Delivery, Handling and Storage

Do not delivery work to the site until after completion of other trade activities which could soil, damage or cause deterioration of manufactured joinery items. Prevent soiling, damage or deterioration during delivery, storage and handling. Keep site storage to a minimum. Install directly in place, but refer to Clause 302. If circumstances make storage necessary in areas other than the final location, store only in those that meet the requirements specified for installation areas.

PART II MATERIALS

201 Materials As noted on drawings

202 Fasteners and Adhesives As noted on drawings

203 Hardware

As noted on joinery drawings

204 Fabrication

Construct by screwing and gluing or other approved method. A dry stapled assembly will not be approved.

Fabricate bench tops as indicated in a manner recommended by the material's manufacturer. Fabricate units without joints unless counter length exceeds maximum available length of materials.

Seal joints between counter and splash back with matching colour silicone. Wherever possible, per-cut openings to receive hardware, appliances, plumbing fixtures, electrical work and similar items.

Locate openings accurately using templates or roughing-in diagrams for proper size and shape. Smooth edges of cut-outs and, where located in bench tops and similar exposures, seal edges of cut-outs with a water resistant coating.

Back prime all concealed solid timber surfaces prior to installation.

Install fasteners, hinges etc in accordance with manufacturer's instructions. When in doubt about suitability, consult with manufacturer of the items specified or selected.

205 n/a

PART III EXECUTION

301 Examination

Visit the site and inspect conditions. Check dimensions and compare all aspects with the drawings and specification. Resolve differences before ordering materials or starting work. Start of work means total acceptance of all conditions.

302 Preparation for Installation

Prior to installing, condition joinery to the average humidity conditions prevailing in the installation areas.

Delivery anchoring devices and similar inserts required to be built into substrates well in advance of the fixing of fittings and provide full details when they are to be fixed by others. Prior to installation, examine shop-fabricated work for completeness and remedy and deficiencies. Include back priming. Remove packing where not required.

Thoroughly clean all floors and walls that will be permanently concealed by joinery.

303 Installation

Use concealed shims as required to install the work plumb, level, straight and distortion free within the following tolerances:

- 1mm in 800mm for plumb and level (including bench tops),
- 0.5mm maximum offsets in flush adjoining surfaces,
- 2mm maximum offsets in revealed adjoining surfaces.

Scribe and cut to fit adjoining work; refinish cut surfaces or repair damaged finishes at cuts.

Secure joinery with anchors of blocking built-in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required to complete the installation.

Except where pre-finished matching fastener heads are required, use fine finishing nails, countersunk and filled flush. Use a matching filler where a transparent finish is required.

Install casework without distortion so that doors will fit openings properly and be accurately aligned.

304 Hardware

Install all door and joinery hardware as scheduled, listed and required in full compliance with the manufacturer's recommendations.

Adjust as needed to centre doors in openings.

305 Adjustments, Cleaning, Finishing and Protection

A. Finish the work specified in this Section and remedy anything not finished at the shop or any other stage prior to completion.

- B. Adjust joinery to achieve a uniform appearance.
- C. Lubricate and clean hardware making any final adjustments needed for proper operation.
 - Remove all handling marks from visible joinery surfaces.
- D. Protection : Do everything needed to ensure that all work is without damage or deterioration at completion.

306 Completion

101 Scope

Supply and install resilient floor surfacing material with necessary accessories and related equipment required for the work including but not limited to :

Vinyl sheet Coved vinyl skirting

102 Related Work

Co-ordinate and co-operate with the following trades:

Internal wall construction

103 Quality Assurance

Suppliers and installers need to be widely experienced in the class of work required for the work of this Section.

104 References

Comply with applicable portions of the following Australian Standards :

- AS 1884 1985 Floor coverings Resilient sheet and tiles Laying and maintenance practices
- AS 3553 1988 Adhesives for floor and wall applications Resilient vinyl, linoleum and rubber sheet and tiles Interior and exterior use
- AS/NZS 3661.2 Slip resistance of pedestrian surfaces Guide to the reduction of slip hazards

Comply also with instructions of manufacturers of materials to be installed.

105 n/a

106 Delivery, Handling and Storage

Deliver materials in the packaging of the supplier, bearing the brand name, colour, thickness and other relevant data.

Store materials in a secure dry area away from other materials which may cause deterioration.

107 Warranty

Provide a warranty covering aspects of the installation performed by this trade, against defective materials and workmanship for a period of five (5) years from the date of Practical Completion. The warranty includes a statement that the whole of the work has been carried out in accordance with AS 1884 and the instructions of the manufacturers of components in effect at the time of installation.

PART II MATERIALS

201 Materials

Vinyl Sheet : As noted on drawings Adhesive : Refer AS 1884. Skirting : As noted on drawings

202 Equipment

Supply equipment required for the preparation of floor, and installation of vinyl materials as recommended by the material manufacturer.

PART III EXECUTION

301 Examination

Examine the site conditions applicable to each installation and comply with AS 1884.

Start of work means total acceptance of conditions.

302 Preparation

Prepare each area to be surfaced in accordance with AS 1884. Test the dryness of concrete sub-floor in accordance with AS 1884.

303 Installation

- A. Delay installation of sheet until concrete has dried to the percentage established in Appendix A of AS 1884.
- B. Adhesives : Comply with AS 1884, and manufacturer's instructions.
- C. Install material in accordance with AS 1884, including conditioning of both the materials and the sub-floor.
 - Weld joints of vinyl sheet.
- D. Skirting, to manufacturer's instructions.

304 Cleaning

Remove excess adhesive and blemishes from the completed surfaces of flooring and skirtings.

305 Protection

Apply suitable hardboard or plywood to completed floors and maintain in position until final cleaning prior to Practical Completion.

Remove and replace work which cannot be successfully repaired or cleaned.

306 Completion

101 Scope

Supply labour and materials, services and equipment necessary for the preparation, application and finishing of painting and staining as indicated on Drawings, schedules and as specified herein, to internal and external surfaces of building, as follows: Refer Schedule of Finishes and finishes drawings.

102 n/a

103 Quality Assurance

A. Compatibility of Shop and Field Paints :

Determine that the materials specified in the Schedule of Finishes are compatible with shop coats. Failure to do so will be construed as accepting the paints specified. Contractor is to correct, at his own expense, defects in his work resulting from the use of such materials.

104 References

Comply with applicable portions of the following Australian Standards : AS/NZS 2311 2000 Guide to the painting of AS/NZS 2312 2002 Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings.

105 n/a

106 Delivery, Handling and Storage

- A. Store materials in designated spaces in a manner which meets the requirements of applicable codes and fire regulations. When not in use, keep such spaces locked and inaccessible to those not employed under this Section. Provide each space with a fire extinguisher of carbon dioxide or dry chemical type bearing a tag of recent inspection.
- B. Bring materials to the building and store in manufacturer's original sealed containers, bearing the manufacturer's standard label, indicating type and colour. Deliver materials in sufficient quantities in advance of the time needed in order that work will not be delayed in any way.

107 Project Conditions

Temperature : Comply with the requirements of Clause 6.3 of "AS 2311 The painting of buildings" and of paint manufacturers with regard to both ambient temperature and relative humidity.

108 Warranty

Provide a written warranty stating that preparation of surfaces, materials and material application installed under this contract will show no deterioration and remain in good condition for a period of seven years from date of Practical Completion.

PART II MATERIALS

201 Materials

General : Where manufacturer makes more than one grade of any material specified, use the highest grade of each type, whether or not the material is mentioned by trade name in these Specifications.

Use Paints and finishes used for the project may be manufactured by one or more of the following manufacturers :

Taubmans Dulux Wattyl Pascol Other products may be approved by Architect/Project Manager. Apply to Architect/Project Manager for approval of alternatives.

Provide materials necessary for preparation of surfaces, and for application of paint finishes.

202 Schedules

A. A Finishes Schedule is included in the Architect/Project Managerural drawings.

203 Paint Types

Australian standard *AS 2311 "The painting of buildings" contains Tables relating to available paint types and their uses.

204 Priming Materials

Colours of priming coats (and body coats where specified) are to be lighter than those of finish coat.

PART III EXECUTION

301 Examination

Inspect surfaces and determine that they are in proper condition to receive the work to be performed under this Section. Refer 302 A, below.

The starting of work under this Section will be taken to mean acceptance of such surfaces as being satisfactory and defects in work resulting from accepting poor surfaces are to be corrected at no cost to the SCA.

Refer AS 2311 Appendix C.

302 Preparation

 A. General : Prepared to a standard not less than that described under AS 2311, Section 3 : Preparation of Un-Painted Surfaces inclusive, and other Clauses of Australian Standards referenced therein. This Standard is incorporated by reference as part of this Specification and applies

This Standard is incorporated by reference as part of this Specification and applies to the work below to the same extent as if written herein.

- B. Broom clean floor surfaces before painting. Remove dust, dirt, plaster, grease and other extraneous matter affecting the finish work.
- C. Putty-stop or plug nail holes and cracks on both exterior and interior work, as required. Natural or stained wood finishes are to have putty coloured to match. Putty wood after prime coat or sealer coat has been applied.
- D. Clean bare metal surfaces of mill scale, rust, grease, oil, dirt, or other foreign matter, then properly washed with spirit or other approved cleaning agents. After cleaning, etch, pickle, prime, or otherwise prepare, as recommended by the paint manufacturer.
- E. Remove blisters or other imperfections in previous coats caused by foreign substances or paint skins from painted surfaces before the subsequent coat is applied.
- F. Rub down wood and metal surfaces before finishing and between coats with No. 00 and finer sandpaper or steel wool, leaving a perfectly clean surface. Sand smooth-finished surfaces before finishing and between coats as required to smooth out rough areas and to assure a smooth, even finish. Surfaces to receive paint are to be smooth and free of sandpaper scratches, mill-marks, and other imperfections.
- G. Remove hardware, accessories, plates, lighting fixtures and similar items in place prior to painting and re-position upon completion of each space, or protect as otherwise directed by the Architect/Project Manager.
- H. Thoroughly stir materials in containers before application, unless otherwise directed by the manufacturer of the paint used, to ensure uniformity of colour and mass. Strain out paint skins or other materials which would cause lumps or roughness. Thin only as recommended by the manufacturer.

303 Protection

Furnish and lay suitable drop cloths in areas where painting is being done to protect floors and other surfaces from damage during the work.

304 Application

A. General : Execute work of this Section in strict compliance with paint manufacturer's recommendations, and with the provisions of AS 2311, Section 6 : Paint Application, inclusive. This Standard is incorporated by reference as part of this Specification and applies to the work below to the same extent as if written herein. In the event of conflict between manufacturer's recommendations and the provisions of AS 2311, manufacturer's recommendations govern.

B. Maintenance or Repainting

Execute work of this Section in strict compliance with paint manufacturer's recommendations, and with the provisions of AS 2311, Section 7 : Maintenance of Painted Surfaces on inclusive and Section 8 : Maintenance Painting Systems. This Standard is incorporated by reference as part of this Specification and applies to the work below to the same extent as if written herein. In the event of conflict between manufacturer's recommendations and the provisions of AS 2311, manufacturer's recommendations govern.

305 Cleaning

At completion of work in each area, remove paint spots, oil and stain from adjacent surfaces, including finish hardware.

Replace hardware previously removed.

306 Completion

101 Scope

The work of this trade section includes but is not limited to, supplying and fixing of a complete range of plumbing fixtures and fittings as indicated on the drawings. Include in this work the connection of the fittings to floors, walls, other fittings, waste outlets, water supply pipes and vent pipes.

102 n/a

103 Quality Assurance

Perform the work of this Section using tradesmen whose experience and skills meet the requirements of controlling Statutory Authorities.

104 References

Comply with applicable portions of the following Australian Standards :AS/NZS 1229 2002Laundry troughs and tubsAS/NZS 1730 1996WashbasinsAS/NZS 2023 1995Baths for ablutionary purposesAS 3494 1997Bidettes and BidetsAS 3588 1996Shower bases and shower modulesAS 3861 1991Spa bathsAS/NZS 3982 1996UrinalsComply with requirements of Statutory Authorities having jurisdiction.

105 Submissions

Before ordering scheduled material, submit required product data to the Architect/Project Manager, particularly where the specified material is not available and alternatives are offered.

106 Warranty

Provide the SCA with warranties covering :

- A. Materials : in the form supplied by manufacturers of specified components.
- B. Installation, for five years from the date of Practical Completion : the specified components.

107 Fees

Pay fees to the relevant Statutory Authorities.

PART II MATERIALS

201 Acceptable Manufacturers

Refer Schedule of Plumbing Fixtures. Ensure that items to be installed are approved for installation by Local Authorities before ordering.

202 Materials

203 Equipment

Provide necessary equipment to affect a complete installation of each part of this Section, including seals, jointing materials, flanges, etc.

204 Fabrication

Install components in a manner approved by the Local Authority and the Architect/Project Manager. Comply with requirements of relevant Australian Standards where applicable.



PART III EXECUTION

301 Examination

Visit the site before delivery of materials, and compare conditions with those shown on drawings.

Start of work means total acceptance of conditions.

302 Connections to Supply

Connect supply and waste pipes to the fittings scheduled in accordance with the written instructions of the manufacturers of the items and the requirements of the responsible authority.

303 Installation

Install components to the Architect/Project Manager's and the Authority's approval, to applicable Australian Standards and to the manufacturer's instructions. Co-ordinate with other trades.

304 Testing

Cover no pipes, joints or connections until tested and passed by the relevant Authority, and approved by the Architect/Project Manager.

Submit to the Architect/Project Manager copies of certificates issued by relevant Authorities.

305 Protection

Protect work of this Section from damage until Practical Completion is achieved.

306 Cleaning

On completion, remove debris and clean visible work to the Architect/Project Manager's satisfaction.

307 Completion

