McGIRR SPECIFICATION

18 LAKE AVENUE

QUEENSTOWN

Disclaimer

This Disclaimer covers Plans and Specifications provided by Kingsbury Architecture. The accompanying documents, with details, additions and supplementary materials and drawings attached thereto have been compiled and sourced to the best of the ability of Kingsbury Architecture and are prepared for the owner and/or their employer to submit for the purposes of obtaining a building consent and as a base guide for pricing purposes and for the construction details. All details regarding workmanship, materials and construction are to be read in conjunction with any applicable manufacturer's literature and specifications.

All building works are to comply with good trade practice and the latest published relevant standards and applicable local authority bylaws and regulations.

All Contractors must confirm requirements with the owner prior to the commencement of any works in respect of the owners work.

Kingsbury Architecture cannot and will not be held accountable or responsible for any errors contained herein or changes made after the completion of the Plans.

The choice of final construction materials, colour schemes and other optional matters are for the owners' decision alone.

The siting of works and the construction measurements are solely the responsibility of the owner and/or the owner's building contractor as the case may be.

All the details and drawings have been completed on the basis of information supplied by the owner at the owner/employer's request.

Any changes at owners request made to the finished plans in regard to product specification shall be entirely the owners' responsibility to notify any concerned local authorities.

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1. PRELIMINARY AND GENERAL

1.1. SCOPE

This specification with the attached Conditions of Contract describes the works to be done and the materials to be used in the construction of the works as shown in the relevant drawings attached.

The contractor should be familiar with the site and the requirements of the relevant New Zealand Standards, to the latest edition at time of tender, the National Building Code and the full requirements of the relevant Local Authority.

1.2. SITE

The site is: *18 Lake Avenue, Section 23, Block XVI TN Frankton, Queenstown*

1.3. PRINCIPAL

The Principal is: *Jason & Jen McGirr*

1.4. PRINCIPAL AS OWNER AND EMPLOYER

Unless explicitly stated otherwise the terms Employer and Owner to the Principal where used in documents appurtenant to this contract.

1.5. DESIGNER

The Designer is:

Corey Kingsbury
Kingsbury Architecture
17 Brent Place
Papanui, Christchurch, NZ. 8053
Phone / voice : 027 405 8085
E-mail : ck@kingsburyarchitecture.com

1.6. VISIT SITE

All parties shall visit the site and ascertain the nature and extent of the works to be carried out to enable the accurate making out of a tender price. The levels indicated on the drawings are approximately correct, but the tenderers are to verify these as no claims for extra will be permitted on the basis incorrect levels shown.

1.7. BUILDING CONSENT

The owner or their appointed agent shall be responsible for the application of the Building Consent and all other Resource Consents, which may be applicable. This is to also include the relevant Local Authority charges/fees etc.

No works are to be carried out until the relevant Consents have been obtained.

1.8. CODE COMPLIANCE CERTIFICATE

On behalf of and in the name of the Employer apply for the issue of a Code Compliance Certificate for this building work by the Territorial Authority as prescribed under the Building Act 2004, Section 43 (3).

1.9. INSURANCE

The Contractor/owner (at the cost to the owner) shall arrange to have the said works to be insured for the full replacement value against loss or damage by fire. The Contractor shall maintain a Public Liability Policy with an Insurance Company in New Zealand indemnifying the contractor against claims in respect of damage to property arising out of the operations of the Contractor or his Subcontractors in the execution of said works.

1.10. CONSTRUCTION ACT

The provision of the Building Act 2004, its regulations and NZS3604 2011 and amendments are deemed to be part of this contract.

1.11. HEALTH AND SAFETY

Refer to the requirements of the Health and Safety in Employment Act and if their elimination or isolation is not possible then minimise hazards in the work on site by using proper equipment and techniques. Supply protective clothing and equipment. Inform employees and others on site of the hazards and put in procedures for the dealing of emergencies.

1.12. NUISANCE

Take all reasonable precautions to prevent damage and nuisance from water, fire, smoke, vehicles, dust, rubbish, noise and any other causes resulting from the construction works. Comply with the Territorial Authority and relevant Acts and Standards.

1.13. SURVEY PEGS

A Surveyor employed by the owner, unless already established, shall provide survey pegs required by the Contractor to define the site.

1.14. COST VARIATIONS

The Contractor shall be deemed to have submitted his quotation having due regard for the rates of wages and the price of materials, subcontractors at the date of his quotation. Any increases or additional costs whether in the rates of wages or the prices of materials, subcontractors or services becoming effective after the date of the said quotation and before the completion of the works, shall be added to the quotation price provided that the owner is kept fully informed.

1.15. INTERPRETATION

Work or materials shown on the drawings or specified and not shown, will be supplied as though both shown and specified. Materials shown but not specified must of the kinds commonly used for the service they are intended for and perform in compliance with the NZBC.

All figured dimensions take precedence over scaled dimensions. All plan dimensions are based upon actual sizes, not nominal sizes. All fixings shall be strictly in accordance with the manufacturer specifications or installation instructions.

1.16. SETOUT

The Contractor shall be responsible for the set out of all works and shall make good at his expense any errors that may occur through his lack of checking or faulty workmanship.

1.17. PROVIDE & FIX

The words "provide" and "fix" shall be construed to mean "provide and fix" where mentioned separately unless otherwise mentioned.

1.18. STABILITY

The contractor shall take all precautions to ensure the works are braced, supported or covered as required to prevent damage by wind and protect the works from the elements as necessary at the time.

1.19. DAMAGE

The Contractor shall, at his expense, be responsible for any damage to footpaths, kerbs, drains etc, to the satisfaction of the local authority. The Contractor will how ever be able to recover costs when it is known that such damage is caused by one of the Subcontractors i.e. concrete truck damaging a kerb will therefore establish that the concrete supply company shall reimburse the Contractor.

1.20. MAINTENANCE

A period of minimum 30 days or to a time agreed between all parties and entered on to the Specification. Any defects in materials, workmanship or any part/s that require adjusting or replacing, which have to been included in the contract shall be adjusted or replaced at the Contractors expense.

Maintenance period to be _____ (_____ days)

1.21. OTHER

Materials are to be new unless otherwise stated, the best quality of their respective kinds and complying with relevant DBH Approved Documents, NZ Standards and Regulations.

Workmanship: conform to good trade practice and the relevant Codes of Practice in current use in NZ. All work to be level, plumb, and true to line and face. Employ only experienced workers familiar with the materials and techniques specified.

Supply all labour, services, temporary works and equipment and plant required for the proper execution and completion of the contract works.

1.22. COMPLETION

GUARANTEES stating the period and any special obligations may be called for in any work section of this specification. The General Conditions of Contract covers the general terms of such guarantees, but in no case shall the terms or conditions accepted negate the minimum remedies available under common law as if no guarantee had been offered or accepted.

At the completion of the contract, all the relevant Subcontractors and the Contractor shall be responsible for the removal of their relevant rubbish and debris etc.

CLEAR AWAY all trade debris from the site and leave the building clean and ready for occupancy, with all services operating and mechanical parts in good working order. Remove all temporary markings, coverings and protective wrappings.

The Contractor shall also ensure that all walls, ceilings, and woodwork to be dusted and wiped down, windows washed and the glass free from scratches, floors brushed and wiped down and the entire building left in a clean condition for occupation. Clean all glass inside and out.

2. EXCAVATION

2.1. PRELIMINARY AND GENERAL

Refer to the General Conditions of Contract and the Preliminary and General Clause of this Specification which are equally binding on all trades. This section shall be read in conjunction with all other sections.

2.2. SCOPE

The extent of the excavation and associated work shall be as generally shown on the drawings, including all excavation for all building work, backfilling and making good. It shall include all work associated with site works.

2.3. PROTECTION

All excavation works shall meet all safety requirements and shall be protected from all water or associated damage. All precautions shall be taken to avoid damage to all public and private property.

2.4. EXCAVATION

Excavate for all footings to the level indicated on the drawings. Remove all material from soft spots, and if required, as directed by an Engineer.

Should the excavation be taken deeper than shown on the drawings or without the written approval of an Engineer, the Contractor shall without additional cost to the Owner fill to the appropriate level with site concrete or otherwise as approved by an Engineer.

NB Good topsoil is to be left piled on site, out of the way, unless otherwise directed. Load and cart away from site all other materials removed during excavation.

2.5. GROUND WATER

Excavations shall be kept free of water. Any ground water in the excavations shall be away by means of a sump dug clear of the excavation or by other dewatering system as appropriate.

2.6. INSPECTION

No backfill material shall be placed around poured foundations without the prior approval of an Engineer or Council Inspector.

2.7. HARDFILL

Supply, lay and compact the hardfill to the underside of the floor slab. Hardfill shall be approved well-graded material free from silts or clay.

2.8. BACKFILL

Backfill and well consolidate in 100mm layers to foundation walls, pile footings and service trenches. Take care to not cause damage to any waterproof coatings or polythene protecting foundation walls from ground water entry.

3. FORMED DRIVEWAY

3.1. PRELIMINARY AND GENERAL

Refer to the General Conditions of Contract and the Preliminary and General Clause of this Specification which are equally binding on all trades. This section shall be read in conjunction with all other sections.

3.2. SCOPE

This section of the contract consists of:

(a) The stripping of topsoil from driveway.

(b) Excavation, forming and grading to Exposed Aggregate driveway.

(c) Supply and laying of sub-base, base course and Exposed Aggregate.

(d) Forming a new Vehicle Crossing and make good.

(e) Cutting and grouting of concrete

All as shown on drawings.

3.3. MATERIALS AND WORKMANSHIP

All materials shall be of the best of their respective kinds. All plant shall be of the appropriate type to produce the required standard of workmanship.

All materials and workmanship shall fully comply with the Specification listed herein.

3.4. MAINTAIN PUBLIC PROPERTY

The Contractor is to maintain and protect public property and that of drainage, electricity, gas, highway, water and telephone authorities, and that of similar undertakings, and is to make good or pay for the reinstatement of all damage thereto.

3.5. PROGRAMME OF WORK

Basecourse and Exposed Aggregate shall not be laid until the work under Drainlayer is completed and power mains have been laid and all kerb and channels and walls have been laid.

3.6. EXCAVATING AND GRADING

Excavate to 250mm below the finished driveway levels and grade to the required falls.

Provide and lay 150mm finished thickness of sub-base material, laid and compacted in two layers.

Sub-base material shall be approved well-graded alluvial gravel (pit run) of 65mm max. size. It shall be laid at optimum moisture content and mechanically compacted to a level surface in accordance with NRB Specification F/1: Aug 1986.

3.7. BASECOURSE TO EXPOSED AGGREGATE

Provide and lay a 75mm finished layer of stabilised basecourse over the sub-base to driveway finishing 25mm below the finished levels. Basecourse shall be crushed basecourse complying with NRB Specification M/4: June 1985.

Place basecourse in such a manner as to minimise segregation. Consolidate basecourse by rolling with approved steel wheel rollers at optimum moisture content. In general, the laying and compaction of the basecourse shall comply with NRB Specification B/2: July 1987.

The finished surface shall be dense, tight, evenly graded to falls and free of dust and loose material, and to the approval of the Designer (or Engineer).

3.8. FINISHING

The surface shall be finished to smooth, even grades with no local depressions or bumps exceeding 6mm in 3.0 metres, and shall be such as to direct water into channels and sumps. Finish neatly against concrete kerbs, channels, slabs and foundations at other boundaries and at the correct surface level. Full precautions are to be taken to prevent disfigurement of any concrete work with the Exposed Aggregate. Any disfigurement or damage shall be made good at the Contractor's expense.

3.9. CO-OPERATE

Allow to co-operate with all other trades for holes, chases, etc. for drains, pipes and waste.

4. BLOCKLAYER

4.1. PRELIMINARY AND GENERAL

Refer to the General Conditions of Contract and the Preliminary and General Clause of this Specification which are equally binding on all trades. This section shall be read in conjunction with all other sections.

4.2. SCOPE

Refer to drawings for layout and extent of work. Build the whole of the reinforced concrete blockwork. Build in as the works proceeds all reinforcing steel, bolts and all other lugs, conduits, sleeves and openings for vents etc., required for the work of other trades. Keep surface clean and free from mortar, perpends true and faces true to line and vertical. Blocks are to be kept dry before laying.

4.3. STANDARDS

All work shall comply with NZS3604:2011, NZS4210 - 1989, NZS4229 - 2011.

4.4. MORTAR

The mortar for all blockwork shall be composed and mixed according to the relevant NZS clauses; water shall be potable; sand shall comply with NZS3109 for grout filing of masonry cavities and NZS3103 'Sands for Mortar, Plaster and External Renderings' for mortars.

All cement shall comply with NZS3122 and shall be properly stored at the site and adequately protected from dampness.

5. CARPENTER/JOINER

5.1. PRELIMINARY AND GENERAL

Refer to the General Conditions of Contract and the Preliminary and General Clause of this Specification which are equally binding on all trades. This section shall be read in conjunction with all other sections.

5.2. SCOPE

The work of this section shall include all labour, materials, equipment necessary to carry out and complete the carpentry as shown, or as further required by this specification. Together with any other items of work reasonably inferred as part of this section.

5.3. STANDARDS

In general, the contractor should be fully aware of NZS3604 - 2011, and all other standards therein specified.

5.4. ATTENDANCE AND PROTECTION

Attend upon all other trades providing all blockings, fixings, trims, nogging as necessary for the full completion of their respective works and make good after all trades.

5.5. MATERIALS AND WORKMANSHIP

All materials used shall be the best of their respective class and type specified. All work shall be carried out in a workmanlike manner in accordance with best trade practice and as or where especially specified. Any work that is intended or implied but not specifically shown, mentioned or specified as necessary for the proper completion of the building shall be included.

5.6. DAMP PROOFING

All timber to be protected from dampness, with a continuous D.P.C. strip as shown on the drawings, when in contact with concrete, except as under Clause 2.3.3 of NZS3604.

5.7. PRIMING

All exterior finishing timber, all timbers in contact with concrete blockwork and all external faces, rebate, etc., of all doors, windows, frames and all woodwork of sashes, shall be primed before fixing unless otherwise specified in Painter.

5.8. CLEANING

The Contractor at the conclusion of the contract shall have all ceilings, walls and woodwork carefully dusted and wiped down. Windows washed and glass free from scratches and paint. Floors brushed and the entire building site left in a clean condition for occupation.

5.9. FASTENING AND FABRICATION

(a) The Contractor should especially note that all aspects of fastening and fabrication of timber framing members and wood-based products on this contract shall accord with the following clauses of NZS3604:-

Section 2 - General.

Clause 2.4.8 - Nailing and use of wire dogs.

Clause 2.4.5 - Bolts and coach screws.

(b) Reference shall also be made to 'Gib Site Guide, January 2010' for the proper fixing of sheet lining and cladding materials for walls and ceilings that are not wood-based eg. Gib board, Fibrous plaster or wood cellulose sheeting; especially where such materials are used as diaphragms and for wall bracing.

(c) Mild steel structural components used in sub-floor spaces, exposed to the weather or in position where condensation or dampness will occur shall be hot dipped galvanised after forming and shall provide the necessary 'capacities' called for by NZS3604 dependent on function and location.

(d) In all other cases, select and use connectors according to manufactures' literature conforming to NZS3604 requirements and the NZBC.

(e) Refer to NZS 3604 for stud fixing to top plate, table 8.19 for specific nailing requirements. Note the use of nail on plates or wire dogs is NOT permitted.

5.10. INSULATION

Refer to drawings for full extent and types of insulation. Generally insulation to be fibreglass batts. Ensure all insulation is installed as per the manufacture's specification.

5.11. TIMBER

All timber used shall conform to NZS3602:2003 requirements, 'Code of practice for specifying timber and wood-based products for use in building.' Timbers shown in the Schedule of Timbers to be treated with an approved preservative process in plants licensed by the Timber Preservation Authority.

SCHEDULE OF FRAMING TIMBERS - GRADING AND TREATMENT	
Sub-floor framing	
Bearers / joists	MSG 8, H1.2, Pinus radiata
Wall framing	
Exterior walls & lintels	MSG 8, H1.2, Pinus radiata
Interior walls (loadbearing)	MSG 8, H1.2, Pinus radiata
Interior walls (non-loadbearing)	MSG 8, H1.2, Pinus radiata
Cavity battens	MSG 8, H3.1, Pinus radiata
Roof framing	
Roof trusses - typical	MSG 8, H1.2, Pinus radiata
Gable end truss	MSG 8, H1.2, Pinus radiata
Coved or attic trusses	MSG 8, H1.2, Pinus radiata
purlins	MSG 8, H1.2, Pinus radiata
Valley boards, barge boards	MSG 8, H1.2, Pinus radiata
Decks	
Beams and posts	MSG 8, H3.2, Pinus radiata
Joists	MSG 8, H3.2, Pinus radiata
Windows	
Framing and reveals	Dressed, H3.1, Pinus radiata

Treatment levels specified are the minimum treatment level. Higher levels may be used in any situation.

This table is a summary of the requirements only.

The requirement are set out in the DBH's Acceptable Solution for the Durability clause of the Building ode (referred to as B2/AS1), which cites two New Zealand Standards for detail.

Refer NZS3602:2011

Refer NZS3604:2011

5.12. GENERAL FRAMING

All framing to be 90 x 45 mm Dryframe with 90x45 mm wide studs, 2.755 to ground floor, 2.755m to first floor. Top and bottom plates to be same size as studs in long lengths, halved or nail plated at wall junctions and jointed over studs. All studs at 400/600mm centres as shown on the drawings. Provide rows of dwangs to full height each wall unless otherwise stated on drawings.

5.13. WALL BRACING

Provide all wall bracing as shown on drawings and wall bracing calculation sheets as is intended to satisfy the NZBC. Keep strictly to the 'Type', Lengths and Locations shown on plan and elevations. Refer BRACING REQUIREMENTS section of this specification.

5.14. WALL LININGS

Generally shall be of 10mm Gib. Board and shall be fixed to external walls only after placement of thermal insulation. All wall linings to be nailed or fixed as 'Gib Site Guide, January 2010' or manufacturer's instructions; in particular where contributing to wall bracing. Note use of other wall linings for wet areas to be fixed as per manufacturers instructions
NB Also refer to INTERNAL LININGS section of this specification.

5.15. ROOF CONSTRUCTION

Trussed Roofs: Drawings showing clearly the type, pitch, span, spacing and overhangs of roof trusses and details of roof claddings shall be provided to the truss manufacturer to allow him to comply with Clause 10.2 of NZS3604. Thereafter, the Contractor shall match construction with the drawings and details provided by the truss manufacturer throughout all stages of fixing and bracing. In all cases anchorage of all trusses to plates shall be with not less than 2/100mm skew nails plus 2/4.9mm wire dogs.

5.16. PURLIN FIXING

All purlins fixed to main roof and periphery purlin fixings to be 1 / 10g self-drilling screw, 80mm long or alternative fixing with fixing capacity of kN, all as per NZS 3604.

5.17. EXTERNAL WALL CLADDING

Refer to drawings for external wall cladding. Install Ecoply Barrier all as noted.

Refer to the manufacturer's or suppliers specification with regard to the fixing of the cladding.

5.18. DOORS AND FRAMES

Internal door frames shall be rebated M.D.F. Jambs - paint grade. Internal doors shall be hollow core, paint grade unless otherwise indicated by the owner. Provide solid core doors to locations as noted on the drawings or as confirmed by the owner.
The owner shall select external doors and frames, other than Aluminium/glazed doors.

5.19. CEILINGS

Gib. Board: Fix 13mm Gib Board to ceiling battens with 30mm flat head galvanised clouts, stopped and all joints flushed up to a true even smooth surface. In particular fix all ceilings serving as structural ceiling diaphragms under terms of NZS3604.
NB Refer to INTERNAL LININGS section of this specification.

5.20. WARDROBES

Provide inside each wardrobe with a 400x25mm full width shelf at 1.7m from floor and a 'J' rail fixed to shelf and/or wardrobe organisers as selected by the owner.

5.21. SKIRTINGS

Fit 65mm skirtings to all rooms throughout unless specified by the owner.

5.22. HOT WATER CYLINDER

The hot water cylinder as shown on plans, shall have seismic restraints fitted as per NZBC G12/ASI: 4-10.3(b). See Appendices.

5.23. ACCESSHOLE

Provide a 600x600mm accesshole to Main Dwelling W.I.L. and Flat passage ceiling.

5.24. METER BOX

Locate in position as shown on drawings.

5.25. KITCHEN JOINERY

In general the kitchen, bathroom and laundry joinery requirements have been purposely left out of this Specification due to the wide variety of materials and finishes available. It is up to the owner to specify all material requirements.
It is left to the selected joiner or the owner to provide a kitchen design to the contractor to indicate plumbing and electrical requirements.

5.26. DOOR HARDWARE

Allow a P.C. Sum of $_____ for the supply of all the door hardware required. Consult with the owner. Allow to take delivery and fix.

5.27. GARAGE DOOR AND FRONT DOOR

Provide and fix Colorsteel Sectional door with 2 Auto Openers.

5.28. INTERNAL WOOD STAIRS

Consult with owner on construction of internal wood stairs. Generally treads, risers and stringers to be MDF. The stringers to be of a paint quality, treads and risers to be carpeted.

6. PLUMBER

6.1. PRELIMINARY AND GENERAL

Refer to the General Conditions of Contract and the Preliminary and General Clause of this Specification which are equally binding on all trades. This section shall be read in conjunction with all other sections.

6.2. SCOPE

This section of the contract consists of the supply and installation of

- Plumbing, sanitary fittings and taps.
- water, waste soil and vent pipes.
- misc. cappings and flashings not included in other trades.
- Colorsteel downpipes and gutters

6.3. STANDARDS

All work carried out shall comply with NZBC G10/ASI, G12/ASI and G13/ASI, E1(Spouting/Downpipes)

6.4. WORKMANSHIP

All work shall be carried out in accordance with Drainage and Plumbing Regulations, Local Authority requirements, good trade practice, all relevant New Zealand Standards and where applicable, the Code of Practice for the installation of PVC piping.

6.5. TESTS

Subject all water installation to a full water pressure test (to 1500kPa) before pipe work is covered in.

6.6. WATER SUPPLY

Allow to run a new 20 NB polybutylene supply line from the water mains toby box run underground to the work site. Co-operate with all other services to have in same trench as power/ telephone etc.

Tee off to supply hose taps shown and continue supply to Hot Water Cylinder(s) and supply all fittings throughout.

From Cylinder(s) supply and fit TACO 52-600-25 30-70 tempering valve, in line, set at max. 50^0C, and take 18mm hot supply with appropriate tees to fittings. Supply and install all necessary relief valves, isolating taps, drains, pipes, etc. All cisterns, hot water cylinder(s) etc., with overflow pipes, must be piped away to the outside.

6.7. PIPEWORK

Cold water lines to be rigid u.P.V.C. and the hot water to be from copper or from BUTYLINE polybutylene, all fixed exactly to the manufactures specifications. All hot water lines to be lagged as much as possible as well as any cold lines outside the line of Batts. Conceal all pipework from view where possible.

6.8. PRESSURE TEST

All internal water shall be subjected to a 1500kPa pressure teat prior to any internal linings being installed.

6.9. SOIL, WASTE AND VENT PIPES

Supply, install and connect up all soil, waste and vent pipes required for the contract as shown on the drawings and as required by the Drainage Authority. In general, pipework shall be uPVC with traps in polypropylene.

Combine vent pipes where possible with the walls to reduce the number of pipes penetrating the roof. Fit pipes with flashing coves and birdcages. ROOFER will flash to roof. pipes passing through concrete slabs or walls shall be wrapped in felt and Densotape and then wrap in polythene. Washing machine to have own waste discharge pipe which can connect into tub 'S' bend.
Provide a separate waste for the dishwasher to help reduce noise output.

6.10. HOT WATER CYLINDER(S)

Provide hot water cylinder(s) as shown

Capacity: 300 & 270

MainsPressure

6.11. NOTES

With the use of plastic type piping, plumber to discuss and provide, means of electrical earthing with the electrician.

6.12. FIXTURES

All fittings and fixtures to be confirmed with the owner.

Laundry - Purpose-made tub cabinet - with built in washing machine discharge pipe and tub overflow.

Taps and mixers as required

7. DRAINLAYER

7.1. PRELIMINARY AND GENERAL

Refer to the General Conditions of Contract and the Preliminary and General Clause of this Specification which are equally binding on all trades. This section shall be read in conjunction with all other sections.

7.2. SCOPE

Work in this section of the contract comprises all surface and foul water drainage up to above ground level to connect to Plumber's work. Include all pipes and specials, fittings, construction of manholes, all gully traps and connections for terminal vents, soil and waste pipes. The Drainlayer shall confer with the Plumber and shall arrange with the Contractor before the foundations are laid to fix the exact position of all connections of waste and drains.

7.3. STANDARDS

All drainage work shall be carried out in accordance with Local Authority requirements and bylaws and to the requirements of the New Zealand Building code, and or other associated standards notwithstanding any omissions herein.

7.4. DRAIN TRENCHES

The excavation of trenches for drains shall be accurately made with base clean and true grade so that no unnecessary filling is required. Adequate width shall be allowed in accordance with depth of drain to enable laying and jointing to be properly carried out. Trenches shall be kept firm and dry and shall be opened up only in lengths that can be protected, utilised and refilled within a reasonable time.

7.5. STANDARD OF WORK

The whole of this work shall be carried out by experienced tradesmen to the satisfaction of the Owner or agent. The Contractor shall allow accordingly, and should conflict exist, arrange for all tests.

At time of full water test inspection provide an accurate as laid drainage plan to Council Officer.

7.6. MATERIALS

All materials shall be the best of their respective kinds. Generally drains shall be 110mm-diameter u.P.V.C.

7.7. FITTINGS

The plan shows the layout of the system. Additional fittings that are normally required, such as inspection points and inspection bends, etc. that maybe required but are not specifically shown must be allowed for by the Drainlayer to comply with normal practice under the regulations or special requirements of Local Council.

7.8. GULLY TRAPS

Supply all gully traps and securely bed and build up with 5:1 concrete surround, 150mm above finished ground levels, as per NZBC G13/AS2:3.2.1.

7.9. SEWER AND STORMWATER CONNECTIONS

Allow to connect sewer to existing lateral and stormwater to soak pits. Drainlayer to confirm exact location on site.

7.10. FALL IN DRAINS

The whole of the soil and stormwater drains are to be laid to a regular and even fall.

7.11. COMPLETION

Properly backfill all trenches, consolidate as filling proceeds and leave area in tidy state.

8. INTERNAL WALL LININGS

8.1. PRELIMINARY AND GENERAL

Refer to the General Conditions of Contract and the Preliminary and General Clause of this Specification which are equally binding on all trades. This section shall be read in conjunction with all other sections.

8.2. SCOPE

This section deals with the supply, fixing and jointing of plasterboard sheets and accessories to walls and ceilings to form braced, water resistant and lining systems as complete elements.

Note specific and various stud heights and spacings as noted on the drawings or in the Carpentry section before pricing.

Gib must be stored dry under cover, stacked flat and clear off the floor with sufficient support to avoid sagging and damage to board edges and ends. Gib must be handled as a finishing material..

Note: 13mm Gib to all ceilings.

8.3. STANDARDS

NZ BUILDING CODE: Refer to the following NZ Building Code clauses and Approved Document paragraphs for the criteria and/or methods that must be used in this section to establish compliance with the Code.

B1	Structure
C3	Spread of Fire
E3/AS1	Internal Moisture
	3.1 Lining Materials
G6/VM1	Airborne and Impact Sound
	1.0 Airborne sound insulation field tests
	2.0 Impact sound insulation field tests
G6/AS1	1.0 Construction of wall, floor and ceiling assemblies

8.4. DOCUMENTS AND PUBLICATIONS

Relating documents and publications are:

Interior Systems Association: Levels of Gib Board Finish.

Interior Systems Association: Master Trade Method Statement.

NZS3604: 2011 Code of Practice for Light Timber Frame Buildings.

ISO 6308: Gypsum Plasterboard.

Winstone Wallboards Ltd - Publications:

Gib Bracing Systems June 2011

Sound Seal, Wet areas, Bracing, Paint systems, Plaster Board Matrix, Compounds and Building Wraps Matrix: Gib Site Guide.

Gib Rondo Metal Ceiling Batten System

8.5. INSPECTIONS AND ACCEPTANCE

Using the Master Trade Method Statement in general and checklists in particular establish the inspection and acceptance programme for set-out, framing, services first fix, drywall linings and stopping for this sub-contract.

In addition allow for inspection of the finished surface of the installed plasterboard

- before applying sealer
- after application of sealer coat and
- before applying undercoats/final coats/decorative papers

Approval and acceptance of the surface can be given by the Owner/Designer or the Contractor or Sub-contractor or Painter.

8.6. BRACING

WALL BRACING RATING REQUIREMENTS: Provide the wall bracing and ceiling diaphragm systems as per BRACING SCHEDULES constructed to the requirements of Winstone Wallboards Ltd. publication, "Gib Bracing Systems"

Refer PLAN LAYOUT for locations of bracing elements and refer to enclosed Bracing Schedules for all types and full workings.

8.7. WET WALL LININGS

Provide 10mm Gib Aqualine wet wall linings to bathrooms and ensuite constructed to the requirements of "Gib Board® Aqualine Wet Areas Systems".

8.8. FRAMING REQUIREMENTS

TIMBER FRAMING: To be kiln dried, (or of an acceptable moisture content) free from defects, machine stress graded boric treated No.1 framing grade Radiata Pine with studs at 600mm centres maximum. Dwang wall studs at 800mm centres maximum and ceiling perimeters where wall/ceiling junction is not boxed and is without Gib Cove. All as per the drawings.

STEEL CEILING BATTENS:

Steel "U" section (BMT 0.75mm) with 275g zinc/m2 ceiling battens complying with NZ Building Code clause B1 erected to the requirements of Winstone Wallboards Ltd publication "Gib Ceiling Batten" to be fixed to all ceilings.

8.9. MOISTURE CONTENT

Winstone Wallboards Ltd Literature recommends that for Levels of Gib finish 3,4 or 5 that the moisture content should not be greater that 16% at time of lining. The basis of this recommendation is to minimise instances of joint or surface defects developing as the building is subsequently occupied and its components reach a state of equilibrium.

8.10. ACCESSORIES

NAILS FOR WALLS AND CEILINGS - TIMBER FRAMING:

Gib plasterboard nails to be galvanised Gib Clouts or class no. 2 gold passivated Drywall Nails.

Board Thickness	Size	Location
10mm	30 x 2.5mm	Walls/Ceilings

The length and layout of clouts and nails to be strictly in accordance with the detailed Gib Plasterboard System specification.

Gib Braceline galvanised Gib Clouts to be 30mm x 2.5mm complete with 15mm galvanised steel washers.

SCREWS FOR WALLS AND CEILINGS - TIMBER FRAMING:

All screws to be class 2 gold passivated Gib Grabber Drywall Screws, 12 threads per inch.

Gib Plasterboard drywall screws to be 25mm x 6 gauge for 10mm and 32mm x 6 gauge for 13mm sheets.

TAPE: Use paper reinforcing tape for all applications.

ADHESIVES: Framing adhesive to be Gib Fix water based wallboard adhesive.

JOINTING COMPOUNDS: Store indoors, with stocks rotated and kept dry. Check that compounds delivered to site are within the stated shelf life. For all systems except wet areas jointing compound to be Gib Tradeset for the first and second coat and Gib Finishing compound for the topcoat.

For the wet areas use Wet Area Jointing Compound and Water Resistant Taping Cement.

8.11. WORKMANSHIP

PROTECTION: Protect all finished surfaces including joinery, fittings, carpet already in place from water staining or damage from stopping compounds.

LEVEL OF FINISH: Provide sample wall area in a location to be agreed on to define the standard of level of finish shown on the drawings for reference as and when required by the building producer or owner. Refer to clause 7.1.3. Master Trade Method Statement, published by Interior Systems Association. For details refer to Interior Systems Association document "Levels of Gib Board Finish"

Type	Typical Locations of Use
Level 0	Not stopped
Level 1	Unseen non-habitable
Level 2	Utilitarian, garage, stores
Level 3	Suitable for textured finish or embossed wall coverings
Level 4	Suitable for flat paint finish
Level 5	Suitable for critical lighting, semi gloss or gloss type paint finishes.

SUBSTRATE: Do not commence work until sub-strate is plumb, level, in true alignment and to the standard set out in NZS3604, clause 2.4, table 2.1.

TIMBER MOISTURE CONTENT: Do not fix Plasterboard to timber framing with a maximum reading greater than recommended. Refer to FRI publication "Measurement of Moisture Content of Assembled Timber Framing" for measurement procedure.

8.12. FIXING

GENERAL: Fixer/stoppers to be fully competent and experience in dry lining methods.

Stagger joints on alternate studs on opposite sides of wall/partition using edge joints as far as possible.

Line walls up to 2400mm high by the horizontal method and walls above 2400mm high by the vertical method. Always leave a 10mm gap at floor level. Do not break the face paper. Position sheets to a touch fit with no forcing or springing into place. Run sheet over doors and under and over windows openings. Where butt joints are unavoidable, locate off the framing staggered and backblock. Apply adhesive in daubs 25mm diameter and 10mm thick. Do not place daubs at sheet perimeters or under nail or screw fixings.

8.13. JOINTING

Use only clean mixing containers and potable water. Discard compound that has started to harden. Do not over mix. Refer to "Gib Board Stopping and Finishing Systems" for details.

* Joints: Fill joint recess with Gib jointing compound, centre the reinforcing tape, apply second coat of Gib jointing compound and follow with a coat of Gib Finishing compound. Allow to dry/set before applying finishing coat and lightly sand off.

* Stopping Nails/Screws: Apply two successive coats of Gib jointing compound and a coat of finishing compound.

* Boxed Corners: Fill and Gib jointing compound, centre reinforcing tape into internal angle and apply a coat of Gib Finishing compound and complete.

* External Angles: Apply two coats of Gib jointing compound followed by a coat of finishing compound.

* End Butt Joints: Fill tape and coat as for tapered edge joints except that each stage is doubled in width.

8.14. COMPLETION

Clean down completed surface to remove all irregularities and to achieve the specified level of finish.

Finally sand down with fine paper to leave completely smooth and clean for following trades.

CLEAR AWAY all drywall sheets, off cuts and trade waste to a central point on site as agreed with the Contractor.

9. ELECTRICIAN NZBC G9

9.1. PRELIMINARY AND GENERAL

Refer to the General Conditions of Contract and the Preliminary and General Clause of this Specification which are equally binding on all trades. This section shall be read in conjunction with all other sections.

9.2. SCOPE

Carry out the whole of the electrical installations in strict accordance with the latest Electrical Wiring Regulations.

9.3. FEES

The Owner is responsible to pay all fees and charges and obtain all necessary consents for this trade.

9.4. MATERIALS AND WORKMANSHIP

All materials used under this contract shall be of the approved British or New Zealand Standard Specification. Allow for all materials necessary to complete the contract whether specified or not. A Registered Electrician in accordance with regulations and best trade practice shall carry out all work and in a manner, which will cause minimum inconvenience to other workmen, and the work as a whole. Do all cutting away, drilling etc., and with timber cut the minimum only away for the entry of cables.

9.5. CO-OPERATION

Co-operate with the Building Contractor and other sub-contractors in all phases of work. Give ample notice to enable the Contractor to arrange the necessary void, chase data etc.

9.6. COMPLETION AND CONNECTION OF POWER

Leave work complete. Clear away all debris and rubbish. The contractor is to arrange for all inspections and tests and for the connection of power to the works. It is the responsibility of the Electrical Contractor to ensure that no delay is occasioned to the job once the contract is complete.

9.7. POWER SUPPLY

The owner shall arrange with the power supply authority for the connection of an underground supply to the residence.

9.8. METER BOX

Supply to Carpenter for fixing a plain fibreglass meter box with hinged lid and suitable length of alkathene piping to rise through foundations to box set in wall. Arrange control relays etc.

9.9. ELECTRIC UNDERBENCH OVENS

Provide and fix a 30-amp flush switch for underbench ovens with Electric hobbs and sufficient cable for connection and allow for installation.

9.10. WATER HEATER

Allow for the permanent connection of the water heater to the electrical system. Provide and install elements and thermostat to the hot water cylinder by the Plumber.

9.11. FUSEBOARD

Provide and install in recess main switchboard complete with all necessary control and auxiliary equipment.

(a) Min. 2 spare ways

(b) Circuit breakers for all lighting and power circuits.

(c)Control wires between ripple control relay in the meter box and the controlled circuits on the main switchboard.

(d) 2 conductors to provide for controlled water and space heating - 6mm 2 X 2.

(e)A min. of 2 poles on the main switch.

(f) Spare ways on the neutral and earth busbars to provide for future extensions, the bars to be fixed to the non-moving part of the board.

(g) Max. 6 outlets per circuit.

(h) Earth leakage circuit breakers shall protect laundry, kitchen and bathroom(s) sockets, except a dedicated circuit for fridge/freezer point.

9.12. WIRING

All sub-circuit wiring shall be completely TPS cable reticulated through wall and roof framing. Holes in framing for cable shall be no more than 20mm dia. and shall be in the centre of the depth of the member. All wiring including mains shall be concealed. Lighting circuits to be wired in 1.0mm twin cable. Power circuits to be wired in 2.5mm twin and earth cable. Wire to all the wall mounted power points with vertical droppers only - no horizontal runs to adjacent points.

9.13. POWER POINTS

All wall plugs shall be 230v. 10 amp, 3 pin flush type. Generally install plugs 300mm above the floor or 225mm above bench top. Points to washer/dryer space and refrigerator 1200mm from the floor. The exact position of all power points shall be determined on the job by the Owner. All plugs to be doubles and horizontally placed.

9.14. LIGHTS

All lights to be first quality downlights and halogens. All downlights inside insulation envelope to be IC or CA rated. Refer to Owner for supply of fittings.

9.15. LIGHT SWITCHES

Light switches shall be 10-amp, all insulated P.D.L. micro-gap type or equivalent. Where indicated fit flush type with plain bakelite flush plate. Fix switches generally 1200mm max. above the floor. Confirm with the owner as to wether coloured flush plates are to be required.

9.16. NIGHT RATE

Make necessary provision for night rate supply to the HWC and Night store circuit where applicable.

9.17. DOOR BELL

Allow to supply and install door bell, where directed by the Owner.

10. PAINTER

10.1. PRELIMINARY AND GENERAL

Refer to the General Conditions of Contract and the Preliminary and General Clause of this Specification which are equally binding on all trades. This section shall be read in conjunction with all other sections.

10.2. INSPECTIONS

It is the Painters responsibility to inspect all surfaces to ascertain whether an adequate standard of stopping has been achieved. Failure to inspect and comment to the owner/designer shall indicate acceptance of the surfaces and responsibility for workmanship to satisfy this specification will fall entirely on the Painter.

10.3. PROTECTION

The painter shall be held responsible for the protection of persons or property in the immediate vicinity of, or liable to be affected by his/her painting operations. Top that end the painter shall provide all necessary coverings, guards and the like, and display such suitable and sufficient warning notices.

10.4. BYLAWS AND REGULATIONS

The whole of the painting operations shall be carried out in conformity with Regulations and Requirements of all Public Bodies having jurisdiction in the matter and the Contractor shall pay any fees which may be payable in respect thereof.

10.5. PREPARATION

All surfaces to be painted are to be cleaned and prepared in the approved trade manner, and are to be clean and dry before any painting commences. In particular any sharp arrises in timber profiles must be sanded to a rounded profile before painting.

Reasonable precautions are to be taken that all paints are protected from frost, dew and extreme heat.

Paint containers not in use are to have their lids or stoppers firmly affixed to prevent evaporation and contamination from foreign bodies.

To plasterboard interior area receiving watersplash firstly apply a sealer coat before semi-gloss or gloss finishing coats.

10.6. PAINTING

Paint shall not be applied when any one of the following conditions exists:

a) The surface is less than 5°above dew point

b) The ambient air temperature is below 5°C or below 10°C in the case of water based paints

c) The relative humidity exceeds 85% (unless special precautions are taken to ensure that the surface is at least 5°C above the temperature of the surrounding air)

d) There is moisture or ice visible on the substrate.

e) If any of the above conditions are likely to occur before the paint has dried.

f) Any condition stipulated by the paint manufacturer that is more restrictive than (a) to (e) above.

The Engineer may order painting to cease if, despite all the conditions being met, there is a likelihood of frost. The Contractor may propose protective measures against frost and those measures will be subject to the approval of the Engineer.

10.7. CLEANING UP

At completion of contract, Painter shall clean up and remove all stains, putty marks and paint splashes, and clean glass to the satisfaction of the Contractor.

11. WINDOWS

11.1. PRELIMINARY AND GENERAL

Refer to the General Conditions of Contract and the Preliminary and General Clause of this Specification which are equally binding on all trades. This section shall be read in conjunction with all other sections.

11.2. SCOPE

For the supply of Aluminium doors, windows, ranchslider and wardrobe sliders as shown on the drawings.

11.3. STANDARDS

Conform to the following standards

NZBC BIASI 7-1
NZS4211 - 2008
NZS4223.3 – 2016
Part 3:2016 – Human Impact Safety Requirements

11.4. FINISH

Aluminium frames etc. to be Powdercoat finish colour as selected by the owner.

All handles to be colour matched

11.5. SIZING

All windows to be made after on site measure of framed openings.

11.6. REVEALS

Reveals to be graded material suitable for paint finish, treated to H3.1.

11.7. MIRROR

As required and selected by owner

11.8. GLAZING

Ensure Grade A Safety glass to relevant locations.

11.9. DOUBLE GLAZING

Provide Double Glazing to all windows except areas outside insulation envelope, all to covered by NZS 4223.3.2016.

12. ROOFING

17.1 PRELIMINARY AND GENERAL

Refer to the General Conditions of Contract and the Preliminary and General Clause of this Specification which are equally binding on all trades. This section shall be read in conjunction with all other sections.

17.2 Scope

This section of the contract consists of the supply and fixing Colorsteel or Colorcote roofing together with building paper and barge, ridge and valley flashings etc.

17.3 ROOF CLADDING MATERIALS AND COMPONENTS

Roof cladding shall be Colorsteel G2Z Zincalume, 5-Rib, colour to owners'

choice.

Materials selected shall be set out and fixed by approved fixers and all shall accord with the manufacturer's specification and in all cases with NZS Specifications or others where appropriate i.e. -

NZS1397: 1993 Hot-dipped zinc-coil and cut lengths.

BS 147:1987: NS31 sheet and strip (Part 6 is one of a series covering wrought aluminium and aluminium alloys).

Thickness of materials unless otherwise specified shall not be less than the following:-

Note: All roof penetrations to have Aquaseals in lieu of lead flashings.

17.4 WORKMANSHIP

All work shall be carried out by skilled tradesmen using adequate and proper equipment and methods in accordance with the best trade practice, the manufactures' instructions and recommendations, and shall be of the best description.

17.5 ROOF STRUCTURE

The roofer shall inspect the structure of the roof before commencing work; ascertain that the spacing of purlins is as shown on the drawings, that all purlins are fixed and blocked satisfactorily, that the tops of the purlins are in place with the roof slope with no deviations that may damage the roofing. Failure to inspect and comment on the structure shall indicate acceptance of the surfaces and responsibility for workmanship to satisfy this specification will fall entirely on the roof fixer.

17.6 ROOFING UNDERLAY

Underlay shall be breather type building paper to NZS2295: 2006, specific type as shown on drawings, run horizontally with upper sheets lapped 75mm over lower sheets and with bottom edges turned over fascia into gutters. Such underlay shall be provided under all metal roofs and be adequately supported unless self-supporting type.

17.7 GUTTERING

Guttering shall be Colorsteel 'D' Shape and shall be fixed with overflows, expansion joints, falls, etc in accordance with the manufacturer's specification. Provide droppers so as to allow Plumber to run downpipes to. Downpipe locations as shown on the drawings.

17.8 STORAGE AND INSPECTION

Roofing materials shall be protected from damage and stored on the site in a sheltered position near to point of installation. Stack sheets on firm, level ground raised up on timber bearers in the packs in which they were consigned.

Roofing materials shall be inspected on delivery, and again prior to laying by the roofing contractor who will satisfy himself that the materials are in good condition and conform to the manufacturer's specification.

Materials that do not conform shall not be used and be removed from the site.

17.9 OTHER TRADES

Where another sub-contractor of the main contractor shall find it necessary to cut or deform in any way the roofing or flashings, then the subsequent flashing or other protection of the opening shall be to the roofers cost.

17.10 FLASHINGS

Provide, fit and fix all flashings and cappings that are required to render the roof watertight. Co-operate with Plumber in flashings around all roof penetrations, and vents after they have been supplied and fixed by other trades.

It shall be the Roofer's responsibility to ensure that all flashings and cappings are held securely and will not dislodge or rattle in high winds. Take account of thermal expansion when fitting flashings and allow adequate clearance.

17.11 FACTORY PREFINISHED MATERIAL

Treat all such material with great care and obtain matching colour for making good minor damage and covering fixings made through the face of the claddings.

18 TILING

18.1 PRELIMINARY AND GENERAL

Refer to the General Conditions of Contract and the Preliminary and General Clause of this Specification which are equally binding on all trades. This section shall be read in conjunction with all other sections.

18.2 SCOPE

This specification deals with the supply and setting of ceramic tiles to suitable floor or wall substrates.

Note: For use in association with the Tile Warehouse design manual.

18.3 DOCUMENTS

The documents referred to in this section are:
NZBC D1/VM1 Access routes
NZBC D1/AS1 Access routes; 2.1 Slip resistance
NZS2295 Building papers (breather type)
NZS2358 Adhesives - For fixing ceramic tiles
AS/NZS 4671:2001 Welded fabric of drawn steel for concrete reinforcement
AS/NZS3661 Slip resistance of pedestrian surfaces; Part 1: Requirements
AS 3958 Ceramic tiles: 3958.1 Guide to the installation of ceramic tiles
BS 5385 Wall and floor tiling
BS EN 14411:2003 Ceramic floor and wall tiles
Tile Warehouse Ltd: Tile Design & Specification Manual
NZBC E1/AS1 Internal moisture; 3.0 Watersplash
NZBC G6/AS1 Airborne and impact sound

18.4 TILER QUALIFICATION

All work in this section to be carried out by an affiliated Tile Warehouse contractor using competent tilers experienced with the materials and in the techniques specified. Refer to the local Tile Warehouse store.

Slip resistance: The contractor to confirm which tiled areas are "wet" and which are "dry" for testing/confirmation purposes.

All tiles when in place on a level access route, to have a mean coefficient of friction (u) not less than 0.4 when tested in accordance with AS/NZS3661, Part 1.

All tiles when in place on a sloping access route, to have a coefficient of friction (u) of not less than u = 0.4 x 0.0125S (where S is the slope of the walking surface expressed as a percentage).

ADHESIVE QUALIFICATION: All adhesives selected for use on proprietary substrates i.e. underlays [S31:R011, R051] or waterproof membranes [S31:Y051, Y052] to have documented compatibility approval from the respective manufacturers.

18.5 GUARANTEE

Guarantee this work under normal environmental and use conditions against failure of materials and execution and materials for five (5) years from ~___

18.6 CARE

Extra care to be taken in choice of tile adhesive dependent on the situation to ensure minimum cracking of tiles. Liaise with the builder to determine locations of possible slab cracking. A price option for flexible grout to be given to the owner.

18.7 MATERIALS

Standards of performance - provide evidence: At the time of selection provide certificates and any other evidence that the tiles will comply with the standard of performance specified for each area and will comply with NZBC verification method D1/VM1 and acceptable solution D1/AS1.

Tile quality: All tiles to be manufactured to BS 6431, parts 1 to 23 inclusive.

Type: terracotta/ceramic/porcelain/marble/slate/granite/sandstone

Supplier: Tile Warehouse
Manufacturer:
Pattern / number:
Tile grade:
Tile colour:
Tile size:

18.8 ADHESIVES / GROUTS / MEMBRANES /SCREEDS / MORTARS

Interior situations

Slurry coat:

To be a brush applied slurry of two (2) parts neat cement mixed with one (1) part acrylic based liquid admixture. Product: KEMCRETE. Supplier: Tile Warehouse

Screed:

To be a 3:1 coarse sand/Portland cement mix gauged with an acrylic based liquid admixture with a minimum 40% solids content. Product: KEMCRETE. Supplier: Tile Warehouse

Grout-proprietary:

Cement based chemical resistant tile grout for joints up to 10 mm, with a minimum compression strength of 50 mPa. Product: KEMGROUT 900 Series. Supplier: Tile Warehouse

Grout - additive:

A water based acrylic additive with a minimum shear bond strength of 40.80 kg/cm2.

Product: PRIMER & GROUT ADDITIVE. Supplier: Tile Warehouse

Expansion joint compound:

Polysulphide/silicone/rubberised bitumen/waterproof epoxy compound to the tile manufacturer's instructions and to the suit location. Supplier: Tile Warehouse

18.9 EXECUTION

Generally all surface preparations and tiling work to be in accordance with AS 3958.1.

Handling and storage:

Take delivery of packets of tiles undamaged and dry and from specified batches, calibration and tonalities. Reject all others. Handle tiles with care to avoid chipping, soiling and damage. Store on hard level standing, in non-traffic, non work areas that are enclosed, clean and dry.

Handling/storage - fixatives:

Take delivery of pallets shrink wrapped, undamaged and dry. Reject all others. Handle adhesives with care to avoid moisture, puncture and damage. Store on hard level standing in non-traffic, non work areas that are enclosed, clean and dry.

Contractor to ensure that all services and accessories are in place and located to suit the tile layout and the substrate to receive the tiles is satisfactory and will allow for tiling of the required standard. Starting work means the tiler accepts the substrate as allowing work of the required standard.

Contractor to bring unsatisfactory substrate up to the required standard before work commences.

Do not start laying tiles until concrete floors are cured, moisture content of all floors is such that shrinkage is complete, thermal movement has been accommodated and the levels and surface finish will allow for tile laying of the required standard.

Do not carry out tiling where the ambient temperature is below 5deg C, or onto a substrate with a temperature higher than 40deg C.

Before commencing work, obtain approval for the proposed layout of tiles and expansion joints and other visual considerations of the finished work.

18.10 PREPARATION

Concrete floors to be cured a minimum of twenty-eight (28) days if receiving an underlay or separating layer, or forty-two (42) days when receiving a bonded mortar bed or thin/thick bed adhesive fixing. Completely remove from the surfaces all contaminants such as paint, oil, release and curing compounds. Remove all loose material to leave a clean, dust and dirt free surface.

18.11 GROUTING

Remove spacers unless designed to remain insitu. Moisten the joints between tiles and apply grouting mix to as large an area as can be worked before setting commences.

Work with a grouting tool back and forth until all joints are completely filled with no adhesive showing. Avoid damage to the surface of tiles even to the use of masking tape where necessary. Finish to the depth of cushion and flush with the surface to cushion edge and square edge tiles. Remove surplus grout with a damp cloth and tool the joints to finish the grout uniform in colour, smooth and without voids, pinholes or low spots.

18.12 COMPLETION

Upon completion of setting and grouting, thoroughly sponge and wash tiles to leave them completely clean and without blemish. Finally polish glazed tiles with a clean, dry cloth.

Report completion of each area and repair defects at the time.

Remove all debris, unused materials and components from the site.

Protect tiles from damage. Do not allow tiles to be disturbed by foot traffic for at least 72 hours after laying and after grouting. Provide protection to tiles by laying sheet material such as insulating board for the period between completion of laying and completion of the contract works.

19 BUTYNOL

19.1 PRELIMINARY AND GENERAL

Refer to the General Conditions of Contract and the Preliminary and General Clause of this Specification which are equally binding on all trades. This section shall be read in conjunction with all other sections.

19.2 SCOPE

Refer to drawings for layout and extent of work. The contractor shall examine all drawings and provide for butynol as shown on the Plans. All work to be completed in conjunction with other trades as required.

Refer to manufacturers specifications at all times.

19.3 SUBSTRATE

All surfaces to which Butynol is to be fixed shall be clean, smooth, dry and free from sawdust, grit or sharp objects. Plywood must be sanded on one side and free from knots. Plywood substrate should be H3.2 (LSOP treatment must not be used), 17.5mm and fixed with 3mm gaps between all sheets and screw fixed to plywood manufacturers' specifications. Butted edges of Ply sheets are to be taped using 25mm polythene tape. Wooden substrate with right angled internal corners should have a timber triangular fillet 50mm x 50mm screwed to each corner. External corners should be rounded to reduce wear on edges. Downpipe outlet holes should be drilled through timber boxed gutters and decks before installation.

Butynol must have a 150mm minimum upstand on decks therefore provision must be made for timber backing.

Note: All screws to be 50 x 8 self countersinking, stainless steel.

19.4 SUBSTRATE VENTILATION

Ventilation should be used to release moisture trapped under the Butynol. Substrate ventilators should be used in conjunction with tapes. Tapes should be laid in a grid pattern at 600mm spacings to roof perimeter. One way substrate ventilators should be laid at one every 90 sq. metres.

19.5 EXTERNAL MOISTURE

Membrane clad roofs shall have a pitch of 1.5 degrees minimum.

To comply with E2/ASI 1.1.1 roofs having a pitch of less than 1.5 degrees must be formed with Butynol lap tapes on all joints.

19.6 LAYING

The contractor shall be a Company or Person Accredited to lay Butynol. The Applicator shall inspect the works and shall not start until any defects found have been corrected.

19.7 COMPLETION

On completion the Applicator will provide the owner with a Workmanship Warranty and obtain from the supplier a Materials Warranty.

20 BRACING REQUIREMENTS

20.1 SCOPE

Refer to following sheets for actual bracing elements. See appendices for further clarification and fixing instructions or contact Winstone Wall Boards.

20.2 REFERENCES

Winstone's 'Gib Bracing Systems'

Carter Holt Harvey 'Panelbrace'

NZS3604: 2011

Note: No bracing element whether Gib1, 2 or Braceline Gib to be installed behind shower cubical or bath.

Bracing Unit Ratings for Gib® Plasterboard, Ultraline, Aqualine, Fyreline, Noiseline					
Type	Minimum length (m)	Lining Requirement	Additional Requirement	Bracing Units per metre (wind)	Bracing units per metre (Earthquake)
Standard 10mm Gib® plasterboard bracing systems (these ratings also apply to 10mm Gib® Aqualine, and 10mm Gib® Fyreline)					
GS1-N	0.4	Standard 10mm Gib® plasterboard one face		50	55
	1.2			70	60
GS2-N	0.4	Standard 10mm Gib® plasterboard both faces		70	65
	1.2			95	85
10mm Gib® Braceline bracing systems (these ratings also apply to 10mm or 13mm Gib® Toughline)					
BL1-H	0.4	Gib® Braceline one face	hold downs	90	100
	1.2			125	105
BLP-H	0.4	Gib® Braceline one face	hold downs	135	135
	1.2	Plywood other face		150	150
BLG	0.6	10mm Gib Braceline one face	hold downs	110	115
	1.2	10mm Gib standard other		150	145
Ratings for Plywood one side additional sheathing on the other					
EP1	0.6	7mm Ecoply or 12mm Shadowclad one side	hold downs	130	130
EP2	0.6	7mm Ecoply or 12mm Shadowclad each side	hold downs	145	150
EPG	0.4	7mm Ecoply or 12mm Shadowclad one side and 10mm Gib Standard plasterboard other side	hold downs	120	125
	1.2			150	150
EPGs	0.4	7mm Ecoply or 12mm Shadowclad one side and 10mm Gib Standard plasterboard other side	hold downs	100	120
	1.2			150	120

21 RELATED DOCUMENTS

The relevant Local Authority District Scheme Plan.
New Zealand Standards as required by the Building Act 2004

- NZS3124:1987 Specification for concrete construction for minor works.
- NZS3602:2003 Code of practice, timber and wood based products.
- NZS3604:2011 Code of practice, light timber framed buildings not requiring specific design.
- NZS4210:2001 Code of practice, masonry construction: materials and workmanship.
- NZS4211:2008 Specification for performance of windows.
- NZS4223.3.2016: Part 1:2008 The selection and installation of glass.
  Part 2:2016 The selection and installation of manufactured sealed insulating glass units
  Part 3:2016 Human impact safety requirements.
- NZS4229:2013 Code of practice, concrete masonry buildings not requiring specific design.
- AS/NZS 3869:1999 Specification for solid fuel burning domestic appliances.
- AS/NZS 2918:2001 Specification for installation of solid fuel domestic appliances.

NEW ZEALAND BUILDING CODE

22 APPENDICES

22.1 APPENDICES TO FOLLOW

SUPPORTING DOCUMENTS:

Appendix 1: Truss Layout

Appendix 2: NZBC H1 Calculations

Appendix 3: Brace Fixing Details

STRUCTURAL DOCUMENTS:

Appendix 4: Producer Statements

Appendix 5: Structural Calculations

Appendix 6: Structural Drawings

PRODUCT SPECIFICATIONS:

Appendix 7: Nuwall Aluminium Cladding System

Appendix 8: Vertical Timber Cladding System

Appendix 9: Stone Veneer Cladding System

Appendix 10: 5-Rib Roof Cladding System

Appendix 11: Pryda Fixing Details

Appendix 12: Mapegum WPS waterproofing

Appendix 13: Thermakraft Roofing Underlay

Appendix 14: Ecoply Barrier

Appendix 15: Nuraply 3PM Membrane

Appendix 16: NuraJack Deck Support System

Appendix 17: VeluX Skylights

Appendix 18: Ardex Shelterseal 3000X Tanking Membrane

Appendix 19: Nouveau Pizzeria

Appendix 20: Electric Fire

Appendix 21: Eco Insulation

Appendix 22: Continuous Spouting Capacity

Appendix 23: Ventilation

Appendix 24: Interconnected Smoke Alarm

Appendix 25: Bedding and Backfilling

Appendix 26: Equipotential Bonding

Appendix 27: Pipe Support & Thermal Movement

Appendix 28: Balustrade PS1