ARCHITECTURE UNLIMITED LTD

SPECIFICATION

of work to be done and materials to be used in carrying out the works shown on the accompanying drawings.

PROJECT: 1 Goldfinch Drive, Park Ridge, Queenstown

Client: Annabelle and Hunnter Wagener

Builder: ###

Scope: New 4-bedroom house and 2-bedroom unit.

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1 SECTION - PRELIMINARY AND GENERAL

1.1 CONTRACT DOCUMENTS

Work in this contract shall be executed in accordance with the accompanying documentation, drawings, and contract instructions, shall be carried out to best trade standard, in strict accordance with the Manufacturers Specifications and in strict accordance with the relevant NZ Standards, the New Zealand Building Code and Local Territorial Regulations.
Producers Statements are to be supplied where required.

1.2 EXTENT OF WORK

The work consists of the completion of a new dwelling as detailed on the plans and in this specification.

The Contractor shall allow carrying out the whole of the Contract Works in accordance with the full intent and meaning of the Contract Documents taken collectively or separately, including any work which is reasonably to be inferred from the Contract Documents, all to the satisfaction of the owner.

1.3 DOCUMENTS

Namely, drawings and specifications are for the extent of the building only.
There is no warranty expressed or implied that it shows each and every minor detail and items required to be included by the Contractor.
Should any material or structural member appear to be inadequately described yet obviously necessary for the neat, strong and satisfactory completion of the work, then the Contractor shall be expected to include and allow for same.
Generally, where there is conflict between the drawings and the specification, the drawings shall take precedence.
Large scale drawings shall take precedence over small scale drawings.
Figured dimensions shall take precedence over scaling.
Any ambiguities shall be immediately referred to Architecture Unlimited for interpretation.

1.4 SETTING OUT, LEVELS AND DIMENSIONS

It shall be the Contractor's responsibility to verify all levels and dimensions on site and to define the boundaries and accurately set out and position the work.
Confirm same prior to the preparations of shop drawings or the fabrication of any components to be manufactured off the site.

1.5 RESPONSIBILITY

The Contractor shall at all times be solely responsible for executing, maintaining and completing the works strictly in accordance with the terms of the contract.
It is the Contractors responsibility to ensure that these specifications and contract drawings are fully understood by all trades and that they make themselves conversant with all or any clauses relevant to their trade, and to ensure that all parts of the work fit and are compatible with each other.

He shall be responsible for the proper supervision of all work including that of subcontractors and shall take up measures to ensure proper quality control, coordination of all activities and faithful workmanship.
At no time during the period of the contract shall the Owner or the Designer act or be deemed to act in any manner or capacity for or on behalf of the Contractor or so as to release the Contractor in any way from his responsibility.

1.6 HEALTH AND SAFETY

The Contractor is responsible for ensuring that all statutory obligations in respect of site operations, staff and subcontractors are met under the Health and Safety at Work Act 2015.
Every practicable step shall be taken by the Contractor to ensure that the site set up and the work practices are carried out and maintained in a safe manner.

1.7 SITE PERIMETER & PROTECTION OF PROPERTY

The Contractor shall provide all footpath protection, screens and safety netting necessary for the adequate protection of tradesmen on site and of the general public, adjoining surfaces and property.

1.8 BUILDING CONSENTS AND CODE COMPLIANCE CERTIFICATE

The Owners, or their agent, shall obtain from the Territorial Authority all building consents and approvals necessary for the work to commence and shall pay all associated fees and costs.
The Contractor shall be responsible for arranging all inspections and certificates of the work in progress as required by the Territorial Authority and New Zealand Building Code for completion of the work.
On completion of the work the Contractor shall arrange for the issue of a Code Compliance Certificate on the owner's behalf, to be delivered to the owner before final payment can be made.

1.9 INSURANCE

The Contractor and sub-contractors shall affect all insurances rendered necessary by the building operations.
The contractor shall take out adequate Public Liability Insurance to ensure that he is covered against all claims under common law.
The period of time during which the policies shall remain in force shall include the defects liability period of twelve months after final completion.
Should the Contractor fail to complete the work within the original time for completion or as otherwise extended, then he shall extend the insurance cover at his own cost until the contract is completed.

1.10 DURABILITY

Building sites are to be classified as zones A, B, or C Exposure zones, this can be found on Section AA of the plans.
Verify all materials used on this contract comply with the duration period requirements as specified in NZBC (B2).

The Contractor is to ensure that all timber and wood-based products shall be protected against damage from moisture.
Wood based products, e.g. Particleboard flooring, subject to water splash shall be protected by any impervious finish or lining with sealed joints.
Underlays and sheathing are to be durable for at least 15 years under claddings.
Underlays and sheathings behind veneers are to be durable for 50 years.

1.11 MATERIALS, STANDARDS AND WORKMANSHIP

All materials shall be new unless specified otherwise and the best of their respective kinds and shall comply with all relevant and applicable standards.
All work carried out shall be in best tradesman like manner to achieve a first-class finish and conform to the New Zealand Building Code, NZS 3604:2011 and to the satisfaction of the Territorial Authority and the Owner.
The Contractor shall apply to the Owner in writing for approval to substitute any materials or construction methods for other than those specified.
All work shall be carried out in accordance with best trade practice. All defective or damaged work shall be removed and made good to the satisfaction of the owner.

1.12 SECURITY

The contractor shall ensure that the site and building remain secure from both intruders and weather, to safeguard the property and interests of the Owner during the period of construction. The Contractor shall be liable for any costs incurred from breaches to building security caused by their operations or by their lack of supervision.

1.13 SUBCONTRACTORS

The Contractor shall be responsible for the engagement and coordination of all work and subcontractors on site.
The contractor shall allow giving every assistance to all subcontractors and other tradesmen, form ducts, conduits, and openings in concrete work, cut and bore timbers, provide fixing blocks, dwangs and supports as necessary and shall allow for and permit their use of his plant, scaffolding and the like.
The subcontractor is responsible for verifying all levels and dimensions on site before the commencement of their work or the ordering of materials and shall accurately set out position their own work to achieve a first-class finish.
Should any tradesman consider that the work of other trades or the condition of any surface is not in a satisfactory condition to ensure a good and proper finish to his own work, and then he shall report to the Contractor and not proceed until the situation has been rectified.

1.14 ACCESS AND TEMPORARY SERVICES

The Contractors access shall be restricted to the site as shown on the drawings.
Storage of materials shall not be permitted other than on the above area and due consideration shall be shown to neighbouring property, and residents, by the Contractor at all times.
The Contractor shall arrange at his own expense all temporary power, water and phone services required and shall make these available to all subcontractors.

Upon completion all temporary buildings and services shall be removed, and the Contractor shall make good any damage to the works site and access way including footpaths and crossings.

1.15 SCAFFOLDING AND CRANAGE

The Contractor shall provide all scaffolding and cranage as required for the completion of the works and shall make these available for use to all other trades.

1.16 DEFECTS LIABILITY PERIOD

The Defects Liability Period shall be twelve months for all work effective from the date of practical completion.

1.17 COMPLETION

The Contractor is responsible for the cleaning up and removal from site at regular intervals and on completion of all rubbish, dirt, dust, surplus materials, construction plant and temporary works.
No builder's rubble is to be buried on the site.
Make good all damaged work using new materials as and where necessary.
On completion of the contract the whole of the building, inside and out, shall be thoroughly cleaned including glass, fittings, and other surfaces, and leave the site in first class order ready for immediate occupation by the Owner.
All drawings and specifications remain the property of the Owner and shall be returned in good condition at completion of the works before final payment is made.

1.18 GUARANTEES

All guarantees shall be in the name of the client and be submitted by the Contractor and shall cover all work and materials, including that of subcontractors where applicable.
All guarantees shall include making good of consequential damage to adjoining materials and finish.
Guarantee periods shall commence from the date of practicable completion.

2 SECTION - EXCAVATION

2.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

2.2 SITE CLEARANCE AND EXCAVATION

Clean off all rubbish, noxious matter and organic matter under building platforms, strip all topsoil and stockpile in a suitable position or as directed by the owner.
Excavate site as required to provide a suitable base for ground bearing foundations and concrete slabs taking care not to disturb adjacent ground or impair its stability or effectiveness.
Foundations and footings shall be excavated into good ground as required by NZBC B1 Structures B1/AS3 and NZS 3604:2011.
Excess material from excavations and backfilling shall be removed from site by the contractor.
Timbering or other support shall be provided to maintain the stability of excavations.
Allow for dewatering of excavations to prevent water from lying in them.
Under suspended floor structures, close cut grass and firm turf may remain provided that the cleared ground level shall be taken from the underside of soil containing organic matter.
Under concrete slab on ground construction, clean off all vegetation and topsoil.
Excavation beneath building platforms on sloping sites shall be dug out in series of stepped level platforms.

2.3 FILLING MATERIALS

Back filling material shall consist of hard fill which shall be free draining, free from organic matter, silt and clay and shall be placed in 150mm thick layers and thoroughly compacted.
Prop foundations walls as required provide protection to DPM during the placement of concrete and subsequent backfilling.

2.4 ADJACENT FINISHED GROUND LEVEL

The finished ground level adjoining concrete floors shall be formed to slope away from foundations at a minimum of 1:25 for a minimum distance of 1.0m.

2.5 BUILDING HEIGHT

It is the Contractors responsibility to check and confirm finished levels on site with the Owner and local Authority to conform to height restrictions.

3 SECTION - REINFORCING AND FORMWORK

3.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

3.2 SCOPE

Supply and installation of steel reinforcing to:

- **All Foundation Footings**
- **Concrete slab**

3.3 STEEL REINFORCING

Reinforcement shall be provided as shown in the drawings and must comply with:

- AS/NZS 4671:2001 for rolled steel bars.
- AS/NZS 1554.3:2014 Welding of reinforcing steel
- NZS 3109:1997 for placement and method.

3.4 HANDLING

Steel Reinforcing shall be laid flat, and stored on timber fillets, on hard ground, in a secure area, clear of any building operation, and maintained at all times free from damage and contamination.

3.5 BENDING AND FIXING

Reinforcement shall be bent cold to the dimensions indicated on the drawings using proper bending tools to avoid notching.
All reinforcing shall be accurately placed and securely held in position during concreting.
Wheelbarrows must not be wheeled directly on top of mesh but must be wheeled across planks supported clear of the mesh on blocks which will not sink into the sub grade or damage the DPC or tanking or displace the mesh.
Reinforcing mesh to floor slabs shall be supported on plastic chairs at no more than 1.2m centres both ways during placing of concrete cover to the reinforcing mesh.

3.6 PLACEMENT

All reinforcement shall be accurately placed and secured with soft black wire to ensure no displacement during pouring.
Tying wire shall be bent back clear of any formwork.

3.7 LAPS AND COVER

Unless otherwise approved, the tolerance in placing shall be not more than 6mm, but this tolerance shall not permit any reduction of the required cover.

Laps shall have a length of not less than the following:

- Mild steel Deformed bars D10 - 550mm
- Mild steel Deformed bars D12 - 650mm
- Mild steel Deformed bars D16 - 850mm
-

Minimum cover:

- 75mm - when concrete is poured onto earth e.g. the bottom of a foundation.
- 50mm - to vertical walls in contact with earth, formwork, exposed or other.
- 50mm – to all other, except,
- 30mm – the top of slabs in closed areas.

3.8 FORMWORK

Formwork shall be of sufficient strength to retain and support the wet concrete to the required profiles and tolerances.
Formwork shall be selected to produce the specified finished quality, timber or plywood shall be non-staining to the set concrete and securely fixed and braced to support loads, with joints and linings tight enough to prevent water loss.
Generally, a 19mm chamfer or fillet strip shall be provided at all interior and exterior angles of beam and column forms and mitred at intersections.
Formwork shall be thoroughly cleaned and wet down prior to pouring concrete.

3.9 COMPLETION

All excess material shall be cleaned up and removed from the work area and on completion allow to make good any damage to the surrounding ground to leave the whole of the works in first class order to the satisfaction of the Owner.

4 SECTION - CONCRETE

4.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

4.2 SCOPE

Provision and placing of all concrete to areas shown on the drawings including:

- **Foundation Footings**
- **Concrete slab**
- **Base course**
- **Damp proof membrane**

4.3 MATERIALS

All concrete work shall comply with NZS 3109:1997

Cement - shall be ordinary Portland cement and shall be the same throughout the works and shall be stored and handled so as to protect against deterioration or contamination.
Defective material shall be removed from site.

Aggregates - fine and coarse, shall comply with normal local requirements to provide the highest possible grade of concrete.
The nominal maximum size of coarse aggregate used shall be 20mm and shall be the same throughout the works.

Water - shall be clean potable water complying with NZS 3121:2015.

Admixtures - shall not be added on site unless approved by the engineer.

Concrete – shall be high grade with a max. water / cement ratio by weight of 0.50 and shall be used throughout the works.

Concrete strength - Shall be:

- **10MPa** for unreinforced concrete used in mass foundations.
- **17.5MPa** for unreinforced concrete applications, or reinforced concrete either not exposed to weather or exposed to the weather in zone B.
- **20MPa** for reinforced concrete exposed to the weather in Zone C
- **25MPa** for reinforced concrete exposed to the weather in Zone D

4.4 CONCRETE GENERALLY

Ready Mixed Concrete - shall be mixed at a central mixing plant and transported to the site in an agitator or revolving drum type.

The interval between batching the concrete at the plant and discharge at the site shall not exceed 90 minutes.
Under no circumstances shall concrete that is partially hardened be placed in the works.
The grades of concrete shall be in accordance with the grading certificate and delivery dockets shall include concrete grade, strength, cement content and estimated slump.

Site Mixed Concrete – shall be mixed in accordance with a Specification obtained from the Design Consultant and which involves weigh batching of materials and control to ensure consistent quality.

Tests – may be required during construction to provide the crushing strength of the concrete or the slump.
The costs of this shall be borne by the Contractor and who must provide the necessary moulds.

4.5 PLACEMENT

Excavations, boxing and reinforcing shall be inspected by the Territorial Authority prior to the placement of concrete.

A vapour barrier of 0.25mm polythene sheeting shall be placed to the prepared base course with all joints lapped and taped with 50mm wide pressure sensitive tape and left free from tears and other damage.

Compaction of concrete shall be carried out by use of vibrators of approved size and type and shall be done in such a way as to prevent the separation of the aggregate from the rest of the material and shall be thoroughly worked and consolidated round the steel reinforcement and into all parts of the formwork so that the steel is thoroughly coated and so that no cavities or voids are left.

4.6 PROTECTION AND CURING

The concrete shall be protected during the first stage of hardening from the harmful effects of direct sunshine, drying winds, frost, cold rain or running water.

Floor slabs on ground shall be segmented by shrinkage control joints as shown on plan, formed by 20mm by 5mm saw cuts and be done within 24 to 48 hours after laying and later filled with a non-shrink cement grout after sufficient time has elapsed for most shrinkage to have occurred.

With prior permission from Architecture Unlimited, the Contractor may cut grooves of approved depth and width as an alternative to the above limitations in order to prevent shrinkage cracks occurring at any other place than the saw cut.

4.7 FLOOR SLAB

The floor slab shall be 100mm thick reinforced with 500E mesh.
Refer to Section 03 for correct cover to be applied to mesh.

Finished concrete slab floor levels above finished ground level shall be:

- 150 mm for brick veneer with adjacent paving.
- 150 mm for cladding with adjacent permanent paving.
- 150 mm for brick veneer without permanent paving.
- 225 mm for cladding without permanent paving.

4.8 FINISH

All floor slabs shall be finished to approval with a steel power float finish.
All exposed concrete foundations etc, above ground level shall be of a fair face finish.
Finished floor slabs are to be level and true with a permitted tolerance of 3mm over 3m.

4.9 FIXINGS

Allow to provide slab rebates and openings as required by other trades.

Either set in M12 galvanised cast in holding down bolts, fixings shall be set not more than 150mm from end of wall frames and at 1.2m centres maximum along walls.

Or alternatively D12 Tru-bolts may be placed at the time of wall frame erection. Set these no more than 150mm from end of wall frames and at 900mm centres maximum along walls.

Refer to the bracing schedule where additional fixings may be required at edge of bracing panels.

4.10 COMPLETION

All excess material shall be cleaned up and removed from the work area and on completion allow to make good any damage to the surrounding ground to leave the whole of the works in first class order to the satisfaction of the Owner.

5 SECTION - CARPENTRY

5.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

5.2 SCOPE

Supply and Installation of the following:

- **Timber Framing**
- **Linings**
- **Joinery and Windows**
- **Fixings and Hardware**
- **Finishing Work**

5.3 CARPENTRY

This trade comprises of the supply and fixing of all timbers, linings, sheathings, fittings and finishing shown to be included in the works but not specified under other trades.
Provide and fix all necessary beads, stops, fillets, blocks etc. that may be required for the proper carrying out and completion of the work whether more particularly mentioned or not.
Provide all fixings and cutting as required for all other trades.

All carpentry work shall be carried out by skilled and Qualified Tradesmen using adequate and proper equipment and shall be in the best tradesman like manner conforming to the New Zealand Building Code, NZS 3604:2011, the Territorial Authority and the Owner and follow Manufacturers Specifications and Instructions required for the due and proper completion of the whole of the works shown or specified.

All materials used shall be of the gauge, width, size and type specified and shall be of the best of their respective kinds and shall comply with all relevant standard specifications.

All timber shall be stacked straight, stored off ground and protected from water entrapment and condensation forming between product.
All joinery and dressed timbers shall be protected from the weather and all due care is to be taken to avoid damage from the operations of the works.

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.

5.4 STANDARDS

All work and materials shall comply with the relevant New Zealand Standards. Relevant standards to be referred to –
New Zealand Building Code
NZS 3604:2011 Timber Frame Building
NZS 3602:2003 Timber and Wood Based Products for use in Building.

NZS 3640:2003 Chemical Preservation of Round and Sawn Timber
NZS 3617:1979 Specification for profiles of weatherboards, fascia boards and flooring
NZS 3631:1988 New Zealand timber grading rules

5.5 TIMBER TREATMENT

All timber shall be first grade, well-seasoned, dried, treated, true and straight and free from shakes, veins, holes, and other defects.

All Framing timber shall be the best of their respective kinds, shall be of minimum grade of treatment, and shall have minimum moisture content as specified by the Timber Preservation Authority and conform to the requirements of NZS 3631 and NZS 3602.

SG8 H1.2 treated timber shall be used unless otherwise specified.
Exterior timber generally shall be H3 Treated Radiata pine.
Structural timber to be set in concrete shall be H5 treated.
Fence posts shall be treated H4.

Refer to NZS 3604 table 2.1 for timber framing tolerances.

All timber shall be separated from concrete or masonry by a clear free draining air gap of 12 mm minimum or by damp proof course extending 6 mm past each side of the timber.
Timber treated to 114 and timber within a building where the concrete is protected or not exposed to moisture may be excluded from the above protection.

5.6 MOISTURE CONTENT

Generally, the moisture content shall not exceed 20% and finishing timbers shall not exceed 12%.

All framing shall be sufficiently dry and straightened before linings are fixed to prevent subsequent popping and peaking.

5.7 DAMPCOURSE

All timber shall be protected from dampness with 3-ply bituminous felt or other approved damp proofing material when in contact with concrete or block work.

5.8 FIXINGS

All fastenings to exterior work shall be “electro” or “hot dip ‘galvanised.
Nail Plates shall be used only where approved.
Generally, use Coach bolts unless otherwise specified.
For structural timber connections Engineering Bolts shall be used unless otherwise specified.

All Bolt and coach screw fixings shall have their heads and nuts fixed over washers when in contact with timber.

Bolt Diameter	Washer size
Up to M6	25x25x1.6mm
Up to M12	50x50x3.0mm
Up to M20	65x65x5.0mm
Over M20	75x75x6.0mm

Nails shall be to length and diameter according to manufacturer's specifications and shall comply with nailing schedules in NZS 3604:2011.

5.9 BRACING

Bracing shall be sheet bracing or proprietary galvanized let-in steel angle bracing fixed diagonally to provide rigid walls in accordance with NZS:3604 and as detailed on the bracing schedule and to Winstone Wallboard's GIB Systems.

5.10 FINISHED WORK

All finished or partly finished work shall be protected from discolouration, surface injury or other damage. All nails in exposed work shall be punched.

5.11 TIMBER FRAMING

Wall plates: Top and Bottom plates shall be of the dimensions shown on the drawings but generally being 90x45 SG8 framing.

Under all walls lay full width bottom plates in long lengths, connected with 3kN fixings at junctions and joints, packed level and securely nail fixed to timber floor or concrete slab with proprietary fixings as defined by 7.5 12.3 for Internal walls and 7.5 12.4 for external walls of NZS 3604:2011 can also be used for fixing of bottom plates.

Double Top plates 90x45 shall be connected at joints and junctions with 3kN fixings (or 6kN where wall contains bracing element) over supports and securely spiked to studs.

Joints in top plates shall only be made over supports and connected with an alternative fixing of 3kN. Plates shall be straight and true and in long lengths.

Fixings to the studs shall be as noted in NZS 3604:2011 Table 8.19 with special note made that further details to top plate fixings are shown on Fig. 8.13 – 8.20 (inclusive) of NZS 3604:2011 covering a majority of residential fixings requirements.
Situations not covered by these figures should be referred to Architecture Unlimited.

Wall framing: Set out and frame up walls as shown on the drawings to provide rigid walls true to line and plane.
Wall framing shall generally 90x45 SG8 with studs spaced at 600crs and to suit set out of linings and fittings.

Wall junctions shall be framed up with a minimum of two studs, blocked and nailed.

Provide trimming studs to the side of all openings, which shall not be drilled, notched or cut within the middle third of their length.

Lateral support to studs shall be provided by two sets of dwangs at 800 centres and shall be of the same dimensions as studs finished flush with the face of studs.
For vertical timber weather baords cladding dwangs to be placed at 480crs

Holes or notches in studs may be made to a depth 25 mm, which may be increased to 35 mm where not more than 3 consecutive studs are filled or notched.
Notches in studs to be spaced vertically not less than 600 mm apart.

In load bearing walls where trusses land more than 150 mm away from a stud then support under truss shall be by fixing 90 x 45 on edge under top plate and fixed into adjacent two studs.

Lintels: Lintels shall be provided over all openings in load bearing walls with fixing against up lift to be provided as detailed in NZS 3604:2011, specifically Fig 8.12.

Lintel sizes are as detailed on the Window and Door schedules as shown on the drawings and may be substituted by designed lintels covered by a PS1 certificate from the truss manufacturer.

Roof framing: Frame up roofs using members of the sizes and centres as detailed on the drawings.
Ensure all main roof beams and rafters are securely fixed to plates using pairs of 4.9mm wire dogs or 5kN proprietary multi-grip connectors.

Allow to temporary prop at mid span all beams etc during construction or until the moisture content reaches 12%.

Roof framing members shall not exceed 1200mm centres for light roof and 900mm centres for heavy roof.

Joints in framing members shall only be made over supporting framing, except for ridge boards.

Proprietary roof trusses: Supply and fix roof trusses were shown on the drawings as detailed and as required by proprietary system Truss fabricator to provide a neat strong roof.
Note: It is the responsibility of the contractor to supply a producer statement showing details of truss design to the Territorial Authority.

Roof bracing: Provide all roof plane and roof space bracing, ridge boards, valley boards, etc as necessary for the due completion of this part of the work.

Purlins: Purlins shall be laid parallel to eave and ridgeline and directly over rafters and be continuous over at least 2 spans.
Purlins shall generally be 70 x 45mm laid flat and spaced as recommended by manufacturing supplier of selected roofing material, generally 900 mm centres.

Purlins are to be fixed in Accordance with Table 10.10 of NZS 3604:2011.
Purlins may be extended as cantilevers to construct barges.

Ceiling battens: Timber ceiling battens shall be 70 x 35mm at 600 centres maximum fixed to underside of trusses or ceiling joists and finished to an even line.
Alternatively use metal battens, Rondo or similar fixed as per manufacturers specification.

Ceiling access: Form a 600 x 600mm opening in the ceiling to provide access to roof space. The opening shall be in a suitable location, as selected by the owner.

BUILDING UNDERLAY WALLS
Exterior timber wall framing shall be sarked with GIB Weatherline.
Weatherline shall extend from top of top plate to below wall plate on concrete floors or below bearers on timber floors.
Fix and install according to the manufacturer's recommendations

INSULATION

Fibreglass Batts: R2.8 fibreglass wall batts fitted to framing cavities in all exterior walls.
R4.0 fibreglass ceiling batts shall be fitted to ceiling and roof spaces.

Ensure adequate ventilation space is left around recessed light fittings as required by lighting manufacturer's recommendations.

EXTERIOR CLADDING AND TRIM

Hardiflex Soffit Linings: Line soffits where shown with 4.5mm hardiflex fixed and jointed, in accordance with the manufacturer's instructions.

Plaster: Rockcote Plaster System on Graphex panels

Weather Boards: Vertical shiplap TMT Amba

Metal Cladding: 0.40 Gauge Prefinished metal Hi Five

Priming: Allow to thoroughly apply oil-based primer to all cut ends and laps of exterior finishing timbers.

Sealant: Apply Silaflex MS or similar approved sealant and thoroughly seal all joints between dissimilar materials and other joints where required to achieve a flexible and weather tight finish.

INTERIOR LININGS

All finishes and linings are to be fixed in accordance with manufacturers specifications.
Full sheets only shall be used and filling in with offcuts will not be permitted.
Ensure the finished surface will be true and flat and left ready for painting in accordance with good trade practice and to the satisfaction of the owner.
All reasonable precaution shall be taken to prevent damage or stain to any woodwork and lining.

GIB Board Walls: Line all internal walls unless specified otherwise with 10mm Standard GIB Board, screw and adhesive fixed strictly in accordance with Winstone Wallboard's GIB Board specifications.
Refer also to the attached Bracing Schedule for lining details.

GIB Board Ceilings: Line all ceilings unless specified otherwise with 13mm Standard GIB Board.

GIB Aqualine: Line Ceilings to bathrooms with 13mm Aqualine GIB Board.
Line walls to bathrooms and walls adjacent to laundry and kitchen sinks with 10mm Aqualine GIB Board.

GIB Braceline: Where required by the bracing schedule, substitute wall and ceilings with 10mm Braceline GIB Board.

GIB Weatherline: Install GIB Weatherline to all external farmes, as specified.

INTERIOR TRIM

All interior finishing timbers shall be as detailed on the drawings or in this specification and shall be of a consistent standard and be protected from the weather and any other damage during the term of the contract.
Remove all arrises, rough and uneven patches, hammer marks and other surface defects to the satisfaction of the owner.
All nails in exposed work shall be punched and all surfaces shall be dressed and sandpapered smooth left ready for decoration.
All corners and joints shall be mitred or scribed and neatly fitted.

Skirtings: To wet areas, skirting shall be 85x12mm bevelled timber to be paint finished.
To all other areas skirting shall be 85x12mm bevelled MDF or Pinus Radiata to be paint finished.

Architraves: Fit architraves to all door and window reveals.
Generally, allow for 60x12mm bevelled selected timber to be paint finished.

JOINERY AND FIXTURES

Cabinets, shelving, stairs, etc:
Take delivery of all kitchen, bathroom and laundry joinery, shelving, doors, stairs etc. and fix neatly and securely in position as detailed on the drawings.
Dimensions for doors shall be as scheduled in ***Section - Joinery***.

Hardware and Furniture:

Shelving: Take delivery of Meltica and timber shelving from joiner and install into all cupboards and wardrobes as detailed on the drawings on 60x18mm MDF cleats screwed into framing.

Hanging Rails: Install 25mm powder coated aluminium hanging rails into wardrobes as detailed.

All joinery and fixtures shall be inspected on delivery, and inferior or damaged goods will not be accepted.

INTERNAL DOORS

Take delivery of various internal doors and frames from joiner and install into openings where shown on the drawings.
Erect doors and frames into position, plumb both ways, secure square and true to alignment against full wedges and solid packing to internal wall framing.

FITTINGS AND MISCELLANEOUS HARDWARE

Allow to provide all dwanging and cooperate with other trades as required to fix all fittings and miscellaneous hardware which unless specified otherwise, will be supplied and selected by the owner and will include:
Shower rail & curtain
Bath
Door handles and striker plates, front door dead lock set
Wall mirrors to bathroom
Toilet roll holders, towel rings, etc. to bathroom and WC

The Owner shall be consulted on heights and final placement of all of the above.

METAL WINDOWS AND DOORS

Take delivery of windows and exterior doors and install complete with powder coated head flashings as detailed and in accordance with manufacturer's instructions.

Allow to fix cabin hooks to hinged doors which shall be supplied by the manufacturer.

Ensure fixing is into solid blocking.

All dimensions given shall be trim sizes as scheduled in ***Section - Metal Doors and Windows***.

Ensure transoms, sills and heads of adjacent units are perfectly lined up except as detailed otherwise.

Confirm trim sizes and other installation details with the manufacturer.

SPACE HEATER (??? See Section on Heating?)
Construct concrete hearth as detailed and allow to co-operate with the plumber for the installation of selected solid fuel space heater supplied by the Owner.
Installation shall be carried out in strict accordance with the manufacturers specification, AS/NZS 2918:2001 and to the satisfaction of the Owner.

COMPLETION
At completion remove all trade debris from the whole of the works areas particularly nails, screws, offcuts, material scraps, rubbish etc. and allow to make good any damage to the

surrounding ground to leave the whole of the works in first class order to the satisfaction of the Owner.

6 SECTION - ACRYLIC INSULATING PLASTER SYSTEM

6.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

6.2 WORK SHOWN AND MENTIONED

These notes and drawings show the extent of work, however there is no warranty expressed or implied that they show each and every minor detail and item required to be included by the Contractor.
Should any material or work appear to be inadequately described yet obviously necessary for the neat, strong and satisfactory completion of the work, then the Contractor shall be expected to include and allow for same.

6.3 SCOPE

Provide all plant, materials and labour necessary for the due and proper completion of the whole of the work of all interior and exterior surfaces as described on the plans and in this specification.
The work in this section includes decoration of the following:

- **Supply and Installation of Graphex substrate**
- **Application of Rockcote Acrylic Plaster System to exterior walls.**
-

6.4 MATERIALS AND WORKMANSHIP

All work carried out shall be by skilled tradesmen using adequate and proper equipment in strict accordance with the manufacturers' instructions, and all materials used shall be the best of their respective kinds.

6.5 CHECKING DIMENSIONS AND SETTING OUT

The Rockcote acrylic Plaster contractor is responsible for inspecting the site and checking dimensions before the commencement of any work or ordering of materials.

Work shall be commenced as soon as the progress of other trades will permit, and any additional builders work required shall be arranged as he work progresses.
Any defects to surfaces to be plastered shall be made good prior to the application of the plaster.

6.6 SUBSTRATE

Polystyrene Substrate: supply and fix Graphex polystyrene as detailed complete with all proprietary fastenings as required and to manufacturer's specifications.

6.7 APPLICATION

Flush Coat: Allow to apply a 10mm thickness solid plaster flush coat to all exposed concrete or blockwork foundation walls prior to application of acrylic plaster final coating.

Sample Panel: Allow to prepare a sample panel 1m square to show texture and colour for approval by the Owner.

Finish: Final coat to be selected float finish in colour to be selected by the Owner.
Mix in uniformly gauged batches and ensure perfectly even matching to all areas.

Smooth Margins: Allow for smooth finish to margins where shown around door and window opening, plinth and other areas as detailed all true to line to achieve a smooth and even steel float finish.

Flashings: Supply and install proprietary PVC starters, angles, flashings to all heads, jambs and sills, and control joints in strict accordance with manufacturer's instructions.

Sealant: Apply sealant to all window and door junctions, barges, fascias, and other junctions with different materials, after priming as detailed and as required by the manufacturer's specifications.

Armour Coat: Apply armour coat to finished plaster as specified by the manufacturer.

6.8 COMPLETION AND GUARANTEES

On completion, remove all tins, rubbish, plant etc from the site.
Clean off all marks.

The Plastering Contractor shall provide a written guarantee for a period of (5) five years to the Owner for all plastering systems.
The guarantee comes into effect on the date of practical Completion of the building and shall provide a guarantee against defects in materials and workmanship and shall include for the making good of resulting damage to structure and finishes caused by the loss of weathertightness and the entry of wind or water.

7 SECTION - ROOFING

7.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

7.2 SCOPE

Supply and Installation of the following:

- **Profiled metal roofing**
- **Wall Cladding**
- **Fascia**
- **Down pipes**
- **Spouting**

7.3 ROOFING

All roofing work shall be carried out by skilled tradesmen using adequate and proper equipment and shall be in the best tradesman like manner conforming to the New Zealand Building Code, NZS 3604:2011, the Territorial Authority and the Owner and follow Manufacturers Specifications and Instructions required for the due and proper completion of the whole of the works shown or specified.

All materials used shall be of the gauge, width, size and type specified and shall be of the best of their respective kinds and shall comply with all relevant standard specifications.
All materials shall be stored off ground and sheltered to avoid water entrapment and condensation forming between sheet product and all due care is to be taken to avoid damage from the operations of the works.

Roofing shall be laid over roofing underlay.
Compatibility of roofing material and adjacent materials are to be verified.
Spouting shall be 0.55 gauge prefinished colour steel type as detailed on the drawings.

7.4 SET OUT

The roofing contractor is responsible for inspecting the site and checking and verifying dimensions before the commencement of any work or ordering of materials.
The roofing contractor shall accurately set out all fittings and do all levelling etc, necessary to properly position the work.
Work shall be commenced as soon as the progress of other trades will permit, and any additional builders work required for penetrations, flashings etc, shall be arranged with the Contractor as the work progresses.

7.5 ROOFING UNDERLAY

Provide and fix Covertex 407 synthetic building paper to all new areas as required under corrugate roofing.
Underlay shall be laid to manufacturer's instructions but generally with the iron starting at the eaves and lapped 200mm at joins and supported with PVC ribbon tightly fixed between purlins.
Underlay shall be securely fixed and drawn taut and left free from tears and other damage and turned down into gutters as per manufacturer's instructions.
Protect from damage prior to and during roofing fixing.

7.6 HI-FIVE ROOFING

Roofing shall be 0.40 gauge prefinished Hi-Five profile colour steel type longrun in selected colour cut from single lengths from roof to gutter. Fixing shall be carried out using 65mm climseal type roofing screws in strict accordance with the roofing manufacturer's recommendations. (No imported product to be used!)
Edge laps shall be 1 rib.
Care shall be taken to avoid scratching of the surface coating.
Excessive scratches will not be permitted, and the material replaced at the sub-contractor's expense.

All fasteners shall be factory painted to match roofing colour and touch up paint applied to any damaged fixings.
Allowance shall be made to extend roofing well into gutter to conceal sheet ends.

7.7 ROOF FLASHINGS

All ridge, barge, fascia and roof / wall junction flashings shall be compatible with the roofing material and shall be supplied and fixed as required for a fully watertight installation.
Allow to supply flashings which shall be matching factory painted prefinished colour steel type 0.55mm gauge and shall be machine folded as required and fitted to roof and formed over profiles.

7.8 SPOUTING AND GUTTERS

Allow to supply and fix Quad 125mm matching colour steel type 0.55 gauge spouting as noted on the drawings.
Supply complete with internal brackets and snow straps at 700mm maximum centres and equally spaced on respective runs.
Allow to fabricate droppers to suit downpipes and form all stop ends and corners as required.
All joints to be fully sealed and securely connected.

Silicone sealant used shall have documented min. durability of 15 years as required by NZ Building Code.
Expandite Fosroc Silaflex MS is acceptable

The cross sectional area shall comply with NZBC E1 AS1 Fig.15.

7.9 WALL CLADDING

Wall cladding shall be 0.40 gauge prefinished Hi Five profile colour steel type longrun in selected colour cut from single lengths from foundation to gutter.

Fix and lap in accordance with manufacturer's instructions and with recommended fasteners.
To be run in continuous lengths Vertically.
Edge laps to be 1 rib
Care shall be taken to avoid scratching of the surface coating.
Excessive scratches will not be permitted, and the material replaced at the contractor's expense
All scratches as permitted shall be touched up with matching paint.

Provide and fix all flashings as required and detailed for a fully watertight installation.

Flashings shall be matching factory painted prefinished colour steel type 0.55mm gauge and shall be machine folded as required.
Fit to cladding and form over profiles as detailed.

7.10 FASCIA

Allow to supply and install 0.55 gauge prefinished colour metal fascia complete with brackets and corner soakers. Install as per manufactures instructions

7.11 DOWNPIPES

Allow to supply and install:

Allow to supply and install 80mm uPVC downpipes as shown on the drawings complete with holder battens at 1.2m maximum centres.
Seal all downpipes and vents into their connections.
Allow to coordinate with the drainage contractor for connection to stormwater drain.

7.12 COMPLETION

At completion remove all trade debris from the whole of the roof areas - particularly nails, screws, etc.
Ensure that all gutters spouting etc are clean.
Leave all roof areas firmly fixed and weatherproof.

All surplus materials, including fixings and flashings are to be disposed of off-site as the work proceeds.
All loose sheet materials left on site are to be secured against wind uplift.

8 SECTION - DRAINAGE - AS/NZS 3500.2

8.1 GENERAL

Refer to **Section - Preliminary and General** for items affecting this section and which are equally binding on all trades.

8.2 SCOPE

Supply and Installation of the following:

- **Foul Sewer Drains**
- **Stormwater Drains**

8.3 DRAINAGE

All work shall be carried out by a registered drain layer to Local Territorial Authority Requirements and to AS/NZS 3500.2:2018. and G13/AS3
Excavation and Drainage shall comply with the requirements of AS/NZS 4452

8.4 SETTING OUT AND EXCAVATION

Allow to excavate for all external foul sewer drains and storm water drains generally where detailed on the drawings.
All trenches shall be evenly cut in straight lines and accurately graded before laying of piping with allowance made for adequate working space.

8.5 LAYING

Supply and install all new drainage piping and fittings as required.

- Foul sewer piping and fittings shall be 100mm diameter uPVC.
- Storm water piping and fittings shall be 100mm diameter uPVC.

All joints shall be primed before joining with solvent cement and be made following the manufacturer's instructions.
Drains shall be no less than 500 mm below finished ground level, if this occurs; they are to have 100 mm concrete cover.
All drainage piping shall be laid on a bedding of crushed stone / gravel levelled to provide a uniform and solid bearing for all pipes and fittings.

AS/NZS 3500.2:2018 requires all pipes and fittings to be laid to the following grades:
1.65% - for 80mm dia. piping.
1.65% – for 100mm dia. piping.
1.00% – for 150mm dia. piping.

Drainage pipes shall be fitted with cleaning eyes at all branches and changes of direction, which shall be brought to the Finished Ground Level.

New gully traps shall have a concrete base under the trap.

Allow to connect and seal all downpipes into 100mm uPVC drains.

Allow to connect all new sewer and stormwater drains to the Territorial Authority System at the boundary and to the satisfaction of the Territorial Authority inspector.

8.6 BACKFILLING

Drains shall be backfilled with compacted granular fill.

8.7 COMPLETION

On completion of the drainage work and before concealment, the entire system shall be tested for approval by the Territorial Authority and any defects becoming apparent shall be made good. Test methods as per AS/NZS 3500.2.
All above ground sanitary plumbing pipework shall be tested by water or air test to verify that the system is watertight. Water test: the method described in Section 10 of NZS 7643 may be used for ensuring water tightness of the above ground sanitary plumbing pipework. Air tests may be carried out in accordance with either clause 12.36.2 of NZBC G13 or Paragraph 8.3 of E1/VM1.

As Built Drawings shall be supplied with basic dimensions showing the positions of any drains, septic tanks, soak pits and fat traps from buildings.
Remove from site all surplus materials, rubbish, plant, dirt etc. and on completion allow to make good any damage to the surrounding ground to leave the whole of the works in first class order to the satisfaction of the Owner.

The Drainage contractor shall provide a written guarantee for a period of five (5) years to the Owner and this shall be in the name of the Contractor.
Guarantee periods will commence from the date of Practical Completion of work on the site.

8.8 Fixture Unit Ratings Table

FIXTURE UNIT RATINGS Extract of table 6.3(A) in AS/NZS 3500.2:2018, and as amended by G13/AS3			
Fixture	**Abbreviations**	**Min. size of trap outlet and fixture discharge pipe (NZ)**	**Fixture unit rating**
Basin	B	DN32	1
Bath (with or without shower) *(note 1)*	Bath.	DN40	4
Bath (foot)	Bath.(foot)	DN40	3
Bath (baby)	Bath.(baby)	DN40	3
Bath (shower)	Bath.(shr)	DN40	4
Bidet, bidette	Bid	DN32	1
Clothes Washing Machine - - domestic	CWM	DN40	5
Dishwashing Machine	DWM	DN40	3
Floor waste gully- - without fixture - with fixture	FWG	. DN50	. 0 as per fixture rating
Shower - - single - multiple	Shr	. DN40 DN50	. 2 2 per shr head
Sink - - single, or double (with or without disposal unit) - tea - bar, domestic	. S T BS(D)	. DN40 DN40 DN40	. 3 1 1
Trough (tub) - - ablution - laundry (single or double)	. Tr (A) Tr (L)	. DN40 DN40	. 3 5
Water closet pan	W.C.	DN80	6 (F.valve) 4 (Cist.)
Water closet pan	W.C.	DN100	6 (F.valve) 4 (Cist.)
Bathroom group in a single room (basin, bath, shower, water closet)		--	6

Notes:

1. The maximum discharge from any fixture into the single stack and single stack modified system is 500L. If the discharge is in excess of 500 L, the fixture unit loading may be determined in accordance with Table 6.3(B)
2. When a dishwashing machine connects to a sink trap, only the sink fixture unit rating is considered. When a clothes washing machine connects to a trough trap, only the trough fixture unit rating is considered.
3. Where waste fixtures connect to a floor waste gully, the fixture unit rating of the floor waste gully is the sum of the fixture unit ratings of the fixtures connected.
4. *Not applicable to NZ*

9 SECTION - PLUMBING

9.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

9.2 SCOPE

Supply and Installation of the following:

- **Plumbing Fittings**
- **Reticulated Water and Waste Services**
- **Hot Water Cylinder**

9.3 PLUMBING

All plumbing work shall be carried out by a registered and licensed tradesman using adequate and proper equipment and shall be in the best tradesman like manner conforming to the requirements of the New Zealand Building Code, the Territorial Authority and the Owner and follow Manufacturers Specifications and Instructions required for the due and proper completion of the whole of the works shown or specified.

All materials used shall be the best of their respective kinds and shall comply with all relevant NZ Standard specifications.
Work is to comply with G12/AS1 and G12/AS2

The plumber shall confer with other subcontractors who may be affected by the installations in ample time so that provisions for openings, chases, anchors etc can be made.

9.4 MAINS SUPPLY

Allow to supply and install a new 20mm alkathene underground main supply pipe as located on the plan including a suitable isolating valve.
Connect at Local Authority Boundary connection.
All piping outside the building shall be sunk not less than 600mm into the ground and embedded in sand and backfilled with excavated material.

From the mains supply run separate 20mm leads to shower valves and hot water cylinder and 15mm branches to all other fittings, Polybutylene piping, Dux or similar approved.
All piping shall be concealed within framing to all fittings and be securely fixed to framing with PVC saddles.
Where supply pipes are required to be exposed, e.g. beneath wash hand basins, supply and fit hydroflow 15mm x 300mm flexible stainless hoses complete with chrome elbow fittings.
Supply and fit PVC bottle wastes to wash hand basins where exposed.

9.5 HOT WATER SUPPLY

Allow to run new 20mm diameter, with 15mm branches, Polybutylene piping, Dux or similar approved from the hot water cylinder, to fittings as required.

All piping shall be concealed within framing to all fittings.
All piping shall be securely fixed to framing with PVC saddles.

9.6 HOT WATER CYLINDER

Allow to supply and install:

- 180 litre Rheems mains pressure hot water cylinder fixed in position where shown with seismic restraints in compliance with the NZBC complete with cylinder Wrap Insulation to the cylinder and an Apex Valve train Kit.

Allow to fit valve kit to the manufacturer's instructions. Ensure thermostat is set so that the temperature of the water is not less than 60 degrees.
The tempering valve shall be set to 50 degrees maximum.
The cylinder shall be fitted with EGO RC31 or similar high temperature cut out device.
Leave ready for connection to power supply by the Electrician.

9.7 LAGGING

All cold-water pipes run in roof spaces above ceiling insulation, under floors, and outside the building insulation envelope and in other areas subject to frost conditions shall be lagged with fibreglass or Insultube.
All hot water piping shall be lagged with Insultube.

9.8 VALVES

Provide and fit all valves to fittings as required by regulation.
Provide and fit all taps as selected/specified by the owner.

9.9 WASTE AND VENT PIPES

All wastes shown taken out beneath the slab shall be standard plasticised uPVC pipe complete with all fittings and where required to pass through the concrete slab shall be wrapped in Denzo tape or sleeved to accommodate movement from expansion and contraction.

uPVC waste pipes from new fixtures under the slab shall be at the maximum practical gradient (no less than 1:40) to discharge over gully traps.
Where they exceed 3.5 metres in length, they are to be vented either an open vent or by air admittance valve.

All other waste and vent pipes shall be unplasticised PVC Garnite S or similar and shall be concealed within the wall or floor framing.

Provide cleaning eyes at all connections and bends on accessible wastes only.
Allow to connect into drains or over gulley traps were shown and shall come out of foundation wall as near as possible above the gulley trap.

Run wastes to maximum possible gradients but not less than the minimum recommended by the NZBC as follows:

- 1:20 for pipes of 32mm dia.
- 1:40 for pipes </= to 65mm dia.
- 1:60 for pipes </= to100mm dia.

9.10 AIR ADMITTANCE VALVES

As noted on the drawings and in accordance with NZBC G13 allow to supply and install to traps Studor mini valve air admittance valves or similar.

9.11 PLUMBING FITTINGS

All sanitary fittings, taps and appliances to be supplied and fitted shall be selected and approved by the Owner.
All installation details shall be in strict accordance with the manufacturer's instructions.

Allow to install the following fittings complete with chrome plated washers and plastic plugs, chains and stays where required.
Allow to coordinate with the builder for all necessary fixing dwangs and blocking.

Ensure that sink complies with G3/AS1, that it is capable of containing a solid cylinder of 300mm diameter and 125mm in depth minimum.
Ensure that the laundry tub complies with G2/AS1, that it be able to hold a solid cylinder of 400mm diameter by 200mm in depth minimum.
Ensure that there is hot and cold-water supply to both kitchen sink and laundry tub.

9.12 TAPS, MIXERS AND VALVES

Allow to supply and install all taps, mixers and valves.
Where applicable all taps shall be fitted with the cold tap on the right-hand side and the hot tap on the left hand side of fittings.

- WC Cistern Supply taps shall be Methven D28C or similar approved with chrome handles.
- Hose taps shall be Methven or similar approved brass hose taps at locations as shown on the drawings.

9.13 COMPLETION AND GUARANTEES

On completion of all plumbing installation the water supply pipes shall be filled with water and all the air shall be purged from the system before pressurising the system to 1500 kPa for 15 minutes in accordance with G12/AS1 NZBC.
No measurable loss in pressure is allowed over the test period.
Each tap shall be opened and checked for satisfactory rate of flow and for satisfactory operation.
Any defects shall be located and made good to the satisfaction of the Owner.

A Local Authority's Inspectors approval shall be obtained for the entire installation.

As Built Drawing: Upon completion the plumber shall prepare an as built drawing of the plumbing system as required by the Territorial Authority.

The Plumbing contractor shall provide a written guarantee for a period of five (5) years to the Owner and this shall be in the name of the Contractor.
Guarantee periods will commence from the date of Practical Completion of work on the site.

10 SECTION - ELECTRICAL

10.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

10.2 SCOPE

All work in this contract shall be carried out in accordance with the specification and shall conform to the Electrical Wiring Regulations 1993, AS/NZS 3000:2018 and amendments.

All work shall be carried out by registered members of the Electrical Contractors Association of New Zealand.

The work in this section includes:

- **Arrangement of a temporary power connection**
- **Mains connection to street network**
- **Supply and installation of all cabling and wiring**
- **Supply and installation of all switches, sockets, meters etc**
- **Supply & installation of fixtures, appliances, extract vents, and light fittings**

10.3 MATERIALS AND WORKMANSHIP

All materials used under this contract shall be of approved British or New Zealand Standard Specification.

The work shall be complete with, and full allowance made for all minor and incidental items necessary for the proper functioning of the whole system whether specifically detailed or not.

All work shall be carried out with best trade practice and in a manner, which will cause minimum inconvenience to other workmen and the work as a whole.
No damaged or used materials shall be used on this Contract.
Provide all necessary draw wires and pull through positions to enable the wiring to be properly installed.
All necessary precautions shall be taken to ensure that all points of access are maintained free from concrete and mortar and that all outlets in concrete work are maintained accurately in positions during pouring of the concrete.

Co-operate with the Building Contractor and other sub-contractors in all phases of work.

10.4 TEMPORARY SUPPLY

Allow to provide and establish on site a temporary power supply.
The temporary power supply shall be contained in a weather-proof cabinet and shall be available for use by all other trades and shall be removed on Practical completion of the work.

10.5 MAINS CABLE

Allow to size and supply mains cable to be capable of carrying expected loadings + 30%.
The trench shall be to regulation depth, and cable shall be laid with physical and marker tape protection.

10.6 METER BOARD

Supply and install a PDL Superboard or similar approved main switch board and cabinet which shall be flush mounted in location as indicated on the drawings. The meter board shall incorporate provision for a minimum of two future extensions and be clearly labelled.
Miniature circuit breakers shall be fitted at the main switch board protecting all outlets and all switching shall be clearly labelled.

10.7 CABLES

All circuits shall be TPS insulated cables with stranded copper conductors and be of sufficient size for the intended use.
Conceal all cabling throughout the building within timber framing and in the roof space.
Sub-circuits in concrete and blockwork shall be enclosed in plastic conduit.
Cable runs shall be of minimum length to the outlets indicated.

10.8 EARTHING

Earthing connections shall be of an approved type readily assessable for inspection.
The installation is to be earthed in accordance with the Wiring Regulations and specific requirements of the local authority.
Include earth continuity conductors in all sub-circuit wiring.

10.9 WATER HEATER

Allow for the permanent connection of the hot water cylinder to the electrical system and for the connection to the thermostat and element.

10.10 SWITCHES AND SOCKETS

The exact location of all fittings shall be approved by the Owner before they are finally and permanently fixed into the building work.

All light switches shall be PDL 600 series with white PVC overlays, single or multiple gang where required, flush mounted and located 1000mm from the floor to the centre of the outlet unless otherwise specified.

All wall sockets shall be 600 series switched units with white PVC overlays mounted horizontally 400mm above the floor to the centre of the outlet.

Earth Leakage Sockets: Supply and install earth leakage circuit breakers to bathrooms in locations indicated.

10.11 FITTINGS

Mechanical Ventilation Extraction: Allow to install selected exhaust fans in positions indicated on the drawings. And supply and install ducting to the exterior, and grills.

- Kitchen extraction – where the space has a cooktop, intermittent mechanical extract ventilation at 50 L/s minimum.
- Bathroom extraction – to remove moisture and other contaminants, mechanical extract ventilation at 50 L/s minimum, ideally with an adjustable timer control

Light Fittings: Allow to install selected light fittings in locations as indicated on the drawings. Allow to install exterior light fittings, including PIR Sensors in locations as determined on site by the owner. Supply and fix batten holders or pendant fittings to other areas as shown. Ensure a minimum illuminance of 20 lux is achieved by providing the adequate total wattage required per m2 of floor area as shown in G8/AS1 Table 1

Phones: Allow to supply and install telephone master socket and extension jack points in positions as indicated on the drawings and arrange for an underground line to be installed and connection to main Telecom Service.

TV Aerial: Allow to supply and install TV/Sky aerial *as indicated on the drawings.*
Supply and install sockets in positions as indicated on the drawings.

Appliances: Allow to connect up all kitchen and laundry appliances as and in strict accordance with manufacturer's instructions. *(Refer to appendix for Selection of Appliances).*

Heat Pump: Allow to connect up heat pump supplied by others.

10.12 COMPLETION AND GUARANTEES

The work shall be completed and left in running order.
Remove from site all surplus materials, rubbish, plant etc and upon completion leave the whole of the works in first class order to the satisfaction of the Owner.

The electrical Contractor shall at his own expense renew work that proves defective from faulty workmanship or materials during the whole of the first year after the completed work is taken over by the Owner.

11 SECTION - HEATING - HEATPUMP

11.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

11.2 WORK SHOWN AND MENTIONED

These notes and drawings show the extent of work, however there is no warranty expressed or implied that they show each, and every minor detail and item required to be included by the Contractor.
Should any material or work appear to be inadequately described yet obviously necessary for the neat, strong, and satisfactory completion of the work, then the Contractor shall be expected to include and allow for same.

11.3 SCOPE

Provide all plant, materials and labour necessary for the due and proper completion of the whole of the works as described on the plans and in this specification.

The work in this section includes the following:

- **Supply and Installation of an 8kw heat pump**

11.4 MATERIALS AND WORKMANSHIP

All work shall be carried out with best trade practice and in a manner, which will cause minimum inconvenience to other workmen and the work as a whole.
No damaged or used materials shall be used on this Contract.

11.5 COMPLETION

Upon completion remove all associated packaging and rubbish.

Supply the owner with the associated warranties & guarantees.
The guarantee comes into effect on the date of practical Completion of the building and shall provide a guarantee against defects in materials and workmanship and shall include for the making good of consequential damage to adjoining materials and finishes.

12 SECTION - HEATING - WOODBURNER

12.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

12.2 WORK SHOWN AND MENTIONED

These notes and drawings show the extent of work, however there is no warranty expressed or implied that they show each and every minor detail and item required to be included by the Contractor.
Should any material or work appear to be inadequately described yet obviously necessary for the neat, strong and satisfactory completion of the work, then the Contractor shall be expected to include and allow for same.

12.3 SCOPE

Provide all plant, materials and labour necessary for the due and proper completion of the whole of the works as described on the plans and in this specification.

The work in this section includes the following:

- **Supply and Installation of a Masport MacKenzie**
- **Supply and Installation of a Masport R1500**

12.4 MATERIALS AND WORKMANSHIP

All work shall be carried out with best trade practice and in a manner, which will cause minimum inconvenience to other workmen and the work as a whole.
No damaged or used materials shall be used on this Contract.

12.5 ROOFING

Roof penetrations, flashings and sealing must be completed by a plumber, roofer, or similarly qualified person, adhering to NZBC E2, that can and will guarantee a weather-tight installation.

12.6 HEARTH

The construction of the hearth must meet all relevant standards and be installed by a suitably qualified person.

12.7 WETBACK

Ensure the Fairburn woodrange is supplied complete with wetback and allow to co-ordinate with the plumber for installation to the Hot water cylinder.

12.8 COMPLETION

Upon completion remove all associated packaging and rubbish.

Supply the owner with the associated warranties & guarantees.

The guarantee comes into effect on the date of practical Completion of the building and shall provide a guarantee against defects in materials and workmanship and shall include for the making good of consequential damage to adjoining materials and finishes.

13 SECTION - METAL WINDOWS AND DOORS

13.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

13.2 SCOPE

The metal windows and doors contractor shall be responsible for the supply of all materials, labour and plant required for the fabrication of all aluminium windows and doors including flashings, weatherproofing and glazing all as described in this specification and as detailed in the drawings.

13.3 DESIGN

All windows shall be designed and manufactured in strict accordance with AS/NZS 1170 Structural Design Loadings and NZS 4211:2008 Performance of Windows.
All glazing to windows and doors shall comply with the requirements of NZS 4223:2016 Part 3 and the New Zealand Building Code.

13.4 MATERIALS AND WORKMANSHIP

All work carried out shall be by skilled tradesmen using adequate and proper equipment in accordance with the best trade practice and all materials used shall be the best of their respective kinds and shall be free from scratches and other imperfections and shall be of true and even colour.

13.5 CONSTRUCTION / DIMENSIONS

Dimensions: Check all dimensions, trim openings etc on site prior to manufacture.
Any variations in sizes shall be approved by the Designer prior to fabrication.
Finished frames shall be produced with a dimension tolerance of not more than +/- 2mm on outside dimensions of height and width.
All mullions and transoms shall be of the least possible width compatible with the requirement to provide sufficient strength for the window frame and shall be equally spaced unless otherwise noted.

Generally, transoms, sills and heads will line up except were indicated on the drawings.

Extrusions: Joinery shall be constructed from Vistalite 35mm Window and Door Suite or similar approved complete with condensation channels and drains to the exterior. All aluminium joinery to be thermally broken.

Colour: All aluminium shall be finished in an electrostatic powder coat.
Colour shall be selected by the owner.

Liners: Fit all joinery with ex 35mm solid timber liners to finish flush with 10mm GIB Board linings ready to take architraves (paint finish).

Allow to thoroughly pre-seal liners with acrylic primer on all 4 sides prior to assembly.

Exterior Cladding: Plaster, Metal Cladding and Timber Weatherboards.
Joinery shall be recessed maximum as detailed and necessary.

Flashings: Supply all windows and doors with powder coated aluminium head flashings bent to suit and in matching colour.
Note: flashings shall be fixed directly to framing and shall fit neatly over flanges extending 20mm past each side.

13.6 GLAZING

All glass shall comply with NZS 4223:2016 Glass and Glazing and NZS 4223 Part 3 and the requirements of the New Zealand Building Code.
Contractors should check the final location and adjacent activities of all glass windows and doors to ensure compliance with the above standard.

Fix all glass with neoprene gaskets and clip in aluminium beads.
All gaskets shall achieve suitable weather and UV performance and shall extend the full length of all frames, be securely fixed and provide an airtight seal.
Glass type and thickness shall be appropriate for the size and location of each window and as shown on the drawings. All glazing to be Low-E with Agon gas.

Double Glazing: Allow to provide double glazing to units as scheduled which generally shall be 4mm glass one side with 16mm spacer and 5mm glass to the other side.

Glass Type: All units shall be glazed with clear float glass unless noted otherwise.

13.7 WINDOW HARDWARE

All opening windows shall be fitted with friction stays sized to suit each sash and incorporated within the frames, with approved double-tongued fastener and restrictor stays where required by the New Zealand Building Code.

13.8 DOOR HARDWARE

Supply and fit all doors with selected lockable lever action deadlatch, or flushbolts top and bottom to bi-fold doors, all in colour black which shall be fitted at 1000mm above floor level.
Supply cabin hooks for builder to fix on site to secure hinged doors when open.
Ensure leaves open 180° against building where indicated.

Master Keying: Allow for master keying of all locks and provide 2 master keys.

13.9 DELIVERY

Allow to deliver completed joinery to site and cooperate with builder for the installation of the same.
The metal window and doors contractor is responsible for ensuring that all units arrive on site in a perfectly dry and undamaged condition.

Avoid distortion of unit during transit, handling, and storage.
Do not deliver to site any components which cannot be immediately unloaded into suitable conditions of storage.

13.10 GARAGE DOORS

Garage door to be **sectional with remote opener**.
Fitting to be carried out by supplier/manufacturer.

13.11 COMPLETION AND GUARANTEES

Make good all work using new materials as and where necessary.
The window and doors Contractor shall, where required, travel to site and carry out any remedial work necessary to ensure a proper and square fit for all joinery.

The Window and Doors Contractor shall provide a written guarantee for a period of (5) five years to the Owner.
The guarantee comes into effect on the date of practical Completion of the building and shall provide a guarantee against defects in materials and workmanship and shall include for the making good of resulting damage to structure and finishes caused by the loss of weathertightness and the entry of wind or water.

14 SECTION - PAINTING AND DECORATING

14.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

14.2 WORK SHOWN AND MENTIONED

These notes and drawings show the extent of work, however there is no warranty expressed or implied that they show each, and every minor detail and item required to be included by the Contractor.
Should any material or work appear to be inadequately described yet obviously necessary for the neat, strong and satisfactory completion of the work, then the Contractor shall be expected to include and allow for same.

14.3 SCOPE

Provide all plant, materials and labour necessary for the due and proper completion of the whole of the work of all interior and exterior surfaces as described on the plans and in this specification.
The work in this section includes decoration of the following:

Interior:

- Stopping of all Interior GIB Board surfaces
- Painting of GIB board ceilings and wall linings
- Doors, frames, window reveals, skirting and trim.

Exterior:

- Any exposed timber posts, beams, fascia, trim and other timber work, timber pergola
- Hardiflex and plywood soffits
- Exposed steel or metalwork including the meter box, PVC downpipes etc.
- Solid plaster and exposed concrete or blockwork foundations, posts etc

14.4 MATERIALS AND WORKMANSHIP

The whole of the works shall be carried out by skilled tradesman to achieve a first-class finish.
All paint work shall be applied in strict accordance with the manufacturer's instructions and be evenly spread and shall comply to the general requirements of the respective materials.
Note: All paint shall be applied by brush or roller, no spraying will be permitted.

Adequate and proper equipment shall be used in accordance with the best trade practice.
All paints shall be premium grade and all materials shall be the best of their respective kinds.

14.5 STOPPING OF GIB BOARD LININGS

Supply and fix all stopping materials and accessories including external and offset tape-on trims where required.

Tape all joints with Paper Tape only and stop flush using a proprietary Setting Compound.
Apply a sufficient number of coats and thoroughly sand ensuring the finished surface is left true and flat to achieve a Grade 4 paint finish to walls and ceilings in accordance with AS/NZS 2589:2017 and to the satisfaction of the Owner.
All GIB wall and ceiling junctions shall be taped and stopped square.
All sanding dust shall be removed from all surfaces and left ready for painting.

14.6 SURFACE PREPARATION

Remove all loose and flaking paint, spot prime, sand and fill as required.
Stop all holes and cracks with suitable proprietary filler or plastic wood, and coloured to match the finished surface where clear finish is used.
Thoroughly wash down all areas and ensure that all surfaces to be painted are smooth, dry and free from dust, oil etc.
Generally, prepare surfaces to coating manufacturers recommendations.
Do not proceed with decoration if any substrate material or surface is in a condition that will not allow a first-class finish and inform the Contractor so that remedial work can be carried out to the approval of the Owner.

14.7 APPLICATION

Supply, lay and fix all drop sheets, coverings and masking necessary to protect building work from overspray or paint drops and remove all electrical fittings, hardware, door handles, locks, bolts etc prior to painting and replace on completion.
Correct any defective work immediately and recoat as required.

With all finishes, each preceding coat shall be rubbed or sanded free of all grit and irregularities and be thoroughly clean before the application of the next coat.

Finished surfaces shall be uniform in cover, gloss, finish and colour and be free from brush and roller marks, dust, bristles, ladder marks, paint runs and the like.
All exposed surfaces including the inside of cupboards and the top, bottom and side edges of all architraves, facings and the like shall be painted an equal number of coats.
Inside faces and edges of doors shall be painted as for the exposed face and this shall be done after the doors have been fitted and made ready for final hanging.

No exterior painting shall be done in frosty, wet or damp conditions and avoid painting surfaces that absorb heat excessively in direct sunlight.

All undercoats to non-white base colours shall be tinted to match the final colour of topcoats.
Each coat shall be given the full drying time before handling or re-coating as recommended by the manufacturer.

14.8 INTERIOR PAINT FINISHES

GIB Board Wall and Ceiling Linings to Service Areas

1st coat	Enamel Sealer Undercoat
2nd and 3rd coats	Semi-Gloss Acrylic

GIB Board Wall Linings to other areas

1st coat	Acrylic Sealer Undercoat
2nd and 3rd coats	Low Sheen Acrylic

GIB Board Ceilings to other areas

1st coat	Acrylic Sealer Undercoat
2nd and 3rd coats	Flat Acrylic

Interior MDF Doors and Frames, Architraves, Skirtings and Trim

1st coat	Enamel Sealer Undercoat
2nd and 3rd coats	Water-based Enamel

14.9 EXTERIOR PAINT FINISHES

Exposed Timber Framing and Trim

1st coat	Stain
2nd and 3rd coats	Stain

Hardiflex and Plywood Soffits, PVC Downpipes

1st coat	Acrylic Primer
2nd and 3rd coats	Semi-Gloss Acrylic

Solid Plaster Walls and Foundations

1st coat	Acrylic Primer
2nd and 3rd coats	Semi-Gloss Acrylic

14.10 COLOURS

All colours and finishes shall be as selected and scheduled by the Owner although the contractor shall allow for 50% to be mixed from non-white bases and some colours may require more coats than specified to achieve full and even coverage.
The contractor shall allow to paint samples of selected colours on walls prior to final selection for approval by the Owner.

14.11 COMPLETION AND GUARANTEES

On completion, remove all tins, rubbish, plant etc from the site.
Clean off all paint stains from glass and other surfaces including hardware, electrical fittings and the like.
Replace all hardware and electrical fittings removed during the course of the work.

The Painting Contractor shall provide a written guarantee for a period of (5) five years to the Owner for all paint systems.
The guarantee comes into effect on the date of practical Completion of the building and shall provide a guarantee against defects in materials and workmanship.

15 SECTION - TILING

15.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

15.2 WORK SHOWN AND MENTIONED

These notes and drawings show the extent of work, however there is no warranty expressed or implied that they show each and every minor detail and item required to be included by the Contractor.

Should any material or work appear to be inadequately described yet obviously necessary for the neat, strong and satisfactory completion of the work, then the Contractor shall be expected to include and allow for same.

15.3 SCOPE

The work in this section includes the following:

- **Supply and Application of Liquid Waterproofing Membrane System**
- **Supply and Application of Tiling to Floors**
- **Supply and Application of Tiling to Bathroom Walls**

15.4 MATERIALS AND WORKMANSHIP

All work carried out shall be by skilled tradesmen using adequate and proper equipment and shall be in the best tradesman like manner conforming to BRANZ Tiling Good Practice Guide and to the satisfaction of the Territorial Authority and the Owner.

All materials used shall be the best of their respective kinds and shall comply with all relevant standard specifications.

15.5 CHECKING DIMENSIONS AND SETTING OUT

The Tiling contractor is responsible for inspecting the site and checking dimensions before the commencement of any work or ordering of materials.
Work shall be commenced as soon as the progress of other trades will permit and any additional builders work required shall be arranged as he work progresses.
Any defects to surfaces to be tiled shall be made good prior to the application of the tiles.

15.6 SURFACE PREPARATION

Thoroughly prepare all areas to be tiled and ensure that all surfaces are clean, dry and free from dust, oil etc.

Surfaces shall be in first class condition prior to laying of tiles.

For uneven substrate allow to lay an approved self-levelling compound in strict accordance with manufacturer's instructions.

Falls in shower areas shall be 1:50 minimum.

15.7 LIQUID WATERPROOFING MEMBRANE

Allow to apply water proofing membrane to all surfaces to be tiled, that are within 1.5m of a sanitary fixture.

As a requirement of the building consent process, the intended waterproofing system that is to be used must be submitted with the plans when applying for building consent.

Depending on the substrate, a primer may be required, which shall be thoroughly cured, prior to application of the waterproof membrane.
Surfaces shall be in first class condition, clean, dry and free from dust, oil etc.

Apply selected liquid waterproofing membrane system in strict accordance with manufacturers requirements and to AS 3740.

15.8 TILES

Use only adhesives that are recommended by the tile manufacturer and are compatible with the waterproofing membrane.
Tiles must not be stored in direct sunlight prior to fixing.

Tiles shall be set out to be visually as even as possible, shall be evenly spaced and shall correspond to any movement control joints.
Control joints shall be at all changes of direction, all penetrations, the perimeter of tiled areas, at changes of substrate, and at all movement or construction joints in the substrate.

Apply adhesive in an even and consistent manner using an appropriate notched trowel in accordance with the manufacturer's instructions and press selected tiles firmly into adhesive bed in such a way that ensures a flat and level first class finish and creates a permanent bond.
No damaged or inferior tiles will be accepted.

15.9 GROUT

Allow adhesive to set before grouting, usually not less than 24 hours and protect tiles from weather, interference, water penetration etc.

Grout tile joints with an approved grout that has been well mixed in accordance with manufacturer's instructions.
Grout shall be of selected colour and be finished uniform in colour, smooth and without voids, pinholes, or low spots.
Excess grout shall be removed as work progresses.

Control joints shall be filled with an approved Electrometric caulking sealant in accordance with manufacturer's instructions and shall be of a colour that matches the tile grout.

15.10 CLEANING

Upon completion of setting and grouting, thoroughly sponge and wash the tiles to leave clean and free of blemish.
Tiles shall be polished with a clean dry cloth and left ready for use by the Owner.

15.11 COMPLETION AND GUARANTEES

On completion, remove all rubbish, plant etc from the site. Clean off any markings.

The Waterproofing Applicator and Tiler shall provide written guarantees that fully cover the works:

- Manufacturer/Supplier warranty Tiling Products – 2 years on their standard from
- Waterproofing Manufacturer/Supplier warranty – as per their standard form for product used (10-15 years dependent on product)
- Installer/applicator Warranty – 2 years for workmanship, on a standard form

The Tiling Contractor shall provide a written guarantee for a period of (5) five years to the Owner for all Tiling systems.

Guarantees shall come into effect on the date of practical Completion of the building and shall provide a guarantee against defects in materials and workmanship and shall include for the making good of resulting damage to structure and finishes.

16 SECTION - CARPET

16.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

16.2 SCOPE

The work in this section includes the following:

- **Supply and Laying of Carpet and underlay to Floors.**

16.3 MATERIALS AND WORKMANSHIP

All work carried out shall be by skilled tradesmen using adequate and proper equipment and shall be in the best tradesman like manner conforming to AS/NZS 2455.1 and to the satisfaction of the Owner.
All materials used shall be the best of their respective kinds and shall comply with all relevant standard specifications.

16.4 CHECKING DIMENSIONS AND SETTING OUT

The Carpet Layer is responsible for inspecting the site and checking dimensions before the commencement of any work or ordering of materials.
Before starting work inspect the substrate to ensure it will allow work of the required standard and that all fittings and fixtures around which the carpet is to be scribed, are in place
Work shall be commenced as soon as the progress of other trades will permit, and any additional builders work required shall be arranged as he work progresses.

16.5 LAYING

Comply with the requirements of the carpet manufacturer. Protect adjoining work surfaces and finishes during installation and make good any damage to the same.
Tape for binding and seaming to be the type and width required by AS/NZS2455.1 to suit the specified carpet.

Plan the carpet layout so that:

- seams run lengthways.
- traffic runs along the seam.
- light from windows is not across the seam.
- pile faces away from the main natural light source.

Fix binder bars, carpet to carpet bars, and trim to all junctions with other materials and to carpet edges. Ensure that all junctions with other materials are neatly formed, with bars and trims securely fastened to the substrate, 20mm from each end and at maximum 100mm centres.

16.6 COMPLETION

On completion, take away from the site all plant and all materials not used, leaving the floor clean and without blemish.

The Carpet Contractor shall provide a written guarantee for a period of (5) five years to the Owner for all Carpet systems.

The guarantee comes into effect on the date of practical Completion of the building and shall provide a guarantee against defects in materials and workmanship and shall include for the making good of consequential damage to adjoining materials and finishes.

17 SECTION - JOINERY

17.1 GENERAL

Refer to ***Section - Preliminary and General*** for items affecting this section and which are equally binding on all trades.

17.2 WORK SHOWN AND MENTIONED

These notes and drawings show the extent of work, however there is no warranty expressed or implied that they show each and every minor detail and item required to be included by the Contractor.
Should any material or work appear to be inadequately described yet obviously necessary for the neat, strong and satisfactory completion of the work, then the Contractor shall be expected to include and allow for same.

17.3 SCOPE

Provide all plant, materials and labour necessary for the due and proper completion of the whole of the works as described on the plans and in this specification.

The work in this section includes the following:

- **Fabrication and Installation of Kitchen Joinery**
- **Fabrication of Bathroom Vanity Units and Laundry Cupboards**
- **Fabrication of all internal Doors**

17.4 MATERIALS AND WORKMANSHIP

All joinery work shall be carried out to the highest standard of workmanship and in accordance with best trade practice by skilled and competent tradesmen in suitably fitted workshops, using tools, machines and equipment appropriate to the task.

All materials used shall be of the best of their respective kinds and shall comply with NZS 3602:2003, AS/NZS 1859.2 and to the satisfaction of the Owner.

17.5 FABRICATION

The joiner is responsible for checking and confirming dimensions on site prior to the ordering of materials and fabrication of units.
Carry out machining within the practices required for the particular timber, wood product or prefinished wood product being used.
Machine, drill and cut holes and recesses and form joints to the componentry manufacturers requirements.
Ensure that the work is accurate, square and true to line and face.

Carry out jointing dowelling and other operations necessary for the proper assembly of the fittings as detailed, with fixings concealed unless otherwise detailed.

Use glue joints where provision for shrinkage is not required.
With contact surfaces, ensure gluing and pressure clamping complies with the glue manufacturers requirements.
Locate and drive connectors and fasteners to the bolt manufacturer's requirements.

17.6 JOINERY

Allow to fabricate all joinery units to dimensions shown on the drawings.

Carcass: Shall be urea-formaldehyde resin bonded wood fibre sheet 18mm thick overlaid both sides with Melamine resin impregnated sheet.

Backing Board: Shall be urea-formaldehyde resin bonded wood fibre sheet 6mm thick MDF veneered one side with Melamine sheet.

Kitchen Bench Top: Shall be 36mm thick MDF with Formica of selected colour and finish and shall be a one-piece unit with bull nosing to leading edge and 150mm upstand to wall edge adjacent to sink unit.

Doors and Drawer Fronts: Shall be urea-formaldehyde resin bonded wood fibre sheet 16mm MDF with selected veneer to all sides and edges.

Drawer Runners: Shall be single action under mounted or side mounted powder coated runners or groove mounting type, precision running ball mounted single stage extension, bright steel finish system.

Carcass Connectors: One piece steel, straight deep cut thread, fibre screws with press fit plastic trim cap or tight joint connectors.

Carcass Fasteners: Knock down type centric sphere zinc alloy connectors with connecting bolts, sleeves, and dowels, to suit each particular fastening location.

Concealed Hinges: All metal zinc alloy with automatic spring and screw fixed with plastic button door stops.

Adjustable Shelves: Scribe fit where shown with 4 shelf pins and locate force fit pin holes at 50mm maximum centres in solid cheeks.

Drawers: Construct drawers as detailed using proprietary metal section drawer runners.
Fit drawers with a 3mm clearance into the drawer space.

Storage Cupboards: Fit out with 5x melamine faced board shelf of thickness to suit span without distortion supported by ex 25 mm beads along back ends.
Exposed edges shall be clashed to match.
Shelf heights shall be as shown on the drawings.

Internal Doors and Frames: Doors shall be hollow core 40mm with MDF facings to dimensions specified complete with selected timber / MDF Heads and Jambs finished 30mm, rebated for wall linings and extended a minimum of 15mm.
Planted stops shall be 50x12mm.

Hinges shall be stainless steel of size and gauge to carry door size and weight shall be 3 No. to a door.

17.7 TRANSIT AND DELIVERY

Load, transport and unload fittings without distortion or damage and keep covered to protect from the weather.
Do not deliver fittings until floor, wall and roof surfaces have been completed and are in place and the fittings can be fixed in their final location.

Builder to take particular care when installing exterior doors to ensure full weather tightness by fitting flashing to head and jambs. Proprietary seals and sealants may be used providing sealants are not directly exposed to sunlight and are accessible and replaceable.

17.8 Joinery

Kitchen joinery to be constructed as detailed on drawings.

17.9 Fittings

Install plumbing fittings as required and as shown on the drawings. Work with plumber regarding fixing of fittings.

17.10 Hardware

Fit all hardware as necessary to complete the building and make it completely functional.