General Specifications

1 PRELIMINARIES & GENERAL

1.1 Project Quality

1.1.1 Protection

Precautions

Take all appropriate precautions to protect all third party property, services, etc. and indemnify the Principal against any claims arising from the construction operations. Any damage to third party property caused by construction activities or failure to protect shall be rectified as soon as possible by the person causing the damage, or by appropriately qualified trades-persons employed by the person responsible for the damage if necessary.

Adverse Weather

Suspend operations during weather which would affect the quality of work in progress. Secure the works as soon as possible against adverse weather, dust and vandals. Avoid structural damage that is caused by overloading.

Protect Finished Work

Adequately protect all finished work and maintain until the date of Practical Completion. Each trade shall protect the work of all other trades, and each trade is responsible for making good any damage they cause to finished works. Arrange special protection as required for windows and doors, finished timber work, plumbing fittings and hardware, and cabinets and other joinery.

1.1.2 Responsibility

Contractor Responsibility

The Contractor will be held responsible for the full period of his legal responsibility in connection with this Contract for ensuring that all work execution, materials, and fittings, are completely in accordance with Contract requirements.

Guarantees

Contractor is responsible to the Principal for the appropriateness and fitness, in relation to a reasonable expectation or requirement, of all of the materials and workmanship incorporated into the works by himself or his subcontractors; for this reason few specific guarantees are required in these contract documents. The terms and conditions of any warranty or guarantee required or provided shall not in any way negate the minimum remedies available under common law as if no warranty or guarantee had been furnished.

Good Trade Practice

Workmanship in all trades is required to be equal to or better than recognised good trade practice.

Notification

Should any tradesperson consider that the surface finish or general conditions of previous work are unsatisfactory to ensure a proper finish for their own work thereon, that tradesperson shall give immediate notice to the Contractor or Architect/Designer as appropriate and shall not proceed until necessary improvements have been made. Failing such notice the trade concerned will not be relieved of the responsibility for a poor finish due to such unsatisfactory condition.

Substrates

Specialist Finishes Subcontractors are responsible for ensuring that substrates are completely appropriate for them to achieve first class results, and to this end shall, in sufficient time, instruct the Contractor with regard any fixings, primings, sealings or whatever for the substrate that vary in any way from the substrate manufacturer's standard recommendations.

Works Completion

The Contractor and all Subcontractors affected shall be jointly and severally responsible for completion of the whole of the works in a completely watertight condition and shall therefore examine all details to be satisfied that this condition can be achieved. If any detail is considered unsatisfactory the Architect/Designer shall be notified immediately and he will then either interpret the detail to the Contractor's satisfaction, or accept responsibility for water tightness at points in question, always assuming reasonable workmanship.

Compatibility

Ensure that all parts of a construction or finish are compatible and that their individual use is approved by the manufacturers and/or suppliers of other parts of the system.

1.2 Works Specifics

1.2.1 Site Safety

Code Compliance

Comply with all of the requirements of the New Zealand Building Code, and in particular with Approved Documents F1 - F5 inclusive. Comply with all relevant OSH Codes of Practice, particularly those for construction, and with the Department of Labour's 'Guidelines for the Provision of Facilities and General Safety in the Construction Industry.' Comply with any other relevant safety legislation and/or regulations.

Safe Working Environment

Take all practical steps to make the site and the contract works safe and to provide and maintain a safe working environment. Ensure that all those working on or visiting the site are aware of the site safety rules and are not unnecessarily exposed to hazards.

Scaffolding Standards

Comply with all relevant provisions and recommendations of:
-AS/NZS 1576 : Scaffolding equipment.
-AS/NZS 4576 : Scaffolding installation.
-AS/NZS 4994 : Roof edge scaffolding.
-Labour Department : Scaffolding Code of Practice.

Safety Concerns

Scaffolding shall comply with all Statute and Local Authority Regulations, shall be maintained for the duration, and be removed on completion. The use of ballistic fixings must absolutely comply with all relevant safety recommendations at all times. Portable/personal disc/tape players, radios and iPods must not be used anywhere on site.

No Fires

No rubbish fires are allowed on site.

Smoking on Site

No smoking on site, except in the designated location in accordance with the Smoke Free Environments Act 1990. Location determined by the Contractor, with the approval of the Principal.

2 SITEWORKS

2.1 Preliminary

Refer to General Conditions of Contract and the Special Conditions in this Specification as appropriate. Read this section in conjunction with all other trade sections.

2.2 Compliance

Comply with the New Zealand Building Code 1992 including all revisions and amendments, Verification Methods where appropriate, and construction principles that are embodied in the Acceptable Solutions.

2.3 Excavation & Filling

2.3.1 Excavation

Excavation work shall be carried out in accordance with the OSH Excavation Code of Practice. Coordinate with other trades as to set-out and timing to ensure that all cut faces are covered or finished etc. as soon as possible after the excavation is complete. Cease machine excavation above final levels and trim to the finish profiles by hand where appropriate. Any over excavation in critical foundation, etc. areas made up with 10MPa concrete unless otherwise approved. Trim slab benches exactly to the required level to allow for hard fill and blinding. Noisy excavation equipment shall be used only during hours which will avoid undue nuisance to the occupants of adjacent properties. Excavate accurately in position and true to line and minimum sizes and to levels and grades required for all slabs, footings and foundations, and over the rest of the areas shown for levels adjustment. Excavations down to firm undisturbed ground, and footings and foundations 200mm minimum into solid, except where shown otherwise. Below slabs on ground the general intent is to excavate to a stable undisturbed subgrade (of 600k Paultimate bearing capacity).Batter all excavation cuts at a stable slope. Ensure that rainwater runoff from excavated surfaces does not carry material onto adjacent properties. Report the finding of antiquities or other items of value, and leave them undisturbed until approval(and instruction) is given for their removal - they remain the property of the Principal.

2.3.2 Filling

Filling with salvaged material (of appropriate moisture content) shall be compacted in 150mm layers with mechanical rammers, to 95% relative compaction. All work generally in accordance with the provisions of NZS 4431.On completion clean up the stockpile areas and the site.

2.4 Site & Scope

2.4.1 Site

Take great care to excavate exactly for the wall foundations to avoid any damage to adjacent property.

2.4.2 WaahiTapu

During excavation, should a waahitapu or other cultural site be unearthed the contractor shall cease operations, inform the local Iwi, inform the NZ Historic Places Trust and apply for an appropriate authority if required, and, take appropriate action, after discussion with the NZHPT,

TA and Iwi to remedy any damage and/or to restore the site. Note that in accordance with the Historic Places Act 1993, where an archaeological site is present (or uncovered), an authority from the NZ Historic Places Trust is required if the site is to be modified in any way.

3 CARPENTRY

3.1 Preliminary

Refer to General Conditions of Contract and the Special Conditions in this Specification as appropriate. Read this section in conjunction with all other trade sections.

3.2 Compliance

Comply with the New Zealand Building Code 1992 including all revisions and amendments, Verification Methods where appropriate, and construction principles that are embodied in the Acceptable Solutions.
Comply with all relevant provisions and recommendations of:
1170.2:2011(AS/NZS) Structural design actions - Wind actions
2588:1998(AS/NZS) Gypsum plasterboard
2589:2007(AS/NZS) Gypsum linings - Application and finishing
2908.2:2000(AS/NZS) Cellulose-cement products - Flat sheets
3602:2003(NZS) Timber and wood-based products for use in building
3603:1993(NZS) Timber Structures Standard
3604:2011(NZS) Timber-framed buildings
3618:1984(NZS) Mechanical stress grading of timber
3622:2004(NZS) Verification of timber properties
3631:1988(NZS) New Zealand timber grading rules
3640:2003(NZS) Chemical preservation of round and sawn timber
NZBC E2 External moisture

3.3 General

This section includes the receiving, stacking and storage of all Carpenter's materials and the fabrication, erection and fixing of all framing, sheathings and finishing timbers, including all work incidental to neatly finishing in other trades and all temporary work and temporary bracing. The Carpenter shall attend upon all trades, and shall supply and fix all obviously necessary but not specifically mentioned fixings and materials.

3.4 Workmanship

3.4.1 Workmanship

Where required by the NZ Building Amendment Act 2012 it is the building contractor's responsibility to ensure that all restricted building work is carried out by a Licensed Building Practitioner. All non-restricted building work to be carried out by or under the direct supervision of competent tradesmen. All work to be carried out in accordance with the best and latest trade practice. Distribute any acceptable defects in timber so as not to impair the strength or the appearance of the finished work. Do not cut studs across the grain to straighten them. The checking and cutting away of timbers shall be avoided where possible and shall be limited to such dimensions as will not prejudice the purpose for which the timber is used. Observe NZS 3604restrictions on holing and checking of joists and beams. Concealed services pipes and wiring shall not project beyond the framing face and where possible shall be beyond the linings fixings reach.

3.4.2 Adjustments

On completion ensure that doors, sashes, and fittings doors and drawers all neatly fit the openings with regular tolerances to all edges, and that all hardware is correctly adjusted and is operating smoothly.

3.5 Timber Framing

3.5.1 Scope

Supply and install timber framing to the floors, walls, roofs, and other timber framed elements, as identified and detailed on the drawings. All aspects of this work shall be in accordance with NZS 3604,product manufacturers' recommendations, and as shown on the drawings and the specification.

3.5.2 Workmanship

Where required by the NZ Building Amendment Act 2012 it is the building contractor's responsibility to ensure that all restricted building work is carried out by a Licensed Building Practitioner. All work shall be carried out to current best trade practise by experienced and competent tradesmen, familiar with the materials and installation techniques, in accordance with NZS 3604 and as shown on the drawings. Co-operate with other trades to ensure that all preliminary and preparatory works are completed to specification and as shown on the drawings prior to installing timber framing. Co-ordinate with other trades to install timber framing as required.

3.5.3 Timber Framing

Timber Grade and Quality

Unless otherwise noted or specified on the drawings or specification all framing timber shall be minimum structural grade SG 8 Radiata pine in accordance with NZS 3622.Framing timber shall be seasoned or kiln dried, and be straight and true and free from wind, warp and distortion, and in lengths suitable for the members required, and shall have a moisture content of between 12% and 18% before installation. Do not used damaged, faulty or defective materials.

Timber Treatment
Timber framing shall be appropriately treated against moisture and/or insect decay by a member of the NZ Timber Industry Federation Inc. Preservative treatment shall be to the requirements of NZS3602 as an absolute minimum, and treated framing shall be identified and marked accordingly. Carefully manage treated framing during installation to avoid accidental use of timber with a lower performance or durability treatment than that required or specified.

Storage & Handling
Check timber framing upon delivery and reject sub-standard or damaged material. Store timber framing dry under cover, fillet stacked and well clear of the ground, and protect from damage, moisture, and contamination. Ensure all appropriate personal protection equipment is worn at all times when handling and cutting treated framing.

Framing Installation
All timber framing members, including all dwanging, strutting, blocking, bracing etc, shall be sized, setout, fitted and fixed to the requirements of NZS 3604 and as shown on the drawings to accommodate structural loadings, cladding and lining setout and support, and the installation of other building components, fixtures and fittings. All framing shall be erected without deviation, true to line, level, angle and plumb, and evenly aligned and square, and within the tolerances allowed in NZS 3604 Table 2.1. Framing members accurately cut, lapped, housed, joined, and seated so as to provide full contact over the bearing surfaces. Temporarily prop, brace, tie, and secure framing members and elements as required until the framing is complete and self supporting. Leave in place for safety purposes as long as required. Protect timber framing as required during installation against damage and moisture, and against significant variation of moisture content until ready for lining. Avoid ponding of water around floor plates.

Concrete Separation
Separate timber framing with an approved continuous damp proof course when in direct contact with concrete or masonry. Ensure that the DPC material is compatible with the timber treatment. Free draining separations to external vertical faces shall be 12mm minimum and as noted on the drawings.

Timber Re-treatment
All cut or drilled surfaces of H4 and H5 treated timber framing shall be flood coat re-treated, with a suitable product recommended by the original treatment plant, before installation.

Edge Notching and Centre Holes
The notching, checking, and boring of framing members shall be in strict accordance with the requirements of NZS 3604.Avoided checking and cutting where possible and keep to such dimensions so as not to prejudice the purpose for which the member is used. Keep edge notching to a minimum and where possible use centrally bored holes instead. Concealed services pipes and wiring shall not project beyond the framing face and where possible shall be beyond the lining's fixing reach.

Framing Protection
Protect timber framing as required during installation against damage and moisture, and against significant variation of moisture content until ready for lining. Avoid ponding of water around floorplates.

Built-up Framing Members
Except for jack studs, bottom plates and top plates, framing members may be substituted with built up members in accordance with the limitations of NZS 3604 2.4.4.7 with the prior approval of the Architect/Designer only.

3.5.4 Steel Fixings

Fastenings and Connectors
Unless otherwise noted or specified timber framing fastenings and connectors shall be as specified in the relevant fixing schedules of NZS 3604 or have an equivalent capacity as specified therein. Timber framing connectors and fixings shall comply with the product information as required in NZS 36042.4.6, and shall be used and installed in accordance with the manufacturer's recommendations. Predrill nail holes in split-prone framing as necessary.

Durability of Fixings & Fastenings
Unless otherwise noted or specified the minimum durability of timber framing fixings and fastenings, excluding nails and screws, shall comply with the durability requirements of NZS 3604 Table 4.1.Galvanised steel fixing components, excluding nails and screws, shall have galvanised coating masses in accordance with NZS 3604 Table 4.2.Unless noted or specified otherwise the materials for nails and screws shall be as given in NZS 3604Table 4.3.Steel fixings and fastenings in contact with timber treated with copper based timber preservatives(H3.2 or higher) shall be in accordance with NZS 3604 4.4.4.Stainless steel nails shall be minimum Grade 304 unless otherwise specified or noted.

Bolts and Coachscrews
Unless specified or shown otherwise all bolted and coach screwed connections shall be M12 or M16in accordance with the relevant fixing requirements given in NZS 3604.Bolted and coach screwed connections shall have either a 50mm x 3mm square, or a 55mm x 3mmround, washer to each head and nut for M12 and M16 fixings. Washers shall be of the same material and durability as the bolt or coach screw.

3.5.5 Wall Framing

Plates
Top and bottom plates shall be to the dimensions and layout shown on the drawings. Unless specified or shown otherwise top and bottom plates shall be fixed in accordance with NZS 3604 7.5.12 and Tables 8.18 and 8.19, true to line and level or angle. Joints in top plates shall be made over a stud or over blocking between studs, and all top plate connections shall be in accordance with NZS 3604 8.7.3. Form all holes and edge notches in top and bottom plates in accordance with NZS 3604 8.7.5.

Studs
Studs shall be to the dimensions and spacings shown on the drawings, and installed true to line and plumb in both directions between top and bottom plates. Unless noted otherwise non-load bearing wall studs shall be to the spacings given in NZS 3604 Table8.4, stud width as shown on the drawings. Form all holes and edge notches in studs in accordance with NZS 3604 8.5.1.5. Do not notch, check, cut, or bore holes in the middle third of any trimming stud. Should the need arise studs shall be straightened in accordance with NZS 3604 8.5.3.

Lintels
Lintels shall be to the dimensions and locations shown on the drawings, and installed true to line and level, and shall be supported by a 45mm thick doubling stud or jack stud fixed to a trimming stud, and secured against uplift in accordance with NZS 3604 8.6.1.8 as required. The thickness of a lintel may be made from two or more members, where each member is the length of the lintel, in accordance with NZS 3604 2.4.4.7.

Sill & Head Trimmers
Unless specified or shown otherwise sill and head trimmers to openings shall be the same width as the wall stud and to the thickness given in NZS 3604 Table 8.15, and installed at the required opening height true to line and level, and supported by a 45mm thick doubling stud or jack stud fixed to at rimming stud.

Dwangs
Dwangs shall be the same width and thickness as the wall stud, and installed at the centres noted on the drawings, and accurately cut and fixed in place true to line and level and flush with stud edges. Dwangs fixed in accordance with NZS 3604 Table 8.19.

Ribbon Boards
Ribbon boards shall be as dimensioned and located on the drawings, and installed on edge and checked 25mm into studs at the required height, true to line and level, and fixed in place in accordance with NZS 3604 Table 8.19.

3.5.6 Roof Framing

Roof Bracing
Roof bracing shall be as shown on the drawings and in accordance with NZS 3604 10.3 and 10.4 as necessary.

3.6 GIB® Plasterboard Sheets

3.6.1 Scope
Supply and install the selected GIB® Plasterboard sheets, complete with all accessories, as sheet lining material to the walls, ceilings and other elements identified on the drawings. All aspects of this work shall be in complete accordance with Winstone Wallboards Ltd technical literature and installation guidelines (phone the Winstone Helpline on 0800 100 442 or www.gib.co.nz for the latest editions)and other relevant product manufacturers' recommendations. Substitution of any specified GIB® system, GIB® System component or GIB® plasterboard is not permitted.

3.6.2 Components
To the areas noted on the drawings as ‘general plasterboard wall or ceiling lining’, shall additionally comply with all relevant aspects of the GIB® Site Guide January 2010 literature, complete with all recommended components and accessories and other relevant manufacturers recommendations. To the areas noted as ‘Wet Area’ on the drawings, additionally comply with all relevant aspects of the GIB Aqualine® Wet Area Systems March 2007, complete with all system accessories, and other relevant product manufacturers' recommendations. To the timber framed areas noted as 'Bracing' on the drawings, shall additionally comply with all relevant aspects of the GIB EzyBrace® Systems 2011 literature and GIB Ezybrace® software 2011 to the specified bracing unit rating, complete with all system accessories, and other relevant product manufacturers' recommendations.

3.6.3 Co-operation
Co-operate with other trades to ensure that all preliminary and preparatory works are completed to specification and as shown on the drawings. Co-ordinate with other trades to ensure that appropriate clearances are allowed from adjacent internal linings, fixtures, products, and associated services, etc, that the sheets correctly allow for door and window installation, and that services penetrations are correctly handled to maintain sheet integrity.

3.6.4 Level of Plasterboard Finish
To the areas noted as a specific Level of Finish (3-5) on the drawings, additionally comply with all relevant aspects of Winstone Wallboards Ltd literature and AS/NZS 2589, complete with all system accessories, and other relevant product manufacturers' recommendations. NOTE: Unless stated otherwise, Level 4 is the default Level of Finish.

3.6.5 Preparation
Check that the timber framing elements are in accordance with NZS 3604, or in accordance with NZS3603 and AS/NZS 1170 for specific design, and otherwise in accordance with the specified Level of Finish and Winstone Wallboards Ltd requirements. Framing shall be plumb and in true alignment, complete and suitable for the sheets, and maximum moisture content 18% or as recommended by Winstone Wallboards Ltd. Ensure that the framing is true to line and plane and with no projections due to structural and bracing bracketry etc. Ensure that all framing brackets, plates, braces and holddowns etc. are correctly installed. Check that the building has been completely finished to all penetrations including doors, windows, services, etc so that the sheets can be installed without being affected by any weather conditions. Check junctions to all other building elements and ensure that all necessary works have been completed eg. flooring, setout of services, etc. that will enable the sheets and accessories to be installed. Clear building debris and rubbish from framing voids and keep clean until GIB sheet linings are installed.

3.6.6 Workmanship
All installation work shall be carried out by experienced tradesmen familiar with the techniques and materials specified and in accordance with the current requirements of Winstone Wallboards Ltd.

3.6.7 Delivery & Handling
Store GIB® plasterboard sheets undercover inside a watertight building and keep sheets dry at all times. Stack sheets flat on a dry level surface in accordance with Winstone Wallboards Ltd recommendations. Avoid damage to sheet edges, ends, and surfaces. Carry all sheets on edge. Do not use damaged or faulty sheets.

3.6.8 Installation
Install the sheets, complete with all accessories, to the framing in accordance with the relevant Winstone Wallboards Ltd recommendations and literature, and as noted and detailed on the drawings.

3.6.9 GIB Plasterboard
Refer drawings for which specific GIB® plasterboard product is to be used in each area.

3.6.10 Fixings
Fix sheets with adhesive and GIB® Grabber® drywall screws in accordance with Winstone Wallboards Ltd requirements. GIBFix® All-Bond adhesive. Use to adhere the sheets and accessories to the framing in accordance with Winstone Wallboards Ltd requirements. GIBFix® One. Use to adhere the sheets to the timber framing and battens in accordance with Winstone Wallboards Ltd requirements.

3.6.11 Completion
Ensure that the sheets have been cut, fitted and joined, and fixed correctly. Check for damage and replace as necessary. Clean up thoroughly on completion and remove all waste and rubbish from site. Provide a copy of the Winstone Wallboards Ltd maintenance requirements to the owner.

4 ROOFING

4.1 Preliminary
Refer to General Conditions of Contract and the Special Conditions in this Specification as appropriate. Read this section in conjunction with all other trade sections.

4.2 Compliance
Comply with the New Zealand Building Code 1992 including all revisions and amendments, Verification Methods where appropriate, and construction principles that are embodied in the Acceptable Solutions.
Comply with all relevant provisions and recommendations of:
1397:1993(AS/NZS) Steel sheet and strip - hot-dipped, zinc-coated or aluminium/zinc coated
1562.1(AS) Design and installation of sheet roof and wall cladding - Metal
2295:2006(NZS) Pliable, permeable building underlays
3604:2011(NZS) Timber-framed buildings

5 ALUMINIUM JOINERY

5.1 Preliminary
Refer to General Conditions of Contract and the Special Conditions in this Specification as appropriate. Read this section in conjunction with all other trade sections.

5.2 Compliance
Comply with the New Zealand Building Code 1992 including all revisions and amendments, Verification Methods where appropriate, and construction principles that are embodied in the Acceptable Solutions.
Comply with all relevant provisions and recommendations of:
1734:1997(AS/NZS) Aluminium and aluminium alloys - Flat sheets, coiled sheet and plate
2208:1996(AS/NZS) Safety glazing materials in buildings
4211:2008(NZS) Specification for performance of windows
4223.3:2016(NZS) Glazing in buildings - Part 3: Human impact safety requirements
4666:2000(AS/NZS) Insulating glass units
4667:2000(AS/NZS) Quality requirements for cut-to-size and processed glass
AS/NZS 1231 Aluminium, anodic coatings
AS/NZS 1865 Drawn aluminium rod, bar and strip
AS/NZS 1866 Aluminium / alloys - extruded sections

5.3 Aluminium Windows

5.3.1 Alternatives
The materials and elements specified indicate the required standards for these works. Alternatives which are equal to or superior to these materials and elements may be tendered for approval. Thermal performance (NZBC H1/AS1) must be as required to meet the Designer's Thermal Evaluation.

5.3.2 Workmanship
These windows will be manufactured in workshops containing all mechanical equipment appropriate for the work, and by experienced and competent tradesmen who are familiar with the techniques and materials specified. The manufacturer will co-ordinate with other trades to establish the exact sizes for all frames before fabrication. Frames and sashes will be fabricated true, square, rigid, and 'out of wind', with all joints strongly mechanically fixed, and with mitres tight and fully sealed. Potential thermal, wind and seismic movements will be accommodated within the construction. All cavities will drain to the exterior, and all drilling swarf etc. will be removed during fabrication.

Stays, hinges, running gear and glazing will be installed as scheduled (the Designer will be notified if any scheduled hardware of fixing position appears to be inappropriate for this project).Hardware will be fixed true to line and position, and adjusted and oiled as required for correct operation. Glass will be cut true and square, sized to provide correct edge clearances, blocked into place as required, and all units will be delivered either pressure fit, pocket glaze, or beaded/wedged, unless site glazing is required. Glazing gaskets will be compatible with all adjacent materials, and cut 1%over-length to absolutely avoid stretching during installation. Frames will be braced etc. as necessary for transportation to the site. Flashings as detailed will be supplied. Flashing materials will be compatible with the windows.

5.3.3 Delivery and Installation

Comply with the New Zealand Building Code 1992 including all revisions and amendments, Verification Methods where appropriate, and the construction principles that are embodied in the Acceptable Solutions. Arrange for delivery of windows to the site only when a suitable storage situation is available for them, handle the windows in accordance with the manufacturers requirements, avoid any frame distortion, avoid rubbing damage, avoid contact with concrete, plaster, mud etc. and keep them dry. Retain protective coverings for as long as possible, and remove them at completion. Experienced and competent tradesmen who are familiar with the techniques and materials specified shall carry out all installation work. Fix in accordance with the manufacturer's instructions. Take utmost care to avoid damage to anodized or powder coated surfaces - correction of any such disfigurement requires written authority - replace any badly damaged items. Use fixings compatible with the materials involved, as recommended by the windows manufacturer and to comply with the DWP requirements, basically aluminium or Type 316 stainless steel where exposed externally; galvanized to AS/NZS 4680, 610g/m2, may be used where not exposed. Thoroughly check all preparatory work to openings prior to installation, including wrap, corner seal tapes, adjacent cladding, pre-installed flashings, etc. as appropriate. Use inert barriers or coatings to prevent contact between dissimilar metals or between aluminium and concrete. Install flashings as detailed and supplied by the windows manufacturer, installed tightly and neatly with absolute minimum tolerances, with head weathering jamb, jamb weathering sill, and sill open(draining) to exterior. Except where the window is recessed all head flashings shall extend 30mmminimum beyond the frame. Air-seal all frame perimeters to adjacent structure to a depth of 15 - 20mm with expanding foam or appropriate sealant including a PEF rod at head, sill and jambs to retard the spread of sealant. Weather-seal frame jambs etc. to adjacent surfaces (or to each other) as detailed or as required by the windows manufacturer, to achieve a fully watertight installation. In preparation for sealant the joints shall be clean, dry, and primed if necessary. Insert closed cell polyethylene backer rods or a polyethylene tape slip layer if required. Mask adjacent surfaces if appropriate, install the sealant fully in accordance with the sealant manufacturers recommendations, and finish to even smooth surfaces. Remove trade debris progressively, appropriately clean any affected adjacent surfaces, thoroughly clean the windows, check that all hardware is in full working order, and provide safety indication of the glass for the balance of adjacent works

6 GLAZING

6.1 Preliminary

Refer to General Conditions of Contract and the Special Conditions in this Specification as appropriate. Read this section in conjunction with all other trade sections.

6.2 Compliance

Comply with the New Zealand Building Code 1992 including all revisions and amendments, Verification Methods where appropriate, and construction principles that are embodied in the Acceptable Solutions.
Comply with all relevant provisions and recommendations of:
1170.0:2002(AS/NZS) Structural design actions - General principles
1170.5:2004(NZS) Structural design actions - Earthquake actions - New Zealand
2208:1996(AS/NZS) Safety glazing materials in buildings
3604:2011(NZS) Timber-framed buildings
4211:2008(NZS) Specification for performance of windows
4223.1:2008(NZS) Code of practice for glazing in buildings - Glass selection and glazing
4223.2:2016(NZS) Glazing in buildings – Part 2: Insulating glass units
4223.3:2016(NZS) Glazing in buildings - Part 3: Human impact safety requirements
4223.4:2008(NZS) Glazing in buildings - Part 4: Wind, dead, snow, and live actions
4223.SUPP1:2008(NZS) Code of practice for glazing in buildings - Supplement 1 to NZS4223.1:2016 and NZS 4223.4:2016
4232.2:1988(NZS) Performance criteria for fire resisting enclosures - Part 2: Fire resisting glazing systems
4666:2000(AS/NZS) Insulating glass units
4667:2000(AS/NZS) Quality requirements for cut-to-size and processed glass
4668:2000 (AS/NZS) Glossary of terms used in the glass and glazing industry

6.3 Non-Structural Glazing

6.3.1 Scope

Supply and install the selected glass products to the windows, doors, curtain wall systems, roofs and canopies, balustrades and barriers, partitions and screens, and other non-structural glazing elements, as noted and shown on the drawings. All aspects of this work shall be in accordance with the glass manufacturer’s installation requirements and recommendations, other relevant product manufacturers' recommendations, and as shown on the drawings.

6.3.2 Co-operation
Co-operate with other trades to ensure that all preliminary and preparatory works are completed to specification and as shown on the drawings. Co-ordinate with other trades for all necessary holes and cut-outs etc. for glass mounted hardware, fittings and fixtures, and to install all glass and glazed elements as required.

6.3.3 Workmanship
All installation work shall be carried out by experienced and competent tradesmen familiar with the products specified and installation techniques, to the manufacturer's requirements and recommendations, and the requirements of the relevant Glazing Standards, and to the layout and details shown on the drawings. Handle and store glass in accordance with the manufacturer's recommendations. Provide temporary safety markings to all glass panes as the installation work progresses. Finish all external glazing wind and watertight. Do not use damaged, marked or faulty materials.

6.3.4 Glass Type
Clear Float Glass: Clear annealed float glass, in accordance with NZS 4223, to the locations identified on the drawings. Obscure Patterned Glass: Surface patterned obscure glass, in accordance with NZS 4223, to the locations identified on the drawings. Heat Strengthened Glass: Heat strengthened float glass, in accordance with NZS 4223. All cutting and drilling and other processing requirements shall be done prior to heat strengthening. Toughened Safety Glass: Toughened Grade 'A' Safety Glass, in accordance with AS/NZS 2208 and NZS4223. All cutting and drilling and other processing requirements shall be done prior to toughening. Install safety glass in accordance with the manufacturer's recommendations and NZS 4223.Mirrored Annealed Glass: Clear annealed float glass, in accordance with NZS 4223, with reflective silvered coating and manufacturer applied protective backing.

6.3.5 Insulating Glass Units
Insulating Glass Units. Sealed, gas filled, insulating glass units manufactured and installed in accordance with AS/NZS 4666, and the Insulating Glass Manufacturers' Association recommendations, to the locations identified on the drawings.

6.3.6 Components & Accessories
Provide all necessary glazing components and accessories including glazing tape, setting and distance blocks, sealants, gaskets, etc., to complete aluminium framed glazing as required.

6.3.7 Installation
Aluminium, Single Glazed
Install glass panes into aluminium frames in accordance with the glazing manufacturer’s recommendations and NZS 4223.
Aluminium, Double Glazed (IGU's)
Install Insulated Glass Units into aluminium frames in accordance with the glazing manufacturer’s recommendations and NZS 4223.

6.3.8 Completion
Check that all glass has been installed correctly to the required standard and as shown on the drawings. Check for damage and surface marking and replace as necessary. Clean off and remove all temporary safety markings, as programmed and when instructed, and leave glass trade clean. Remove all rubbish and waste material from site. Issue to the Owner a copy of the Glass Manufacturer's maintenance requirements and all necessary Manufacturer Warranties.

7 INSULATION

7.1 Preliminary
Refer to General Conditions of Contract and the Special Conditions in this Specification as appropriate. Read this section in conjunction with all other trade sections.

7.2 Compliance
Comply with the New Zealand Building Code 1992 including all revisions and amendments, Verification Methods where appropriate, and construction principles that are embodied in the Acceptable Solutions.
Comply with all relevant provisions and recommendations of:
3604:2011(NZS) Timber-framed buildings
4220:1982(NZS) Code of practice for energy conservation in non-residential buildings
4243.1:2007(NZS) Energy efficiency - Large buildings - Building thermal envelope
4246:2006(NZS) Energy efficiency - Installing insulation in residential buildings
4859.1:2002(AS/NZS) Materials for the thermal insulation of buildings - General criteria and technical provisions

7.3 Thermal Insulation

7.3.1 Scope
Supply and install the selected products as thermal insulation to the specified R-values, complete with all accessories, to the floors, walls, ceilings, roofs, and other thermally insulated building elements, as noted and shown on the drawings. All aspects of this work shall be in accordance with the product manufacturer’s technical literature and installation requirements, other relevant product manufacturers' recommendations, and as shown on the drawings.

7.3.2 Co-operation
Co-operate with other trades to ensure that all preliminary and preparatory works are completed to specification and as shown on the drawings. Co-ordinate with other trades to install all thermal insulation as required.

7.3.3 Workmanship

All installation work shall be carried out by experienced and competent tradesmen, familiar with the specified products and installation techniques, in accordance with the manufacturer's installation requirements, and as noted and detailed on the drawings. Store and handle products in accordance with the manufacturer's recommendations, keep dry and protect from damage. Do not compress fibre insulation bales, do not use damaged or faulty insulation products and accessories. The building must be completely enclosed and water tight before installation commences with the exception of roof insulation when installed with roofing. Ensure the moisture content of timber framing is no greater than 18% prior to installing insulation to timber framed elements. Always maintain the full insulation thickness to ensure the required thermal values are achieved. Do not install insulation pads or blankets into closed cavities that are less than the stated insulation nominal thickness.

7.3.4 Product

Glass Fibre Blanket

Glass fibre thermal insulating blanket.

Specified product

Refer drawings for specified insulation product

7.3.5 Installation

Ceiling Insulation - Glass Fibre Blanket

Install glass fibre insulation blanket, complete with accessories, friction fitted between the ceiling framing over the ceiling lining in accordance with the manufacturer's installation recommendations. Leave no gaps along the insulation blanket edges and joints, and at the ceiling perimeter/wall junction. Separate ceiling insulation 200mm from recessed light fittings and other recessed electrical fittings; refer to the drawings for containment requirements around recessed electrical fittings.

Roof Insulation - Glass Fibre Blanket

Install glass fibre insulation blanket, complete with accessories, over netting and vapour barrier to the manufacturer’s installation requirements and as shown on the drawings. Size and cut blankets to ensure all insulation edges, joins and ends are fully closed without gaps, joint blankets in accordance with the manufacturers requirements. Insulation blanket neatly cut and fitted around penetrations. Ensure a minimum separation of 25mm between the insulation and roofing underlay is maintained, and the full thickness of the insulation blanket is maintained.

7.3.6 Completion

Check that all insulation has been installed correctly and is correctly supported and that all edges, joins and ends are fully closed without gaps. Check for damage and faults and repair or replace as necessary. Collect and remove from site all rubbish and waste material. Issue to the Owner a copy of any product maintenance requirements and a copy of the Thermal Insulation Product and Installation Warranties for the completed works.

8 PAINTING & DECORATING

8.1 Preliminary

Refer to General Conditions of Contract and the Special Conditions in this Specification as appropriate. Read this section in conjunction with all other trade sections.

8.2 Compliance

Comply with the New Zealand Building Code 1992 including all revisions and amendments, Verification Methods where appropriate, and construction principles that are embodied in the Acceptable Solutions.
Comply with all relevant provisions and recommendations of:
2310:2002(AS/NZS) Glossary of paint and painting terms
2311:2017 (AS/NZS) Guide to the painting of buildings
3750.0:2008(AS/NZS) Paints for steel structures - Introduction and list of Standards
AS 1580 Methods of test for paints
BRANZ IB 257 Wood primers

8.3 General

8.3.1 Co-operation

Co-operate with all trades and attend upon Concretor, Joiner, Carpenter, etc. to ensure that the surfaces provided by these trades are completely suitable for the Painter works that are required.

8.3.2 Preparation

No painting or varnishing or other surface coating work shall be undertaken unless the surfaces to be coated are in a correct and proper condition to ensure first class results. Inspect the works of other trades on which Painter work is scheduled and report to the Main Contractor and the Architect/Designer any defects or irregularities that would affect the permanency or finish of the painting work, and do not proceed until the defects or irregularities have been completely rectified. Failure to examine and report will be construed as an acceptance that all preparatory works are completely satisfactory. This clause does not relieve the Painter of any of the usual preparatory work to surfaces customarily performed by this trade. Clean down all surfaces with sugar soap, strippers, mould killers, etching agents, etc. as required. Sand or rub all sharp edges off exterior timbers and other materials as appropriate before painting. Finish rub down ALL surfaces. Ensure that the moisture content of all substrates is appropriate. Remove locks, fastenings, and similar hardware before painting and refix on completion. Remove all electrical switch and power plates before painting and refix them on completion. Mask adjacent surfaces as required to a true line

and remove the masking on completion. Dust and wipe down all surfaces for Painter work and completely remove all dust, rubbish, dirt etc. from areas involved immediately prior to commencement. To each area of the works complete all surface preparation before applying paint to any surface.

8.3.3 Protection

Take adequate precautions to prevent paint spots falling on prefinished or similar surfaces, and extreme care to keep absorbent materials (e.g. cedar, sawn framing, decking, paving) completely clean during all adjacent painting work. Correction of any such disfigurement shall be to the Architect/Designer's approval.

8.3.4 Workmanship

Strictly adhere to all Manufacturers' instructions. Strictly observe Manufacturers' requirements with regard to surface and air temperatures for painting. No work shall be carried out on surfaces that are not completely dry, and no external work shall be carried out during damp or wet conditions. In all finishes any irregularities or brush marks or dust etc. in each preceding coat shall be rubbed down to provide a smooth clean surface for the following coat. Each coat shall be finished over all surfaces before a further coat is applied, and each coat shall be completely dry before subsequent coats. Finish broad areas before painting trim, paint ceilings before walls and walls before joinery, trim and other items. Each coat and the full completed system shall be of uniform finish, colour, texture and sheen, shall have proper covering of thin edges, corners, end grain etc. and shall be free of blemishes such as runs, sags, fat edges, entrained hairs, brush marks, starved patches etc.

8.3.5 Wallpapers & Lining Papers

Wallpapers and lining papers, where scheduled, shall be hung plumb, true and square, and with precise butts. Patterns shall be accurately matched at each join. All rolls used in any one area shall be from the same batch. Use a fungicide incorporated adhesive that is recommended by the supplier. Edges neatly and precisely cut to the adjacent element. Finish free of air bubbles, wrinkles, gaps or stains.

8.3.6 General

The schedules indicate the general extent of the works to be carried out but are in no way exhaustive in their description of the actual items for painter work. Complete all work necessary for the proper and entire completion of the works. All items and portions of items reasonably inferable but not specifically mentioned are deemed included, i.e. cupboard interiors, the top and bottom of doors, unseen cabinetry tops, etc. All doors shall have equal painter work on ALL surfaces. Where timber work is specified for priming before fixing the priming shall be thoroughly brushed in to all surfaces, and all exterior timber work for paint finishing shall be fully primed within one week of fixing. Should more than one month elapse between priming and undercoating the timber shall be fully reprimed. Stopping up work shall be carried out immediately the priming or sealing coat is dry, and shall be solidly placed to finish clean and dry. Stopping tinted to match the timber for clear finished work. Paint putties within one month of glazing timber frames; paint to impinge on glass to assist sealing.

8.3.7 Materials

All Painter materials shall be ready mixed and delivered in unopened containers. Materials shall be used only for the purpose and in the manner intended by the manufacturer; any apparent scheduled discrepancy in this respect shall be referred to the Architect/Designer immediately for clarification. Where surfaces are specified to be finished in a particular manner or material, all preparatory work, priming, or undercoating, that is necessary to ensure a proper finish shall be provided, irrespective of any apparent omission herein. Thinning shall only be to manufacturer's specification. Thoroughly stir as required to lift any settled pigment and ensure the paint is homogeneous. Paints shall be factory or shop tinted to the colour required. Undercoats shall be fully tinted to match the final colour scheduled. All paints shall have the finished film thickness that is specified by the manufacturer (checked by monitoring the coverage per litre).

8.3.8 Completion

Allow to touch up to approval any Painter work which is damaged during the finishing works of other trades. Replace all hardware, remove all masking, covers, containers etc., thoroughly clean all affected surfaces, and leave all spaces ready for immediate occupation. Avoid scratching or abrading glass or hardware during any cleaning.

9 PLUMBING

9.1 Preliminary

Refer to General Conditions of Contract and the Special Conditions in this Specification as appropriate. Read this section in conjunction with all other trade sections.

9.2 Compliance

Comply with the New Zealand Building Code 1992 including all revisions and amendments, Verification Methods where appropriate, and construction principles that are embodied in the Acceptable Solutions.
Comply with all relevant provisions and recommendations of:
1254:2010(AS/NZS) PVC-U pipes and fittings for stormwater and surface water applications
1260:2009(AS/NZS) PVC-U pipes and fittings for drain, waste and vent application
1477:2006(AS/NZS) PVC pipes and fittings for pressure applications
1546.1:2008(AS/NZS) On-site domestic wastewater treatment units - Septic tanks
2032:2006(AS/NZS) Installation of PVC pipe systems
2033:2008(AS/NZS) Installation of polyethylene pipe systems
2492:2007(AS/NZS) Cross-linked polyethylene (PE-X) pipes for pressure applications
2537.1:2011(AS/NZS) Mechanical jointing fittings for use with crosslinked polyethylene
(PE-X) for pressure applications - Part 1: Plastics piping systems for hot and cold water installations - Crosslinked polyethylene (PE-X) -General
2642.2:2008(AS/NZS) Polybutylene pipe systems - Polybutylene (PB) pipe for hot and coldwater applications
3500.1:2018(AS/NZS) Plumbing and drainage - Water services

3500.2:2018(AS/NZS) Plumbing and drainage - Sanitary plumbing and drainage
3500.3:2018(AS/NZS) Plumbing and drainage - Stormwater drainage
3500.4:2018(AS/NZS) Plumbing and drainage - Part 4: Heated water services
3500.5:2012 (AS/NZS) Plumbing and drainage - Domestic installations
3501:1976(NZS) Specification for copper tubes for water, gas, and sanitation
4121:2001(NZS) Design for access and mobility: Buildings and associated facilities
4602:1988(NZS) Low pressure copper thermal storage electric water heaters
4603:1985(NZS) Installation of low pressure thermal storage electric water heaters with copper cylinders (open-vented systems)
4606.1:1989(NZS) Storage water heaters - General requirements
4607:1989(NZS) Installation of thermal storage electric water heaters: valve-vented systems
4611:1982(NZS) Non-thermostatic shower mixing valves
4617:1989(NZS) Tempering (3-port mixing) valves
4692.1:2005(AS/NZS) Electric water heaters - Energy consumption, performance and general requirements
4766:2006(AS/NZS) Polyethylene storage tanks for water and chemicals
5103:1973(NZS) Code of practice for the design, installation and operation of sprinkler irrigation systems
7602:1977(NZS) Specification for polyethylene pipe (Type 5) for cold water services
7643:1979(NZS) Code of practice for the installation of unplasticized PVC pipe systems
7646:1978(NZS) Specification for polyethylene pipes and fittings for gas reticulation
AS/NZS 2053 Specification for unplasticized PVC conduit and fittings for electrical wiring
NZBC G13 Foul Water

9.3 General

Carry out all works necessary to leave the water, waste, vent and soil systems serving the sanitary fittings and the plumbing hardware shown on the drawings or specified below in correct working order complete with all ancillary systems (safe trays, floor drains, overflows, relief valves, etc.)required, and with all normal incidentals customarily installed by this trade. Comply with the Building Code, Territorial Authority By-laws and statutory authority Regulations as appropriate. Obtain all necessary permits and consents, serve all necessary notices, arrange for all tests and pay all fees and customary charges in connection with the required works.

9.4 Workmanship

9.4.1 Co-operation

Co-operate with all other trades. Attend upon Concretor, Drain layer and Carpenter to set out the exact positions of pipe runs before adjacent work is put in hand, and to ensure that all pipes, sleeves, fixings, flashings etc. are correctly incorporated into the structure as construction proceeds.

9.4.2 Workmanship

All plumbing work shall be carried out by, or under the direct control of, properly qualified tradesmen, and shall be to recognised high standards. Observe best local trade practice to avoid problems which arise from freezing winter conditions. The cutting away and checking of timbers shall be limited to such dimensions as will not prejudice the purpose for which the timber is used; observe NZS 3604 restrictions on the holing and checking of joists and beams. Chasing and checking of other materials only to approval. Install siesmic restraints to storage tanks and HWCs. Weatherseal wherever pipes, screws, bolts or other fastenings penetrate an external surface, and particularly roofing; seal with gaskets, flashings (and over flashings if necessary) or mastic as appropriate - any damage that results from failure of such seals will be made good at the Plumber’s expense. Adequately protect all surfaces. Any damage to fittings or surfaces made good by the appropriate trade at the Plumber's expense.

9.4.3 Pipework

Joints between pipes of different materials shall always be to the approval of the TA Plumbing Inspector. Pipework set-out neatly with a minimum number of bends, and more or less parallel to and at right angles to structural elements - avoid diagonal piping. All internal pipework shall be concealed except where otherwise is either shown or approved. Exposed pipework shall be accurately and neatly run. Arrange all pipework (and particularly traps) in a manner which will allow maximum future accessibility for repairs or maintenance. Arrange for access panels to any primary maintenance positions, and install conveniently located isolating valves for each group of fittings. Wingbacks securely and squarely fixed. Crox unions usually acceptable only at the final connection to fittings. Install white plastic flanges where pipes penetrate linings in visible locations. Where pipes are covered with nail fixed linings and trim ensure that their positions are marked on the linings to minimise the risk of subsequent nailings penetrating the pipe. Any such damage shall be rectified immediately, with all consequential damage made good. Set pipework out in straight runs to even gradients. Fix all pipes to the structure sufficiently to fully support and to prevent sagging or vibration. Clips and saddles shall be the same material as the pipe. Exterior pipes on stand-off brackets. Fixings to the exterior or damp locations shall all be hot dip galvanized unless otherwise noted. Sleeves for pipes or drains penetrating concrete or masonry shall be uPVC, 20mm minimum larger internal diameter than the external diameter of the pipe, finished flush with concrete or masonry, and packed and mastic sealed. Close open ends of the systems during construction to prevent the entry of foreign matter.

9.4.4 Temperature Movement

All work shall respect in full all probable thermal movements - layouts, fixings and jointings shall be arranged to allow thermal movement without risk of prejudice to watertight conditions, or risk of damage from straining of the pipes which will generate failures. In particular, observe best local trade practice to avoid problems arising from freezing conditions.

9.4.5 Excavation
Allow to carry out all excavation that is required to suit the services installed by this trade. Check for other services before excavation. Trenches true to line and level, base of trenches clear of loose material, and shore trenches as required to suit the ground conditions. Backfilling shall be carried out by this trade, and be to the requirements specified in Siteworks.

9.4.6 Testing
All plumbing services shall be completed in stages which will allow for proper testing prior to the application of insulation, concealment or other enclosure. An acceptable testing method is to: a)Subject the hot and cold system to a pressure of 1500kPa for a period of not less than 15 minutes, and b) Inspect the system to ensure there are no leaks. All leaks remedied shall be retested. On completion the whole of the plumbing services to be subjected to full operational tests in the presence of the plumbing inspector, with any defects revealed in these tests properly remedied.

9.4.7 Warranties
Warranty cards and manufacturer's guarantees for all items supplied and installed by this trade shall be correctly filled in and handed over at Practical Completion.

9.5 Materials
9.5.1 Materials
Materials shall be delivered with packaging and labelling intact. Incidentals (jointing compounds, PTFE tape, seals, washers, silfos, solvent cements, etc.) shall be completely appropriate for the application involved. The use of imperfect items or items damaged in any way is always subject to approval.

9.5.2 Materials Separation
Separate dissimilar metals in any circumstances which could produce contact or electrolytic action by a water film, with thick plastic tape, bituminous felt or other inert material. Pipes in contact with or built into concrete or masonry shall be fully spiral wrapped in Denso tape or equal.

9.6 Systems
9.6.1 Wastes & Vents
Fit bird proof domes to all vents.

9.6.2 Cold Water System
Supply

All cold water supply pipework shall be polybutylene, arranged and fixed so that all joints are in a fully ‘relaxed' condition, without any stress or tension. Storage tank supply, installation and feed specified below. Supply an approved self-priming multistage constant pressure pump of appropriate capacity and install it where noted, on a small slab and with a weatherproof enclosure to suit (specified under Carpenter, but the Plumber shall co-ordinate size, access etc.) (The pump electrical feed/connection is specified under Electrician).Lay on a 20mm main from the pump along the route shown on the Site Plan to the connection position noted on the Floor Plan (pipe depth, backfilling, signal strip etc. to good trade practice and BCA approval). At the connection position take a branch feed off for the hose cocks (and reticulate to the positions shown and install angle hose cocks) and toilet cisterns and then take the main feed through an accessible and cleanable in-line sediment and dirt filter, and then through an approved UV disinfection unit (complying with AS 3497, and tested to NZ/AS 4348). Exact position and pipework layout for filter and disinfection unit to approval. Primary distribution from the disinfection unit shall be in 20mm piping, reducing to 12mm for the final feed to individual items. Install conveniently located isolating valves to turn off each group of
fittings, and install a small isolating valve alongside each toilet cistern not integrally fitted with one.(Note that these isolating valves and the hose cocks are not covered by the Plumbing Hardware Prime Cost Sum).

9.6.3 Hot Water System
Refer to additional information in appendices.

9.7 Elements
9.7.1 Sanitary Fittings
Supply and fix all of the sanitary fittings as scheduled on the drawings. All fittings checked on delivery for 'perfect' condition, and all fittings plain white. Supply and fix all normal accessories that are not usually supplied with the fitting. The Plumber is responsible for fittings from delivery until Practical Completion of the contract.

9.7.2 Flashings
Ridges, hips, barges, valleys, aprons etc. flashings all supplied and installed by the Roofer. Metal windows flashings (those installed during windows installation ONLY) will be supplied by the windows subcontractor and installed by the Carpenter. All other flashings including wall penetration flashings, soakers, etc. that are required to leave the building completely water and weather tight are the Plumber’s responsibility. All flashings shall be machine folded to profiles as shown or required, incorporating capillary breaks where appropriate, shall be formed in one piece where possible, and lead or other soft edged where required. Stop ends, external angles, junctions etc. soldered or sealed and blind riveted as appropriate

10 DRAINLAYING

10.1 Preliminary

Refer to General Conditions of Contract and the Special Conditions in this Specification as appropriate. Read this section in conjunction with all other trade sections.

10.2 Compliance

Comply with the New Zealand Building Code 1992 including all revisions and amendments, Verification Methods where appropriate, and construction principles that are embodied in the Acceptable Solutions.
Comply with all relevant provisions and recommendations of:
1254:2010(AS/NZS) PVC-U pipes and fittings for stormwater and surface water applications
1260:2009(AS/NZS) PVC-U pipes and fittings for drain, waste and vent application
1546.1:2008(AS/NZS) On-site domestic wastewater treatment units - Septic tanks
2032:2006(AS/NZS) Installation of PVC pipe systems
3500.2:2018(AS/NZS) Plumbing and drainage - Sanitary plumbing and drainage
3500.3:2018(AS/NZS) Plumbing and drainage - Stormwater drainage
7643:1979(NZS) Code of practice for the installation of unplasticized PVC pipe systems
AS/NZS 1547:2012 On-site domestic wastewater management
BS 5572 Code of practice for sanitary pipework
NZBC G13 Foul Water

10.3 General

Carry out all required works to leave the sewer and stormwater systems shown on the drawings incorrect working order complete with all normal incidentals. Comply with Local Authority By-laws and Health Department Regulations as appropriate. Obtain all necessary permits and consents, serve all necessary notices, arrange all tests and pay all fees and customary charges in connection with the works.

10.4 Workmanship

10.4.1 General

Carry out all required works to leave the sewer and stormwater systems shown on the drawings incorrect working order complete with all normal incidentals. Comply with Local Authority By-laws and Health Department Regulations as appropriate. Obtain all necessary permits and consents, serve all necessary notices, arrange all tests and pay all fees and customary charges in connection with the works.

10.4.2 Co-operation

Cooperate with all trades and attend upon the Concretor and Plumber to set out exact pipe runs before any adjacent work is put in hand and ensure that all sleeves etc. are correctly incorporated as work proceeds.

10.4.3 Materials

All pipes and other materials shall comply with the appropriate Standards, and shall be protected from damage of any kind until installation is complete. All incidentals appropriate for the applications involved. Concrete shall be 17.5MPa and as specified under Concretor, Mortar shall be as specified in Blocklayer.

10.4.4 Workmanship

All drain laying shall be carried out by, or under direct control of, properly qualified tradesmen, and shall be to recognised high standards. Ensure cast-in items are installed when required so that no delay is caused by this trade. Adequately protect all adjacent surfaces - clean down to remove dirt etc., and any damage shall be made good by the appropriate trade at the Drainlayer's expense. On completion of drainlaying clean up full area affected by this trade to the condition it was in before drainlaying commenced. Site is to be returned as close as possible to its present condition on completion of the contract.

10.4.5 Excavation

As required for sewer and stormwater. Check for other service lines before excavation –the Drain layer is responsible for making good any damage. Trenches true to line and with even gradients between gullies, soil stack terminations or downpipes, etc. Keep the bottom of trenches clear of loose material. All pipes shall be laid in appropriate bedding material, compacted as required. Shore trenches if required to suit ground conditions. Backfilling shall be by this trade, to the standards required in Siteworks.

10.5 Elements

10.5.1 Drainlaying

Commence drainlaying at the low end of even fall sections of drains and proceed in a continuous sequence to the fittings connections. Sumps, gullies, etc. solidly bedded. Lay 110mm uPVC drains to connect gullies, sumps, stacks, and downpipes through to the street edge connections. Every junction and bend shall be an inspection position. Temporarily seal the open ends of incomplete drains to prevent entry of foreign matter. Make appropriate provision for any anticipated differential settlement. Place signal strip above all drains. Ensure that stormwater drains are very accurately positioned so that downpipes can drop directly into them, without offsets.

10.5.2 Testing

The sewer and stormwater systems shall both be fully tested to the approval of the Territorial Authority Inspector before being covered in. If any defects show rectify and then fully retest.

10.5.3 As Built Drawings

During drainlaying plot the location of all bends and changes in direction and all cleaning access positions. Locate each item by two diagonal measures from structure corners, etc. and record on a blank plan copy (supplied by Architect/Designer when requested).Note that Practical Completion of the contract will not be certified until this as-built drawing has been produced (made available to the Contractor in time for the Code Compliance Certificate application.

11 ELECTRICAL

11.1 Preliminary

Refer to General Conditions of Contract and the Special Conditions in this Specification as appropriate. Read this section in conjunction with all other trade sections.

11.2 Compliance

Comply with the New Zealand Building Code 1992 including all revisions and amendments, Verification Methods where appropriate, and construction principles that are embodied in the Acceptable Solutions.
Comply with all relevant provisions and recommendations of:
3000:2007(AS/NZS) Electrical installations (known as the Australia/New Zealand Wiring Rules)
3350.2.35:1999(AS/NZS) Safety of household and similar electrical appliances –Particular requirements - Instantaneous water heaters
5000.1:2005(AS/NZS) Electric cables - Polymeric insulated - For working voltages up to and including 0.6/1 (1.2) kV
60335.2.30:2009(AS/NZS) Household and similar electrical appliances - Safety –Particular requirements for room heaters
6104:1981(NZS) Specification for emergency electricity supply in buildings
AS/NZS 1125 Conductors in insulated electric cables and flexible cords
AS/NZS 2053 Specification for unplasticized PVC conduit and fittings for electrical wiring
AS/NZS 3012 Electrical installations - Construction and demolition sites
AS/NZS 3018 Domestic electrical installations
AS/NZS 3085 Telecommunications installations
AS/NZS 3100 Requirements for electrical apparatus
AS/NZS 3191 PVC insulated flexible cords
AS/NZS 3439 Electrical switchgear and control gear
AS/NZS 3947 Low-voltage switchgear
AS/NZS 60227 Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V - Flexible cables (cords)
AS/NZS 60598 Luminaires - Particular requirements - Recessed luminaires
AS/NZS 60898 Electrical accessories - Circuit-breakers for overcurrent protection for household and similar installations - Circuit-breakers for a.c. and d.c. operation
AS/NZS 61009 Residual current operated circuit breakers with integral overcurrent protection for household and similar uses (RCBOs)
NZECP 54 Recessed luminaires
NZS 1989 Plugs and socket outlets
NZS 6206 Electric meter boxes

11.3 Workmanship

11.3.1 General

Supply and install all materials, including all necessary minor and incidental items, for proper completion of all of the electrical services specified or shown on the drawings. The contract will not be deemed to be complete until the Electrician has provided an Electrical Certificate of Compliance in accordance with NZECP 11 (made available to the Contractor in time for the Code Compliance Certificate application).Obtain all necessary permits and consents, serve all notices and pay all fees in and customary charges connection with the works. The position of switches, light and power outlets and other fittings, although shown specifically in some instances, are in general only shown diagrammatically. The exact location of each of these items will be as directed on site by the project manager; the Electrician shall give reasonable notice of when this information is required. Items positioned in contravention of this shall be repositioned if directed, including rewiring if necessary, all at the Electrician's expense. Unless drawn (on 1:20 wall elevations) or specified otherwise the mounting height to the centreline of the following items above the floor shall be:
-1000mm for lighting switches;
-2000mm for wall mounted lights;
-2100mm for the bayonet of pendant lights;
-300mm for power points, except at benches.
Warranty cards and manufacturers guarantees for items supplied and installed by this trade shall be filled in correctly and handed over at Practical Completion. Arrange all circuits to obtain an optimum balance of the system, and check and reconnect where necessary to achieve this on completion. Leave the works clean and tidy and in full operational order.

11.3.2 Co-operation

Co-operate with all other trades and attend upon the Concretor and Carpenter to set out all required penetrations and to ensure that all wiring and fittings are correctly incorporated as work proceeds. The Carpenter will provide and fix all necessary dwangs and timber supports in locations determined by the Electrician.

11.3.3 Workmanship

All electrical work shall be carried out by, or under the direct control of, registered tradesmen, and shall be to recognized high standards. All work shall be such as to leave a neat, efficient and robust installation. Neatly label switchboards to identify each circuit. The cutting away and checking of timbers shall be limited to such dimensions as will not prejudice the purpose for which the timber is used; observe NZS 3604: 2011 restrictions on the holing and checking of joists and beams. Chasing and checking of other materials shall be only to approval. Adequately protect all surfaces. Any damage to fittings or surfaces made good by the appropriate trade at the Electrician's expense.

11.3.4 Wiring

Joints within cable runs will not normally be accepted. TPS cable shall be adequately supported, and clipped at regular intervals. At terminations all strands of conductors shall be fully secured in a terminal block or clamped under a screw head washer; do not cut away any strands. Wiring which terminates in enclosed fittings and/or where subject to heat liable to cause deterioration, shall be high temperature type, with the tails made off with heat resisting sleeves, to protect the permanent
Wiring. Wire lights in 1.5mm 3 core - 7.5 amps loading max per circuit (allow for 100w to all light fittings unless identified otherwise).Wire power outlets in 2.5mm 3 core - 7 maximum GPO singles or doubles per circuit. Assess power outlets for specific equipment and allow accordingly. Conceal all wiring except as noted on drawings or below. All wiring cast into concrete shall be run in conduit pipes. All cables shall be stranded (single core is unacceptable).Wire more or less parallel to and at right angles to the structural elements - avoid any diagonal wiring. Layout of the principal distribution wiring shall be to approval. Position all wires to minimise the risk of damage from subsequent nailing of linings etc. Generally, do not run TPS horizontally within timber walls except in the area up to 300mm above floor. Wire in the ceiling framing and drop vertically to outlets and switches. Do not run TPS horizontally within partitions except in the area up to 300mm above floor. Wire in the ceiling void and drop vertically to outlets and switches. Principal wiring in the ceiling void shall be supported on adequate catenaries. Wire exterior lighting in screened cable.

11.4 Systems

11.4.1 Earth

Provide a driven main earth suitable for the full installation, close to the meterboard, complying fully with all appropriate regulations and to the complete approval of a certified inspector. Bond all exposed metals, including light fittings and piped services and provide earth conductors for the entire system. Sheathing to any neutral screened cables may be used for earthing.

11.4.2 Mains

Install a neutral screened 16mm main cable underground (depth, cover/protection, backfilling, signal strip etc. to comply with all relevant regulations) from the grid connection position noted on the Site Plan along the route indicated to the meterboard, positioned where shown on the Floor Plan, and make appropriate arrangements for the grid connection. Install pilot as required. The meter board shall be metal clad with a meter reading window, recessed maximum depth into the wall and at 2m to the top of the board, with the meters and water heater controllers by the supply company nominated by the Principal. Install all switches and fuses that are necessary. From the meterboard run (route to approval) a neutral screened 16mm main plus controllers etc. to the switchboard.

11.5 Materials & Control

11.5.1 Materials

All materials delivered with packaging and labelling intact. All required incidentals (insulating tape, seals, fixings, etc.) shall be completely appropriate for the application involved. The use of items damaged in any way is subject to approval in each instance.

11.5.2 Switchboard

The main switchboard and the subboard(s) shall be appropriate sized standard PDL DBF series boards installed fully recessed where shown and at 2m to the top of the boards. Install appropriate sized MCB's for all circuits, including a minimum of two power and one lighting RCDs as required to coverall outlets to each board. Submain(s) from the main switchboard to the subboard(s) shall be neutral screened 16mm or 2 x 16mm as appropriate, run along the routes indicated / as approved. Pay particular attention to spreading the distribution of the various probable loadings evenly across the phases.

BRICKWORK

1 Preliminary

Refer to General Conditions of Contract and the Special Conditions in this Specification as appropriate. Read this section in conjunction with all other trade sections.

2 Compliance

Comply with the New Zealand Building Code 1992 including all revisions and amendments, Verification Methods where appropriate, and construction principles that are embodied in the Acceptable Solutions.
Comply with all relevant provisions and recommendations of:
2699.1:2000(AS/NZS) Built-in components for masonry construction - Wall ties
3103:1991(NZS) Specification for sands for mortars and plasters
3604:2011(NZS) Timber-framed buildings
4210:2001(NZS) Masonry construction: Materials and workmanship
4236:2002(SNZHB) Masonry veneer wall cladding
NZBC B2 Durability
NZBC E2/AS1 External Moisture

3 Brickwork

3.1 Scope

Supply and lay the selected bricks to form the brick elements as shown on the drawings. All aspects of this work shall be in accordance with the related compliance documents and as shown on the drawings.

3.2 Workmanship

Where required by the NZ Building Amendment Act 2012 it is the building contractor's responsibility to ensure that all restricted building work is carried out by a Licensed Building Practitioner.
All work shall be by or under the direct supervision of a Registered Mason certified by NZ Masonry Trades Registration Board, and conform to the requirements of NZS 4210.
Co-operate with the concreter and carpenter in the setting out of the works.
Co-operate with other trades to ensure that all preliminary and preparatory works, including all framing, membranes, wraps, rigid air barriers, and flashings, all relevant clearances, and any other related works, are completed to specification and as shown on the drawings.
Co-ordinate with trades the locations of pipes, outlets, cables, meter boards and other fittings installed by others.
All brick veneer walls shall be true to line, level and plumb, and within the tolerances tabled in NZS 4210 and SNZ HB4236. All brickwork laid to stretcher bond pattern, with joints width 10mm +/- 3mm.

3.3 Installation

Install all brickwork related damp proof courses in accordance with the requirements of NZBC E2/AS1 and to the details shown on the drawings.
Mortar shall have a minimum compressive strength of 12.5 MPa, and be manufactured from cement, sand, lime, and admixtures, and be accurately measured and mixed in accordance with NZS 4210.
Mineral oxide pigment dosages shall be to NZS 4210.
Form all necessary openings, reveals, sills, weepholes, separation and control joints, and cavities to the locations and details shown on the drawings, and in accordance with the requirements of NZBC E2/AS1 and NZS 4210. Install necessary vermin stops. Weatherproof all separation joints to the details shown on the drawings.
Wall tie type, durability, spacing, fixing and installation shall be as defined in NZBC E2/AS1 Tables 18A,

18B, 18C, and NZS 4210.
Install all necessary flashings to openings, and other locations as required, to the details shown on the drawings and in accordance with NZBC E2/AS1 requirements.
During the progress of work every care must be taken to prevent moisture penetration of the bricks. No bricklaying shall proceed during wet weather. Upon completion of each days work, exposed tops of brick veneers shall be protected from inclement weather.
Comply with NZS 4210 Cold Weather Construction and Hot Weather Construction requirements.
On completion or the works leave brickwork clean and free of marks and staining. All brickwork cleaning shall be done to the brick manufacturer's recommendations.
Thoroughly clean all other surfaces affected by the brickworks.

3.4 Mortar Pointing

Mortar joints shall be concave, tooled to a depth not exceeding 6mm and burnished after the initial stiffening has occurred.

CLADDING

4231HL JAMES HARDIE LINEA® CLADDING

1. GENERAL

This section relates to the supply and fixing of the following fibre cement products:
- James Hardie Linea® Weatherboard cladding
- James Hardie Linea® Oblique Weatherboard cladding

1.1 RELATED WORK
Refer to ~ for ~.
Refer to painting section/s for the protective coating required to meet the NZBC durability requirements.

Documents

1.2 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC E2/AS1	External moisture
NZBC E2/VM1	Weathertightness
AS/NZS 1170.2	Structural design actions - Wind actions
AS/NZS 2908.2	Cellulose-cement products - Flat sheet
NZS 3602	Timber and wood-based products for use in building
NZS 3604	Timber-framed buildings

1.3 MANUFACTURER/SUPPLIER DOCUMENTS
James Hardie documents relating to this part of the work:
Linea® Weatherboard Technical Specification
Linea® Oblique Weatherboard Horizontal Installation Technical Specification
Linea® Oblique Weatherboard Vertical Installation Technical Specification
James Hardie Technical Supplement - James Hardie Claddings Installation to Steel Framing
James Hardie Fire and Acoustic Design Manual
James Hardie Bracing Design Manual
BRANZ Appraisal 446 - Linea® Weatherboard Direct Fixed Cladding
BRANZ Appraisal 447 - Linea® Weatherboard Cavity Cladding
BRANZ Appraisal 896 - Linea® Oblique Weatherboard (Horizontal) Cavity Cladding
BRANZ Appraisal 897 - Linea® Oblique Weatherboard (Vertical) Cavity Cladding
CodeMark™ Certificate Number GM-CM30018 James Hardie Linea® Weatherboard Direct fixed and Cavity Cladding

Manufacturer/supplier contact details

Company:	James Hardie New Zealand
Web:	www.jameshardie.co.nz
Email:	info@jameshardie.co.nz
Telephone:	Contact James Hardie™ on 0800 808 868

BRANZ appraisal is available at www.branz.co.nz.
CodeMark™ Certificate is available at www.building.govt.nz

Warranties

1.4 WARRANTY - MANUFACTURER/SUPPLIER - LINEA® WEATHERBOARD
Provide a material manufacturer/supplier warranty:

25 years:	For Linea® Weatherboard product (refer to James Hardie™ product warranty)
15 year:	For accessories supplied by James Hardie (refer to James Hardie™ product warranty)
From:	Date of purchase

- Provide this warranty on the manufacturer's standard form.

Refer to the general section 1237 WARRANTIES for additional requirements.

1.5 WARRANTY - MANUFACTURER/SUPPLIER - LINEA® OBLIQUE WEATHERBOARD
Provide a material manufacturer/supplier warranty:

25 years:	Linea® Oblique Weatherboard product (refer to James Hardie™ product warranty)
15 year:	For accessories supplied by James Hardie (refer to James Hardie™ product warranty)
From:	Date of purchase

- Provide this warranty on the manufacturer's standard form.

Refer to the general section 1237 WARRANTIES for additional requirements.

Requirements

1.6 QUALIFICATIONS - NON-CODEMARK INSTALLATION
Workers / Installers / applicators to be experienced, competent trades people familiar with the materials and techniques specified.

1.7 NO SUBSTITUTIONS
Substitutions are not permitted to any specified system, or associated components and products.

1.8 INFORMATION FOR OPERATION AND MAINTENANCE
Provide relevant James Hardie maintenance requirements at completion of the work. Refer to the general section 1239 OPERATION & MAINTENANCE for provision of the information.

Requirements - Linea® Weatherboard with CodeMark™ Certificate

1.9 QUALIFICATIONS - LINEA® INSTALLER
Installer to be experienced in the application and;
- A Licenced Building Practitioner; or,
- A person with a trade certificate being a current member of a Building Trade Association.

If requested provide evidence of qualification prior to commencing work.

1.10 LINEA® WEATHERBOARD INSTALLATION CHECKLIST
Installer to complete, sign and provide a James Hardie Installation Checklist incorporating the Certificate of Installation requirements of Global-Mark CodeMark Certification program. Contact James Hardie for a copy of the Installation Checklist.

Requirements - Linea® Weatherboard

1.11 LINEA® WEATHERBOARD INSTALLATION INFORMATION
Installer to comply with all the relevant information in;
- Linea® Weatherboard Technical Specification; and,
- BRANZ Appraisal 446 or BRANZ Appraisal 447

Requirements - Linea® Oblique weatherboard

1.12 LINEA® OBLIQUE HORIZONTAL WEATHERBOARD INSTALLATION INFORMATION
Installer to comply with all the relevant information in;
- Linea® Oblique Weatherboard Horizontal Installation Technical Specification
- BRANZ Appraisal 896

1.13 LINEA® OBLIQUE VERTICAL WEATHERBOARD INSTALLATION INFORMATION
Installer to comply with all the relevant information in;
- Linea® Oblique Weatherboard Vertical Installation Technical Specification

- BRANZ Appraisal 897

1.14 LINEA® OBLIQUE WEATHERBOARD INSTALLATION CHECKLIST
Installer to complete, sign and provide a James Hardie Installation Checklist. Contact James Hardie for a copy of the Installation Checklist.

Performance

1.15 PERFORMANCE, WIND
The design wind zones are to NZS 3604, up to and including Extra High Wind Zone. James Hardie Technical Specifications are suitable for these conditions.

1.16 SPECIFIC DESIGN, WIND
The design wind pressures are to AS/NZS 1170.2, for specific design wind pressures up to 2.5kPa, as per James Hardie design details included in the Technical Specification.

2. PRODUCTS

Materials

2.1 LINEA® WEATHERBOARDS
James Hardie Linea® Weatherboards, bevel back, 16mm thick, pre-primed, manufactured from a reduced density cellulose fibre cement formulation and cured by high pressure autoclaving, manufactured to AS/NZS 2908.2, tested to NZBC E2/VM1 for weathertightness and complying with the NZBC.

2.2 LINEA® OBLIQUE WEATHERBOARDS
James Hardie Linea® Oblique Weatherboards, rusticated profile, 16mm thick, pre-primed, manufactured from a reduced density cellulose fibre cement formulation and cured by high pressure autoclaving, manufactured to AS/NZS 2908.2, tested to NZBC E2/VM1 for weathertightness and complying with the NZBC.

2.3 RIGID AIR BARRIERS
Refer to section 4171HR JAMES HARDIE RIGID AIR BARRIERS.

2.4 WALL UNDERLAY
For flexible wall underlays and rigid wall underlays, refer to the appropriate separate section(s).

2.5 THERMAL BREAK BATTEN
For thermal break battens, refer to the appropriate separate steel framing sections(s).

2.6 EXTERIOR CAVITY BATTENS
Radiata pine battens, minimum 45mm wide x 18mm thick, H3.1 treated, height to match timber framing studs. To NZS 3602, Table 1, reference 1D.10, Requirements for wood-based building components to achieve a 50-year durability performance.

Components - Linea® Weatherboards

2.7 SOAKERS
External metal corner soaker. Refer to SELECTIONS.

2.8 EXTERNAL SLIMLINE BOX CORNER MOULD
Etched primed aluminium extrusion with box section.

2.9 BOX CORNER "Z" FLASHING
uPVC profiled 'Z' flashing.

2.10 INTERNAL "W" MOULD 90
Etched primed aluminium extrusion.

2.11 INTERNAL "W" MOULD 135
Etched primed aluminium extrusion.

2.12 EXTERIOR CAVITY CLOSER/VERMIN-PROOFING
Perforated PVC, with upstands.

2.13 JH CORNER UNDER FLASHING
50 x 50mm PVC moulding.

2.14 AXENT™ TRIM
16mm thick pre-primed fibre cement trim.

2.15 CANT STRIP
Cant strip, uPVC profiled strip.

2.16 FILL
CRC Builders fill, two part exterior grade fill to finish over jolt head nails.

2.17 ADHESIVE SEALANT
Sikaflex 11FC for jointing weatherboards at external mitred corners only.

2.18 FASTENER TYPE
Fasteners to minimum durability requirements of the NZBC. Refer to NZS 3604, section 4, **Durability**, for requirements for fixing's material to be used in relation to the exposure conditions.

Refer to NZBC E2/AS1, Table 20, Material selection, and NZBC E2/AS1, Table 21, Compatibility of materials in contact, for selection of suitable fixing materials and their compatibility with other materials.

Zone	**Fixings Material**
Zone D, Zone E / Microclimates (incl. Geothermal)	Grade 316 Stainless
Zone B, Zone C	Hot-dipped galvanized
Bracing - All zones	Grade 316 Stainless

Check against SED (specific engineering design) requirements for microclimate conditions. For fastener type refer to following clause(s).

2.19 STAINLESS STEEL CONCEALED NAILING OVER FLEXIBLE UNDERLAY
Grade 316 stainless, 40 x 2.8mm HardieFlex™ nails for Linea® Weatherboard concealed nailing over flexible underlay into timber stud.

2.20 GALVANIZED STEEL CONCEALED NAILING OVER FLEXIBLE UNDERLAY
Hot-dipped galvanized, 40 x 2.8mm HardieFlex™ nails for Linea® Weatherboard concealed nailing over flexible underlay into timber stud.

2.21 STAINLESS STEEL FACE NAILING OVER FLEXIBLE UNDERLAY
Grade 316 stainless, 60 x 3.15mm jolt head nails for Linea® Weatherboard face nailing (with pre-drilling) over flexible underlay into timber stud.

2.22 GALVANIZED STEEL FACE NAILING OVER FLEXIBLE UNDERLAY
Hot-dipped galvanized, 60 x 3.15mm jolt head nails for Linea® Weatherboard face nailing (with pre-drilling) over flexible underlay into timber stud.

2.23 STAINLESS STEEL CONCEALED NAILING OVER RIGID AIR BARRIER
Grade 316 stainless, 50 x 2.8mm HardieFlex™ nails for Linea® Weatherboard concealed nailing over rigid air barrier into timber stud.

2.24 GALVANIZED STEEL CONCEALED NAILING OVER RIGID AIR BARRIER
Hot-dipped galvanized, 50 x 2.8mm HardieFlex™ nails for Linea® Weatherboard concealed nailing over rigid air barrier into timber stud.

2.25 STAINLESS STEEL FACE NAILING OVER RIGID AIR BARRIER
Grade 316 stainless, 75 x 3.15mm jolt head nails for Linea® Weatherboard face nailing (with pre-drilling) over rigid air barrier into timber stud.

2.26 GALVANIZED STEEL FACE NAILING OVER RIGID AIR BARRIER
Hot-dipped galvanized, 75 x 3.15mm jolt head nails for Linea® Weatherboard face nailing (with pre-drilling) over rigid air barrier into timber stud.

2.27 STAINLESS STEEL CONCEALED NAILING OVER BATTENS & FLEXIBLE UNDERLAY
Grade 316 stainless, 60 x 3.15mm HardieFlex™ nails for Linea® Weatherboard concealed nailing over cavity battens over flexible underlay into timber stud.

2.28 GALV STEEL CONCEALED NAILING OVER BATTENS & FLEXIBLE UNDERLAY
Hot-dipped galvanized, 60 x 3.15mm HardieFlex™ nails for Linea® Weatherboard concealed nailing over cavity battens over flexible underlay into timber stud.

2.29 STAINLESS STEEL FACE NAILING OVER BATTENS & FLEXIBLE UNDERLAY
Grade 316 stainless, 75 x 3.15mm jolt head nails for Linea® Weatherboard face nailing (with pre-drilling) over cavity battens over flexible underlay into timber stud.

2.30 GALV STEEL FACE NAILING OVER BATTENS & FLEXIBLE UNDERLAY
Hot-dipped galvanized, 75 x 3.15mm jolt head nails for Linea® Weatherboard face nailing (with pre-drilling) over cavity battens over flexible underlay into timber stud.

2.31 STAINLESS STEEL CONCEALED NAILING OVER BATTENS & RIGID AIR BARRIER
Grade 316 stainless, 75 x 3.15mm HardieFlex™ nails for Linea® Weatherboard concealed nailing over cavity battens over rigid air barrier into timber stud.

2.32 GALVANIZED STEEL CONCEALED NAILING OVER BATTENS & RIGID AIR BARRIER
Hot-dipped galvanized, 75 x 3.15mm HardieFlex™ nails for Linea® Weatherboard concealed nailing over cavity battens over rigid air barrier into timber stud.

2.33 STAINLESS STEEL FACE NAILING OVER BATTENS & RIGID AIR BARRIER
Grade 316 stainless, 90 x 4.00mm jolt head nails for Linea® Weatherboard face nailing (with pre-drilling) over cavity battens over rigid air barrier into timber stud.

2.34 GALVANIZED STEEL FACE NAILING OVER BATTENS & RIGID AIR BARRIER
Hot-dipped galvanized, 90 x 4.00mm jolt head nails for Linea® Weatherboard face nailing (with pre-drilling) over cavity battens over rigid air barrier into timber stud.

2.35 STAINLESS STEEL FACE NAILING - EH WIND ZONE
Grade 316 stainless, 90 x 4.00mm jolt head nails for Linea® Weatherboard face nailing (with pre-drilling) over cavity battens over rigid air barrier into timber stud.

2.36 GALVANIZED STEEL FACE NAILING - EH WIND ZONE
Hot-dipped galvanized, 90 x 4.00mm jolt head nails for Linea® Weatherboard face nailing (with pre-drilling) over cavity battens over rigid air barrier into timber stud.

2.37 STAINLESS STEEL FACE NAILING - SED PROJECTS
Grade 316 stainless, 90 x 4.00mm jolt head nails for Linea® Weatherboard face nailing (with pre-drilling) over cavity battens over rigid air barrier into timber stud.

2.38 GALVANIZED STEEL FACE NAILING - SED PROJECTS
Hot-dipped galvanized, 90 x 4.00mm jolt head nails for Linea® Weatherboard face nailing (with pre-drilling) over cavity battens over rigid air barrier into timber stud.

2.39 NAILING FOR AXENT™ TRIM OVER DIRECT FIX LINEA WEATHERBOARD
75 x 3.15mm jolt head nails at 400mm centres staggered nailing (with pre-drilling).

2.40 NAILING FOR AXENT™ TRIM OVER CAVITY FIX LINEA WEATHERBOARD
90 x 4.00mm jolt head nails at 400mm centres staggered nailing (with pre-drilling).

2.41 FASTENER TYPE TO STEEL FRAME
Fasteners to minimum durability requirements of the NZBC.

Refer to NZBC E2/AS1, Table 20, Material selection, and NZBC E2/AS1, Table 21, Compatibility of materials in contact, for selection of suitable fixing materials and their compatibility with other materials.

Zone	Coating Required
Zone D and Sea Spray Zone or Geothermal Areas	Class-4
Zone B, Zone C	Class-3

Check against SED (specific engineering design) requirements for microclimate conditions. For fastener type refer to following clause(s).

2.42 CLASS-4 CONCEALED SCREW FIXING - DIRECT FIX
8-10g x 40mm self embedding steel wingtek screw (class-4) for concealed fixing of Linea® Weatherboard over flexible underlay and 10mm thick thermal break battens into steel framing.

2.43 CLASS-3 CONCEALED SCREW FIXING - DIRECT FIX
8-10g x 40mm self embedding steel wingtek screw (class-3) for concealed fixing of Linea® Weatherboard over flexible underlay and 10mm thick thermal break battens into steel framing.

2.44 CLASS-4 FACE SCREW FIXING - DIRECT FIX
8-10g x 60mm self embedding steel wingtek screw (class-4) for face fixing Linea® Weatherboard over flexible underlay and 10mm thick thermal break battens into steel framing.

2.45 CLASS-3 FACE SCREW FIXING - DIRECT FIX
8-10g x 60mm self embedding steel wingtek screw (class-3) for fixing Linea® Weatherboard over flexible underlay and 10mm thick thermal break battens into steel framing.

2.46 CLASS-3 CAVITY BATTEN SCREW FIXING TO STEEL STUD
45 - 50mm x 8 - 10g wingtek screw (class-3) for 19mm thick timber cavity batten fixing over flexible underlay and 10mm thick thermal break battens into steel framing.

2.47 CLASS-4 CONCEALED SCREW FIXING - CAVITY FIX
8-10g x 60mm self embedding steel wingtek screw (class-4) for concealed fixing of Linea® Weatherboard over 19mm thick timber cavity battens, flexible underlay and 10mm thick thermal break battens into steel framing.

2.48 CLASS-3 CONCEALED SCREW FIXING - CAVITY FIX
8-10g x 60mm self embedding steel wingtek screw (class-3) for concealed fixing of Linea® Weatherboard over 19mm thick timber cavity battens, flexible underlay and 10mm thick thermal break battens into steel framing.

2.49 CLASS-4 FACE SCREW FIXING - CAVITY FIX
8-10g x 75mm self embedding steel wingtek screw (class-4) for face fixing Linea® Weatherboard over 19mm thick timber cavity battens, flexible underlay and 10mm thick thermal break battens into steel framing.

2.50 CLASS-3 FACE SCREW FIXING - CAVITY FIX
8-10g x 75mm self embedding steel wingtek screw (class-3) for face fixing Linea® Weatherboard over 19mm thick timber cavity battens, flexible underlay and 10mm thick thermal break battens into steel framing.

Components - Linea® Oblique Weatherboards horizontally fixed

2.51 EXTERIOR CAVITY CLOSER/VERMIN-PROOFING
Perforated uPVC with upstands.

2.52 STRIA ALUMINIUM CAVITY CLOSURE
Perforated aluminium moulding, with upstands.

2.53 OBLIQUE TRIMLINE JOINT FLASHING
Aluminium flashing extrusion with fin used behind cladding at vertical joints.

2.54 VERTICAL JOINT FLASHING
James Hardie aluminium flashing extrusion with channel used behind cladding at vertical joints to provide a negative detail.

2.55 JH WEATHERBOARD INTERNAL "W" CORNER
Anodised aluminium extrusion to flash behind cladding at internal corners.

2.56 LINEA® OBLIQUE WEATHERBOARD EXTERNAL BOX CORNER
Anodised aluminium extrusion at external corners.

2.57 AXENT™ TRIM
16mm thick pre-primed fibre cement trim.

2.58 ALUMINIUM WINDOW JAMB FLASHING
Aluminium moulding to flash behind cladding at external corners.

2.59 FLEXIBLE SEALANT
Bostik Seal N Flex-1 or Sikaflex AT Facade or Sikaflex MS sealants.

2.60 FASTENER TYPE
Fasteners to minimum durability requirements of the NZBC. Refer to NZS 3604, section 4, **Durability**, for requirements for fixing's material to be used in relation to the exposure conditions.

Refer to NZBC E2/AS1, Table 20, Material selection, and NZBC E2/AS1, Table 21, Compatibility of materials in contact, for selection of suitable fixing materials and their compatibility with other materials.

Zone	**Fixings Material**
Zone D, Zone E / Microclimates (incl. Geothermal)	Grade 316 Stainless
Zone B, Zone C	Hot-dipped galvanized

Check against SED (specific engineering design) requirements for microclimate conditions. For fastener type refer to following clause(s).

2.61 CAVITY BATTEN NAILS
40 x 2.8mm HardieFlex™ nail for fixing timber cavity battens and aluminium flashings.

2.62 HOT DIPPED GALVANIZED NAILS
Hot-dipped galvanized, 65 x 2.87mm D head or 65 x 2.87mm RounDrive ring shank nails for fixing Linea® Oblique Weatherboards over cavity batten over flexible underlay.

2.63 GRADE 316 STAINLESS STEEL NAILS
Grade 316 stainless, 65 x 2.87mm D head or 65 x 2.87mm RounDrive ring shank nails for fixing Linea® Oblique Weatherboards over cavity battens over flexible underlay.

2.64 HOT DIPPED GALVANIZED NAILS
Hot-dipped galvanized, 75 x 3.06mm D head or 75 x 3.06mm RounDrive ring shank nails for fixing Linea® Oblique Weatherboards over cavity battens over rigid air barrier.

2.65 GRADE 316 STAINLESS STEEL NAILS
Grade 316 stainless, 75 x 3.06mm D head or 75 x 3.15mm RounDrive ring shank nails for fixing Linea® Oblique Weatherboards over cavity battens over rigid air barrier.

2.66 FIXINGS TO STEEL FRAME
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Components - Linea® Oblique Weatherboards vertically fixed

2.67 JAMES HARDIE HORIZONTAL CAVITY BATTEN
Proprietary profiled radiata pine battens, minimum 45mm wide x 20mm thick, H3.1 treated to NZS 3602, Table 1, reference 1D.10, Requirements for wood-based building components to achieve a 50-year durability performance.

2.68 EXTERIOR CAVITY CLOSER/VERMIN-PROOFING
Perforated uPVC, with upstands.

2.69 OBLIQUE TRIMLINE JOINT FLASHING
Aluminium flashing extrusion used behind cladding at horizontal joints.

2.70 TRIMLINE JOINTERS
Aluminium jointers to joint Oblique Trimline Joint Flashings at flashing ends, external corners and internal corners.

2.71 FLEXIBLE SEALANT
Bostik Seal N Flex-1, Sikaflex AT Facade or Sikaflex MS sealants.

2.72 JH WEATHERBOARD INTERNAL "W" CORNER
Anodised aluminium extrusion to flash behind cladding at internal corners.

2.73 LINEA® OBLIQUE WEATHERBOARD EXTERNAL BOX CORNER
Anodised aluminium extrusion to flash behind cladding at external corners.

2.74 AXENT™ TRIM
16mm thick pre-primed fibre cement trim.

2.75 FASTENER TYPE
Fasteners to minimum durability requirements of the NZBC. Refer to NZS 3604, section 4, **Durability**, for requirements for fixing's material to be used in relation to the exposure conditions.

Refer to NZBC E2/AS1, Table 20, Material selection, and NZBC E2/AS1, Table 21, Compatibility of materials in contact, for selection of suitable fixing materials and their compatibility with other materials.

Zone	**Fixings Material**
Zone D, Zone E / Microclimates (incl. Geothermal)	Grade 316 Stainless
Zone B, Zone C	Hot-dipped galvanized

Check against SED (specific engineering design) requirements for microclimate conditions. For fastener type refer to following clause(s).

2.76 CAVITY BATTEN NAILS
40 x 2.8mm HardieFlex™ nails for fixing timber cavity battens and aluminium flashings.

2.77 HOT DIPPED GALVANIZED NAILS
Hot-dipped galvanized, 65 x 2.87mm D head or 65 x 2.87mm RounDrive ring shank nails for fixing Linea® Oblique Weatherboards over cavity battens over flexible underlay.

2.78 GRADE 316 STAINLESS STEEL NAILS
Grade 316 stainless, 65 x 2.87mm D head or 65 x 2.87mm RounDrive steel ring shank nails for fixing Linea® Oblique Weatherboards over cavity battens over flexible underlay.

2.79 HOT DIPPED GALVANIZED NAILS
Hot-dipped galvanized, 75 x 3.06mm D head or 75 x 3.06mm RounDrive ring shank nails for fixing Linea® Oblique Weatherboards over battens over rigid air barrier.

2.80 GRADE 316 STAINLESS STEEL NAILS
Grade 316 stainless, 75 x 3.06mm D head or 75 x 3.15mm RounDrive ring shank nails for fixing Linea® Oblique Weatherboards over battens over rigid air barrier.

2.81 FIXINGS TO STEEL FRAME
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Accessories

2.82 SEALANT
Silaflex AT-Facade sealant.

3. EXECUTION

Conditions

3.1 STORAGE
Take delivery of products dry and undamaged on pallets, and keep on pallet. Protect edges and corners from damage and cover to keep dry until fixed.

3.2 HANDLING
Avoid distortion and contact with potentially damaging surfaces. Carry weatherboards on edge. Do not drag weatherboards across each other, or across other materials. Protect edges, corners and surface finish from damage.

3.3 SUBSTRATE - TIMBER FRAMING
Do not commence work until the substrate is of the standard required by James Hardie for the specified finish; plumb, level and in true alignment. Moisture content of timber framing must not exceed the requirements specified by NZS 3602 to minimise shrinkage and movement after sheets are fixed.

3.4 SUBSTRATE - STEEL FRAMING
Do not commence work until the substrate is of the standard required by James Hardie for the specified finish; plumb, level and in true alignment. Steel framing to Nash Standard Residential and low-rise steel framing Part 1: Design Criteria.

Application - particular installations

3.5 FIRE RESISTANCE RATING
Refer to project drawings for FRR system construction details and James Hardie Fire and Acoustic Design Manual for further information.

3.6 BRACING SYSTEM
Fix Linea® Weatherboards to James Hardie Bracing Design Manual.

Application - generally

3.7 INSTALL CAVITY BATTENS
Install 18mm minimum thick cavity battens to NZBC E2/AS1: 9.0 **Wall claddings**, where required. Fix vertical cavity battens to wall framing studs. The battens are fixed by the cladding fixings which will penetrate the wall framing studs under the wall underlay. Seal the top of the cavity and install cavity closer/vermin-proofing at base of walls, open horizontal (or raking) junctions, over openings (windows, meters etc). Do not use horizontal cavity battens. Use cavity spacers where fixing is required between cavity battens.

3.8 INSTALL CAVITY BATTENS - LINEA® OBLIQUE VERTICAL WEATHERBOARDS
Install 20mm thick James Hardie Horizontal Cavity Battens. Fix horizontal cavity battens to wall framing nogs, fix vertically to studs at corners and openings. The battens are fixed by the cladding fixings which will penetrate the wall framing nogs and studs under the wall underlay. Seal the top of the cavity and install cavity closer/vermin-proofing at base of walls, open horizontal (or raking) junctions, over openings (windows, meters etc).

3.9 PENETRATIONS AND FLASHINGS
Confirm that exterior wall openings have been prepared ready for the installation of all window and door frames and other penetrations through the cladding. Required preparatory work includes the following:
- Wall underlay appropriately incorporated with penetration and junction flashings.
- Materials lapped in a way that water tracks down to the exterior face of the wall underlay.
- Wall underlay to openings finished and dressed off ready for the installation of window and door frames and other penetrations.
- Claddings neatly finished off to all sides of openings
- Installation of flashings (those required to be installed prior to installation of penetrating elements).

3.10 INSTALL LINEA® WEATHERBOARDS
Cut weatherboards to required lengths and fit joints off-stud using tongue and groove ends. Fit internal corners and fix weatherboards as per Linea® Weatherboard technical specifications. Fit and fix external corners and flexible sealant to tongue and groove joints as required.

3.11 INSTALL LINEA® OBLIQUE WEATHERBOARDS - HORIZONTAL INSTALLATION
Cut weatherboards to required lengths for vertical jointing. Fit vertical jointers, internal and external corners and fix weatherboards as per Linea® Oblique Weatherboard Horizontal technical specifications.

3.12 INSTALL LINEA® OBLIQUE WEATHERBOARDS - VERTICAL INSTALLATION
Cut weatherboards to required lengths. Fit joint flashing, internal corners and external corners and fix weatherboards as per Linea® Oblique Weatherboard Vertical technical specifications.

3.13 INSTALL FLASHINGS
Install flashings at all wall openings, penetrations, junctions, connections, window sills, heads and jambs to NZBC E2/AS1.

Completion

3.14 REPLACE
Replace all damaged or marked elements.

3.15 LEAVE
Leave work to the standard required for following procedures.

3.16 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS
For further details on selections go to www.jameshardie.co.nz.
Substitutions are not permitted to the following, unless stated otherwise.

4.1 CAVITY BATTENS
Timber species: Radiata pine
Treatment: H3.1

Linea® Weatherboards

4.2 JAMES HARDIE LINEA® WEATHERBOARDS
Location: ~
Brand/type: James Hardie Linea® Weatherboard
Thickness: 16mm
Width: ~mm
Nailing: Refer to items under 2.0 PRODUCTS

4.3 JAMES HARDIE LINEA® WEATHERBOARD SOAKERS
Size: ~
Material: ~

4.4 AXENT™ TRIM BOXED CORNER
Location: ~
Brand/type: Axent™ Trim
Thickness: 16mm
Width: 84mm and 100mm width to form boxed corner

4.5 AXENT™ TRIM
Location: ~
Brand/type: Axent™ Trim
Thickness: 16mm

Width: ~

4.6 PRIMER TO CUT ENDS
Type: ~

Linea® Oblique Weatherboards horizontally fixed

4.7 JAMES HARDIE LINEA® OBLIQUE WEATHERBOARDS HORIZONTALLY FIXED
Location: ~
Brand/type: James Hardie Linea® Oblique Weatherboards
Thickness: 16mm
Width: ~mm
Construction: Cavity fix
Fixing: Refer to items under 2.0 PRODUCTS

4.8 STRIA ALUMINIUM CAVITY CLOSURE
Location: ~
Brand/Type: Stria Aluminium Cavity Closure

4.9 JAMES HARDIE LINEA® OBLIQUE ALUMINIUM EXTERNAL BOX CORNER
Location: ~
Brand/Type: Oblique Aluminium External Box Corner
Finish: Etched primed aluminium extrusion

4.10 AXENT™ TRIM BOXED CORNER
Location: ~
Brand/type: Axent™ Trim
Thickness: 16mm
Width: 84mm and 100mm width to form boxed corner
Fixing: Refer to items under 2.0 PRODUCTS

4.11 AXENT™ TRIM
Location: ~
Brand/type: Axent™ Trim
Thickness: 16mm
Width: ~
Fixing: Refer to items under 2.0 PRODUCTS

4.12 OBLIQUE TRIMLINE JOINT FLASHING
Location: ~
Brand/type: Oblique Trimline Joint Flashing
Finish: Etched primed aluminium extrusion

4.13 JAMES HARDIE VERTICAL JOINT FLASHING
Location: ~
Brand/type: James Hardie Vertical Joint Flashing
Finish: Etched primed aluminium extrusion

4.14 PRIMER TO CUT ENDS
Type: ~

Linea® Oblique Weatherboards vertically fixed

4.15 JAMES HARDIE LINEA® OBLIQUE WEATHERBOARDS VERTICALLY FIXED
Location: ~
Brand/type: James Hardie Linea® Oblique Weatherboards
Thickness: 16mm
Width: ~mm
Construction: Cavity fix
Fixing: Refer to items under 2.0 PRODUCTS

4.16 JAMES HARDIE HORIZONTAL CAVITY BATTENS
Supplier: James Hardie

Timber species: Radiata pine
Treatment: H3.1

4.17 JAMES HARDIE LINEA® OBLIQUE ALUMINIUM EXTERNAL BOX CORNER
Location: ~
Brand/Type: Oblique Aluminium External Box Corner
Finish: Etched primed aluminium extrusion

4.18 AXENT™ TRIM BOXED CORNER
Location: ~
Brand/type: Axent™ Trim
Thickness: 16mm
Width: 84mm and 100mm width to form boxed corner
Fixing: Refer to items under 2.0 PRODUCTS

4.19 AXENT™ TRIM
Location: ~
Brand/type: Axent™ Trim
Thickness: 16mm
Width: ~
Fixing: Refer to items under 2.0 PRODUCTS

4.20 OBLIQUE TRIMLINE JOINT FLASHING
Location: ~
Brand/type: Oblique Trimline Joint Flashing
Finish: Etched primed aluminium extrusion

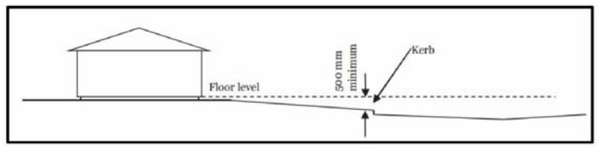
4.21 PRIMER TO CUT ENDS
Type: ~

Finishing

4.22 PAINTING
Refer to painting section(s) for details.

BEFORE CONSTRUCTION BEGINS, BUILDER MUST CHECK ALL DIMENSIONS ARE CORRECT AND ALL CONSTRUCTION WORK COMPLIES WITH THE NZS3604:2011 AND NEW ZEALAND BUILDING CODE, LOCAL BODY BYLAWS AND RELEVANT NEW ZEALAND STANDARDS.

Figure 4.4 – Minimum floor level based on kerb height



NOTE:

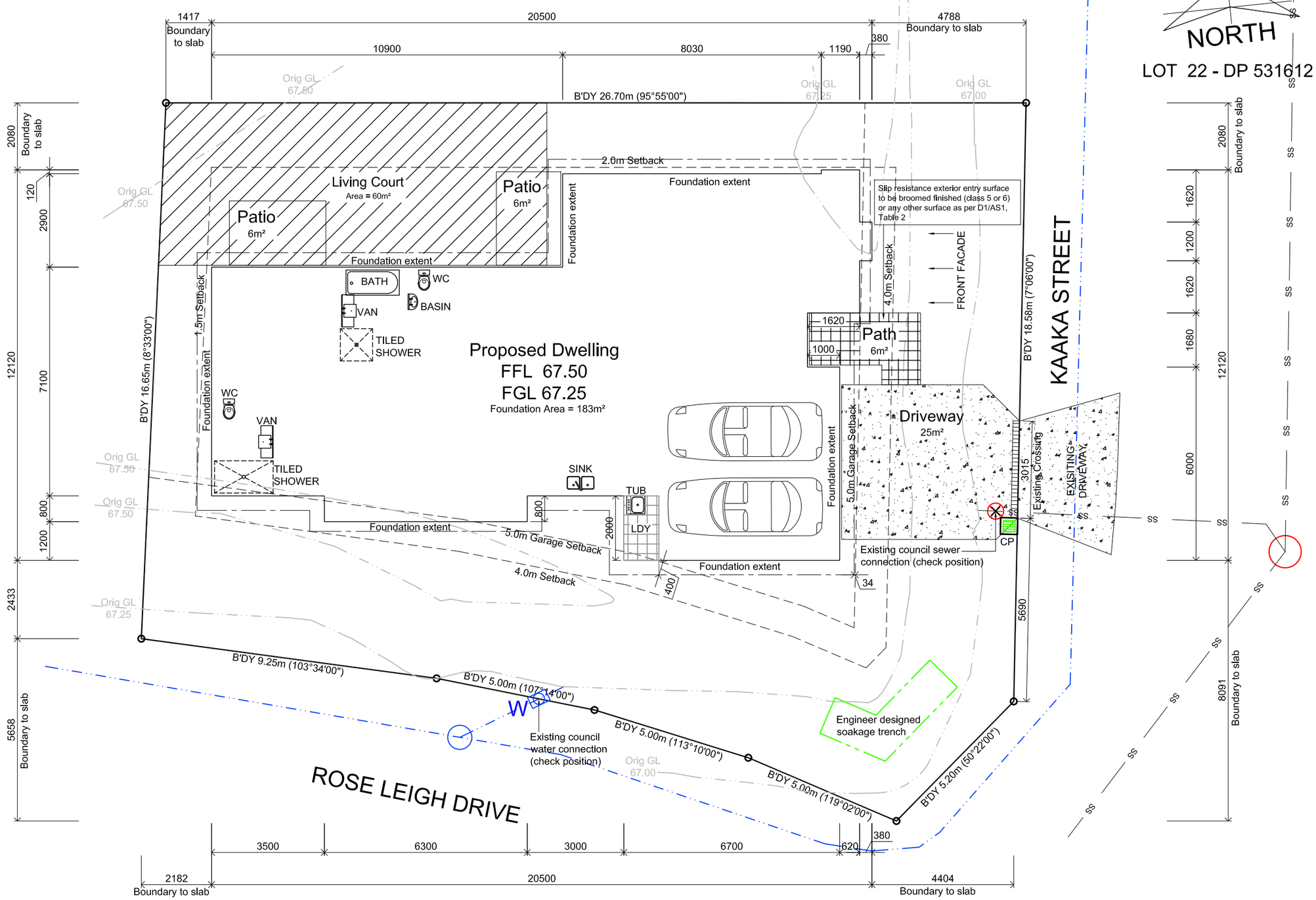
The minimum fllor level should be the greater of :

a) 500mm above the adjacent kerb height,

b) 150mm above the finished ground level at the edge of the proposed building foundation

LEGEND			
SS	DN100mm uPVC Council Waster Water pipe		Path: Brushed concrete finish
CP	Catch Pit / Bubble up		Driveway: Exposed aggregrate concrete
	Water Toby		
	Ø20mm MDPE Council Water pipe		

ENGINEERED STORMWATER DESIGN AS PER _____
ENGINEERS REPORT, DATED: --/--/2020 REF: -------



AREAS:

TOTAL SITE AREA	= 511m²
FLOOR AREA (OVER FRAMING)	= 183m²
TOTAL FLOOR AREA (OVER FOOTPRINT)	= 183m²
COVERED AREA	= 1m²
SITE COVERAGE	= 184m²
	= 36%

*EAVES NOT INCLUDED IN COVERED AREAS

ROOF AREA = 213m²

IMPERMEABLE AREA:

DRIVEWAY	= 25m²
PATH (outside coverage)	= 18m²
TOTAL	= 43m²

PERMEABLE AREA:

511m² - (184m²+43m²) =284m²
=55.6%

AREAS NOT IDENTIFIED ABOVE AS IMPERMEABLE, ARE PERMEABLE.

NOTES:

- THESE DRAWINGS HAVE BEEN PREPARED FOR AND IN ACCORDANCE WITH THE CLIENT/ OWNER'S INSTRUCTIONS AND ARE FOR BUILDING CONSENT PURPOSES ONLY. WORKING DRAWINGS AND SPECIFICATIONS CANNOT BE USED FOR ANY CONSTRUCTION WORK UNLESS THEY HAVE BEEN APPROVED AND STAMPED BY THE RELEVANT TERRITORIAL AUTHORITY.

- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH WRITTEN SPECIFICATIONS, DETAILS AND ALL OTHER CONSULTANTS' DRAWINGS, DETAILS, REPORTS AND DOCUMENTS.

-LOW WIND ZONE

- DURABILITY ZONE B - SHELTERED/ EXPOSED (SEE PAGE D12 FOR FIXING TYPE)

- ALL LEVELS TO BE CHECKED ON SITE PRIOR TO COMMENCING CONSTRUCTION.

- CHECK POSITION OF DWELLING WITH OWNER PRIOR TO COMMENCING CONSTRUCTION

- ALL SITE WORK TO COMPLY WITH NZBC CLAUSE F5 "CONSTRUCTION/ DEMOLITION HAZARDS". WHEN WORKERS ARE ABSENT FROM SITE, ENSURE ANY HAZARDS ARE COVERED UP OR AT LEAST FENCED OFF.

- WHERE FILL MATERIAL IS USED, IT SHALL BE CLEANFILL.

- ALL EARTHWORKS (OTHER THAN TRANSPORTATION OF MATERIAL OFF SITE) SHALL RETAIN SEDIMENT ON SITE THROUGH IMPLEMENTATION AND MAINTENANCE OF SEDIMENT CONTROLS.

- ALL EARTHWORKS ACTIVITIES SHALL BE MANAGED TO AVOID MATERIAL DEPOSITS ON PUBLIC ROADS FROM ANY VEHICLES OPERATING ON SITE.

InTop Homes
55 London Street, Hamilton Centre
E-mail - info@intophomes.co.nz
Ph: 07-8380829

Project: New Dwelling for Lot 22 - DP 531612, 1 Kaaka Street, Swayne Park, Cambridge

Drawing Name: SITE DEVELOPMENT PLAN

Amendments:

Scale: 1:125

Date: January 2020

Drawing NO: A-100

BEFORE CONSTRUCTION BEGINS, BUILDER MUST CHECK ALL DIMENSIONS ARE CORRECT. ALL CONSTRUCTION WORK COMPLIES WITH THE NZS3604:2011 AND NEW ZEALAND BUILDING CODE, LOCAL BODY BYLAWS AND RELEVANT NEW ZEALAND STANDARDS. DO NOT SCALE OFF PLANS

LEGEND			
SS	DN100mm uPVC Council Waster Water pipe		Water Toby
	DN100mm uPVC Waster Water pipe @ 1:60 fall		Ø20mm MDPE Council Water pipe
	DN40mm uPVC Waster Water pipe @ 1:40 fall		DN50mm Rodding Eye Inspection point
SW	DN100mm uPVC Council Storm Water pipe	IB	Inspection Bend
	Ø100mm Storm Water pipe @ 1:60 fall	IJ	Inspection Junction
TV	Terminal Vent	CP	Catch Pit

NORTH

B'DY 26.70m (95°55'00")

B'DY 16.65m (8°33'00")

B'DY 18.58m (7°06'00")

B'DY 9.25m (103°34'00")

B'DY 5.00m (107°14'00")

B'DY 5.00m (113°10'00")

B'DY 5.00m (119°02'00")

B'DY 5.20m (50°22'00")

1180 To roofing

1750 To roofing

4800 To roofing

1547 To roofing

4000 To roofing

5116 To roofing

4204 To roofing

5034 To roofing

dp 80Ø

fall

40Ø Trap

50Ø TV

IB

IJ

CP

ORG

100Ø SS (1:60 min)

100Ø stormwater (1:60-approx 138m² roof plane area)

100Ø stormwater (1:60-approx 62m² roof plane area + 26m² driveway area

Strip drain discharge to ctachpit

Existing council sewer connection (check position)

Catchpit/ bubble-up chamber

SS

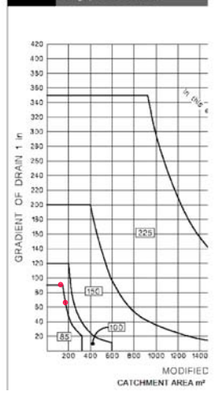
SW

SW overflow is to either be piped to council services or overflow to natural flow path to the Kerb. AS PER ENGINEERED SW DESIGN.

Engineer designed soakage trench

KAAKA STREET

ROSE LEIGH DRIVE



NOTES:

- CHECK POSITION OF WASTEWATER AND STORMWATER PRIOR TO COMMENCING CONSTRUCTION AND CHECK ALL PIPE DIAMETERS, GRADIENTS, ETC. ON SITE TO ENSURE ACCEPTABLE FALLS

- ALL PLUMBING AND DRAINAGE IS TO BE INSTALLED AND TESTED BY A REGISTERED TRADESPERSON

- ALL PLUMBING AND DRAINAGE TO COMPLY WITH G13/AS3 (AS/NZS 3500.2) AND E1/AS1 AND WITTH ALL RELEVANT CODES AND LOCAL BYLAWS

- WATER SUPPLY TO COMPLY WITH NZBC G12/AS1

- INTERNAL WATER RETICULATION PIPES (HOT AND COLD) ARE TO BE POLYBUTYLENE INSTALLED TO MANUFACTURER'S SPEC.

- WATER SUPPLY MIN NOMINAL PIPES DIA'S

• TEMPERING VALVE	20mm
• SHOWER COLD	20mm OR 10mm DEDICATED LINE
• SHOWER HOT	20mm OR 15mm DEDICATED LINE
• BATH, SINK, L'DY	15mm (20m MAX. LENGTH)
• BASIN	15mm (20m MAX. LENGTH)

- ALL SANITARY WASTE PLUMBING AND DRAINAGE PIPES ARE TO BE DWV GRADE uPVC AND COMPLIANT WITH AS/NZS 1260

- ORG IS TO BE 75mm ABOVE UNPAVED SURFACE OR AT A HEIGHT THAT PREVENTS PONDING OR THE INGRESS OF WATER WHERE LOCATED IN A PAVED SURFACE

- ALL HOSE TAPS TO BE FITTED WITH VACUUM BREAK NON-RETURN VALVES

MINIMUM FALL TO DRAINAGE RUNS:

DN 40	1:40 GRADIENT
DN 65	1:40 GRADIENT
DN 80/100	1:60 GRADIENT
DN 100 SW	1:120 GRADIENT

INSPECTION ACCESS POINTS

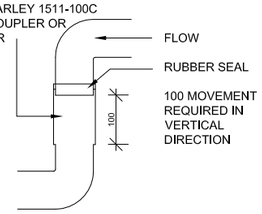
PROVIDE ACCESS POINTS TO ALL DRAINS AS REQUIRED BY AS/NZS 3500.2, 4.7 AND NZBC E1, 3.7
1. ON BRANCH DRAINS CARRYING SOIL WASTE CLOSE TO THE BUILDING BUT NO FURTHER AWAY THAN 2.5m
2. AT INTERVALS NOT MORE THAN 30m FOR SANITARY OR 50m FOR STORMWATER
3. ON THE DOWNSTREAM END OF DRAINS PASSING UNDER A BUILDING
4. AT THE JOIN WITH THE EXISTING DRAINAGE CONNECTION
5. AT CHANGES OF DIRECTION OR GRADIENT GREATER THAN 45°
6. AT A JUMP-UP
7. AT JUNCTIONS ON STORMWATER DRAINS EXCEPT WHERE THE BRANCH SERVES ONLY ONE DP AND IS LESS THAN 2m LONG

FINAL INSPECTION POINT POSITIONS ARE TO BE CONFIRMED BY THE DRAINLAYER ON DRAINAGE AS-BUILTS

WATER SUPPY:

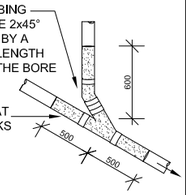
- FLEXIBLE DRAINAGE JOINTS ARE TO BE INSTALLED WHERE WW DRAINAGE LEAVES THE SLAB AND ENTERS THE GROUND

USE MARLEY 1511-100C SLIP COUPLER OR SIMILAR



THE BASE OF PLUMBING STACKS SHALL HAVE 2x45° BENDS SEPARATED BY A STRAIGHT PIPE OF LENGTH NOT LESS THAN 2x THE BORE

NO CONNECTIONS AT THE BASE OF STACKS WHERE SHOWN (HATCHED)



InTop Homes 55 London Street, Hamilton Centre E-mail - info@intophomes.co.nz Ph: 07-8380829	**Project:** New Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park Cambridge	**Drawing Name:** DRAINAGE PLAN	**Amendments:**	**Scale:** 1:100 **Date:** January 2020	**Drawing NO:** A-303

BEFORE CONSTRUCTION BEGINS, BUILDER MUST CHECK ALL DIMENSIONS ARE CORRECT AND ALL CONSTRUCTION WORK COMPLIES WITH THE NZS3604:2011 AND NEW ZEALAND BUILDING CODE, LOCAL BODY BYLAWS AND RELEVANT NEW ZEALAND STANDARDS.

Total facade area (dot-hatched) 30.12m²
All glazing as per areas provided: 5.136m²
= 17.05%, which complies with Rule 2.4.2.17.

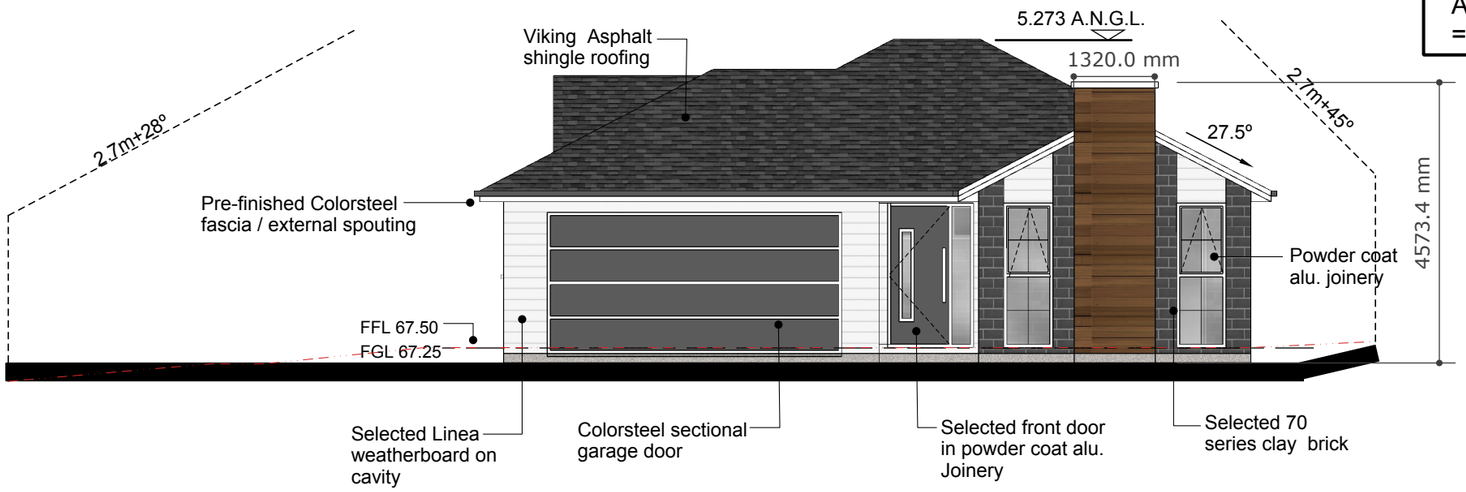
NOTES:

- ALL LEVELS TO BE CHECKED ON SITE PRIOR TO COMMENCING CONSTRUCTION.

- ALL SAFETY GLAZING REQUIRED AS PER NZS 4223.

- ALL GLASS TO BE DOUBLE GLAZING TO A MINIMUM OF R0.26, AS PER TABLE 1 IN CLAUSE H1 (EXCEPT THE GARAGE, PROVIDED THE INTERMEDIATE WALL BETWEEN GARAGE AND HOUSE IS INSULATED TO A MINIMUM R VALUE REQUIRED FOR WALLS).

- ALL WINDOWS SIZES ARE NOMINAL TO UNDESIDE OF SOFFIT



EAST ELEVATION:

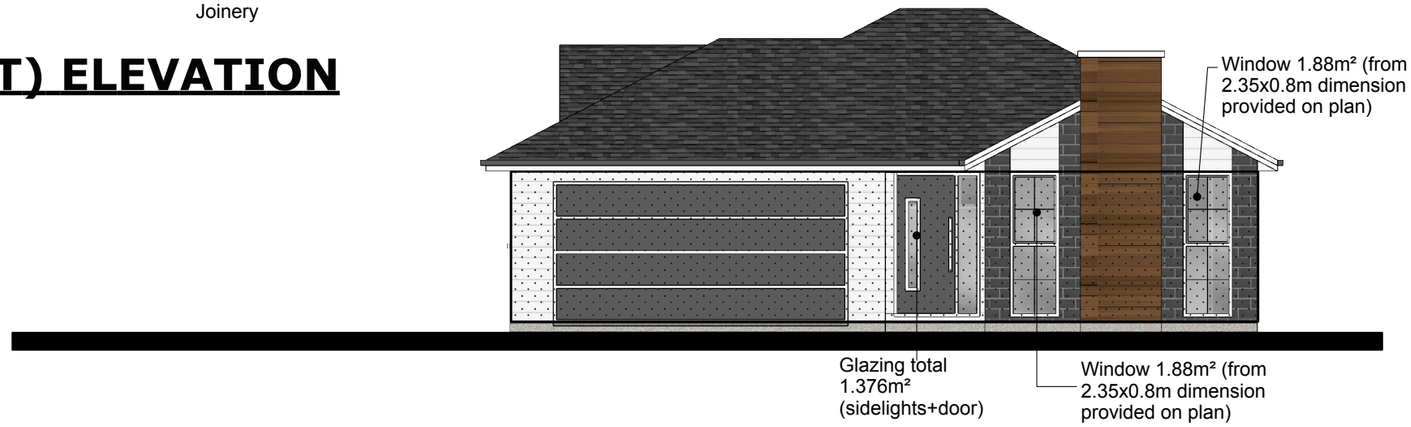
TOTAL FACADE AREA= 30.12m²

Entry wws = 1.376m²
Lounge wws = 3.76m²

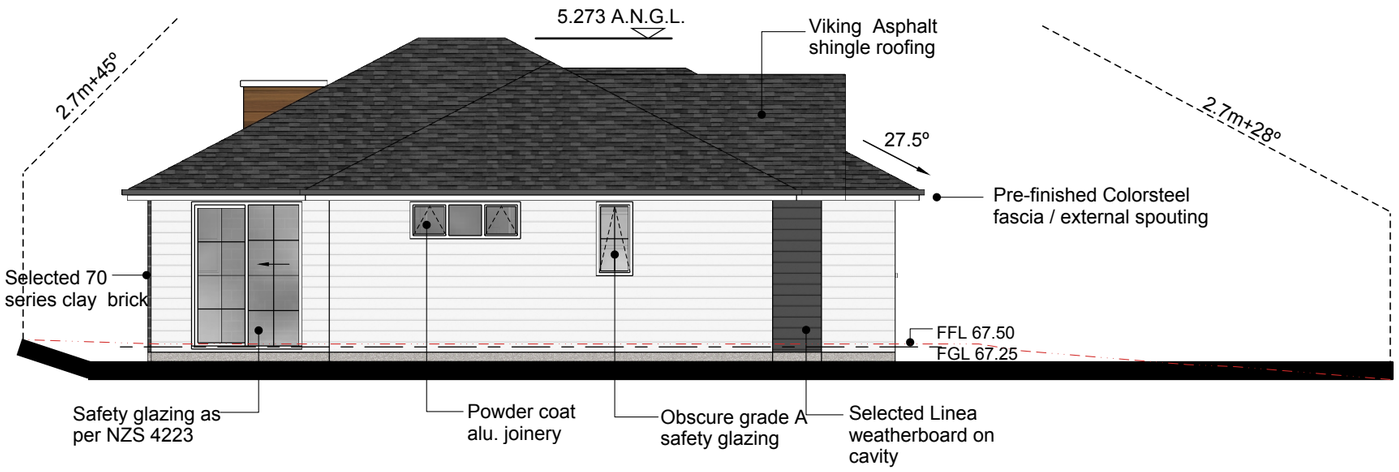
Total = 5.136m² = 17.05%

Glazing = 17.05.%

EAST (FRONT) ELEVATION



EAST ELEVATION GLAZING COMPLIANCE



WEST (REAR) ELEVATION

InTop Homes 55 London Street, Hamilton Centre E-mail: suyin331@gmail.com Ph: 07-8380829	Proposed: New Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park Cambridge	Drawing Name: ELEVATIONS	Amendments:	Date: January 2020 Scale: 1:100	No: A-103

BEFORE CONSTRUCTION BEGINS, BUILDER MUST CHECK ALL DIMENSIONS ARE CORRECT AND ALL CONSTRUCTION WORK COMPLIES WITH THE NZS3604:2011 AND NEW ZEALAND BUILDING CODE, LOCAL BODY BYLAWS AND RELEVANT NEW ZEALAND STANDARDS.

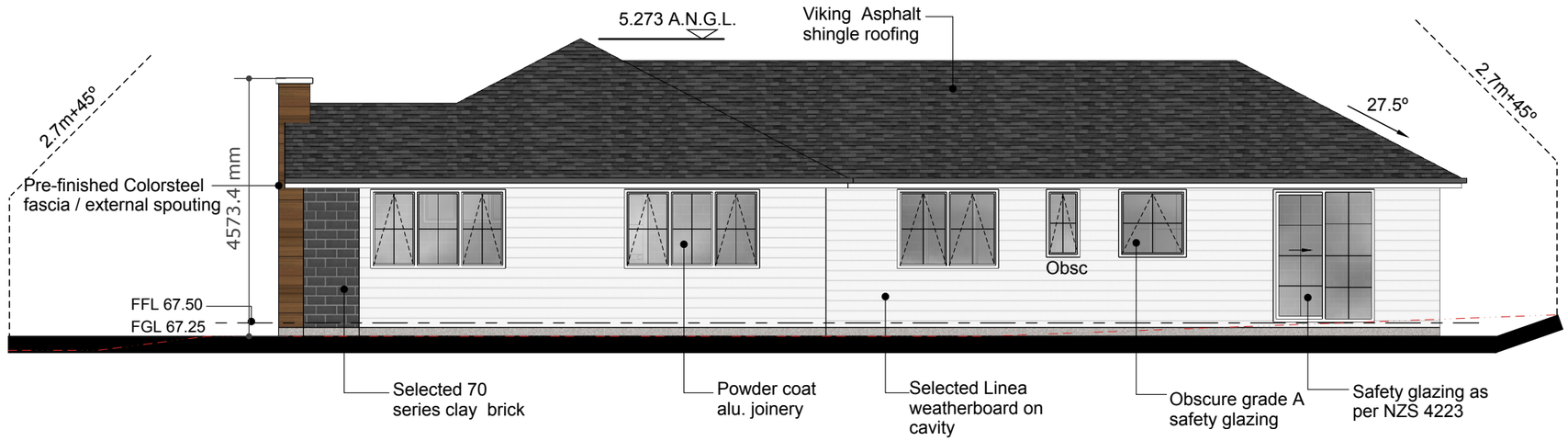
NOTES:

- ALL LEVELS TO BE CHECKED ON SITE PRIOR TO COMMENCING CONSTRUCTION.

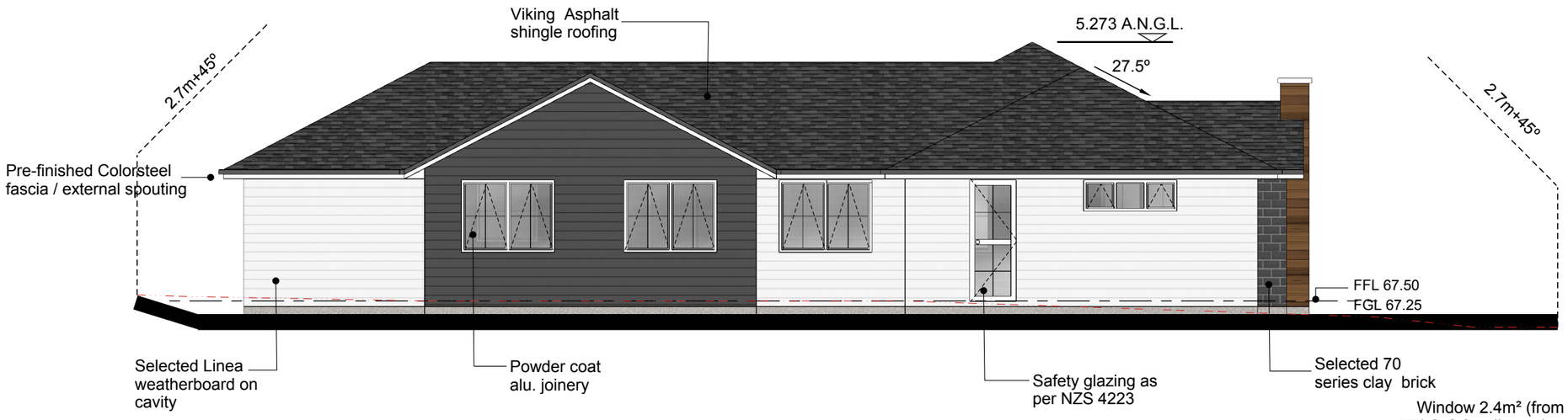
- ALL SAFETY GLAZING REQUIRED AS PER NZS 4223.

- ALL GLASS TO BE DOUBLE GLAZING TO A MINIMUM OF R0.26, AS PER TABLE 1 IN CLAUSE H1 (EXCEPT THE GARAGE, PROVIDED THE INTERMEDIATE WALL BETWEEN GARAGE AND HOUSE IS INSULATED TO A MINIMUM R VALUE REQUIRED FOR WALLS).

- ALL WINDOWS SIZES ARE NOMINAL TO UNDERSIDE OF SOFFIT



NORTH ELEVATION



SOUTH ELEVATION

Total facade area (dot-hatched) 48.90²
All glazing as per areas provided: 10.63m²
= 21.7%, which complies with Rule 2.4.2.17.

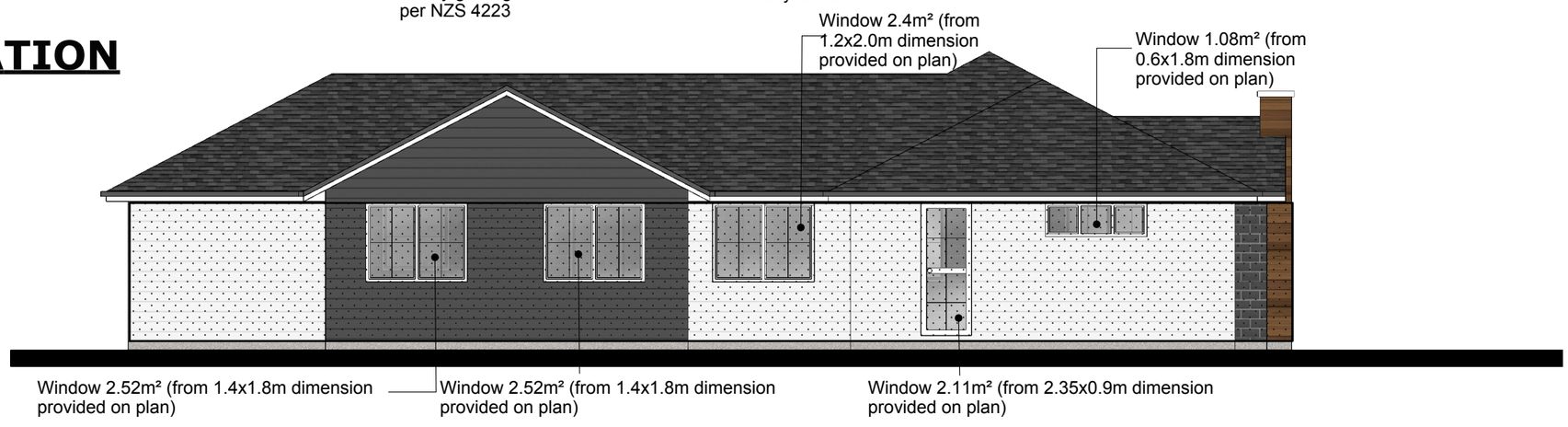
EAST ELEVATION:

TOTAL FACADE AREA= 48.90m²

Bed 2 wws	= 2.52m²
Bed 4 wws	= 2.52m²
Kitchen wws	= 2.40m²
Garage wws	= 2.11m²
Garage wws	= 1.08m²

Total = 10.63m² = 21.7%

Glazing = 21.7.%



SOUTH ELEVATION GLAZING COMPLIANCE

InTop Homes
55 London Street, Hamilton Centre
E-mail: suyin331@gmail.com
Ph: 07-8380829

Proposed: New Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park Cambridge	Drawing Name: ELEVATIONS	Amendments:	Date: January 2020	No: A-104
			Scale: 1:100	

Waipa District Council
Private Bag 2402, Te Awamutu, 3840
building.admin@waipadc.govt.nz
0800 924 723

BC200089

Alpha ID: 200089
Application Type: Building Consent
Site Address: 1 Kaaka Street Cambridge 3434
Project Description: Lot 22 - New single storey 4 bedroom residential dwelling with attached double garage
Project Status: Code Compliance Certificate Issued

Creation Date: 20 October 2020

Table of Contents

Inspections

CCC Documents

Waipa DISTRICT COUNCIL

Postal Address
Private Bag 2402
Te Awamutu 3840
New Zealand

Head Office
07 872 0030
101 Bank Street
Te Awamutu 3800

Cambridge Office
07 823 3800
23 Wilson Street
Cambridge 3434

09 July 2020

Digitally Delivered

Intop Homes Limited
Po Box 12465
Chartwell
Hamilton 3248

Dear Sir or Madam,

Reference Number: BC200089
Project Location: 1 Kaaka Street
Cambridge
3434
Legal description of land where building is located: Lot 22 DP 531612
Project Description: Lot 22 - New single storey 4 bedroom residential dwelling with attached double garage
IR Number: 1

Inspection Results:
WASTEPIPES - 09 Jul 2020 @ 14:42 by Greg Finch

Inspection Outcome: **PASS** - The BCA is satisfied, on reasonable grounds, that the aspects of building work pertaining to this inspection demonstrate compliance with the building consent.

Formal Directive: Okay to backfill underslab drainage. Engineer's PS4 required for Sandpad/ground bearing.

Site Communication: Met with Plumber on site

Inspection Summary: Siting as per consented plans with setbacks achieved. AS3500 drains laid with good falls and water test holding.

Your next inspection will be: **Floor Slab**
Inspections must be booked prior to 4.00pm on the day preceding the day of the required inspection.
Please quote the Building Consent number when booking inspections.

Outstanding Required Documents for this Building

Half High Brick

- Form 6a - LBP record of building work - Brick and blocklaying
- B1: NZS 4229 masonry veneer - Construction monitoring records (PS3 / PS4)

Final

- E1: PS4 On Site Stormwater Disposal System And As-built Plans
- Form 6a - LBP record of building work - Foundations
- Form 6a - LBP record of building work - Carpentry
- Form 6a - LBP record of building work - Brick and blocklaying
- Form 6a - LBP record of building work - Roofing
- B1: Ground bearing certificate (PS3 / PS4)
- B1: Slab - Construction monitoring records (PS3 / PS4)
- E3: Internal waterproofing membrane product & installer warranties
- G9: Energy works certificate
- G10 & G11: Energy works certificate
- G12: Pipework pressure test documentation
- G13: Underslab plumbing as-built & plumbers details
- G13: As-builts, drainlayer details, pipework test

History

Inspection Name	**Summary**
Wastepipes	**IN-PROGRESS** - 09 Jul 2020
Floor Slab	-
Framing / Pre-wrap	-
Half High Brick	-
Preline	-
Post Line	-
Internal Membrane	-
Drainage	-
Final	-

Yours Sincerely,

Greg Finch

Building Compliance Officer - Inspection
On behalf of: Waipa District Council

Waipa DISTRICT COUNCIL

Postal Address
Private Bag 2402
Te Awamutu 3840
New Zealand

Head Office
07 872 0030
101 Bank Street
Te Awamutu 3800

Cambridge Office
07 823 3800
23 Wilson Street
Cambridge 3434

15 July 2020

Digitally Delivered

Intop Homes Limited
Po Box 12465
Chartwell
Hamilton 3248

Dear Sir or Madam,

Reference Number: BC200089
Project Location: 1 Kaaka Street
Cambridge
3434
Legal description of land where building is located: Lot 22 DP 531612
Project Description: Lot 22 - New single storey 4 bedroom residential dwelling with attached double garage
IR Number: 2

Inspection Results:
WASTEPIPES - 15 Jul 2020 @ 14:51 by Greg Finch

Inspection Outcome: PASS - The BCA is satisfied, on reasonable grounds, that the aspects of building work pertaining to this inspection demonstrate compliance with the building consent.

FLOOR SLAB - 15 Jul 2020 @ 14:51 by Greg Finch

Inspection Outcome: PASS - The BCA is satisfied, on reasonable grounds, that the aspects of building work pertaining to this inspection demonstrate compliance with the building consent.

Formal Directive: Okay to pour concrete slab. Engineer's PS4 for sand-pad compaction required and can be uploaded into AlphaOne portal

Site Communication: Met with Sam on site

Inspection Summary: Pod and steel installed with thickenings located as per consented plans.

Your next inspection will be: **Drainage**

Inspections must be booked prior to 4.00pm on the day preceding the day of the required inspection. Please quote the Building Consent number when booking inspections.

Outstanding Required Documents for this Building

Half High Brick

- Form 6a - LBP record of building work - Brick and blocklaying
- B1: NZS 4229 masonry veneer - Construction monitoring records (PS3 / PS4)

Final

- E1: PS4 On Site Stormwater Disposal System And As-built Plans
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- Form 6a - LBP record of building work - Carpentry
- Form 6a - LBP record of building work - Brick and blocklaying
- Form 6a - LBP record of building work - Roofing
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- B1: Slab - Construction monitoring records (PS3 / PS4)
- E3: Internal waterproofing membrane product & installer warranties
- G9: Energy works certificate
- G10 & G11: Energy works certificate
- G12: Pipework pressure test documentation
- G13: Underslab plumbing as-built & plumbers details
- G13: As-builts, drainlayer details, pipework test

History

Inspection Name	Summary
Wastepipes	**PASS** - 15 Jul 2020
Floor Slab	**PASS** - 15 Jul 2020
Framing / Pre-wrap	-
Half High Brick	-
Preline	-
Post Line	-
Internal Membrane	-
Drainage	-
Final	-

Yours Sincerely,

Greg Finch
Building Compliance Officer - Inspection
On behalf of: Waipa District Council

Waipa DISTRICT COUNCIL

Postal Address
Private Bag 2402
Te Awamutu 3840
New Zealand

Head Office
07 872 0030
101 Bank Street
Te Awamutu 3800

Cambridge Office
07 823 3800
23 Wilson Street
Cambridge 3434

21 July 2020

Digitally Delivered

Intop Homes Limited
Po Box 12465
Chartwell
Hamilton 3248

Dear Sir or Madam,

Reference Number: BC200089
Project Location: 1 Kaaka Street
Cambridge
3434
Legal description of land where building is located: Lot 22 DP 531612
Project Description: Lot 22 - New single storey 4 bedroom residential dwelling with attached double garage
IR Number: 3

Inspection Results:
DRAINAGE - 21 Jul 2020 @ 14:30 by Sarah Kraayvanger

Inspection Outcome: PASS - The BCA is satisfied, on reasonable grounds, that the aspects of building work pertaining to this inspection demonstrate compliance with the building consent.

Formal Directive: Ok to continue.

Inspection Summary: ORG located at head of drain with TV vent. Inspection points and invert levels checked. Good fall and bedding material soft due to rain. Drainage on test at time of inspection, due to the heavy rain fall at time of inspection. Was unable to release plug. Stormwater to be inspected by engineer with PS4 required at time of CCC. Down pipes as per approved plans

Your next inspection will be: **Framing / Pre-wrap**
Inspections must be booked prior to 4.00pm on the day preceding the day of the required inspection.
Please quote the Building Consent number when booking inspections.

Outstanding Required Documents for this Building
Half High Brick

- Form 6a - LBP record of building work - Brick and blocklaying
- B1: NZS 4229 masonry veneer - Construction monitoring records (PS3 / PS4)

Final

- E1: PS4 On Site Stormwater Disposal System And As-built Plans
- Form 6a - LBP record of building work - Foundations
- Form 6a - LBP record of building work - Carpentry
- Form 6a - LBP record of building work - Brick and blocklaying
- Form 6a - LBP record of building work - Roofing
- B1: Ground bearing certificate (PS3 / PS4)
- B1: Slab - Construction monitoring records (PS3 / PS4)
- E3: Internal waterproofing membrane product & installer warranties
- G9: Energy works certificate
- G10 & G11: Energy works certificate
- G12: Pipework pressure test documentation
- G13: Underslab plumbing as-built & plumbers details
- G13: As-builts, drainlayer details, pipework test

History

Inspection Name	**Summary**
Wastepipes	**PASS** - 15 Jul 2020
Floor Slab	**PASS** - 15 Jul 2020
Framing / Pre-wrap	-
Half High Brick	-
Preline	-
Post Line	-
Internal Membrane	-
Drainage	**PASS** - 21 Jul 2020
Final	-

Yours Sincerely,

Sarah Kraayvanger
Building Control Officer

On behalf of: Waipa District Council

Waipa DISTRICT COUNCIL

Postal Address
Private Bag 2402
Te Awamutu 3840
New Zealand

Head Office
07 872 0030
101 Bank Street
Te Awamutu 3800

Cambridge Office
07 823 3800
23 Wilson Street
Cambridge 3434

10 August 2020

Digitally Delivered

Intop Homes Limited
Po Box 12465
Chartwell
Hamilton 3248

Dear Sir or Madam,

Reference Number: BC200089
Project Location: 1 Kaaka Street
Cambridge
3434
Legal description of land where building is located: Lot 22 DP 531612
Project Description: Lot 22 - New single storey 4 bedroom residential dwelling with attached double garage
IR Number: 4

Inspection Results:
FRAMING / PRE-WRAP - 10 Aug 2020 @ 14:25 by Sarah Kraayvanger

Inspection Outcome: PASS - The BCA is satisfied, on reasonable grounds, that the aspects of building work pertaining to this inspection demonstrate compliance with the building consent.

Formal Directive: Ok to continue.

Inspection Summary: Asphalt shingles roofing. Truss fixings completed as per truss manufactures plan. Valley completed. Lintel fixing checked as per approved plans. Wall bracing GS1/GS2 BL1 located within the garage. Note: Bracing line E located within the garage to be moved along covering the wall penetration due to the water toby. (Talked to Sam from In-Top Homes) Few internal GS1 to be ram pinned off.

Your next inspection will be: **Preline**
Inspections must be booked prior to 4.00pm on the day preceding the day of the required inspection.
Please quote the Building Consent number when booking inspections.

Outstanding Required Documents for this Building
Half High Brick

- Form 6a - LBP record of building work - Brick and blocklaying
- B1: NZS 4229 masonry veneer - Construction monitoring records (PS3 / PS4)

Final

- E1: PS4 On Site Stormwater Disposal System And As-built Plans
- Form 6a - LBP record of building work - Foundations
- Form 6a - LBP record of building work - Carpentry
- Form 6a - LBP record of building work - Brick and blocklaying
- Form 6a - LBP record of building work - Roofing
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- B1: Slab - Construction monitoring records (PS3 / PS4)
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- G9: Energy works certificate
- G10 & G11: Energy works certificate
- G12: Pipework pressure test documentation
- G13: Underslab plumbing as-built & plumbers details
- G13: As-builts, drainlayer details, pipework test

History

Inspection Name	**Summary**
Wastepipes	**PASS** - 15 Jul 2020
Floor Slab	**PASS** - 15 Jul 2020
Framing / Pre-wrap	**PASS** - 10 Aug 2020
Half High Brick	-
Preline	-
Post Line	-
Internal Membrane	-
Drainage	**PASS** - 21 Jul 2020
Final	-

Yours Sincerely,

Sarah Kraayvanger
Building Control Officer

On behalf of: Waipa District Council

Notes: Framing / Pre-wrap - joist hangers

Notes: Framing / Pre-wrap - CPC40

Notes: Framing / Pre-wrap - lintel fixings

Waipa DISTRICT COUNCIL

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Te Awamutu 3800

Cambridge Office
07 823 3800
23 Wilson Street
Cambridge 3434

25 August 2020

Digitally Delivered

Intop Homes Limited
Po Box 12465
Chartwell
Hamilton 3248

Dear Sir or Madam,

Reference Number: BC200089
Project Location: 1 Kaaka Street
Cambridge
3434
Legal description of land where building is located: Lot 22 DP 531612
Project Description: Lot 22 - New single storey 4 bedroom residential dwelling with attached double garage
IR Number: 5

Inspection Results:
HALF HIGH BRICK - 25 Aug 2020 @ 11:58 by Greg Finch

Inspection Outcome: PASS - The BCA is satisfied, on reasonable grounds, that the aspects of building work pertaining to this inspection demonstrate compliance with the building consent.

Formal Directive: Okay to continue with weatherboard cladding. Half height brick not required, very small area of brickwork at front entry. Vent through roof yet to have weather boot installed

Site Communication: Met with Sam on site

Inspection Summary: Cavity construction completed over building wrap, with window support bars and head flashings with cavity closures, vermin strips, flashings installed to internal and external wall framing corners and window and pipe penetrations all flashed.

Your next inspection will be: **Preline**
Inspections must be booked prior to 4.00pm on the day preceding the day of the required inspection.
Please quote the Building Consent number when booking inspections.

Outstanding Required Documents for this Building

Half High Brick

- Form 6a - LBP record of building work - Brick and blocklaying
- B1: NZS 4229 masonry veneer - Construction monitoring records (PS3 / PS4)

Final

- E1: PS4 On Site Stormwater Disposal System And As-built Plans
- Form 6a - LBP record of building work - Foundations
- Form 6a - LBP record of building work - Carpentry
- Form 6a - LBP record of building work - Brick and blocklaying
- Form 6a - LBP record of building work - Roofing
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- G9: Energy works certificate
- G10 & G11: Energy works certificate
- G12: Pipework pressure test documentation
- G13: Underslab plumbing as-built & plumbers details
- G13: As-builts, drainlayer details, pipework test

History

Inspection Name	Summary
Wastepipes	**PASS** - 15 Jul 2020
Floor Slab	**PASS** - 15 Jul 2020
Framing / Pre-wrap	**PASS** - 10 Aug 2020
Half High Brick	**PASS** - 25 Aug 2020
Preline	-
Post Line	-
Internal Membrane	-
Drainage	**PASS** - 21 Jul 2020
Final	-

Yours Sincerely,

Greg Finch
Building Compliance Officer - Inspection
On behalf of: Waipa District Council

Waipa DISTRICT COUNCIL

Postal Address
Private Bag 2402
Te Awamutu 3840
New Zealand

Head Office
07 872 0030
101 Bank Street
Te Awamutu 3800

Cambridge Office
07 823 3800
23 Wilson Street
Cambridge 3434

04 September 2020

Digitally Delivered

Intop Homes Limited
Po Box 12465
Chartwell
Hamilton 3248

Dear Sir or Madam,

Reference Number: BC200089
Project Location: 1 Kaaka Street
Cambridge
3434
Legal description of land where building is located: Lot 22 DP 531612
Project Description: Lot 22 - New single storey 4 bedroom residential dwelling with attached double garage
IR Number: 6

Inspection Results:
PRELINE - 04 Sep 2020 @ 11:45 by Isla Taufalele

Inspection Outcome: INCOMPLETE - Some aspects of the building work pertaining to this inspection have yet to be checked and confirmed as complying with the building consent.

Formal Directive: Approved to install plasterboard.

Site Communication: Spoke with Site Manager Sam about bracing element E2 which has been disrupted by water toby in garage. He will organise for it to be screwed off to the side and also the remainder of the wall to the side of the PA door as a GS1-to be checked at postline inspection.

Inspection Summary: Exterior cladding (weatherboard with small area of block) is complete apart from scribers to the side of the chimney. 2x terminal vent flashed through roofing. Insulation is installed to all ceilings and walls. Moisture in framing is between 13-16%. Stud stiffener installed to both vents. Metal angles in place at ensuite shower. Timber ceiling battens installed at 450centres. All bracing elements checked for penetrations and comply apart from element E2 which has been disrupted by water toby. Spoke with Site Manager Sam about it and he will organise for it to be screwed off to the side and also the remainder of the wall to the side of the PA door as a GS1-to be checked at postline inspection.. Approved to install plasterboard.

Your next inspection will be: **Post Line**

Inspections must be booked prior to 4.00pm on the day preceding the day of the required inspection.

Please quote the Building Consent number when booking inspections.

Outstanding Required Documents for this Building

Half High Brick

- Form 6a - LBP record of building work - Brick and blocklaying
- B1: NZS 4229 masonry veneer - Construction monitoring records (PS3 / PS4)

Final

- E1: PS4 On Site Stormwater Disposal System And As-built Plans
- Form 6a - LBP record of building work - Foundations
- Form 6a - LBP record of building work - Carpentry
- Form 6a - LBP record of building work - Brick and blocklaying
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- G9: Energy works certificate
- G10 & G11: Energy works certificate
- G12: Pipework pressure test documentation
- G13: Underslab plumbing as-built & plumbers details
- G13: As-builts, drainlayer details, pipework test

History

Inspection Name	**Summary**
Wastepipes	**PASS** - 15 Jul 2020
Floor Slab	**PASS** - 15 Jul 2020
Framing / Pre-wrap	**PASS** - 10 Aug 2020
Half High Brick	**PASS** - 25 Aug 2020
Preline	**IN-PROGRESS** - 04 Sep 2020
Post Line	-
Internal Membrane	-
Drainage	**PASS** - 21 Jul 2020
Final	-

Yours Sincerely,

Isla Taufalele
Building Compliance Officer - inspections
On behalf of: Waipa District Council

Notes: Terminal vent to main bathroom

Notes: E2 bracing element, water toby on the left

Notes: Insulation

Notes: Stud stiffener to terminal vent in master ensuite

Waipa DISTRICT COUNCIL

Postal Address
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New Zealand

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Te Awamutu 3800

Cambridge Office
07 823 3800
23 Wilson Street
Cambridge 3434

14 September 2020

Digitally Delivered

Intop Homes Limited
Po Box 12465
Chartwell
Hamilton 3248

Dear Sir or Madam,

Reference Number: BC200089
Project Location: 1 Kaaka Street
Cambridge
3434
Legal description of land where building is located: Lot 22 DP 531612
Project Description: Lot 22 - New single storey 4 bedroom residential dwelling with attached double garage
IR Number: 7

Inspection Results:
PRELINE - 14 Sep 2020 @ 10:24 by Greg Finch

Inspection Outcome: PASS - The BCA is satisfied, on reasonable grounds, that the aspects of building work pertaining to this inspection demonstrate compliance with the building consent.

POST LINE - 14 Sep 2020 @ 10:24 by Greg Finch

Inspection Outcome: PASS - The BCA is satisfied, on reasonable grounds, that the aspects of building work pertaining to this inspection demonstrate compliance with the building consent.

Formal Directive: Okay to continue

Site Communication: Sam on site, plans on site

Inspection Summary: All gib bracing elements completed and extra brace placed on exterior garage wall in laundry area as discussed from previous inspection

Your next inspection will be: **Final**

Inspections must be booked prior to 4.00pm on the day preceding the day of the required inspection. Please quote the Building Consent number when booking inspections.

Outstanding Required Documents for this Building

Half High Brick

- Form 6a - LBP record of building work - Brick and blocklaying
- B1: NZS 4229 masonry veneer - Construction monitoring records (PS3 / PS4)

Final

- E1: PS4 On Site Stormwater Disposal System And As-built Plans
- Form 6a - LBP record of building work - Foundations
- Form 6a - LBP record of building work - Carpentry
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- G12: Pipework pressure test documentation
- G13: Underslab plumbing as-built & plumbers details
- G13: As-builts, drainlayer details, pipework test

History

Inspection Name	Summary
Wastepipes	**PASS** - 15 Jul 2020
Floor Slab	**PASS** - 15 Jul 2020
Framing / Pre-wrap	**PASS** - 10 Aug 2020
Half High Brick	**PASS** - 25 Aug 2020
Preline	**PASS** - 14 Sep 2020
Post Line	**PASS** - 14 Sep 2020
Internal Membrane	-
Drainage	**PASS** - 21 Jul 2020
Final	-

Yours Sincerely,

Greg Finch
Building Compliance Officer - Inspection
On behalf of: Waipa District Council

Waipa DISTRICT COUNCIL

Postal Address
Private Bag 2402
Te Awamutu 3840
New Zealand

Head Office
07 872 0030
101 Bank Street
Te Awamutu 3800

Cambridge Office
07 823 3800
23 Wilson Street
Cambridge 3434

20 October 2020

Digitally Delivered

Intop Homes Limited
Po Box 12465
Chartwell
Hamilton 3248

Dear Sir or Madam,

Reference Number: BC200089
Project Location: 1 Kaaka Street
Cambridge
3434
Legal description of land where building is located: Lot 22 DP 531612
Project Description: Lot 22 - New single storey 4 bedroom residential dwelling with attached double garage
IR Number: 8

Inspection Results:
FINAL - 20 Oct 2020 @ 09:21 by Greg Finch

Inspection Outcome: **PASS** - The BCA is satisfied, on reasonable grounds, that the aspects of building work pertaining to this inspection demonstrate compliance with the building consent.

Formal Directive: Nil

Site Communication: Met with Eric on site

Inspection Summary: Building completed and documentation received. Air conditioning units and Landscaping not completed at time of inspection.

Your next inspection will be: **No further inspection required**

Outstanding Required Documents for this Building

History

Inspection Name	Summary
Wastepipes	**PASS** - 15 Jul 2020

Floor Slab	**PASS** - 15 Jul 2020
Framing / Pre-wrap	**PASS** - 10 Aug 2020
Half High Brick	**PASS** - 25 Aug 2020
Preline	**PASS** - 14 Sep 2020
Post Line	**PASS** - 14 Sep 2020
Drainage	**PASS** - 21 Jul 2020
Final	**PASS** - 20 Oct 2020

Yours Sincerely,

Greg Finch
Building Compliance Officer - Inspection
On behalf of: Waipa District Council

Inspection Photos Record on Project 200089

Building: Main Building
Inspection: Framing / Pre-wrap
Question: Is roof truss construction, layout, bracing and connections in accordance with building consent?
Inspector: Sarah Kraayvanger
Timestamp: 2020-08-10 14:25:53
Comment: Framing / Pre-wrap - joist hangers

Building: Main Building
Inspection: Framing / Pre-wrap
Question: Is roof truss construction, layout, bracing and connections in accordance with building consent?
Inspector: Sarah Kraayvanger
Timestamp: 2020-08-10 14:25:53
Comment: Framing / Pre-wrap - CPC40

Building: Main Building
Inspection: Framing / Pre-wrap
Question: Is roof truss construction, layout, bracing and connections in accordance with building consent?
Inspector: Sarah Kraayvanger
Timestamp: 2020-08-10 14:25:53
Comment: Framing / Pre-wrap - lintel fixings

ASAP ENGINEERING JOB REF # AS20012

ASAP
Engineering Limited

PRODUCER STATEMENT - PS4

STORMWATER - Aqua Cells as per ASAP Engineering Stormwater Design AS20012

AT

LOT 22, 1 Kaaka Street, Cambridge

For

Intop Homes

Prepared by: Siva Natarajan
Chartered Professional Engineer
(1011032)

55 London Street, Hamilton 3204
https://asapengineering.co.nz/
Email: office@asapengineering.co.nz

14/10/2020

ISSUED FOR BUILDING CONSENT ONLY

ASAP Engineering Limited

ASAP ENGINEERING JOB REF # AS20012

CONTENTS

PRODUCER STATEMENT - PS4 - CONSTRUCTION

INSPECTION CHECK LIST

SITE PHOTOS

APPROVED STORMWATER REPORT (AVAILABLE AT SITE)

ASAP Engineering Limited
Siva Natarajan B Eng., CPENGNZ., MIPENZ
Chartered Professional Engineer
(REG # 1011032)

021 031 1820 (M)

14/10/2020

ISSUED FOR BUILDING CONSENT ONLY

Job Ref # AS20012

Building Code Clause(s) E1/VM1 & G13/B2

PRODUCER STATEMENT - PS4 - CONSTRUCTION REVIEW

(Guidance on use of Producer Statement (formerly page 2) is available at www.engineeringnz.org)

ISSUED BY: ASAP ENGINEERING LIMITED
(Design Firm)

TO: INTOP HOMES
(Owner/Developer)

TO BE SUPPLIED TO: WAIPA DISTRICT COUNCIL
(Building Consent Authority)

IN RESPECT OF: STORMWATER - Aqua Cells as per ASAP Engineering Stormwater Design AS20012
(Description of Building Work)

AT: 1 KAAKA STREET
(Address)

Town/City: CAMBRIDGE **LOT** 22 **DP** 531612 **SO**
(Address)

We ASAP ENGINEERING LIMITED have been engaged by INTOP HOMES
(Construction Review Firm)

To Provide [ ] CM1 [X] CM2 [ ] CM3 [ ] CM4 [ ] CM5 (Engineering Categories) or [ ] Observation as per agreement with owner/developer INTOP HOMES

or [X] other STORMWATER - Aqua Cells as per ASAP Engineering Stormwater Design AS20012 services
(Extent of Engagement)

in respect of clause(s) E1/VM1 & G13/B2 of the Building Code for the building work described in documents relating to Building consent No. BC - 200089 and those relating to Building Consent Amendment(s) Nos. N.A issued during the course of the works. We have sighted these Building Consents and the conditions of attached to them.

Authorised instructions/variation(s) No. N.A (copies attached) or by the attached Schedule [ ] have been issued during the course of the works.

On the basis of [X] this review [ ] these review(s) and information supplied by the contractor during the course of the works and **on behalf of the firm** undertaking this Construction Review, **I believe on reasonable grounds** that

[ ] All or [X] Part only of the building works have been completed in accordance with the relevant requirements of the Building Consent and Building Consent Amendments identified above, with respect to Clause(s) E1/VM1 & G13/B2 of the Building Code. I also believe on reasonable grounds that the persons who have undertaken this construction review have the necessary competency to do so.

I, Siva Natarajan am [X] CPEng 1011032 # [ ] Reg Arch #
(Name of Construction Review Professional)

I am a Member of: [X] IPENZ [ ] NZIA and hold the following qualifications: B Eng (Civil & Structural)

The Design Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*.

The Design Firm is a member of ACENZ : [ ]

SIGNED BY Siva Natarajan (Signature)
(Name of Construction Review Professional)

ON BEHALF OF ASAP ENGINEERING LIMITED Date 14/10/2020
(Construction Review Firm)

*Note : This statement shall only be relied upon by the Building Consent Authority names above. Liability under this statement accurues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statement provided to the building Consent Authority in relation to this buiding work, whether in contract, tort or otherwise (including negligence), is limited to the sum of $200,000**

This form is to accompany Form 6 or 8 of the Building (Form) Regulations 2004 for the issue of Code Compliance Certificate

ASAP Engineering Limited

SC Project #	AS20012
BC Ref.#	200089
Date of Inspection	27/07/20

STORMWATER - Aqua Cells as per ASAP Engineering Stormwater Design AS20012

Site Address	1 KAAKA STREET, CAMBRIDGE
Client Details	INTOP HOMES
Contractor Information	

Inspections	Confirmation ( ) Yes	No
Ground Condition as per NZS 3604 Guidelines / Soil report recommendation	Yes	
Sloping ground (Min 1m setback) if any	N.A	
Ground water table	N.A	
Visual Inspection - Confirming site condition is good	Yes	
Pipe size and Gradient as per requirements	Yes	
Bedding Materials	Yes	
Soak holes (Cess pit)are used / diameter and depth confirms	Yes	
Aquacells position and condition	Good	
Drainage from hardstand areas	Yes	
INSPECTION RESULT (PASS / FAIL)	**PASS**	

Notes	Condition Yes	No
Overall Site Condition	Good	
Inspection - Condition	Good	

Sketches

References

Stormwater Report PS1 at site

ASAP Engineering Limited

Siva Natarajan B Eng., CPENGNZ., MIPENZ
Chartered Professional Engineer
(REG # 1011032)

021 031 1820 (M)

ASAP Engineering Limited

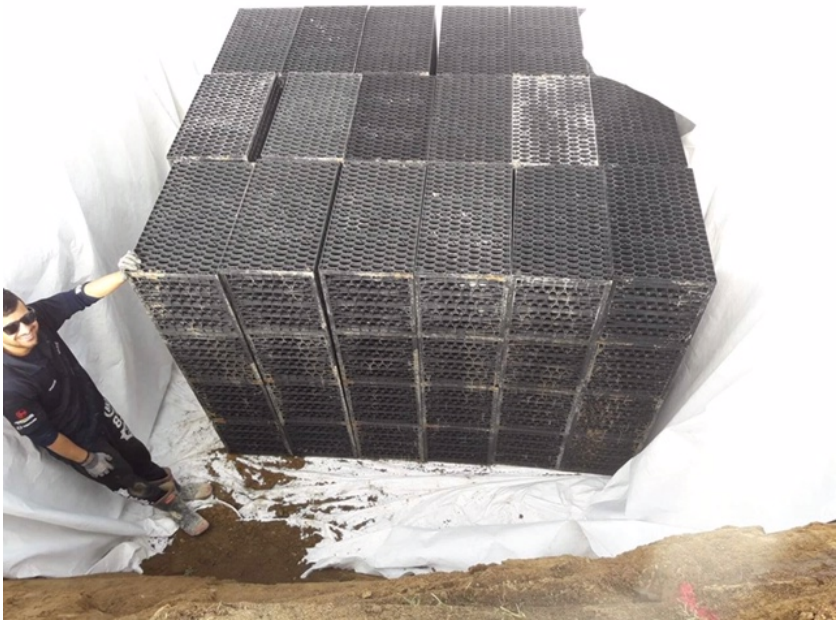
SC Project #	AS20012
BC Ref.#	200089
Date of Inspection	27/07/20

STORMWATER - Aqua Cells as per ASAP Engineering Stormwater Design AS20012

Site Address	1 KAAKA STREET, CAMBRIDGE
Client Details	INTOP HOMES
Contractor Information	

Photos

PHOTO 1



Producer Statement Construction (PS3) / Memorandum of Completion and Compliance

Issued by: *(Construction Reviewer)* Boydie Cowley

Building Consent number: 200089

Company Name: Jamark Plumbing Ltd

To: ☐ Hamilton City Council ☐ Hauraki District Council ☐ Matamata-Piako District Council ☐ Otorohanga District Council
☐ Thames-Coromandel District Council ☐ Waikato District Council ☑ Waipa District Council ☐ Waitomo District Council

Waikato Building Consent Group Reg. No.: Expiry Date: Other No. *(specify)*:

Owner: Intop Homes Limited

Project Address: 1 Kaaka St, Cambridge

Lot: DP:

Description of Building Work: Installation of Aqua Cells as per ASAP Engineering Stormwater Report AS20012

Scope of work covered by statement: Installation of Aqua Cells

System / Product used (if applicable): Cirtex Aqua Cells, 100 Ipex Waste Water pipe, Geotech Fabric

I (*Construction Reviewer's name*): Boydie Cowley

have been engaged by (owner/developer/contractor): Intop Homes Limited

In respect of (tick applicable):

☑ The requirements of the Building Regulations 1992, Clause(s): *(Please be specific e.g. E2.3.5)* E1

☐ Alternative Solution(s):

for the building work described by the drawings and specifications prepared by the design firm titled:

ASAP Engineering Ltd

numbered: AS20012 ☐ Copies attached

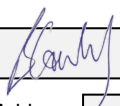
authorised amendments(s): *(if applicable)* ☐ Copies attached

☑ I have sighted the Building Consent and read the Advisory Notes. I can confirm that the building works have been carried out in accordance with the requirements of the New Zealand Building Code, the Building Consent, the design drawings and specifications, and in accordance with the listed amendments (if any).

☑ I confirm that all work I have undertaken has been within the scope of my skills, knowledge, and experience. I have remained within the scope of works set for me by the *Waikato Building Consent Group Producer Statement Author register (if applicable).

☑ I understand that this Statement, if accepted, may be relied upon for the purpose of establishing compliance with the Building Code and the Building Consent.

☑ I am satisfied the building work complies with the requirements of the Building Consent and the New Zealand Building Code.

Signed by *(Construction Reviewer)*: 

Name of Constructor *(Print clearly)*: Boydie Cowley

Date: 27/07/2020 Address: 75 Killarney Road, Frankton, Hamilton

Ph: 07 8343180 Mb: 021 195 7412 Fx: Email: Boydie@jamarkplumbing.co.nz

Qualifications / Experience: Operations Manager - Jamark Plumbing

***The Waikato Building Consent Group Producer Statement Author register is held by the Waikato Building Consent Group, Email: info@buildwaikato.co.nz For information on the Waikato Building Consent Group visit the Build Waikato website.**

Carpentry

Memorandum from licensed building practitioner: Record of building work

Section 88, Building Act 2004

Please fill in the form as fully and correctly as possible.

If there is insufficient room on the form for requested details, please continue on another sheet and attach the additional sheet(s) to this form.

THE BUILDING

Street address: Lot 22，1 Kaaka Street. Cambridge	
Suburb:	
Town/City: Cambridge	Postcode:

THE PROJECT

Building consent number: 200089

THE OWNER(S)

Name(s): Intop Homes Ltd	
Mailing address: PO Box 12465	
Suburb:	PO Box/Private Bag:
Town/City: Hamilton	Postcode: 3248
Phone number: 021 288 9600	Email address: info@intophomes.co.nz

RECORD OF WORK THAT IS RESTRICTED BUILDING WORK

PRIMARY STRUCTURE

Work that is restricted building work	Description of restricted building work	Carried out or supervised
Tick ✓	If necessary, describe the restricted building work.	Tick ✓ whether you carried out the restricted building work or supervised someone else carrying out the restricted building work.
Foundations and subfloor framing ☑	Siting & Datum setout, Subgrade & Sandpad compaction supervision, DPM & Pods setup, steel and mesh Placing, Floor thickening & LBW positions, Penetrations& Duct, 20mpa concrete placing.	○ Carried out ✓ Supervised
Walls ☑	Wall Framing & Lintel Sizing, Bracing & Fixing according to approved plan, GS1/BL Bracing, General Nogging,	○ Carried out ✓ Supervised
Roof ☑	Roof framing, Truss Fixing & Bracing, Purlins Fixing.	○ Carried out ✓ Supervised
Columns and beams ☑	Column Fixing and in-ground building, Beam fixing and Steel Beam fixing,	○ Carried out ✓ Supervised
Bracing ☑	As per plan, Frame bracing, Bottom plate fixing, Stud to topplate fixings, Lintel fixing, Truss fixing, Roof brace fixing.	○ Carried out ✓ Supervised
Other ☑	All roof & cladding penetrations and ducting	○ Carried out ✓ Supervised

EXTERNAL MOISTURE MANAGEMENT SYSTEMS		
Work that is restricted building work	**Description of restricted building work**	**Carried out or supervised**
Tick ✓	If necessary, describe the restricted building work.	Tick ✓ whether you carried out the restricted building work or supervised someone else carrying out the restricted building work.
Damp proofing ☑	Floor DPM, DPC to bottom plate, DPC and flashing to window & doors.	○ Carried out ✔ Supervised
Roof cladding or roof cladding system ☑	Purlin Fixing	○ Carried out ✔ Supervised
Ventilation system (for example, subfloor or cavity) ☑	Ducting to external,	○ Carried out ✔ Supervised
Wall cladding or wall cladding system ☑	20mm batten behind all linea cladding, vent-strip closer, nailing according to specification, Corner Flashing, Scribber & Moulding Close.	○ Carried out ✔ Supervised
Waterproofing ☑	Build Wrap & Tape around all penetrations. Ardex Butynol for Balcony	○ Carried out ✔ Supervised
Other ☑	N/A	○ Carried out ○ Supervised

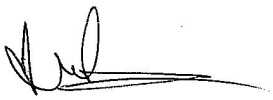
ISSUED BY

Name and contact details of the licensed building practitioner who is licensed to carry out or supervise restricted building work.

Name: Geng Wu	LBP number: 118016
Class(es) licensed in:	
Carpentry	
Plumbers, Gasfitters and Drainlayers registration number (if applicable):	
Mailing address (if different from below): PO Box 12465	
Street address/Registered office: Level One, 55 London St.	
Suburb: Hamilton Central	Town/City: Hamilton
PO Box/Private Bag	Postcode:
Phone number: 07 855 2108	Mobile: 021 288 9600
After hours:	Fax:
Email address: leon.2008@hotmail.com	Website:

DECLARATION

I Geng Wu carried out or supervised the restricted building work recorded on this form.



Signature: _____

Date: 05/10/2020

Bricklaying

Memorandum from licensed building practitioner: Record of building work

Section 88, Building Act 2004

Please fill in the form as fully and correctly as possible.

If there is insufficient room on the form for requested details, please continue on another sheet and attach the additional sheet(s) to this form.

THE BUILDING

Street address: Lot 22，1 Kaaka Street. Cambridge	
Suburb:	
Town/City: Cambridge	Postcode:

THE PROJECT

Building consent number: 200089

THE OWNER(S)

Name(s): Intop Homes Ltd	
Mailing address: PO Box 12465	
Suburb:	PO Box/Private Bag: 12465
Town/City: Hamilton	Postcode: 3248
Phone number: 021 2889600	Email address: info@intophomes.co.nz

RECORD OF WORK THAT IS RESTRICTED BUILDING WORK

PRIMARY STRUCTURE

Work that is restricted building work	Description of restricted building work	Carried out or supervised
Tick ✓	If necessary, describe the restricted building work.	Tick ✓ whether you carried out the restricted building work or supervised someone else carrying out the restricted building work.
Foundations and subfloor framing ☐	N/A	◯ Carried out ◯ Supervised
Walls ☐	N/A	◯ Carried out ◯ Supervised
Roof ☐	N/A	◯ Carried out ◯ Supervised
Columns and beams ☐	N/A	◯ Carried out ◯ Supervised
Bracing ☐	N/A	◯ Carried out ◯ Supervised
Other ☐	N/A	◯ Carried out ◯ Supervised

EXTERNAL MOISTURE MANAGEMENT SYSTEMS		
Work that is restricted building work	**Description of restricted building work**	**Carried out or supervised**
Tick ✓	If necessary, describe the restricted building work.	Tick ✓ whether you carried out the restricted building work or supervised someone else carrying out the restricted building work.
Damp proofing ☐	N/A	◯ Carried out ◯ Supervised
Roof cladding or roof cladding system ☐	N/A	◯ Carried out ◯ Supervised
Ventilation system (for example, subfloor or cavity) ☐	N/A	◯ Carried out ◯ Supervised
Wall cladding or wall cladding system ☑	Bricklaying of 70 series, clay bricks. Brick tie 600 center horizontally and 400 center vertically, weep holes allowed according to plan, 40mm cavity kept, brick rebate flushed and cleaned.	◯ Carried out ◉ Supervised
Waterproofing ☐	N/A	◯ Carried out ◯ Supervised
Other ☐	N/A	◯ Carried out ◯ Supervised

ISSUED BY

Name and contact details of the licensed building practitioner who is licensed to carry out or supervise restricted building work.

Name: Xiaoquan Chen	LBP number: 115786
Class(es) licensed in:	
Bricklaying and Blocklaying B1	
Plumbers, Gasfitters and Drainlayers registration number (if applicable):	
Mailing address (if different from below):	
Street address/Registered office: Level One, 55 London St. Hamilton	
Suburb:	Town/City: Hamilton
PO Box/Private Bag	Postcode:
Phone number:	Mobile: 021 288 9600
After hours:	Fax:
Email address:	Website:

DECLARATION

I Xiaoquan Chen carried out or supervised the restricted building work recorded on this form.

Signature: 陈孝铨

Date: 05/10/2020

ROOFING

Memorandum from licensed building practitioner: Record of building work

Section 88, Building Act 2004

Please fill in the form as fully and correctly as possible.

If there is insufficient room on the form for requested details, please continue on another sheet and attach the additional sheet(s) to this form.

THE BUILDING

Street address: Lot 22,1 Kaaka Street. Cambridge	
Suburb:	
Town/City: Cambridge	Postcode:

THE PROJECT

Building consent number: 200089

THE OWNER(S)

Name(s): **Intop Homes Ltd**	
Mailing address: PO Box 12465	
Suburb: Chartwell Square	PO Box/Private Bag:
Town/City: Hamilton	Postcode: 3248
Phone number: 021 288 9600	Email address: leon.2008@hotmail.com

RECORD OF WORK THAT IS RESTRICTED BUILDING WORK

PRIMARY STRUCTURE

Work that is restricted building work	Description of restricted building work	Carried out or supervised
Tick ✓	If necessary, describe the restricted building work.	Tick whether you carried out the restricted building work or supervised someone else carrying out the restricted building work.
Foundations and subfloor framing ☐	N/A	◯ Carried out ◯ Supervised
Walls ☐	N/A	◯ Carried out ◯ Supervised
Roof ☑	SS Sarking 16.3mm H3.1 3600x800mm over trusses	◯ Carried out ◉ Supervised
Columns and beams ☐	N/A	◯ Carried out ◯ Supervised
Bracing ☐	N/A	◯ Carried out ◯ Supervised
Other ☐	N/A	◯ Carried out ◯ Supervised

EXTERNAL MOISTURE MANAGEMENT SYSTEMS		
Work that is restricted building work	**Description of restricted building work**	**Carried out or supervised**
Tick ✓	If necessary, describe the restricted building work.	Tick ✓ whether you carried out the restricted building work or supervised someone else carrying out the restricted building work.
Damp proofing ☐	N/A	◯ Carried out ◯ Supervised
Roof cladding or roof cladding system ☑	Asphalt shingles over roofing sarking, Synthetic Roofing Underlay; Drip Edge along eaves, Ridge Ventilation	◯ Carried out ◉ Supervised
Ventilation system (for example, subfloor or cavity) ☐	N/A	◯ Carried out ◯ Supervised
Wall cladding or wall cladding system ☐	N/A	◯ Carried out ◯ Supervised
Waterproofing ☐	N/A	◯ Carried out ◯ Supervised
Other ☐	N/A	◯ Carried out ◯ Supervised

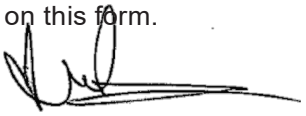
ISSUED BY

Name and contact details of the licensed building practitioner who is licensed to carry out or supervise restricted building work.

Name: Geng Wu	LBP number: BP118016
Class(es) licensed in:	
ROOFING	
Plumbers, Gasfitters and Drainlayers registration number (if applicable):	
Mailing address (if different from below): PO Box 12465	
Street address/Registered office:	
Suburb:	Town/City: Hamilton
PO Box/PrivateBag	Postcode:
Phone number:	Mobile: 021 288 9600
After hours:	Fax:
Email address: leon.2008@hotmail.com	Website:

DECLARATION

I Geng Wu carried out or supervised the restricted building work recorded on this form.

Signature: 

Date: 07/10/2020

ASAP ENGINEERING JOB REF # AS20012

ASAP
Engineering Limited

PRODUCER STATEMENT - PS4

COMPACTED FILL-SANDPAD INSPECTION

AT

LOT 22, 1 Kaaka Street, Swayne Park, Cambrdge

For

Intop Homes

Prepared by: Siva Natarajan
Chartered Professional Engineer
(1011032)

55 London Street, Hamilton 3204
https://asapengineering.co.nz/
Email: office@asapengineering.co.nz

13/07/2020

ISSUED FOR BUILDING CONSENT ONLY

ASAP Engineering Limited

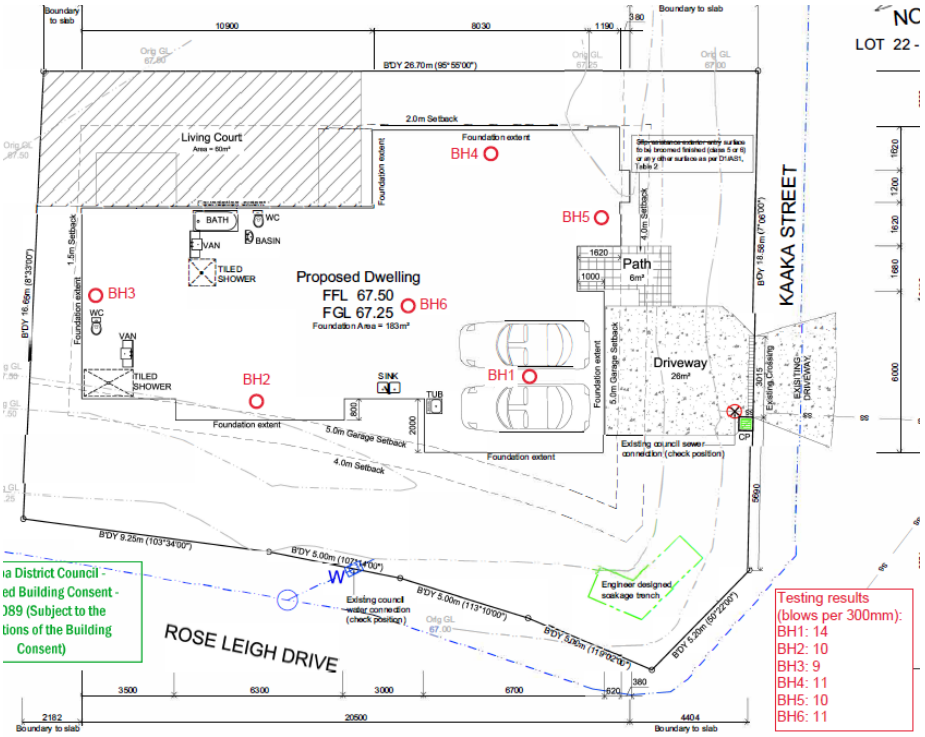
ASAP ENGINEERING JOB REF # AS20012

CONTENTS

PRODUCER STATEMENT - PS4 - CONSTRUCTION

INSPECTION CHECK LIST

SITE PHOTOS



13/07/2020

ISSUED FOR BUILDING CONSENT ONLY

Job Ref # AS20012

Building Code Clause(s)…B1/VM1/VM4………………………

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

(Guidance on use of Producer Statements (formerly page 2) is available at www.engineeringnz.org)

ISSUED BY:……ASAP ENGINEERING LIMITED……………………………………………………
(Construction Review Firm)

TO: Intop Homes
(Owner/Developer)

TO BE SUPPLIED TO WAIPA DISTRICT COUNCIL…
(Building Consent Authority)

IN RESPECT OF:……COMPACTED FILL-SANDPAD INSPECTION……………………………………
(Description of Building Work)

…**AT:**….1 KAAKA STREET…………… ………………………………………

Town/City CAMBRIDGE (Address) ……….. **LOT**………22……………… **DP**…..531612…… **SO**…………………

We …ASAP ENGINEERING LIMITED…………………… have been engaged by …INTOP HOMES
(Construction Review Firm)
……………………………

To provide ☐ CM1 ☒ CM2 ☐ CM3 ☐ CM4 ☐ CM5 (Engineering Categories) or ☐ observation as per agreement with

owner/developer…INTOP HOMES……………………………………………………………

or ☒ other …COMPACTED FILL-SANDPAD INSPECTION……………………………………services
(Extent of Engagement)

in respect of clause(s) ……B1/VM1/VM4…………………………… of the Building Code for the building work described in

documents relating to Building Consent No. ……BC 200089………………………………… and those relating to

Building Consent Amendment(s) Nos. ….N.A.……………………………………………… issued during the course of the works. We have sighted these Building Consents and the conditions of attached to them.

Authorised instructions/variations(s) No. ….N.A.…………………………………………… (copies attached) or by the attached Schedule ☐ have been issued during the course of the works.

On the basis of ☒ this review ☐ these review(s) and information supplied by the contractor during the course of the works and **on behalf of the firm** undertaking this Construction Review, **I believe on reasonable grounds** that ☐ All or ☒ Part only of the building works have been completed in accordance with the relevant requirements of the

Building Consent and Building Consent Amendments identified above, with respect to Clause(s)….B1/VM1/VM4……… of the Building Code. I also believe on reasonable grounds that the persons who have undertaken this construction review have the necessary competency to do so.

I, ……Siva Natarajan……………………………………… am: ☒ CPEng ..1011032.. # ☐ Reg Arch …………… #
(Name of Construction Review Professional)

I am a member of: ☒ IPEngineering New Zealand ☐ NZIA and hold the following qualifications …B Eng (Civil & Structure)..
The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*.
The Construction Review Firm is a member of ACENZ: ☐

SIGNED BY……………Siva Natarajan…………………………………(Signature)……[signature]……………………
(Name of Construction Review Professional)

ON BEHALF OF …..ASAP ENGINEERING LIMIT………………(Construction Review Firm)………………………Date…13/07/2020…..
……….

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of $200,000.*

This form is to accompany **Forms 6 or 8 of the Building (Form) Regulations 2004** for the issue of a Code Compliance Certificate.

ASAP
Engineering Limited

AS Project #	AS20012
BC Ref.#	**BC 200089**
Date of Inspection	13/07/2020

COMPACTED FILL-SANDPAD INSPECTON

Site Address	LOT 22 - 1 KAAKA STREET , SWAYNE PARK , CAMBRIDGE
Client Details	INTOP HOMES
Contractor Information	

Inspections	Confirmation ( ) Yes	No
Ground Condition as per NZS 3604 Guidelines / Soil report recommendation	Yes	
Sloping ground (Min 1m setback) if any	N.A	
Formation area (Min 1m) from building foot print	Yes	
Topsoil/Unsuitable materials/Organic material - Removed	Yes	
Appropriate testing confirms the compacted fill bearing capacity 300 kPa	Yes	
Compacted fill (Sandpad) - as per site soil report	Yes	

INSPECTION RESULT (PASS / FAIL)	**PASS**

Notes	Condition Yes	No
Overall Site Condition	Good	
Inspection - Condition	Good	

Sketches

Testing results (blows per 300mm):
BH1:14
BH2:10
BH3:9
BH4:11
BH5:10
BH6:11

References
Soil Report
Foundation Drawings

ASAP
Engineering Limited

Siva Natarajan B Eng., CPENGNZ., MIPENZ
Chartered Professional Engineer
(REG # 1011032)

021 031 1820 (M)

ASAP
Engineering Limited

AS Project#	AS20012
BC Ref.#	**BC200089**
Date of Inspection	13/07/20

COMPACTED FILL-SANDPAD INSPECTON

Site Address	LOT 22 - 1 KAAKA STREET, SWAYNE PARK, CAMBRIDGE
Client Details	INTOP HOMES
Contractor Information	

Photos

PHOTO 1

PHOTO 2

ASAP ENGINEERING JOB REF # AS20012

ASAP
Engineering Limited

PRODUCER STATEMENT - PS4

WAFFLE RAFT FLOOR INSPECTION

AT

LOT 22, 1 KAAKA STREET, SWAYNE PARK, CAMBRIDGE

For

INTOP HOMES

Prepared by: Siva Natarajan
Chartered Professional Engineer
(1011032)

55 London Street, Hamilton 3204
https://asapengineering.co.nz/
Email: office@asapengineering.co.nz

17/07/2020

ISSUED FOR BUILDING CONSENT ONLY

ASAP Engineering Limited

ASAP ENGINEERING JOB REF # AS20012

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PRODUCER STATEMENT - PS4 - CONSTRUCTION

INSPECTION CHECK LIST

SITE PHOTOS

ASAP Engineering Limited
Siva Natarajan B Eng., CPENGNZ., MIPENZ
Chartered Professional Engineer
(REG # 1011032)

021 031 1820 (M)

NEW DWELLING FOR:
LOT 22 - DP 531612,
1 KAAKA STREET,
SWAYNE PARK,
CAMBRIDGE

17/07/2020

ISSUED FOR BUILDING CONSENT ONLY

Job Ref # AS20012

Building Code Clause(s) B1/VM1/VM4

PRODUCER STATEMENT - PS4 - CONSTRUCTION REVIEW

(Guidance on use of Producer Statement (formerly page 2) is available at www.engineeringnz.org)

ISSUED BY: ASAP ENGINEERING LIMITED
(Design Firm)

TO: INTOP HOMES
(Owner/Developer)

TO BE SUPPLIED TO: WAIPA DISTRICT COUNCIL (Building Consent Authority)

IN RESPECT OF: WAFFLE RAFT FLOOR INSPECTION
(Description of Building Work)

AT: 1 KAAKA STREET, SWAYVE PARK
(Address)

Town/City: CAMBRIDGE **LOT** 22 **DP** 531612 **SO**

We ASAP ENGINEERING LIMITED have been engaged by INTOP HOMES
(Construction Review Firm)

To Provide ☐ CM1 ☒ CM2 ☐ CM3 ☐ CM4 ☐ CM5 (Engineering Categories) or ☐ Observation as per agreement with

owner/developer INTOP HOMES

or ☒ other WAFFLE RAFT FLOOR INSPECTION services
(Extent of Engagement)

in respect of clause(s) B1/VM1/VM4 of the Building Code for the building work described in

documents relating to Building consent No. BC 2000089 and those relating to

Building Consent Amendment(s) Nos. N.A issued during the

course of the works. We have sighted these Building Consents and the conditions of attached to them.

Authorised instructions/variation(s) No. N.A (copies attached)

or by the attached Schedule ☐ have been issued during the course of the works.

On the basis of ☒ this review ☐ these review(s) and information supplied by the contractor during the course of the works and **on behalf of the firm** undertaking this Construction Review, **I believe on reasonable grounds** that

☐ All or ☒ Part only of the building works have been completed in accordance with the relevant requirements of the

Building Consent and Building Consent Amendments identified above, with respect to Clause(s) B1/VM1/VM4 of the Building Code. I also believe on reasonable grounds that the persons who have undertaken this construction review have the necessary competency to do so.

I, Siva Natarajan am ☒ CPEng 1011032 # ☐ Reg Arch #
(Name of Construction Review Professional)

I am a Member of: ☒ IPENZ ☐ NZIA and hold the following qualifications: B Eng (Civil & Structural)

The Design Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*.

The Design Firm is a member of ACENZ : ☐

SIGNED BY Siva Natarajan (Signature)
(Name of Construction Review Professional)

ON BEHALF OF ASAP ENGINEERING LIMITED Date 17/07/2020
(Construction Review Firm)

*Note : This statement shall only be relied upon by the Building Consent Authority names above. Liability under this statement accurues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statement provided to the building Consent Authority in relation to this buiding work, whether in contract, tort or otherwise (including negligence), is limited to the sum of $200,000**

This form is to accompany Form 6 or 8 of the Building (Form) Regulations 2004 for the issue of Code Compliance Certificate

ASAP Engineering Limited

SC Project #	AS20012
BC Ref.#	BC 2000089
Date of Inspection	17 JuLY 2020

PRE-POUR - WAFFLE RAFT FLOOR INSPECTION

Site Address	LOT 22 - 1 KAAKA STREET , SWAYNE PARK
Client Details	INTOP HOMES
Contractor Information	

Inspections	Confirmation ( ) Yes	No
Ground Condition as per NZS 3604 Guidelines / Soil report recommendation	Yes	
Sloping ground (Min 1m setback) if any	N.A	
Formation area (Min 1m) from building foot print	Yes	
Damp Proof Membrane inplace - Good Condition	Yes	
Approved Council Drawings	Yes	
Edge beam Size (W) x (D) : 300x305 Reinforcements 3HD12 (B) + 1 HD12 (T)	Yes	
Slab Reinforcement/Mesh in-place - Thickness (85 mm)/SE72	Yes	
~~Cantilever beams (If any)~~	N.A	
PODs used for concrete placing /Condition : Good	Yes	
Chairs - Provided for concrete cover	Yes	
Reinforcement overlap locations for compression zone only (if any)	Yes	
Concrete spacers	Yes	
Cleaning	Yes	
Side shutters	Yes	
Opening/Corners - additional reinforcements	Yes	
Correct dimensions	Yes	
Congestion of steel bars / mesh		No
INSPECTION RESULT (PASS / FAIL)	**PASS**	

Notes	Condition Good	Poor
Site condition as specified in soil report	Yes	
Slab Reinforcements	SE72	

Sketches

ASAP Engineering Limited
Siva Natarajan B Eng., CPENGNZ., MIPENZ
Chartered Professional Engineer
(REG # 1011032)

021 031 1820 (M)

References

BC approved drawings - available at site

ASAP
Engineering Limited

SC Project # AS20012
BC Ref.# BC 2000089
Date of Inspection 17 JuLY 2020

PRE-POUR - WAFFLE RAFT FLOOR INSPECTION - PHOTOS

Site Address	LOT 22 - 1 KAAKA STREET , SWAYNE PARK
Client Details	INTOP HOMES
Contractor Information	

Photos

PHOTO 1

PHOTO 2

PHOTO 3

PHOTO 4

PHOTO 5

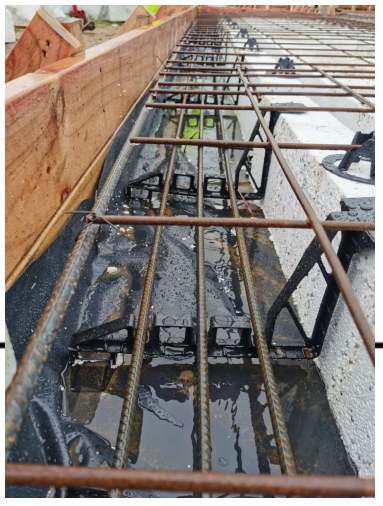


PHOTO 6

Producer Statement Construction (PS3) / Memorandum of Completion and Compliance

Issued by: *(Construction Reviewer)* Hao Chen

Building Consent number: 200089

Company Name: Cape101 Company Limited

To: ☐ Hamilton City Council ☐ Hauraki District Council ☐ Matamata-Piako District Council ☐ Otorohanga District Council
☐ Thames-Coromandel District Council ☐ Waikato District Council ☑ Waipa District Council ☐ Waitomo District Council

Waikato Building Consent Group Reg. No.: #0465 Expiry Date: 01/07/2021 Other No. *(specify)*:

Owner: Intop Homes Ltd

Project Address: 1 Kaaka Street. Cambridge

Lot: 22 DP: 531612

Description of Building Work: Internal wet area

Scope of work covered by statement: Waterproofing Membranes

System / Product used (if applicable): Ardex

I *(Construction Reviewer's name)*: Hao Chen

have been engaged by (owner/developer/contractor):

In respect of (tick applicable):

☑ The requirements of the Building Regulations 1992, Clause(s): *(Please be specific e.g. E2.3.5)* E3

☐ Alternative Solution(s):

for the building work described by the drawings and specifications prepared by the design firm titled:

HBC Design Ltd

numbered: ☐ Copies attached

authorised amendments(s): *(if applicable)* ☐ Copies attached

☑ I have sighted the Building Consent and read the Advisory Notes. I can confirm that the building works have been carried out in accordance with the requirements of the New Zealand Building Code, the Building Consent, the design drawings and specifications, and in accordance with the listed amendments (if any).

☑ I confirm that all work I have undertaken has been within the scope of my skills, knowledge, and experience. I have remained within the scope of works set for me by the *Waikato Building Consent Group Producer Statement Author register (if applicable).

☑ I understand that this Statement, if accepted, may be relied upon for the purpose of establishing compliance with the Building Code and the Building Consent.

☑ I am satisfied the building work complies with the requirements of the Building Consent and the New Zealand Building Code.

Signed by *(Construction Reviewer)*:

Name of Constructor *(Print clearly)*: Hao Chen

Date: 09/10/2020 Address: Level 1, 55 London St. Hamilton

Ph: 07 838 0829 Mb: 0221295155 Fx: Email: info@intophomes.co.nz

Qualifications / Experience: Waterproofing Membranes - Internal Registration # 0465

*The Waikato Building Consent Group Producer Statement Author register is held by the Building Unit Hamilton City Council, Private Bag 3010, Hamilton 3240. Ph (07) 838 6699. For information on the Waikato Building Consent Group visit www.buildwaikato.co.nz..

ELECTRICAL CERTIFICATE OF COMPLIANCE AND ELECTRICAL SAFETY CERTIFICATE

Reference/Certificate ID No: VTC801

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

Location Details: 1 Kaaka Street, Cambridge

Contact Details: (Name and address) Intop Homes Ltd, 55 London Street Hamilton

Name of Electrical worker: Zhong Bai, Ruihui Wang

Registration/Practising licence number: EW148639, EW146422

Organisation/company: Visetech Limited

Phone and email: 0210404183

Name of person(s) supervised: Weiqian Zhou EE264299

CoC

Type of work:	Additions	Alterations	✔ New work
The prescribed electrical work is:	Low risk	General	✔ High risk (Specify):
Reference Standards:	Part 1 of AS/NZS 3000		✔ Part 2 of AS/NZS 3000
	AdditionalStandards:		

Description of Work: (including date/s of work and type of supply system)

New house electrical installation. 63A mains, 20A circuit for Oven, 20A for Aircon, 4x20A circuit for power points and 3x10A for lighting protected by 2 RCDs. MEN applied. Main earth rod locates outside by garage.

Job done on 5/10/2020

I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct in that the installation, or part of the installation:

Select those that apply:

- Has been installed in accordance with the specified certified design[1]
- ✔ Has an earthing system that is correctly rated (where applicable)
- ✔ Contains fittings that are safe to connect to a power supply
- Relies on a supplier Declaration of Conformity[1]
- Relies on a manufacturer's instructions[1]
- ✔ Has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010
- ✔ Is safe to connect

Test Results	
Polarity (Independent earth):	Paased
Insulation resistance:	Passed
Earth Continuity:	Passed
Bonding:	Passed
Fault Loop impedance	N/A
Other (specify):	N/A

Electronic/Other reference:

Certifier's signature: Weiqian Zhou **Date:** 12/10/2020

1 Attach or reference. If it is impractical to attach a copy of a particular manufacturer's instructions, or of any certified design or supplier declaration of conformity, provide a reference to where the documents can be found, in a readily accessible format, by electronic means.

ESC

I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name: Weiqian Zhou **Registration/Practising licence number:** EE264299

Certifier's signature: Weiqian Zhou **Certificate Issue Date:** 12/10/2020 **Connection Date:** 12/102020

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(e) of the Building Act 2004.

GASFITTING CERTIFICATE OF COMPLIANCE – GAS SAFETY CERTIFICATE

Certificate of Compliance:

Client Name: Intop Homes Ltd

Address of work: 1 Kaaka Street

Suburb: **Town / City:** Cambridge

Description of gasfitting work: (If different gasfitting work was done by different people, state who did what gasfitting.)

Install Service pipe work for the following:
Rheem Model: 874826NFZ Serial No: H14-0620900321
Robinhood Model: RHFS909GX Serial No: V0000310062006000039
Rinnai Ember Model: RDV600 NZ Serial No: MHZBAG0248

Gas supply pressure 2.75 kPa **Risk classification** (tick one) ☒ Low-Risk ☐ General ☐ High-risk

Gas type (tick one) ☒ Natural gas ☐ LPG ☐ Biogas ☐ Other (specify)

The work relies on manufacturer's instructions: ☐ No ☒ Yes:

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate. (Or provide reference to readily accessible electronic format, e.g. Internet link.)

https://rheem.co.nz/products/home/gas-water-heating/gas-continuous-flow-water-heaters/874826nfz
https://www.robinhood.co.nz/products/details/RHFS909GX
https://rinnai.co.nz/ember

The work has been done in accordance with means of compliance (specify):

☒ Yes – AS/NZS 5601.1 sections 3 to 6 ☐ Yes – AS/NZS 5601.2 sections 3 to 9 ☐ No

Parts of the gas installation to which this certificate relates that are safe to connect to a gas supply?

☒All ☐ Parts (specify)

Date(s) on which the work was done: 14/10/2020

Name and registration number of anyone who carried out work under supervision: Shaydn Wood

By signing this document, I confirm that I am satisfied that the work described in this certificate of compliance has been done lawfully and safely, and that the information on this certificate is correct.

Certifier name: Boydie Cowley **Registration number:** 20386

Certifier Signature:  **Date:** 14/10/2020

Gas Safety Certificate:

By signing this document, I confirm that the work described in this Gas Safety Certificate, and the installation or part installation, is connected to a gas supply and is safe to use.

Name of person authorised to certify the connection: Boydie Cowley

Registration number: 20386 **Date of completion or connection** 14/10/2020

Certifier Signature:  **Date:** 14/10/2020

Plumbing Pressure Test Memorandum

Issued by: *(Plumber)* Boydie Cowley

Registration Number: 20386

Company Name: Jamark Plumbing Ltd

Company Address: 75 Killarney Road, Frankton, Hamilton

Company Contact Details: Ph: 07 8343180 Mb: 021 195 7412 Fx:

To:
- ☐ Hamilton City Council
- ☐ Hauraki District Council
- ☐ Matamata-Piako District Council
- ☐ Otorohanga District Council
- ☐ Thames-Coromandel District Council
- ☐ Waikato District Council
- ☑ Waipa District Council
- ☐ Waitomo District Council

Building Consent Number: 200089

Building Owner: Intop Homes Limited

Project Address: 1 Kaaka St, Cambridge

Description of Building Work: Completion of a pressure test on the plumbing system

Scope of work covered by statement: We certify that the system was tested to 1500kpa for a period of 30 minutes. This test was conducted in accordance with manufacturer recommendations and complies with the pressure testing provisions of the New Zealand Building Code and Approved Solution G12 AS1 and AS/NZS3500.1.2 as appropriate.

☑ I understand that this Statement, if accepted, may be relied upon for the purpose of establishing compliance with the Building Code and Building Consent.

Signed by: *(Plumber)* 

Date: 12/10/2020

The Waikato Building Consent Group Producer Statement Author register is held by the Waikato Building Consent Group, Email: info@buildwaikato.co.nz For information on the Waikato Building Consent Group visit the Build Waikato website.

Waikato Building Consents

Working Together

As Laid Drainage

Building Consent Number: 200089 Date: 9 / 7 / 20 No. of pages: 1

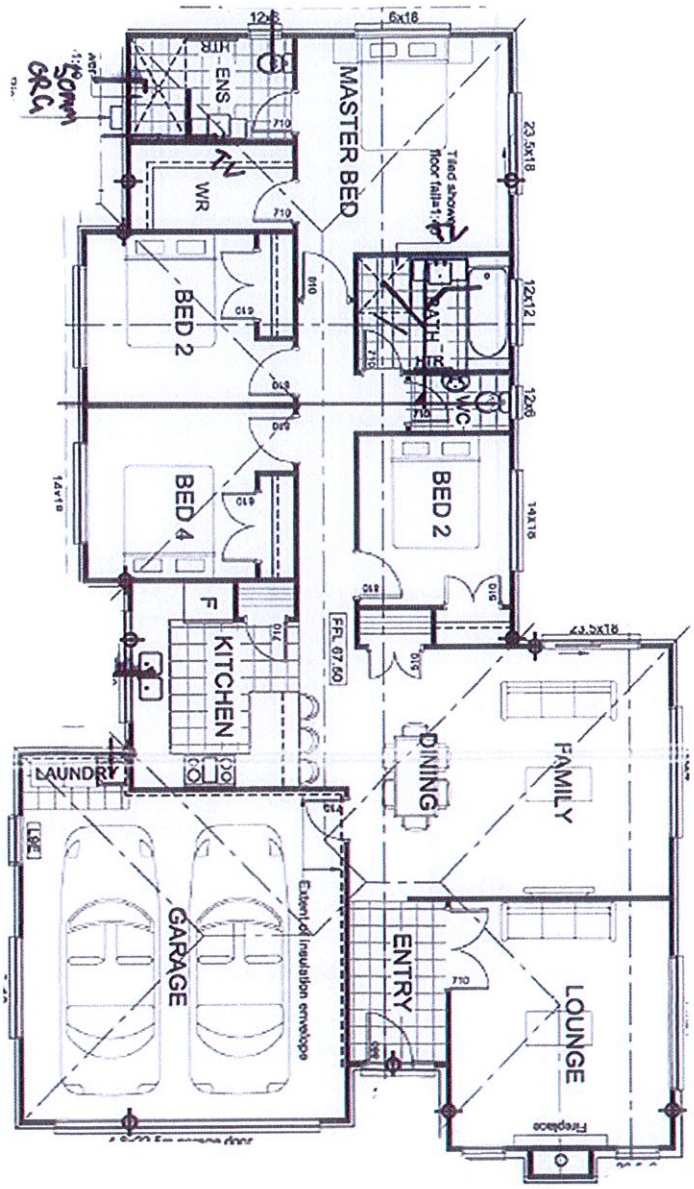
Building Address: 1 Kooka St, Cambridge

Drain Layer Name: Boydie Cowley [Please print clearly] Signature:

Registration Number: 20386 Business Name: Jamark Plumbing Limited

To Council: [Tick]

☐ Hamilton ☐ Hauraki ☐ Matamata-Piako ☐ Otorohanga ☐ Thames-Coromandel ☑ Waipa ☐ Waikato ☐ Waitomo



Waikato Building Consents

Working Together

As Laid Drainage

Building Consent Number: 200089 Date: 29 / 7 / 20 No. of pages: 1

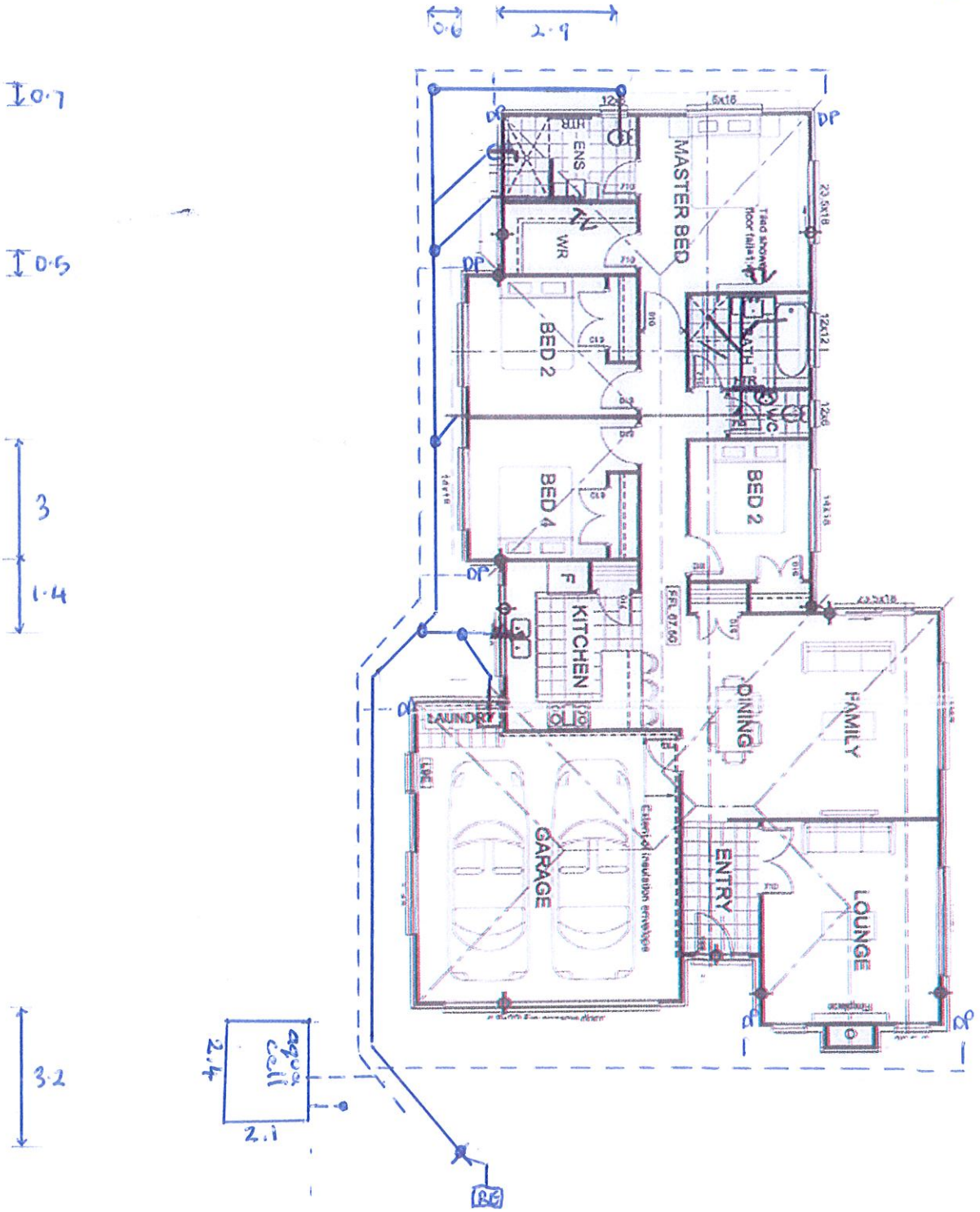
Building Address: 1 Kooka St. Cambridge

Drain Layer Name: Boydie Cowley [Please print clearly] Signature: Boydie

Registration Number: 20386 Business Name: Jamark Plumbing Limited

To Council: *[Tick]*

☐ Hamilton ☐ Hauraki ☐ Matamata-Piako ☐ Otorohanga ☐ Thames-Coromandel ☑ Waipa ☐ Waikato ☐ Waitomo



InTop Homes Ltd.

PO Box 24202
Hamilton
Ph: 07 855 2108
Mob: 021 288 9600

INSULATION PRODUCER STATEMENT

Project: Lot22, 1 Kaaka Street. Cambridge.

Statement Date: 12/10/2020

Consent Number： 200089

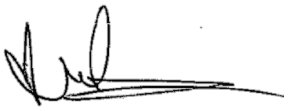
Description of insulation

Products

1	Knauf Earthwool insulation to selected EXTERNAL CEILINGS of site at R-Value 3.6
2	Knauf Earthwool insulation to selected EXTERNAL WALLS of site at R-Value 2.2

Intop Homes limited hereby certifies that the above product and installation are in accordance with the specifications, and complies with NZS4246:2006 (incorporating Amendment No.1) requirements.

Signed:



Henry Wu

Director

Intop Homes Limited

PO Box 24202, Hamilton

021 288 9600

leon.2008@hotmail.com

MiTek New Zealand Limited

Correspondence from : **AUCKLAND**
40 Neales Road, East Tamaki 2013
PO Box 58-014, Botany 2163
Phone: 09 274 7109
Fax: 09 274 7100

CHRISTCHURCH
14 Pilkington Way, Wigram 8042
PO Box 8387, Riccarton 8440
Phone: 03 348 8691
Fax: 03 348 0314

www.miteknz.co.nz

PRODUCER STATEMENT for MiTek 20/20® TRUSS DESIGN - Version 4.7

ISSUED BY: **MiTek New Zealand Limited**

TO: **Dayle ITM**

IN RESPECT OF: **MiTek® Truss Designs**

This producer statement covers the MiTek 20/20® truss design and the structural performance of the GANG-NAIL® connector plate for the job reference **DS3454** and may be used by a Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

The MiTek 20/20® truss design program has been developed by MiTek New Zealand Limited for the design of MiTek® timber roof, floor and attic trusses in New Zealand. The truss designs computed by MiTek 20/20 ® are prepared using sound and widely accepted engineering principles, and in accordance with compliance documents of the New Zealand Building Code and Verification Method B1/VM1; and internationally accepted standard ANSI/TPI 1 - 2002 as an alternative solution, to satisfy the requirements of Clause B1 of the New Zealand Building Code.

On behalf of MiTek New Zealand Limited, and subject to:

i) All proprietary products meeting their performance specification requirements
ii) The provision of adequate roof bracing and overall building stability
iii) Correct selection and placement of GANG-NAIL connector plates
iv) Correct input of Truss Design Data as shown in the Fabricator Design Statement for this job
v) The design being undertaken by the accredited fabricator under the terms of the software licence
vi) Timber is graded to the requirements of NZS 3603:1993
vii) Minimum timber treatment for these MiTek® trusses shall be in accordance with B2/AS1 Table 1A and the relevant sections of NZS 3602:2003

I believe on reasonable grounds that the trusses, if constructed in accordance with the MiTek 20/20® truss design and shop drawings, will comply with the relevant provisions of the New Zealand Building Code.

MiTek New Zealand Limited holds a current policy of Professional Indemnity Insurance no less than $500,000.

On behalf of MiTek New Zealand Limited, **Date: Thursday, 23 January 2020**

In Ling Ng, BE (Hons), CPEng, IntPE, MIPENZ (ID: 146585)
TECHNICAL SERVICES MANAGER, MiTek New Zealand Limited

MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator **Dayle ITM**, being licensed to use the MiTek 20/20® software, to the client listed above and may be used by the Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

MiTek 20/20® TRUSS DESIGN DATA

The MiTek 20/20® computer design for this job is based on the following design parameters entered into the program. The Fabricator shall ensure that these job details are current and relevant to the project for the design of the MiTek ® trusses.

Job Details

Importance Level : 2

Design Working Life : 50 years

Roof Truss

Timber Group:	Dayle ITM Truss	Pitch:	27.500 deg	Nominal Overhang:	450 mm
Roof		**Ceiling**		**Wind**	
Material:	Asphalt Shingles/15mm Ply	Material:	Gib Board 10mm	Area:	High (44.0 m/s)
Dead Load:	0.380 kPa	Dead Load:	0.200 kPa	Pressure Coeff:	Cpe = varies; Cpi = -0.30, 0.20
Restraints:	900 mm centres	Restraints:	400 mm centres		
Live Load:	Qur = 0.250 kPa Qc = 1.100 kN	Live Load:	Qc = 1.400 kN		

The minimum timber treatment for these MiTek® trusses shall be in accordance with B2/AS1 Table 1A and the relevant sections of NZS 3602:2003. The timber for these MiTek® trusses shall be graded to the requirements of NZS 3603:1993. Proprietary fixings and timber connectors shall be selected in accordance with NZS3604:2011 Section 4 - Durability.

MiTek® Truss List

Legend: * = detail only, ? = input only, ~~Txx~~ = failed design, Ø = non certified, Unmarked trusses = designed successfully, LB = lateral bracing required
GB = gable brace required

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
ET1	1	6300	27.500	900	J4	1	1577	27.500	900	T6	1D	8600	27.500	900
ET2	2	1500	27.500	900	J4A	1	1577	27.500	900	T7	1D	4200	27.500	900
*FR1	1	7200	27.500	900	J5	1	1955	27.500	900	T8	1	2477	27.500	900
*FR5	2	1950	27.500	900	J5A	1	1955	27.500	900	T8A	1	2477	27.500	900
*HB1	2	5625	20.209	900	J5B	1	1955	27.500	900	T9	1	4778	27.500	900
*HB2	1	6686	20.208	900	J5C	1	1955	27.500	900	T9A	1	4778	27.500	900
*HB3	1	3215	20.209	900	J5D	1	1955	27.500	900	T9B	1	4732	27.500	900
*HB4	2	5342	20.208	900	J5E	1	1955	27.500	900	T10	1	5028	27.500	900
*HB5	1	1084	20.208	900	J5F	1	1955	27.500	900	T11	1	4732	27.500	900
*HB6	1	1649	20.208	900	*OR7	6	1080	0.000	900	T12	1	5028	27.500	900
J1	1	2627	27.500	900	*OR8	10	705	0.000	900	T13	1	5028	27.500	900
J1A	1	2627	27.500	900	*R2	1	1290	27.500	900	T14	1	5028	27.500	900
J1B	1	2627	27.500	900	*R2A	1	1290	27.500	900	T15	1	1105	27.500	900
J1C	1	2627	27.500	900	*R3	5	763	27.500	900	T16	1	4041	27.500	900
J1D	1	2627	27.500	900	*R3A	5	763	27.500	900	TG1	1	7100	27.500	900
J2	1	1727	27.500	900	*R4	1	1140	27.500	900	TG2	1D	8335	27.500	900
J2A	1	1727	27.500	900	*R6	1	1518	27.500	900	TG3	1D	6800	27.500	900
J2B	1	1727	27.500	900	*R6A	1	1518	27.500	900	TR1	1	8335	27.500	900 LB
J2C	1	1727	27.500	900	T1	1	6300	27.500	900	TR2	1	5028	27.500	900
J3	1	2477	27.500	900	T2	1D	6300	27.500	900	V1	1	4500	27.500	900
J3A	1	2477	27.500	900	T3	2	7100	27.500	900	V2	1	2700	27.500	900
J3B	1	2477	27.500	900	T3A	6	7100	27.500	900	V3	1	900	27.500	900
J3C	1	2477	27.500	900	T3B	1	7100	27.500	900	V4	1	922	27.500	900
J3D	1	2477	27.500	900	T4	1D	7100	27.500	900	V5	1	1423	27.500	900
J3E	1	2477	27.500	900	T5	1	8335	27.500	900					

Total quantity : 106

The computer design input has been carried out by:

Signed: .....

Date: ...Thursday, 23 January 2020....

Name of Detailer: .....

Qualifications and Title: MITEK DETAILER Detailer

On behalf of: Dayle ITM

GLAMACOTE LTD

PO BOX 20214,
TERAPA,
HAMILTON.

PHONE:(07)8505236
MOBILE:0275 938966
FAX : (07) 8505936

Ps 3

PRODUCER STATEMENT

REG NO 0058 LBP NO BP134002

TO WAIPA DISTRICT COUNCIL
CLIENT :. INTOP HOMES

JOB SITE : Lot 22 Kaaka Street, Hamilton
CONS No : 200089

CATEGORY PS 3
NZ BC E2 FOR EXTERNAL MOISTURE

GLAMA-COTE EXTERIOR PLASTERING LTD –applied the AAC LITE-BRICK PLASTER SYSTEM to exterior walls. (UNPAINTED)

.....
JASON BRYANT
For Glamacote Ltd
Dated 15/09/2020

Memorandum from licensed building practitioner: Record of building work

Section 88, Building Act 2004

Please fill in the form as fully and correctly as possible.

If there is insufficient room on the form for requested details, please continue on another sheet and attach the additional sheet(s) to this form.

THE BUILDING

Street address: **Lot 22, 1 Kaaka Street**

Suburb:

Town/City: **Cambridge** | Postcode:

THE PROJECT

Building consent number: **200089**

THE OWNER(S)

Name(s): INTOP HOMES

Mailing address: 55 LONDON ST

Suburb: | PO Box/Private Bag:

Town/City: HAMILTON | Postcode:

Phone number: 021 288 9600 | Email address: leon.2008@hotmail.com

RECORD OF WORK THAT IS RESTRICTED BUILDING WORK

PRIMARY STRUCTURE

Work that is restricted building work	Description of restricted building work	Carried out or supervised
Tick ✓	If necessary, describe the restricted building work.	Tick ✓ whether you carried out the restricted building work or supervised someone else carrying out the restricted building work.
Foundations and subfloor framing ☐	N/A	○ Carried out ○ Supervised
Walls ☐	N/A	○ Carried out ○ Supervised
Roof ☐	N/A	○ Carried out ○ Supervised
Columns and beams ☐	N/A	○ Carried out ○ Supervised
Bracing ☐	N/A	○ Carried out ○ Supervised
Other ☐	N/A	○ Carried out ○ Supervised

EXTERNAL MOISTURE MANAGEMENT SYSTEMS		
Work that is restricted building work	**Description of restricted building work**	**Carried out or supervised**
Tick ✓	If necessary, describe the restricted building work.	Tick ✓ whether you carried out the restricted building work or supervised someone else carrying out the restricted building work.
Damp proofing ☐	N/A	○ Carried out ○ Supervised
Roof cladding or roof cladding system ☐	N/A	○ Carried out ○ Supervised
Ventilation system (for example, subfloor or cavity) ☐	N/A	○ Carried out ○ Supervised
Wall cladding or wall cladding system ☑	SUPPLY AAC LIT-BRICKS TO SITE MESH AND PLASTER AAC BRICK WALLS FINISHED TO FLOAT FINISH (UNPAINTED)	○ Carried out ✓ Supervised
Waterproofing ☐	N/A	○ Carried out ○ Supervised
Other ☐	N/A	○ Carried out ○ Supervised

ISSUED BY

Name and contact details of the licensed building practitioner who is licensed to carry out or supervise restricted building work.

Name: JASON BRYANT	LBP number: 134002
Class(es) licensed in:	
E2 EXTERNAL PLASTERING	
Plumbers, Gasfitters and Drainlayers registration number (if applicable):	
Mailing address (if different from below):	
Street address/Registered office:	
Suburb: TE RAPA	Town/City: HAMILTON
PO Box/Private Bag 20214	Postcode:
Phone number:	Mobile: 0275938967
After hours:	Fax:
Email address: glamacote@xtra.co.nz	Website:

DECLARATION

I JASON BRYANT carried out or supervised the restricted building work recorded on this form.

Signature:

Date: 15/09/2020

Waipa DISTRICT COUNCIL

Postal Address
Private Bag 2402
Te Awamutu 3840
New Zealand

Head Office
07 872 0030
101 Bank Street
Te Awamutu 3800

Cambridge Office
07 823 3800
23 Wilson Street
Cambridge 3434

04 May 2020

Your ref: LU/0092/20

HBC Design Ltd
PO Box 21169
Rototuna
Hamilton 3256

Digitally Delivered

Decision on application for resource consent under the Resource Management Act 1991

Application number:	LU/0092/20
Applicant:	Intop Homes Limited
Address:	1 Kaaka Street, Cambridge
Legal Description:	Lot 22 DP 531612
Proposed activity(s):	Erect dwelling dispensing with road boundary setback requirements

Dear Sir or Madam,

I wish to advise you of Waipa District Council's decision to **grant** your application for resource consent under the Resource Management Act 1991 (RMA). Please see below for the details of the decision and conditions of consent.

The following information provides you with some guidance on your rights and what to do next. It is recommended that you seek independent advice if you are in any doubt as to the processes to be followed.

Objections

If you disagree with any part of this decision or any conditions of this consent, you may lodge an objection in writing to Council within **15 working days** of the receipt of this letter. Your objection must be in accordance with section 357 of the RMA and must include the reasons for your objection.

Compliance with conditions

Your resource consent permits the land use to be established at the site long as the activity complies with the stated conditions on an ongoing basis. It is important that you fully understand and comply with all the conditions of your consent.

Please notify Council's monitoring department prior to the commencement of activities associated with this consent. The role of Council's monitoring department is to monitor compliance with the conditions of consent and may involve site visits.

Council's monitoring department can be contacted on consentmonitoring@waipadc.govt.nz or 07 8233800. Please reference the consent number and address of the property when emailing or calling.

Lapsing of Consent/s
This resource consent lapses five (5) years after the commencement of the consent, unless the consent is given effect to by the end of that period.

The commencement date of a resource consent is determined by section 116 of the Resource Management Act 1991.

Yours Sincerely

Emma Norman
PLANNER
Email: emma.norman@waipadc.govt.nz

Resource Consent

(Resource Management Act 1991)

DECISION ON APPLICATION LU/0092/20

Pursuant to Sections 34A(1), Section 104, 104B and 108 of the Resource Management Act 1991, the Waipa District Council, under delegated authority, grants Landuse Consent for a Discretionary Activity to:

Activity:	Erect dwelling with attached garage dispensing with road boundary setback requirements
Consent Holder:	Intop Homes Limited
Location Address:	1 Kaaka Street, Cambridge
Legal Description:	Lot 22 DP 531612 (RT 868293)

This consent is subject to the conditions attached in Schedule 1.

Advisory notes for this consent are attached in Schedule 2.

The reasons for this decision are attached in Schedule 3.

Dated at Cambridge this 4th day of May 2020.

For and on behalf of Waipa District Council

Quentin Budd
CONSENTS TEAM LEADER

Schedule 1

Conditions of Consent

Resource Consent No: LU/0092/20

General

1 The proposal must proceed in general accordance with the information submitted with the application, except where another condition of this consent must be complied with. This information is entered into council records as LU/0092/20. A copy of the approved plan/s is attached.

2 The proposed garage shall have a minimum setback of 4.204 from the Rose Leigh Drive road boundary of the site.

Schedule 2

Advisory Notes

Resource Consent No: LU/0092/20

1 This consent is granted by the Council subject to the Council's officers and/or agents being permitted access to the property at all reasonable times for the purposes of carrying out inspections, surveys, investigations, tests, measurements or taking samples.

2 All earthworks associated with any development of land must be undertaken in accordance with the following matters:

i) All earthworks must be carried out so as to provide sound foundations as required under NZS 4431:1989 and avoid any hazard to persons or property;

ii) All earthworks must be carried out so as to avoid or mitigate any detrimental effect on the environment particularly with regard to the unnecessary destruction of vegetation, the contamination of natural water or the diversion of surface or ground water flows;

iii) The existing landform must not be altered in such a manner that adjoining properties will be detrimentally affected particularly through changes in drainage systems or abrupt changes in ground level; and

iv) All earthworks must be carried out to the satisfaction of Council's Manager – Infrastructure Development.

3 Building consent is required from Waipa District Council for the construction of the dwelling.

Accidental discovery protocols

4 If taonga (treasured or prized possessions, including Maori artefacts) or archaeological sites are discovered in any area being earth-worked, the consent holder shall cease work within a 100m radius of the discovery immediately and contact local iwi, Heritage New Zealand Pouhere Taonga (HNZ) and Council's Manager Planning and Regulatory. Works shall not recommence until approval to continue work is given by Council's Manager Planning and Regulatory.

5 If during construction activities, any Koiwi (skeletal remains) or similar material are uncovered, works are to cease within a 100m radius of the discovery immediately, and the consent holder shall notify the New Zealand Police, local iwi, Heritage New Zealand Pouhere Taonga (HNZ) and Council's Manager Planning and Regulatory. Works shall not recommence until approval to

continue work is given by Council's Manager Planning and Regulatory.

6 Pursuant to Section 36 of the Resource Management Act 1991 the consent holder shall pay the actual and reasonable costs incurred by the Waipa District Council when monitoring the conditions of this consent.

Schedule 3

Reasons for Decision

Resource Consent No: LU/0092/20

1 The proposal is not contrary to Section 5, 6 or 7 of the Act. There is nothing in the proposal that would conflict with the principles of the Treaty of Waitangi (Section 8 of the Act). Overall, the application would not offend any of the matters contained within Part 2 of the Act.

2 Any adverse environmental effects resulting from the proposal are deemed to be less than minor, or can be mitigated by the imposition of appropriate consent conditions. The proposal is therefore considered to meet the gateways tests of Section 104D of the Resource Management Act, for Non-Complying Activities.

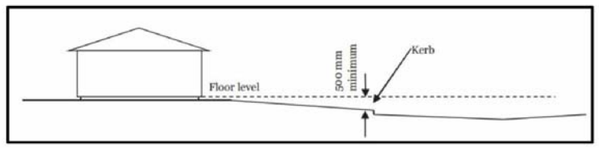
3 The application was processed on a non-notified basis and was approved under delegated authority without the need for a Council hearing.

4 Council's Development Engineer has assessed the road boundary setback non-compliance and has no concerns with regards to the safety and efficiency of the adjoining road network.

5 The road boundary setback non-compliance is the result of an unusually shaped site. The non-compliance is considered to be minor, and will likely be indiscernible when viewed from surrounding public places and properties. Further, ample space for lawn and potential landscaping will be retained on site which will ensure that character and amenity will be maintained.

BEFORE CONSTRUCTION BEGINS, BUILDER MUST CHECK ALL DIMENSIONS ARE CORRECT AND ALL CONSTRUCTION WORK COMPLIES WITH THE NZS3604:2011 AND NEW ZEALAND BUILDING CODE, LOCAL BODY BYLAWS AND RELEVANT NEW ZEALAND STANDARDS.

Figure 4.4 – Minimum floor level based on kerb height



NOTE:

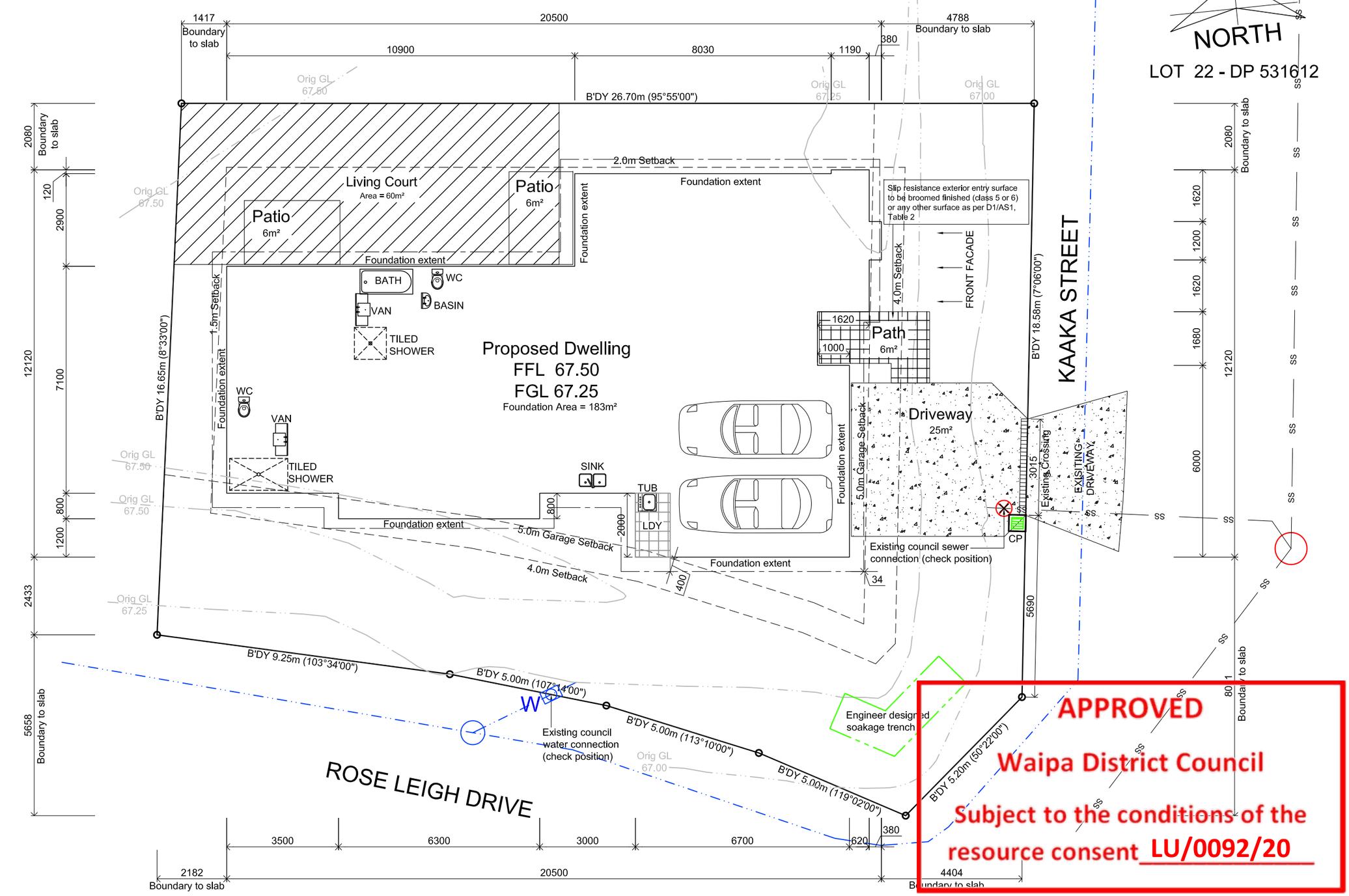
The minimum fllor level should be the greater of :

a) 500mm above the adjacent kerb height,

b) 150mm above the finished ground level at the edge of the proposed building foundation

LEGEND			
SS	DN100mm uPVC Council Waster Water pipe		Path: Brushed concrete finish
CP	Catch Pit / Bubble up		Driveway: Exposed aggregrate concrete
	Water Toby		
	Ø20mm MDPE Council Water pipe		

ENGINEERED STORMWATER DESIGN AS PER _____
ENGINEERS REPORT, DATED: --/--/2020 REF: -------



APPROVED
Waipa District Council
Subject to the conditions of the resource consent LU/0092/20

AREAS:

TOTAL SITE AREA	= 511m²
FLOOR AREA (OVER FRAMING)	= 183m²
TOTAL FLOOR AREA (OVER FOOTPRINT)	= 183m²
COVERED AREA	= 1m²
SITE COVERAGE	= 184m²
	= 36%

*EAVES NOT INCLUDED IN COVERED AREAS

ROOF AREA = 213m²

IMPERMEABLE AREA:

DRIVEWAY	= 25m²
PATH (outside coverage)	= 18m²
TOTAL	= 43m²

PERMEABLE AREA:

511m² - (184m²+43m²) =284m²
=55.6%

AREAS NOT IDENTIFIED ABOVE AS IMPERMEABLE, ARE PERMEABLE.

NOTES:

- THESE DRAWINGS HAVE BEEN PREPARED FOR AND IN ACCORDANCE WITH THE CLIENT/ OWNER'S INSTRUCTIONS AND ARE FOR BUILDING CONSENT PURPOSES ONLY. WORKING DRAWINGS AND SPECIFICATIONS CANNOT BE USED FOR ANY CONSTRUCTION WORK UNLESS THEY HAVE BEEN APPROVED AND STAMPED BY THE RELEVANT TERRITORIAL AUTHORITY.

- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH WRITTEN SPECIFICATIONS, DETAILS AND ALL OTHER CONSULTANTS' DRAWINGS, DETAILS, REPORTS AND DOCUMENTS.

-LOW WIND ZONE

- DURABILITY ZONE B - SHELTERED/ EXPOSED (SEE PAGE D12 FOR FIXING TYPE)

- ALL LEVELS TO BE CHECKED ON SITE PRIOR TO COMMENCING CONSTRUCTION.

- CHECK POSITION OF DWELLING WITH OWNER PRIOR TO COMMENCING CONSTRUCTION

- ALL SITE WORK TO COMPLY WITH NZBC CLAUSE F5 "CONSTRUCTION/ DEMOLITION HAZARDS". WHEN WORKERS ARE ABSENT FROM SITE, ENSURE ANY HAZARDS ARE COVERED UP OR AT LEAST FENCED OFF.

- WHERE FILL MATERIAL IS USED, IT SHALL BE CLEANFILL.

- ALL EARTHWORKS (OTHER THAN TRANSPORTATION OF MATERIAL OFF SITE) SHALL RETAIN SEDIMENT ON SITE THROUGH IMPLEMENTATION AND MAINTENANCE OF SEDIMENT CONTROLS.

- ALL EARTHWORKS ACTIVITIES SHALL BE MANAGED TO AVOID MATERIAL DEPOSITS ON PUBLIC ROADS FROM ANY VEHICLES OPERATING ON SITE.

InTop Homes
55 London Street, Hamilton Centre
E-mail - info@intophomes.co.nz
Ph: 07-8380829

Project: New Dwelling for Lot 22 - DP 531612, 1 Kaaka Street, Swayne Park, Cambridge

Drawing Name: SITE DEVELOPMENT PLAN

Amendments:

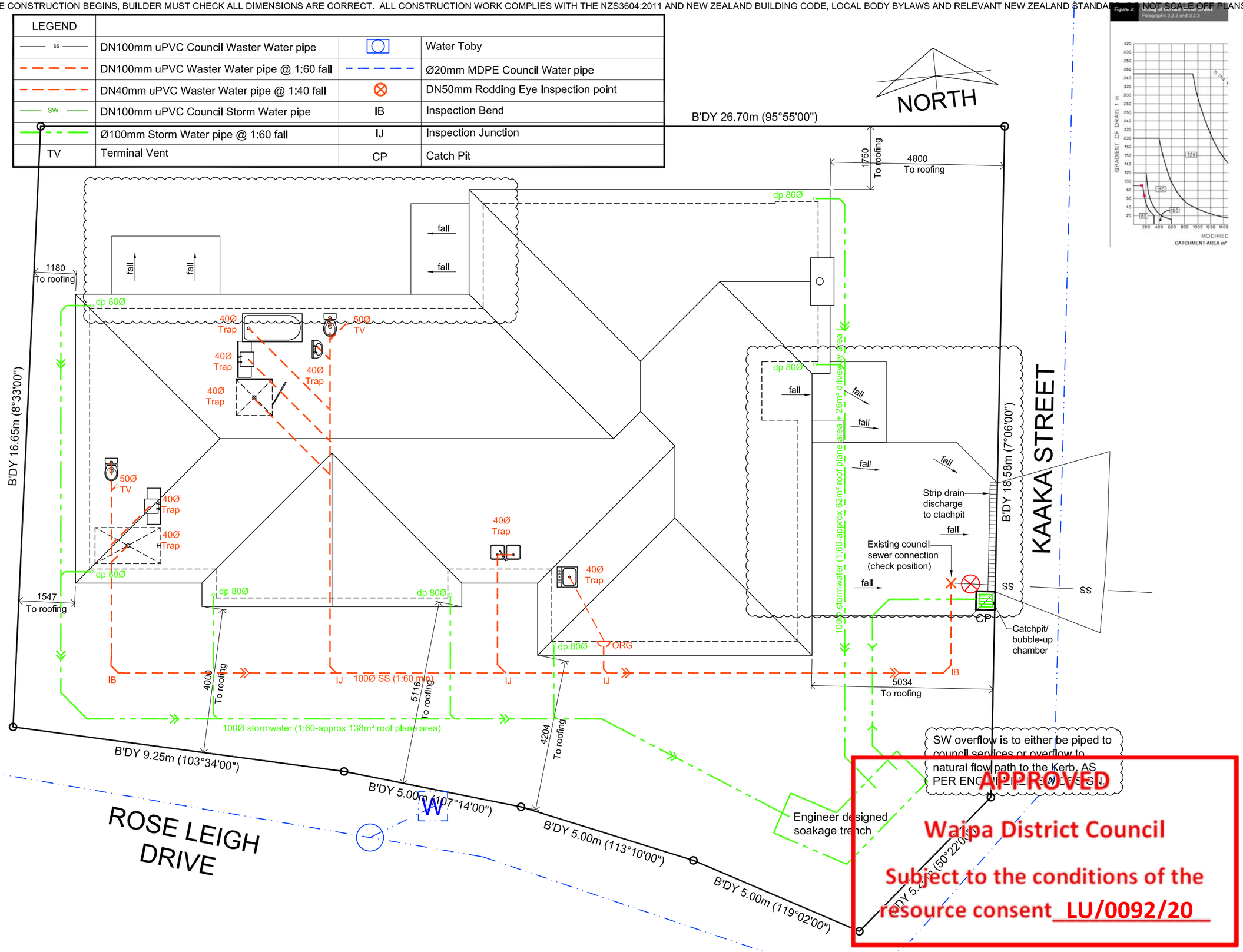
Scale: 1:125

Date: January 2020

Drawing NO: A-100

BEFORE CONSTRUCTION BEGINS, BUILDER MUST CHECK ALL DIMENSIONS ARE CORRECT. ALL CONSTRUCTION WORK COMPLIES WITH THE NZS3604:2011 AND NEW ZEALAND BUILDING CODE, LOCAL BODY BYLAWS AND RELEVANT NEW ZEALAND STANDARDS. DO NOT SCALE OFF PLANS

LEGEND			
SS	DN100mm uPVC Council Waster Water pipe		Water Toby
	DN100mm uPVC Waster Water pipe @ 1:60 fall		Ø20mm MDPE Council Water pipe
	DN40mm uPVC Waster Water pipe @ 1:40 fall		DN50mm Rodding Eye Inspection point
SW	DN100mm uPVC Council Storm Water pipe	IB	Inspection Bend
	Ø100mm Storm Water pipe @ 1:60 fall	IJ	Inspection Junction
TV	Terminal Vent	CP	Catch Pit



NOTES:

- CHECK POSITION OF WASTEWATER AND STORMWATER PRIOR TO COMMENCING CONSTRUCTION AND CHECK ALL PIPE DIAMETERS, GRADIENTS, ETC. ON SITE TO ENSURE ACCEPTABLE FALLS

- ALL PLUMBING AND DRAINAGE IS TO BE INSTALLED AND TESTED BY A REGISTERED TRADESPERSON

- ALL PLUMBING AND DRAINAGE TO COMPLY WITH G13/AS3 (AS/NZS 3500.2) AND E1/AS1 AND WITTH ALL RELEVANT CODES AND LOCAL BYLAWS

- WATER SUPPLY TO COMPLY WITH NZBC G12/AS1

- INTERNAL WATER RETICULATION PIPES (HOT AND COLD) ARE TO BE POLYBUTYLENE INSTALLED TO MANUFACTURER'S SPEC.

- WATER SUPPLY MIN NOMINAL PIPES DIA'S

• TEMPERING VALVE	20mm
• SHOWER COLD	20mm OR 10mm DEDICATED LINE
• SHOWER HOT	20mm OR 15mm DEDICATED LINE
• BATH, SINK, L'DY	15mm (20m MAX. LENGTH)
• BASIN	15mm (20m MAX. LENGTH)

- ALL SANITARY WASTE PLUMBING AND DRAINAGE PIPES ARE TO BE DWV GRADE uPVC AND COMPLIANT WITH AS/NZS 1260

- ORG IS TO BE 75mm ABOVE UNPAVED SURFACE OR AT A HEIGHT THAT PREVENTS PONDING OR THE INGRESS OF WATER WHERE LOCATED IN A PAVED SURFACE

- ALL HOSE TAPS TO BE FITTED WITH VACUUM BREAK NON-RETURN VALVES

MINIMUM FALL TO DRAINAGE RUNS:

DN 40	1:40 GRADIENT
DN 65	1:40 GRADIENT
DN 80/100	1:60 GRADIENT
DN 100 SW	1:120 GRADIENT

INSPECTION ACCESS POINTS

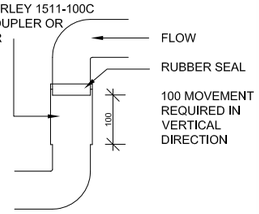
PROVIDE ACCESS POINTS TO ALL DRAINS AS REQUIRED BY AS/NZS 3500.2, 4.7 AND NZBC E1, 3.7
1. ON BRANCH DRAINS CARRYING SOIL WASTE CLOSE TO THE BUILDING BUT NO FURTHER AWAY THAN 2.5m
2. AT INTERVALS NOT MORE THAN 30m FOR SANITARY OR 50m FOR STORMWATER
3. ON THE DOWNSTREAM END OF DRAINS PASSING UNDER A BUILDING
4. AT THE JOIN WITH THE EXISTING DRAINAGE CONNECTION
5. AT CHANGES OF DIRECTION OR GRADIENT GREATER THAN 45°
6. AT A JUMP-UP
7. AT JUNCTIONS ON STORMWATER DRAINS EXCEPT WHERE THE BRANCH SERVES ONLY ONE DP AND IS LESS THAN 2m LONG

FINAL INSPECTION POINT POSITIONS ARE TO BE CONFIRMED BY THE DRAINLAYER ON DRAINAGE AS-BUILTS

WATER SUPPY:

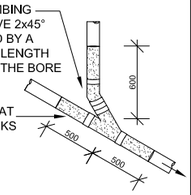
- FLEXIBLE DRAINAGE JOINTS ARE TO BE INSTALLED WHERE WW DRAINAGE LEAVES THE SLAB AND ENTERS THE GROUND

USE MARLEY 1511-100C SLIP COUPLER OR SIMILAR



THE BASE OF PLUMBING STACKS SHALL HAVE 2x45° BENDS SEPARATED BY A STRAIGHT PIPE OF LENGTH NOT LESS THAN 2x THE BORE

NO CONNECTIONS AT THE BASE OF STACKS WHERE SHOWN (HATCHED)



APPROVED
Waipa District Council
Subject to the conditions of the resource consent LU/0092/20

InTop Homes 55 London Street, Hamilton Centre E-mail - info@intophomes.co.nz Ph: 07-8380829	**Project:** New Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park Cambridge	**Drawing Name:** DRAINAGE PLAN	**Amendments:**	**Scale:** 1:100 **Date:** January 2020	**Drawing NO:** A-303

BEFORE CONSTRUCTION BEGINS, BUILDER MUST CHECK ALL DIMENSIONS ARE CORRECT AND ALL CONSTRUCTION WORK COMPLIES WITH THE NZS3604:2011 AND NEW ZEALAND BUILDING CODE, LOCAL BODY BYLAWS AND RELEVANT NEW ZEALAND STANDARDS.

Total facade area (dot-hatched) 30.12m²
All glazing as per areas provided: 5.136m²
= 17.05%, which complies with Rule 2.4.2.17

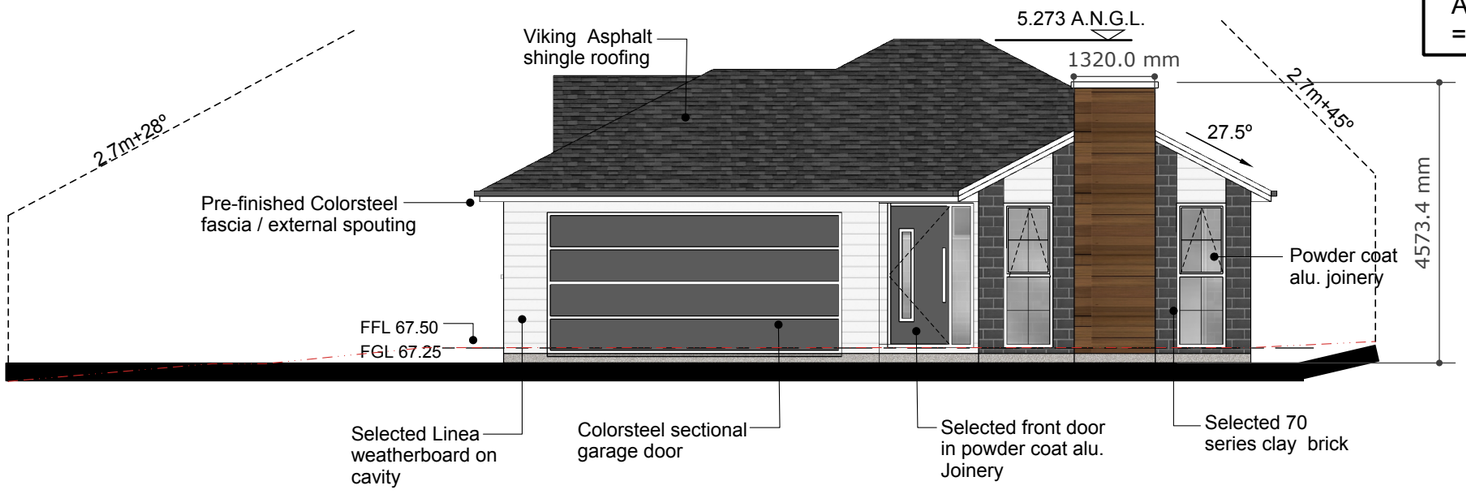
NOTES:

- ALL LEVELS TO BE CHECKED ON SITE PRIOR TO COMMENCING CONSTRUCTION.

- ALL SAFETY GLAZING REQUIRED AS PER NZS 4223.

- ALL GLASS TO BE DOUBLE GLAZING TO A MINIMUM OF R0.26, AS PER TABLE 1 IN CLAUSE H1 (EXCEPT THE GARAGE, PROVIDED THE INTERMEDIATE WALL BETWEEN GARAGE AND HOUSE IS INSULATED TO A MINIMUM R VALUE REQUIRED FOR WALLS).

- ALL WINDOWS SIZES ARE NOMINAL TO UNDESIDE OF SOFFIT



EAST ELEVATION:

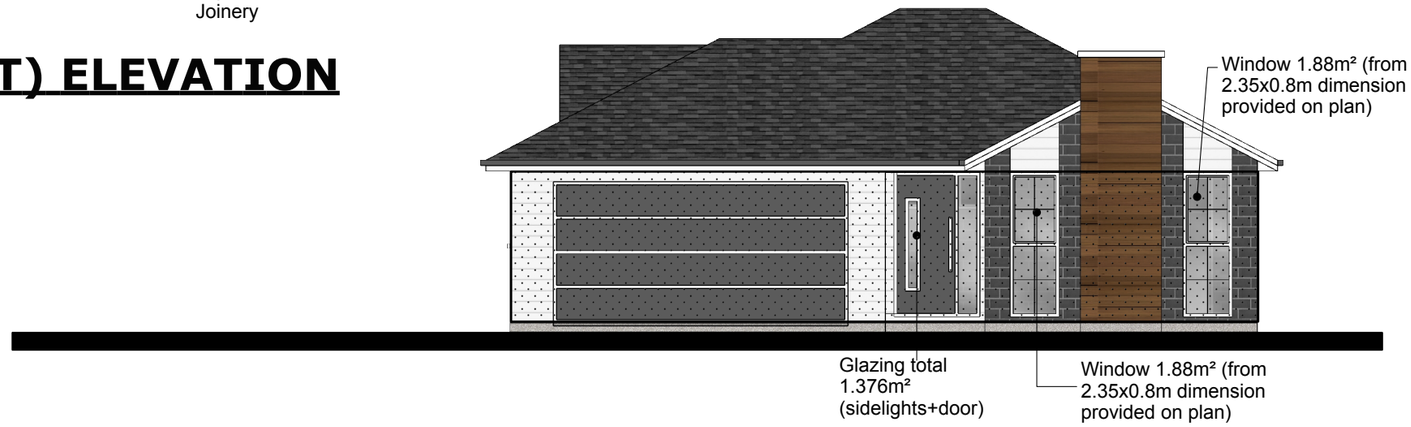
TOTAL FACADE AREA= 30.12m²

Entry wws = 1.376m²
Lounge wws = 3.76m²

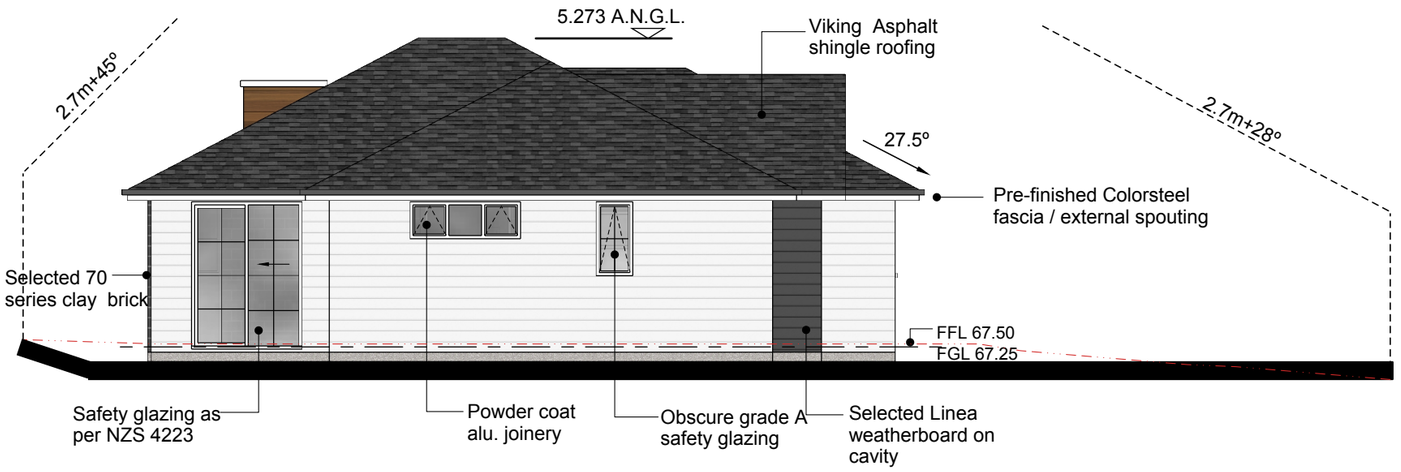
Total = 5.136m² = 17.05%

Glazing = 17.05.%

EAST (FRONT) ELEVATION



EAST ELEVATION GLAZING COMPLIANCE



WEST (REAR) ELEVATION

APPROVED

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InTop Homes 55 London Street, Hamilton Centre E-mail: suyin331@gmail.com Ph: 07-8380829	Proposed: New Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park Cambridge	Drawing Name: ELEVATIONS	Amendments:	Date: January 2020 Scale: 1:100	No: A-103

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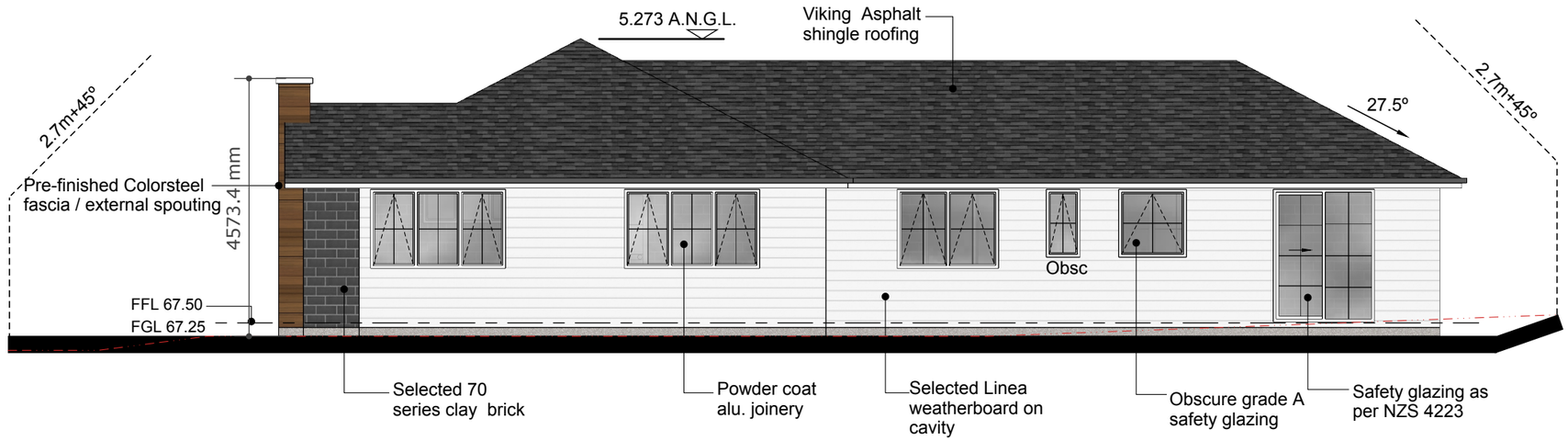
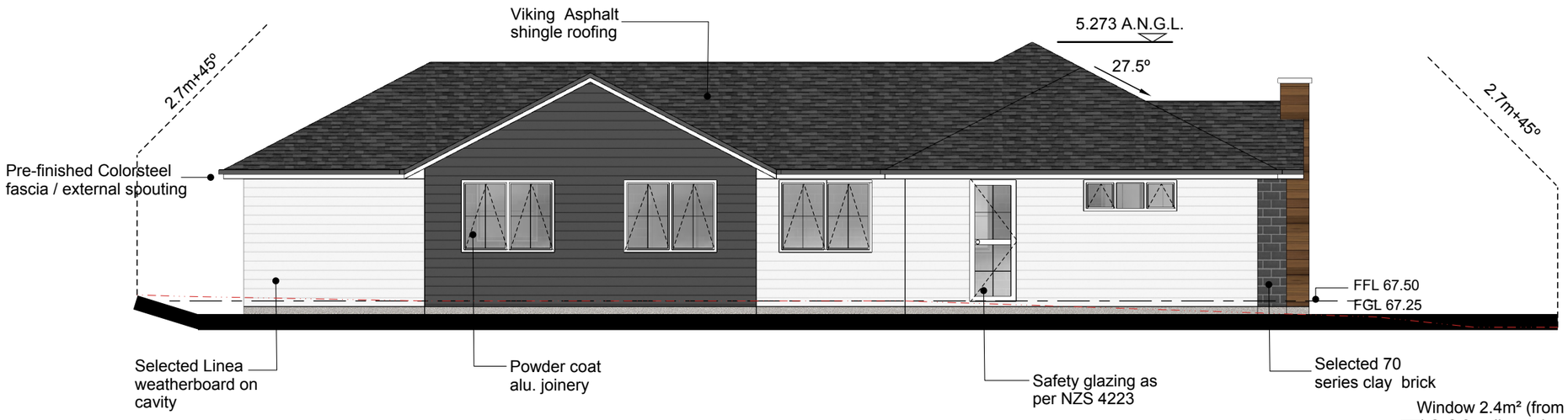
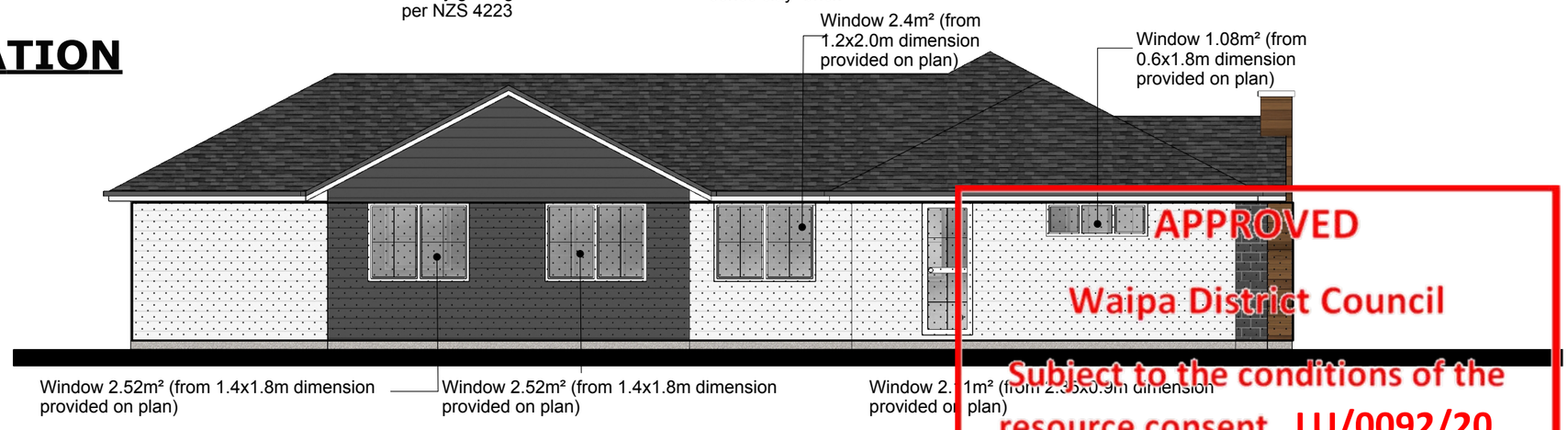
- ALL WINDOWS SIZES ARE NOMINAL TO UNDERSIDE OF SOFFIT



NORTH ELEVATION



SOUTH ELEVATION



SOUTH ELEVATION GLAZING COMPLIANCE

Total facade area (dot-hatched) 48.90²
All glazing as per areas provided: 10.63m²
= 21.7%, which complies with Rule 2.4.2.17.

EAST ELEVATION:

TOTAL FACADE AREA= 48.90m²

Bed 2 wws	= 2.52m²
Bed 4 wws	= 2.52m²
Kitchen wws	= 2.40m²
Garage wws	= 2.11m²
Garage wws	= 1.08m²

Total = 10.63m² = 21.7%

Glazing = 21.7.%

APPROVED
Waipa District Council
Subject to the conditions of the resource consent LU/0092/20

InTop Homes 55 London Street, Hamilton Centre E-mail: suyin331@gmail.com Ph: 07-8380829	Proposed: New Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park Cambridge	Drawing Name: ELEVATIONS	Amendments:	Date: January 2020 Scale: 1:100	No: A-104

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Waipa District Council - Approved Building Consent - 200089 (Subject to the conditions of the Building Consent)

ARCHITECTURAL DRAWINGS INDEX:

CONTENTS:

NEW DWELLING FOR:

LOT 22 - DP 531612,
1 KAAKA STREET,
SWAYNE PARK,
CAMBRIDGE

InTop Homes
55 London Street, Hamilton Centre
E-mail: info@intophomes.co.nz
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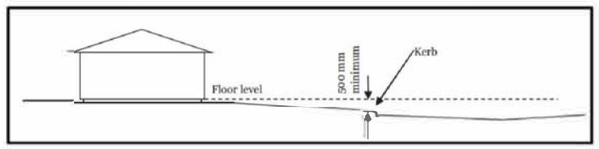
Figure 4.4 – Minimum floor level based on kerb height



NOTE:

The minimum fllor level should be the greater of :

a) 500mm above the adjacent kerb height,

b) 150mm above the finished ground level at the edge of the proposed building foundation

LEGEND

ss — DN100mm uPVC Council Waster Water pipe	Path: Brushed concrete finish
CP — Catch Pit / Bubble up	Driveway: Exposed aggregate concrete
Water Toby	
Ø20mm MDPE Council Water pipe	

ENGINEERED STORMWATER DESIGN AS PER _____
ENGINEERS REPORT, DATED: --/--/2020 REF: -------

NORTH

LOT 22 - DP 531612

KAAKA STREET

ROSE LEIGH DRIVE

Proposed Dwelling
FFL 67.50
FGL 67.25
Foundation Area = 183m²

Living Court
Area = 60m²

Path
6m²

Driveway
26m²

Waipa District Council - Approved Building Consent - 200089 (Subject to the conditions of the Building Consent)

Slip resistance exterior entry surface to be broomed finished (class 5 or 6) or any other surface as per D1/AS1, Table 2

Engineer designed soakage trench

Existing council water connection (check position)

Existing council sewer connection (check position)

AREAS:

TOTAL SITE AREA	= 511m²
FLOOR AREA (OVER FRAMING)	= 183m²
TOTAL FLOOR AREA (OVER FOOTPRINT)	= 183m²
COVERED AREA	= 1m²
SITE COVERAGE	= 184m²
	= 36%

*EAVES NOT INCLUDED IN COVERED AREAS

ROOF AREA = 213m²

IMPERMEABLE AREA:

DRIVEWAY	= 26m²
PATH (outside coverage)	= 5m²
TOTAL	= 31m²

PERMEABLE AREA:

511m² - (184m²+31m²) =296m²
=58%

AREAS NOT IDENTIFIED ABOVE AS IMPERMEABLE, ARE PERMEABLE.

NOTES:

- THESE DRAWINGS HAVE BEEN PREPARED FOR AND IN ACCORDANCE WITH THE CLIENT/ OWNER'S INSTRUCTIONS AND ARE FOR BUILDING CONSENT PURPOSES ONLY. WORKING DRAWINGS AND SPECIFICATIONS CANNOT BE USED FOR ANY CONSTRUCTION WORK UNLESS THEY HAVE BEEN APPROVED AND STAMPED BY THE RELEVANT TERRITORIAL AUTHORITY.

- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH WRITTEN SPECIFICATIONS, DETAILS AND ALL OTHER CONSULTANTS' DRAWINGS, DETAILS, REPORTS AND DOCUMENTS.

-LOW WIND ZONE

- DURABILITY ZONE B - SHELTERED/ EXPOSED (SEE PAGE D12 FOR FIXING TYPE)

- ALL LEVELS TO BE CHECKED ON SITE PRIOR TO COMMENCING CONSTRUCTION.

- CHECK POSITION OF DWELLING WITH OWNER PRIOR TO COMMENCING CONSTRUCTION

- ALL SITE WORK TO COMPLY WITH NZBC CLAUSE F5 "CONSTRUCTION/ DEMOLITION HAZARDS". WHEN WORKERS ARE ABSENT FROM SITE, ENSURE ANY HAZARDS ARE COVERED UP OR AT LEAST FENCED OFF.

- WHERE FILL MATERIAL IS USED, IT SHALL BE CLEANFILL.

- ALL EARTHWORKS (OTHER THAN TRANSPORTATION OF MATERIAL OFF SITE) SHALL RETAIN SEDIMENT ON SITE THROUGH IMPLEMENTATION AND MAINTENANCE OF SEDIMENT CONTROLS.

- ALL EARTHWORKS ACTIVITIES SHALL BE MANAGED TO AVOID MATERIAL DEPOSITS ON PUBLIC ROADS FROM ANY VEHICLES OPERATING ON SITE.

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Drawing Name: SITE DEVELOPMENT PLAN

Amendments:

Scale: 1:125

Date: January 2020

Drawing NO: A-100

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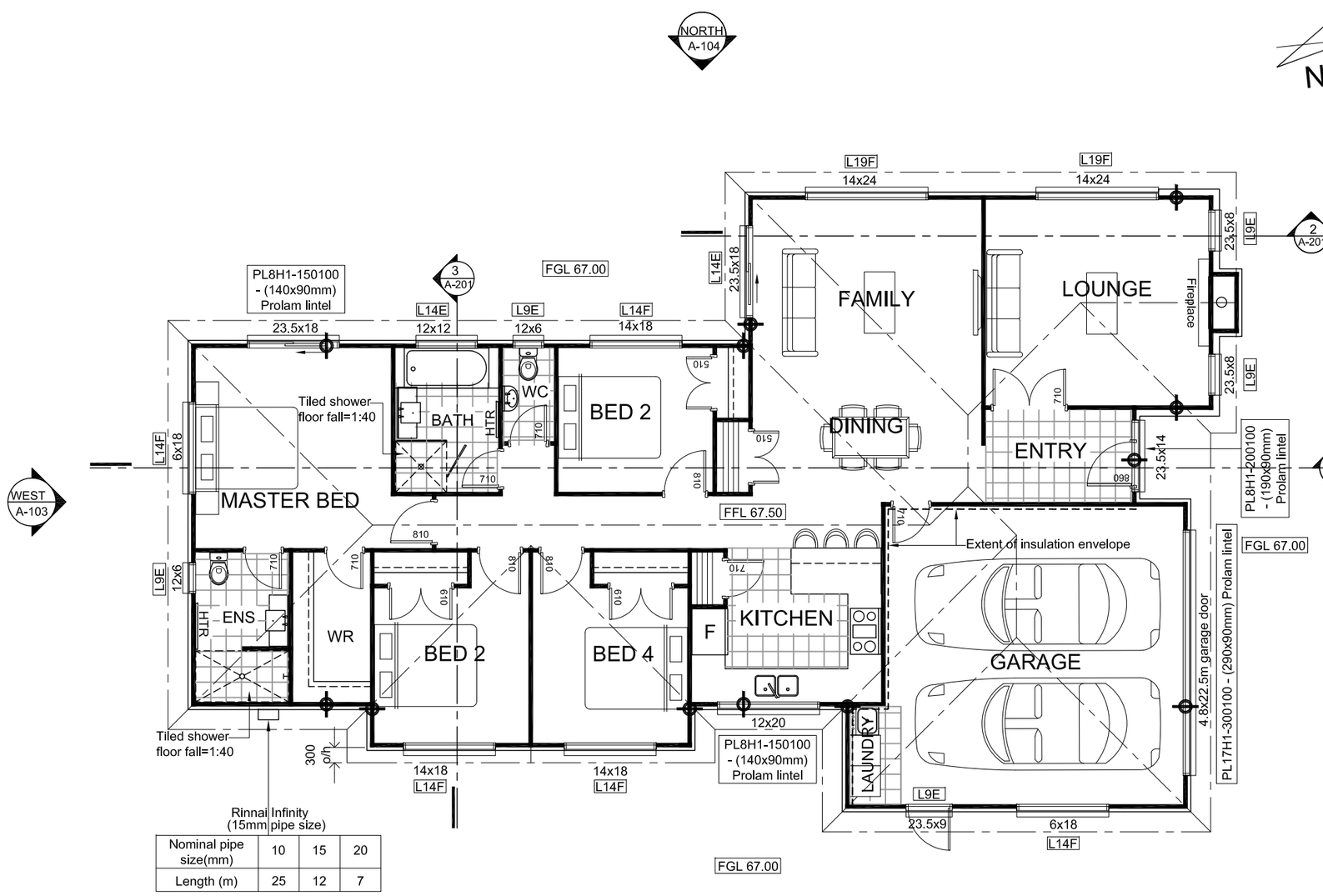

Nominal pipe size(mm)	10	15	20
Length (m)	25	12	7

Waipa District Council - Approved Building Consent - 200089 (Subject to the conditions of the Building Consent)

AREAS: V4

FLOOR AREA = 183m²
(OVER FRAMING

TOTAL FLOOR AREA = 183m²
(OVER FOOTPRINT)

* EAVES NOT INCLUDED IN COVERED AREAS

NOTES:

- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH WRITTEN SPECIFICATIONS, DETAILS AND ALL OTHER CONSULTANTS DRAWINGS, DETAILS, REPORTS AND DOCUMENTS.

- ALL STUD HEIGHT 2.55m (UNLESS STATED OTHERWISE ON PLAN)

- ALL GABLE AND SOFFIT OVERHANGS NOT DIMENSIONED TO BE 450mm FROM FRAMING.

- R INSULATION VALUES ARE
  - FLOOR = 1.3
  - WALLS = 2.2
  - ROOF = 3.2
  - GLAZING = 0.26

AS PER ATTACHED H1 COMPLIANCE REPORT.

- NAILING SCHEDULE FOR WALL FRAMING. REFER TO NZS 3604, TABLE 8.19 OR PAGE F3

- ALL WINDOWS SIZES ARE NOMINAL, TO UNDERSIDE OF SOFFIT

LINTEL AND FIXING TABLE

Lintel name	Lintel size	Fixing type
L9E	2/90x45mm	E
L14E	2/140x45mm	E
L14F	2/140x45mm	F
L19F	2/190x45mm	F

- FOR BOTTOM PLATE FIXINGS, REFER TO PAGE F1.

- FOR LINTEL FIXINGS, REFER TO PAGE F2.

- ALL LEVELS TO BE CHECKED ON SITE PRIOR TO COMMENCING CONSTRUCTION.

- ALL XPELAIRS ARE TO BE VENTED TO EAVES

- IMPERVIOUS TYPE FLOORING FINISH TO ALL WET AREAS, KITCHEN AND ENTRY

- SPACES FOR FOOD PREPARATION, INTERIOR LININGS AND UTENSIL WASHING SHALL HAVE IMPERVIOUS AND EASILY CLEANED SURFACES AS PER G3.3.2

- SLIP RESISTANT TILES ON SELECTED WATERPROOF MEMBRANE TO WET AREAS. REFER TO SPEC

- ALL XPELAIRS ARE TO BE VENTED TO EAVES

- MECHANICAL EXTRACT FANS (INCLUDING ASSOCIATED DUCTING) MUST HAVE A FLOW RATE NOT LESS THAN 25L/s FOR SHOWERS AND BATHS AND 52L/s FOR COOK TOPS AS PER G4/AS1 CLAUSE 1.3.33

- SLIP RESISTANCE EXTERIOR ENTRY SURFACE TO BE BROOMED FINISHED (CLASS 5 OR 6) OR ANY OTHER SURFACE AS PER D1/AS1, TABLE 2

KEY:

⊖ = GIRDER TRUSS POINT LOAD

TIMBER TREATMENTS:

- ALL TIMBERS ARE SG8, UNLESS STATED OTHERWISE.

- ALL TIMBERS ARE H1.2 TREATED AS PER TABLE 1A B2/AS1, EXCEPT:
  - DRAINAGE CAVITY BATTENS ARE H3.1.
  - FRAMING EXPOSED TO WEATHER OR ABOVE GROUND IS H3.2.
  - ANY POSTS OR PILES IN CONTACT WITH THE GROUND ARE H5.

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Project: New Dwelling for Lot 22 - DP 531612, 1 Kaaka Street, Swayne Park, Cambridge

Drawing Name: FLOOR PLAN

Amendments:

Scale: 1:100

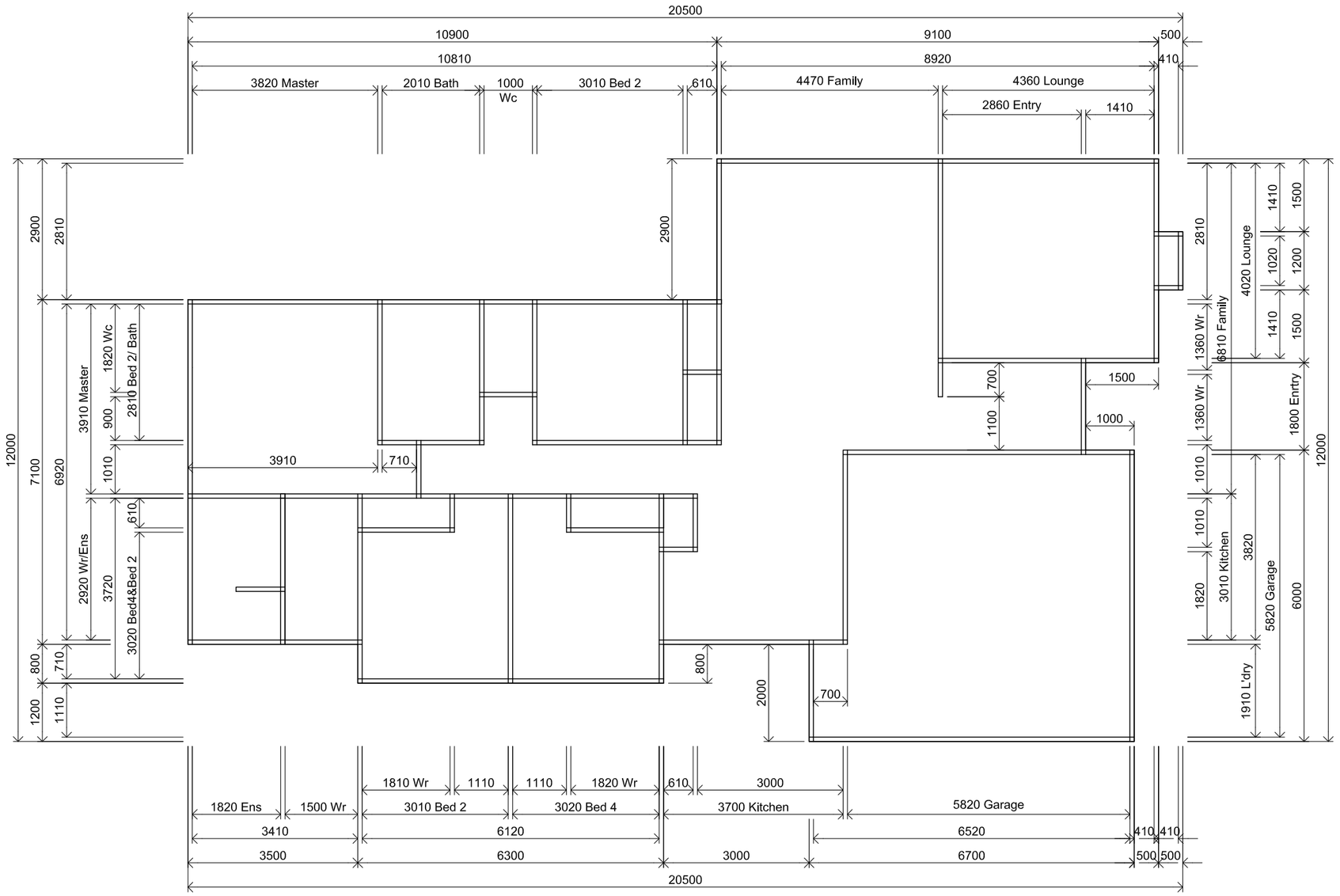
Date: January 2020

Drawing NO: A-101

BEFORE CONSTRUCTION BEGINS, BUILDER MUST CHECK ALL DIMENSIONS ARE CORRECT AND ALL CONSTRUCTION WORK COMPLIES WITH THE NZS3604:2011 AND NEW ZEALAND BUILDING CODE, LOCAL BODY BYLAWS AND RELEVANT NEW ZEALAND STANDARDS.

NOTE:

- ALL DIMENSIONS TO FRAMING = 90mm



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InTop Homes 55 London Street, Hamilton Centre E-mail - info@intophomes.co.nz Ph: 07-8380829	**Project:** New Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park Cambridge	**Drawing Name:** FLOOR PLAN DIMENSIONED	**Amendments:**	**Scale:** 1:100 **Date:** January 2020	**Drawing NO:** A-102

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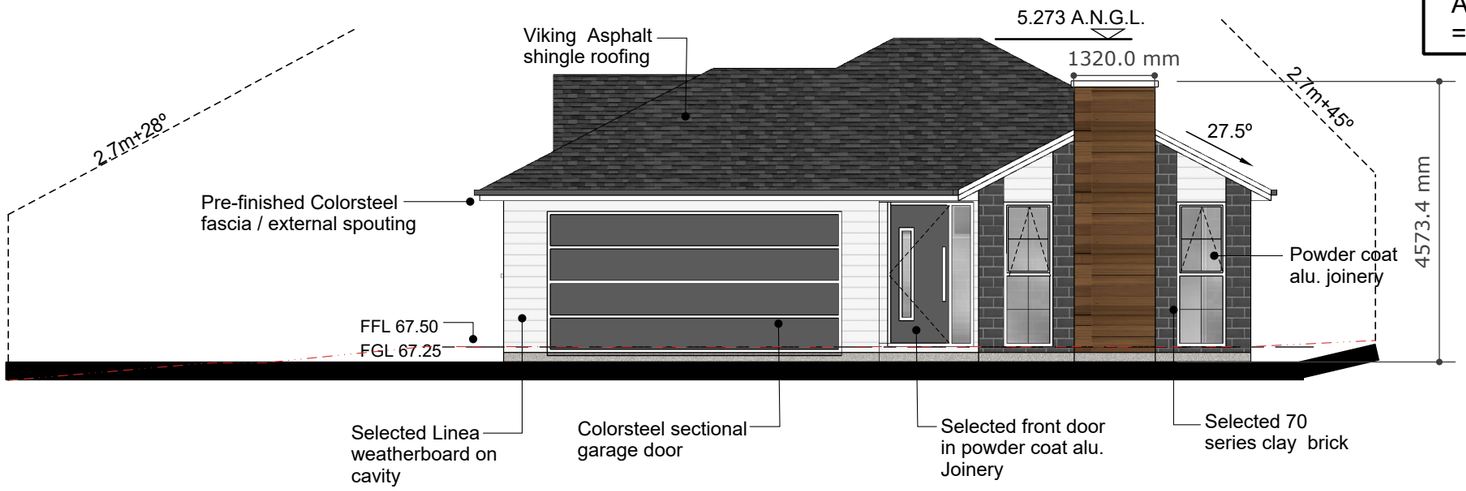

EAST (FRONT) ELEVATION

Total facade area (dot-hatched) 30.12m²
All glazing as per areas provided: 5.136m²
= 17.05%, which complies with Rule 2.4.2.17

EAST ELEVATION:

TOTAL FACADE AREA= 30.12m²

Entry wws = 1.376m²
Lounge wws = 3.76m²

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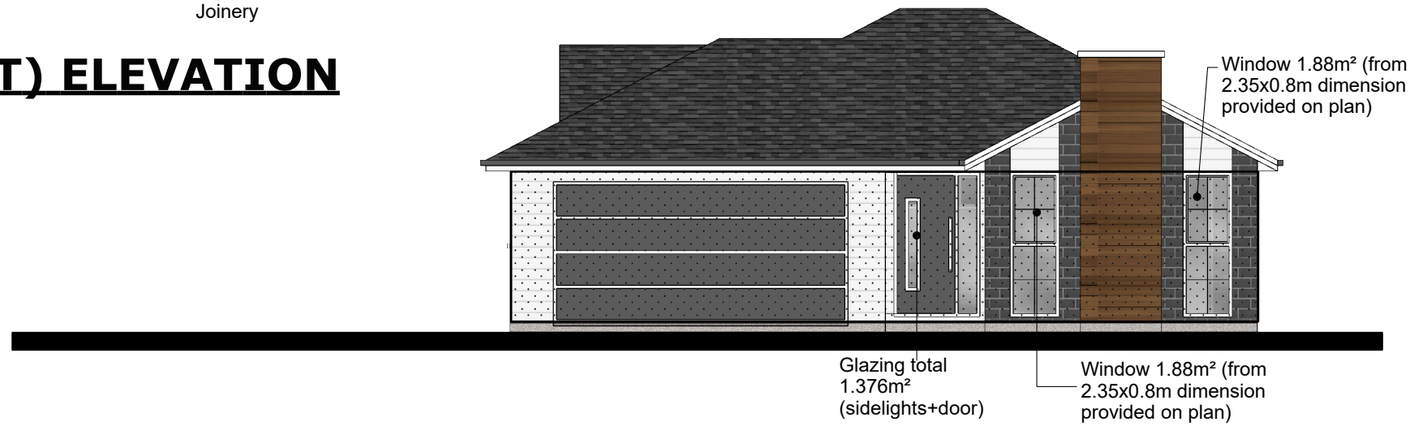
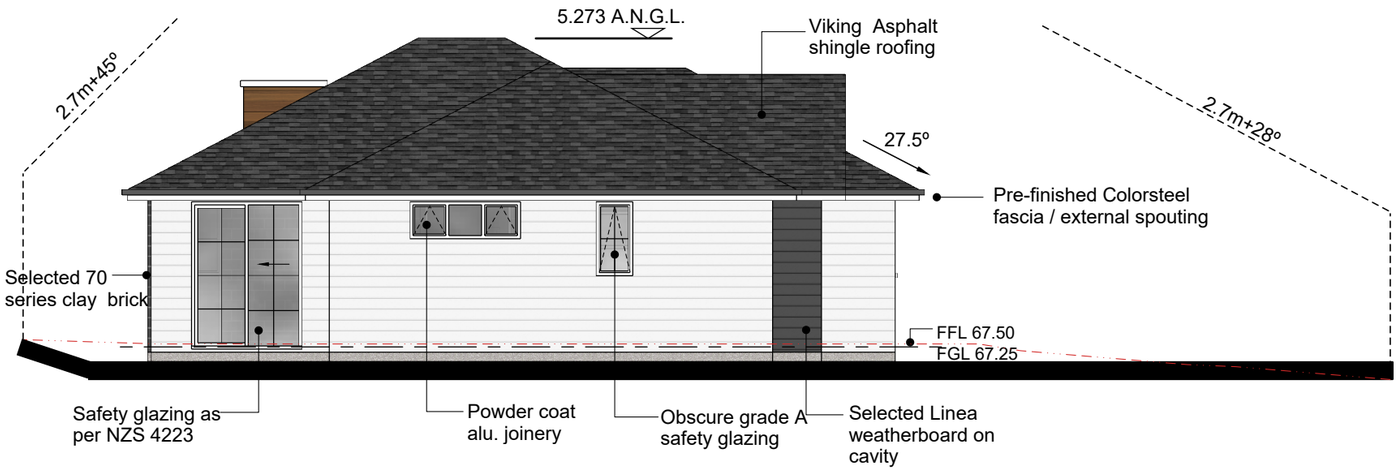
- ALL WINDOWS SIZES ARE NOMINAL TO UNDESIDE OF SOFFIT



EAST ELEVATION GLAZING COMPLIANCE



WEST (REAR) ELEVATION

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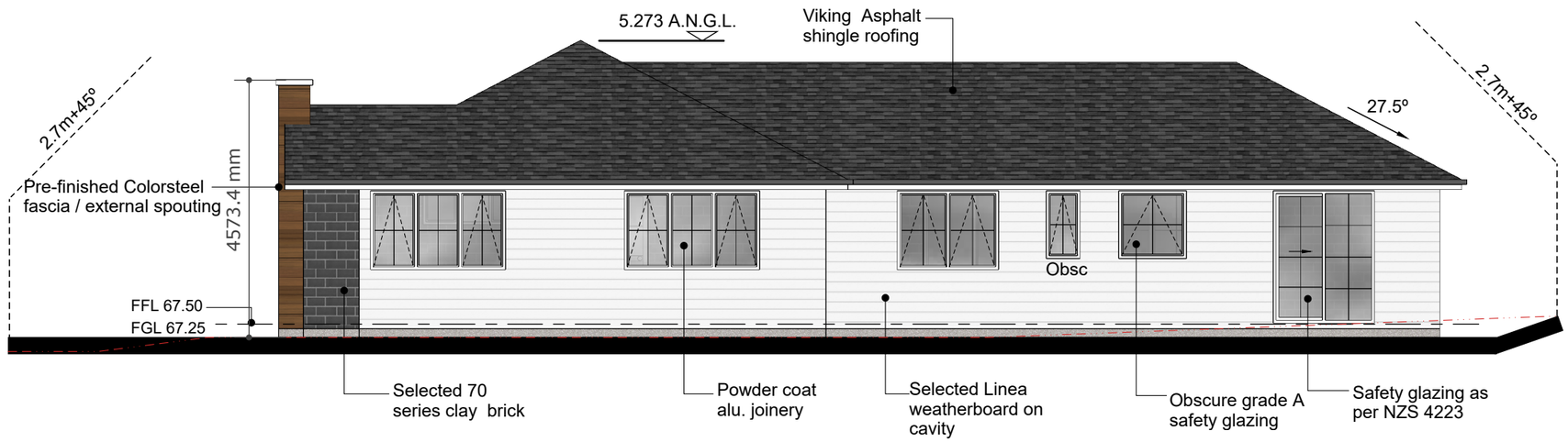
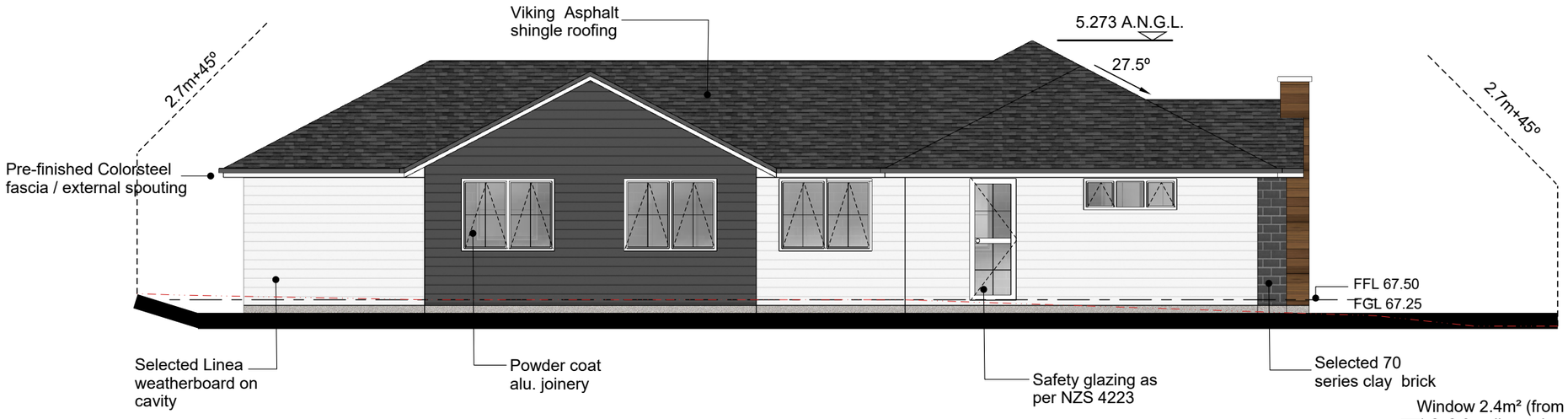
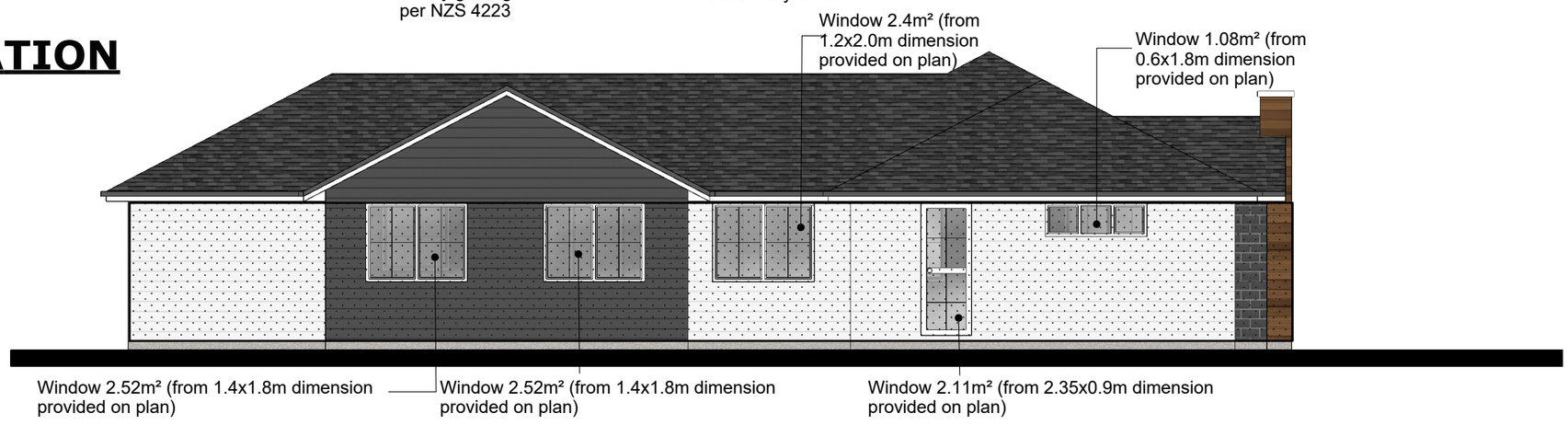


NORTH ELEVATION



SOUTH ELEVATION



SOUTH ELEVATION GLAZING COMPLIANCE

Total facade area (dot-hatched) 48.90²
All glazing as per areas provided: 10.63m²
= 21.7%, which complies with Rule 2.4.2.17.

EAST ELEVATION:

TOTAL FACADE AREA= 48.90m²

Bed 2 wws	= 2.52m²
Bed 4 wws	= 2.52m²
Kitchen wws	= 2.40m²
Garage wws	= 2.11m²
Garage wws	= 1.08m²
Total	= 10.63m² = 21.7%
	Glazing = 21.7.%

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InTop Homes
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Proposed:	Drawing Name:	Amendments:	Date:	No:
New Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park Cambridge	ELEVATIONS		January 2020	A-104
			Scale: 1:100	

BEFORE CONSTRUCTION BEGINS, BUILDER MUST CHECK ALL DIMENSIONS ARE CORRECT. ALL CONSTRUCTION WORK COMPLIES WITH THE NZS3604:2011 AND NEW ZEALAND BUILDING CODE, LOCAL BODY BYLAWS AND RELEVANT NEW ZEALAND STANDARD. DO NOT SCALE OFF PLANS

GENERAL:

- THESE DRAWINGS HAVE BEEN PREPARED FOR AND IN ACCORDANCE WITH THE CLIENT/ OWNER'S INSTRUCTIONS AND ARE FOR BUILDING CONSENT PURPOSES ONLY. WORKING DRAWINGS AND SPECIFICATIONS CANNOT BE USED FOR ANY CONSTRUCTION WORK UNLESS THEY HAVE BEEN APPROVED AND STAMPED BY THE RELEVANT TERRITORIAL AUTHORITY

- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH WRITTEN SPECIFICATIONS, DETAILS AND ALL OTHER CONSULTANTS DRAWINGS, DETAILS, REPORTS AND DOCUMENTS

- MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE NEW ZEALAND BUILDING CODE, THE CURRENT EDITION OF THE RELEVANT NEW ZEALAND STANDARDS, INCLUDING ASSOCIATED STANDARDS, AND LOCAL AUTHORITY REGULATIONS EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS

- DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURE IN A STABLE CONDITION AND ENSURING NO PART SHALL BE OVERSTRESSED UNDER CONSTRUCTION ACTIVITIES. THIS INCLUDES ALL EXISTING STRUCTURE(S) FORMING PART OF, OR AFFECTED BY, THE WORKS. THE CONTRACTOR SHALL DESIGN AND PROVIDE PROPPING TO SUPPORT ALL CAST INSITU AND PRECAST CONCRETE WORK UNTIL SUCH CONCRETE HAS REACHED THE REQUIRED STRENGTH TO BE SELF-SUPPORTING

- IF DURING CONSTRUCTION ANY PART OF THE WORKS SHOWS SIGNS OF DISTRESS, EXCESSIVE DEFLECTION, CONFLICT OF COMPONENTS OR OTHER PROBLEMS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER WHO SHALL INVESTIGATE AND ISSUE SUCH INSTRUCTIONS AS ARE CONSIDERED NECESSARY

- ALL LEVELS TO BE CHECKED ON SITE PRIOR TO COMMENCING CONSTRUCTION

- CHECK POSITION OF DWELLING WITH OWNER PRIOR TO COMMENCING CONSTRUCTION

- FGL IS FINISHED GROUND LEVEL AFTER THE REMOVAL OF ANY EXISTING TOPSOIL

-ALL TIMBER TO BE SG8 (MIN.) KILN DRIED PINE TO THE APPROPRIATE "H" CLASSIFICATION, UNLESS OTHERWISE SPECIFIED ON THE PLANS. IF IN DOUBT CONTACT THE DESIGNER

- ALL CONSTRUCTION TO NZS 3604:2011 UNLESS SPECIFICALLY DESIGNED (CONTRACTOR TO HAVE CURRENT COPY ON SITE AT ALL TIMES)

- NAILING SCHEDULE FOR WALL FRAMING. REFER TO NZS 3604, TABLE 8.19 OR PAGE F3

- FOR BOTTOM PLATE FIXINGS, REFER TO PAGE F1

- FOR LINTEL FIXINGS, REFER TO PAGE F2

- ALL LEVELS TO BE CHECKED ON SITE PRIOR TO COMMENCING CONSTRUCTION

- ALL XPELAIRS ARE TO BE VENTED TO EAVES

- IMPERVIOUS TYPE FLOORING FINISH TO ALL WET AREAS, KITCHEN AND ENTRY

- SPACES FOR FOOD PREPARATION AND UTENSIL WASHING SHALL HAVE IMPERVIOUS AND EASILY CLEANED INTERIOR LININGS AND SURFACES AS PER G3.3.2

- SLIP RESISTANT TILES ON SELECTED WATERPROOF MEMBRANE TO WET AREAS. REFER TO SPEC

TIMBER TREATMENTS:

- ALL TIMBERS ARE SG8, UNLESS STATED OTHERWISE

- ALL TIMBERS ARE H1.2 TREATED AS PER TABLE 1A B2/AS1, EXCEPT:
  - DRAINAGE CAVITY BATTENS ARE H3.1
  - FRAMING EXPOSED TO WEATHER OR ABOVE GROUND IS H3.2
  - ANY POSTS OR PILES IN CONTACT WITH THE GROUND SHALL BE H5

JOB SPECIFICS

- LOW WIND ZONE

- EARTHQUAKE ZONE 1

- DURABILITY ZONE B - CLOSED

- CLIMATE ZONE 2

ROOF CLADDING

- VIKING CERTAINTEED ASPHALT ROOFING SHINGLES (LANDMARK SERIES) WITH A CERAMIC COATING ON 15mm PLYWOOD, GRADE DD OR BETTER PLYWOOD COMPLYING WITH AS/NZS 2269.

WALL CLADDING

- SELECTED 70 SERIES BRICKWORK ON 50mm CAVITY ON THERMAKRAFT WATERGATE PLUS 295 BUILDING WRAP (OR BRANZ-APPRAISED EQUIVALENT) AS PER NZS 2295:2006 ON KILN DRIED TIMBER FRAMING AS PER NZS 3604.

- 180mm WIDE, 16mm THICK PRE-PRIMED BEVELBACK LINEA WEATHERBOARDS ON 20mm CAVITY AS PER NZS 3617:1979 ON THERMAKRAFT WATERGATE PLUS 295 BUILDING WRAP (OR BRANZ-APPRAISED EQUIVALENT) AS PER NZS 2295:2006 ON KILN DRIED TIMBER FRAMING AS PER NZS 3604

- SELCTED BEVELBACK CEDAR WEATHERBOARDS ON 20mm CAVITY AS PER NZS 3617:1979 ON JAMES HARDIE 6mm RAB BOARD (OR RIGID AIR BARRIER EQUIVALENT) AS PER NZS 2295:2006 ON KILN DRIED TIMBER FRAMING AS PER NZS 3604

ROOF STRUCTURE

- H1.2 TIMBER TRUSSES @ 900mm CRS AND OTHER ROOF FRAMING (SG8) AS PER NZS 3603:1993. TRUSSES, FIXINGS TO TOP PLATE, GIRDER TRUSS LINTEL SIZES AND ROOF LAYOUT AS PER APPROVED TRUSS MANUFACTURER'S DESIGN

- H1.2 LINTELS (SG8) TO BE CHECKED BY PRECUT SPECIALIST TO COMPLY WITH NZS 3604:2011. PLEASE REFER TO ROOF LAYOUT AS PER APPROVED MANUFACTURER'S DESIGN

- PRE-FINISHED COLORSTEEL $\frac{1}{4}$ ROUND GUTTER (OR SIMILAR) SYSTEM COMPLETE WITH BRACKETS @ 900mm CRS ON METAL FASCIA AND BARGE BOARD AS PER NZS 3617:1979

- 80ø COLORSTEEL (OR SIMILAR) DOWNPIPES COMPLETE WITH BRACKETS AS PER MANUFACTURER'S MANUAL

- 4.5mm HARDIFLEX SOFFIT AS PER JAMES HARDIE EAVES LINING MANUAL IN PVC JOINTERS AND PAINT FINISH ON 75x40mm SPROCKETS AND SOFFIT RUNNER

- 75x40mm SG8 CEILING BATTENS @ 400mm CRS AS PER NZS 3604:2011, FIXED WITH 2/75x3.06 POWER DRIVEN NAILS, WITH 140x40 ADDITIONAL TOP PLATE OVER WALLS

- 170mm THERMAL BATT OR BLANKET INSULATION TO A MIN. OF R3.2 TO BE LOCATED IN CAVITIES OF CEILING SPACE AS PER H1 COMPLIANCE REPORT

WALL STRUCTURE

- FRAMING TO BE SG8 H1.2 TREATED AS PER NZS 3603:1993 AND NZS 3604:2011, TABLES 8.2 AND 8.4. NOGGING @ 800mm CRS

EXTERNAL LOAD BEARING
- 2.55m STUD = 90x45mm @ 600mm CRS

INTERNAL LOAD BEARING
- 2.55m STUD = 90x45mm @ 600mm CRS

NON LOAD BEARING
- 2.55m STUD = 90x45mm @ 600mm CRS

- 90mm THERMAL BATT OR BLANKET INSULATION TO A MIN. OF R2.2 TO BE LOCATED IN CAVITIES OF EXTERIOR WALLS AS PER H1 COMPLIANCE REPORT. GARAGE IS NOT REQUIRED PROVIDED THE INTERMEDIATE WALL BETWEEN GARAGE AND HOUSE IS INSULATED TO THE MIN. H1 REQUIREMENTS, UNLESS REQUESTED BY OWNER

LININGS AND FINISHES

- CEILINGS ARE 10mm STANDARD GIB PLASTERBOARD, LEVEL 4 STOPPED, 3-COAT PAINT FINISH

- WALLS ARE 10mm STANDARD GIB PLASTERBOARD OR FYRELINE** (IF REQUIRED), LEVEL 4 STOPPED AND FINISHED AS PER OWNER'S REQUIREMENTS

- CEILING AND WALLS IN WET AREAS ARE AQUALINE GIB PLASTERBOARD, LEVEL 4 STOPPED AND FINISHED AS PER OWNER'S REQUIREMENTS

- SELECTED GIB PLASTERBOARD SCOTIA OR SQUARE STOPPED (CONFIRM WITH OWNER)

- SELECTED TIMBER SKIRTING AS PER OWNER'S REQUIREMENTS

- SELECTED TIMBER ARCHITRAVES TO WINDOWS AND INTERNAL DOORS AS PER OWNER'S REQUIREMENTS

JOINERY

- ALL JOINERY TO BE RESIDENTIAL GRADE POWDER COATED ALUMINIUM AND HEAD FLASHINGS, WITH APPROVED SEALANT, AS PER NZS 4211:1985

- ALL GLAZING TO ACHIEVE A MIN. OF R0.26 (DOUBLE), AS PER H1 COMPLIANCE REPORT, EXCEPT IN GARAGE PROVIDED THE INTERMEDIATE WALL BETWEEN GARAGE AND HOUSE IS INSULATED TO THE MIN. H1 REQUIREMENTS

- SAFETY GLAZING TO ALL BATHROOMS AS PER NZS4223 PART 3

- TO COMPLY WITH F4/AS1: SAFETY FROM FALLING IN WINDOWS WITH AN OPENING WIDTH OF MORE THAN 1.0m. REFER TO NOTES ON ELEVATIONS.

CONCRETE

- CHECK ALL GROUND LEVELS AND MIN. FLOOR HEIGHT ON SITE PRIOR TO COMMENCING CONSTRUCTION

- FOUNDATIONS TO BE A WAFFLE FLOOR SYSTEM - CONFORMING WITH AS/NZS4671 AS PER ENGINEERS DESIGN

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Project: New Dwelling for Lot 22 - DP 531612
1 Kaaka Street, Swayne Park
Cambridge

Drawing Name: CROSS SECTION NOTES

Amendments:

Scale: 1:50

Date: January 2020

Drawing NO: A-200

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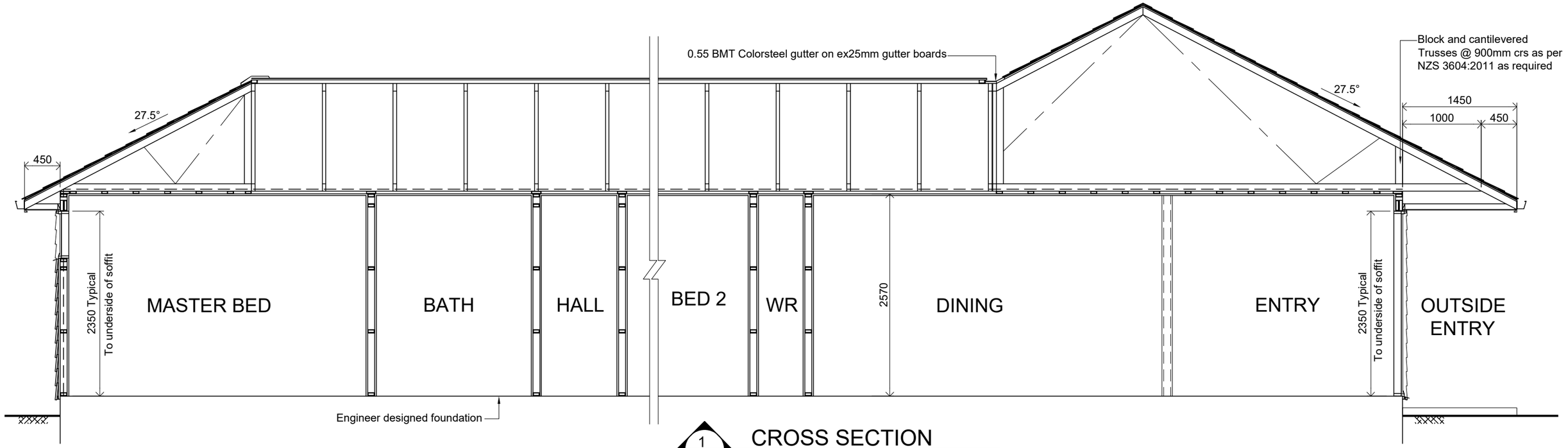

1 A-101 CROSS SECTION

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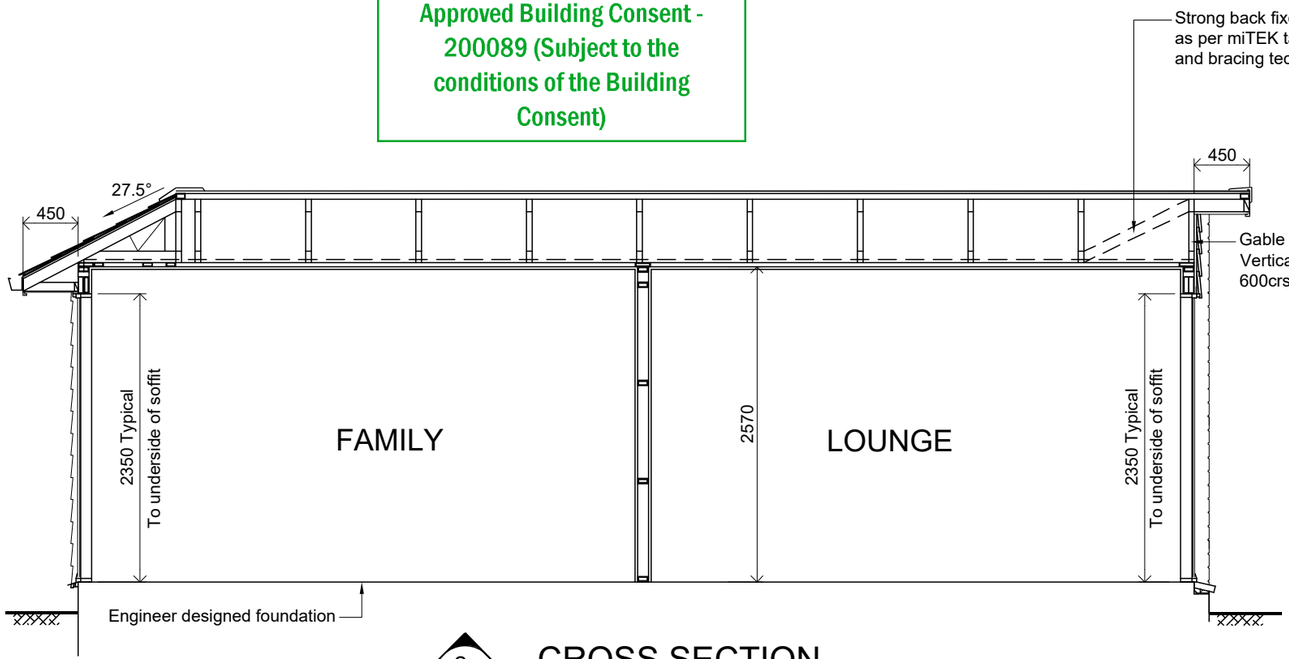

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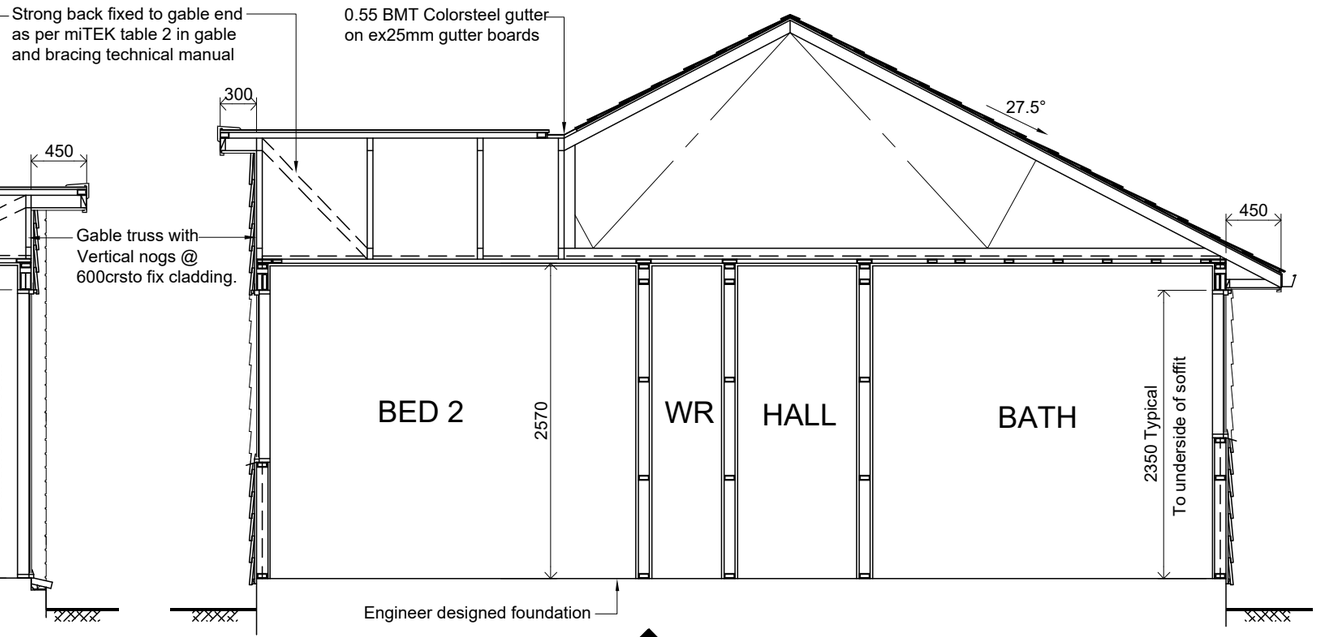

3 A-101 CROSS SECTION

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Project: New Dwelling for Lot 22 - DP 531612, 1 Kaaka Street, Swayne Park, Cambridge

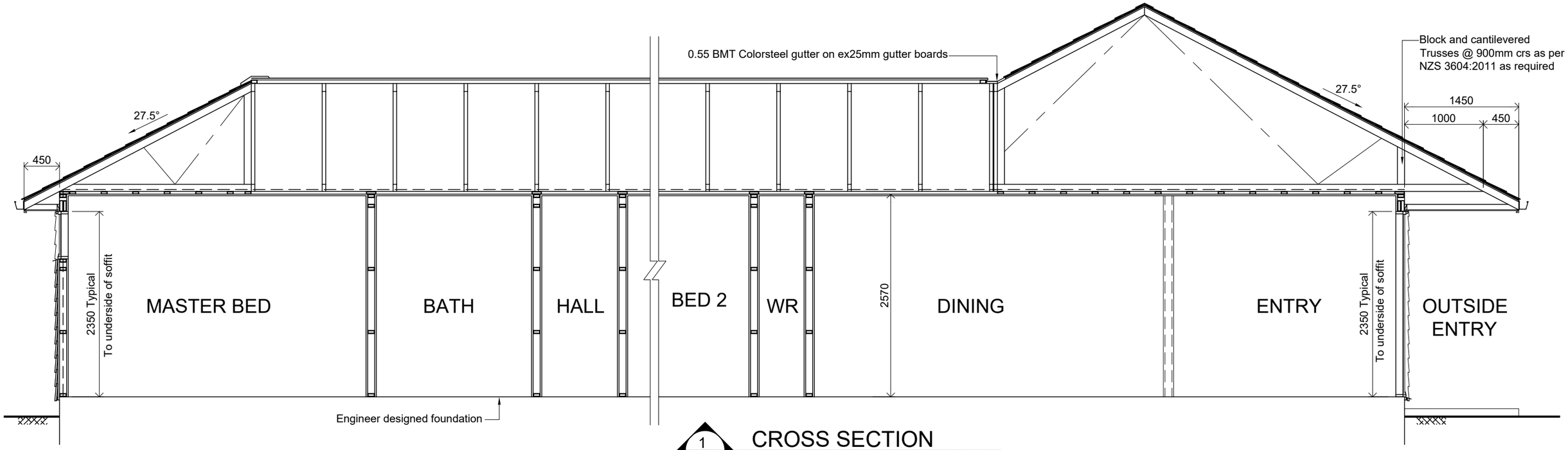
Drawing Name: CROSS SECTIONS

Amendments:

Scale: 1:50

Date: January 2020

Drawing NO: A-201



1 A-101 CROSS SECTION

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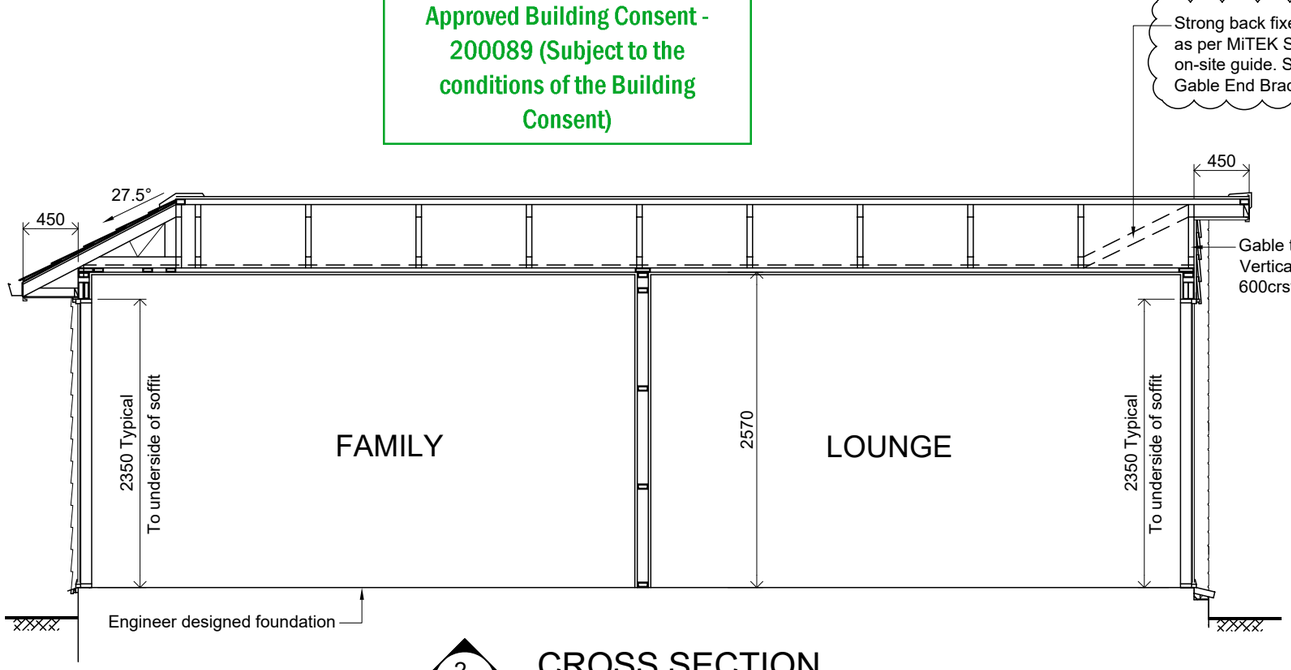

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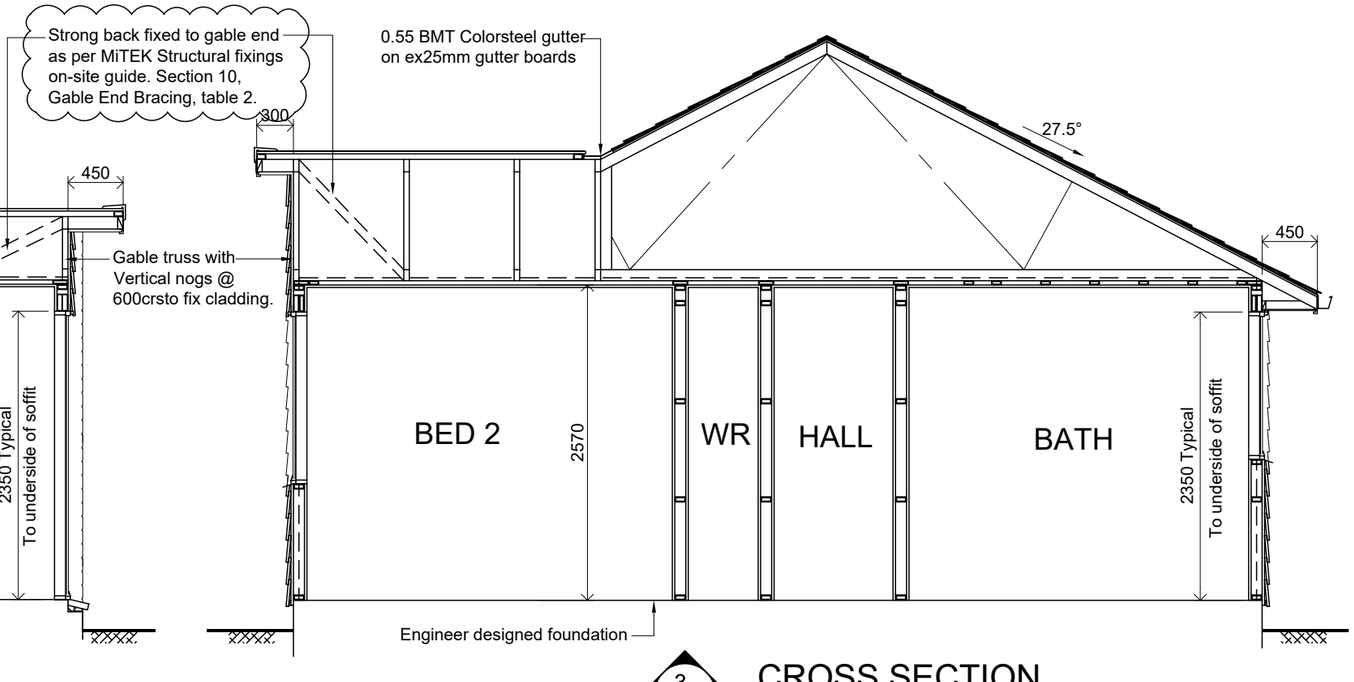

3 A-101 CROSS SECTION

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Project:	Drawing Name:	Amendments:	Scale:	Drawing NO:
New Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park Cambridge	CROSS SECTIONS		1:50 Date: January 2020	A-201

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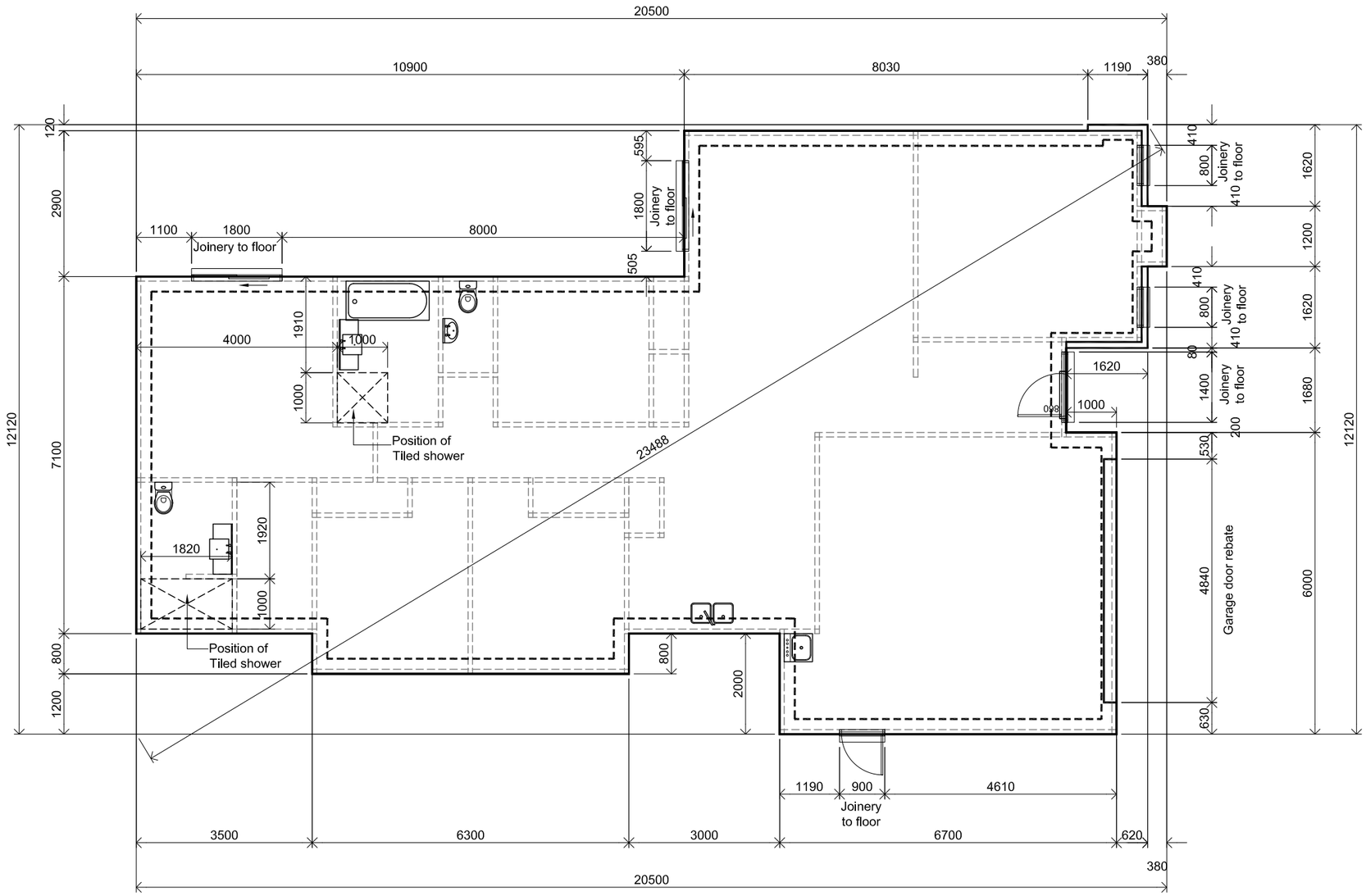

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REBATE TO SLAB = 120mm

ENGINEERING DESIGN FOUNDATION : REFER TO ENGINEER'S REPORT AND DETAILS

NOTES:

- REFER TO GEOTECH REPORT RECOMMENDATIONS BEFORE FOUNDATION CONSTRUCTION

- ALL LEVELS TO BE CHECKED ON SITE PRIOR TO COMMENCING CONSTRUCTION

- FGL IS FINISHED GROUND LEVEL AFTER THE REMOVAL OF ANY EXISTING TOPSOIL.

- INTERNAL SLAB THICKENING REQUIRED AS PER APPROVED TRUSS MANUFACTURER'S DESIGN

- MINIMUM COVER FOR REINFORCING:
  - AGAINST GROUND 75mm
  - AGAINST FORMWORK 50mm
  - TOP COVER TO MESH 30mm

- PROVIDE FOR FLEXIBLE DUCTS IN SLAB TO PROVIDE UNDERGROUND ENTRY FOR ALL SERVICES.

SAWCUTS

- SAWCUTS ARE NOT TO BE LOCATED: -
  - OVER ANY RIB OR BEAM: ON EDGE IS OKAY
  - ALONG THE INSIDE FACE OF ANY BATHROOM WALL OR THROUGH ANY BATHROOM
  - THROUGH ANY RE-ENTRANT CORNER REINFORCING

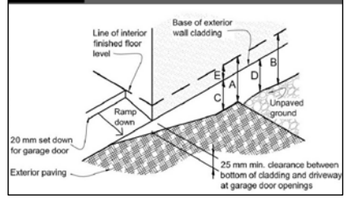
- 30mm EXPANSION SAWCUTS SHOULD BE PLACED ALONG ONE SIDE OF 100mm INTERNAL RIB OR ALONG SIDE OF A 300mm WIDE LOADBEARING WALL RIB.

Table 18: Minimum clearances
Paragraphs 9.1.3, 9.1.3.1, 9.1.3.2, 9.1.3.3, 9.1.3.4, 9.1.3.5 and 9.2.7

Minimum clearances (mm)	Masonry veneer		Other claddings				
	A	B	A	B	C	D	E
Concrete slab	100	150	150	225	100	175	50
Timber floor Refer Note 1)					100	175	50 2)

NOTE: 1) Refer to NZS 3604 for requirements.
2) Cladding to extend minimum 50 mm below bearer or lowest part of timber floor framing.

Figure 65: Levels and garage openings
Paragraphs 9.1.3, 9.1.3.4, 9.2.5, Table 18



InTop Homes 55 London Street, Hamilton Centre E-mail - info@intophomes.co.nz Ph: 07-8380829	**Project:** New Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park Cambridge	**Drawing Name:** SLAB PLAN	**Amendments:**	**Scale:** 1:100 **Date:** January 2020	**Drawing NO:** A-300

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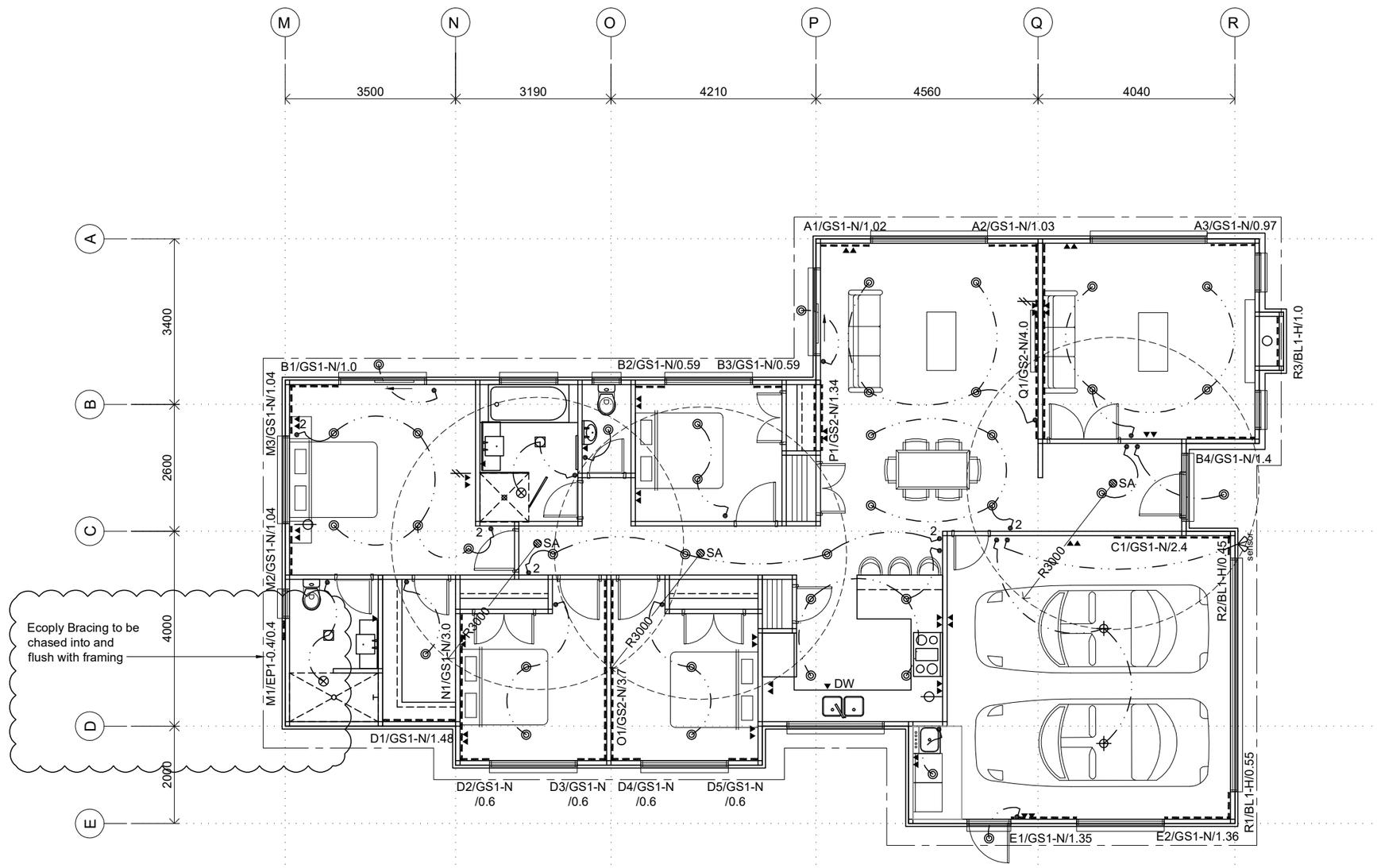

ELECTRICAL NOTES:

- ELECTRICAL LAYOUT TO BE CHECKED AND CONFIRMED WITH THE CLIENT/ OWNER PRIOR TO COMMENCING WORK

- ALLOW WIRING AND PLUMBING FOR:

* DISHWASHER * WASTEMASTER
* OVEN/ HOB * DOOR CHIME
* MICROWAVE * XPELAIRS
* RANGEHOOD * WASHER/ DRYER
* GARAGE DOOR OPENER

- IF THERE ARE DOWNLIGHTS, THEY SHALL COMPLY WITH NZCEP54:2001

ELECTRICAL KEY:

sensor = SECURITY LIGHT
= CA AND CLOSED DOWNLIGHT
= LIGHT
= SOCKET
= SWITCH
= TELEPHONE
= TELEVISION
= 2 IN 1
= XPELAIR
SA = SMOKE ALARM

SMOKE ALARM NOTES:

SMOKE DETECTORS TO BE INSTALLED THROUGHOUT THE DWELLING TO COMPLY WITH NZBC F7/AS1. FITTED WITH HUSH FACILITY AS REQUIRED. SMOKE ALARMS SHALL BE LISTED OR APPROVED BY A RECOGNISED AUTHORITY AS COMPLYING WITH AT LEAST ONE OF:
UL 217 CAN/ULC S531, AS 3786, BS 5446 Part 1.
SMOKE ALARMS TO BE LOCATED WITHIN 3m OF EVERY SLEEPING SPACE DOOR. ENSURE 300mm GAP FROM WALLS.

BRACING NOTES:

- THE BRACING CALCULATIONS ARE BASED ON GIB EZYBRACE 2016 SOFTWARE.

- SUBSTITUTION WITH OTHER BRACING SYSTEM TYPES IS NOT PERMITTED UNLESS ACCOMPANIED WITH THAT SYSTEM'S BRACING CALCULATIONS AND DETAILS.

- ALL FIXINGS, FASTENINGS, HOLD DOWNS AND FRAMING REQUIREMENTS ETC, ARE TO BE AS INDICATED AND DOCUMENTED IN "BRACING SYSTEMS SPECIFICATIONS" INCLUDED IN THE SPECIFICATIONS.

- OPENINGS IN BRACING UNITS: SMALL OPENINGS (EG. POWER OUTLETS) OF 90x90mm OR LESS MAY BE PLACED NO CLOSER THAN 90mm TO THE EDGE OF THE BRACED ELEMENT. A BLOCK MAY NEED TO BE PROVIDED ALONGSIDE THE PERIMETER STUD (ALSO REFER TO GIB BRACING SPECS)

BRACING KEY:

A1/GS1-N/2.4
NO. — TYPE — LENGTH

GS1-N - 10mm or 13mm STD GIB BOARD ON ONE FACE, MIN LENGTH 0.4m

GS2-N - 10mm or 13mm STD GIB BOARD ON BOTH FACES, MIN LENGTH 0.4m

BL1-H - 10mm or 13mm BRACELINE GIB BOARD HORIZONTAL OR VERTICAL ON ONE FACE, MIN. LENGTH 0.4m

NOTE: ALL ELEMENTS INCORPORATING BRACELINE GIB BOARD TO HAVE 12kN FIXINGS AT NO MORE THAN 100mm FROM EACH END

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Project: New Dwelling for Lot 22 - DP 531612, 1 Kaaka Street, Swayne Park, Cambridge

Drawing Name: BRACING AND ELECTRICAL PLAN

Amendments: RFI - 21/04/20 - Refer to clouded areas

Scale: 1:100

Date: January 2020

Drawing NO: A-301

BEFORE CONSTRUCTION BEGINS, BUILDER MUST CHECK ALL DIMENSIONS ARE CORRECT. ALL CONSTRUCTION WORK COMPLIES WITH THE NZS3604:2011 AND NEW ZEALAND BUILDING CODE, LOCAL BODY BYLAWS AND RELEVANT NEW ZEALAND STANDARD. DO NOT SCALE OFF PLANS

NOTES:

MATERIAL • Gaf Asphalt shingles roofing
PITCH • 27.5°
O/H • 450mm, 300mm
DP SIZE • 80mmØ

- SELECTED SPOUTING AND DOWNPIPES COMPLY WITH NZBC E1/AS1

- NO ROOF BRACING IS REQUIRED TO THIS TYPE OF ROOFING

KEY:

DP = DOWNPIPE

27.5° = FALL AND PITCH

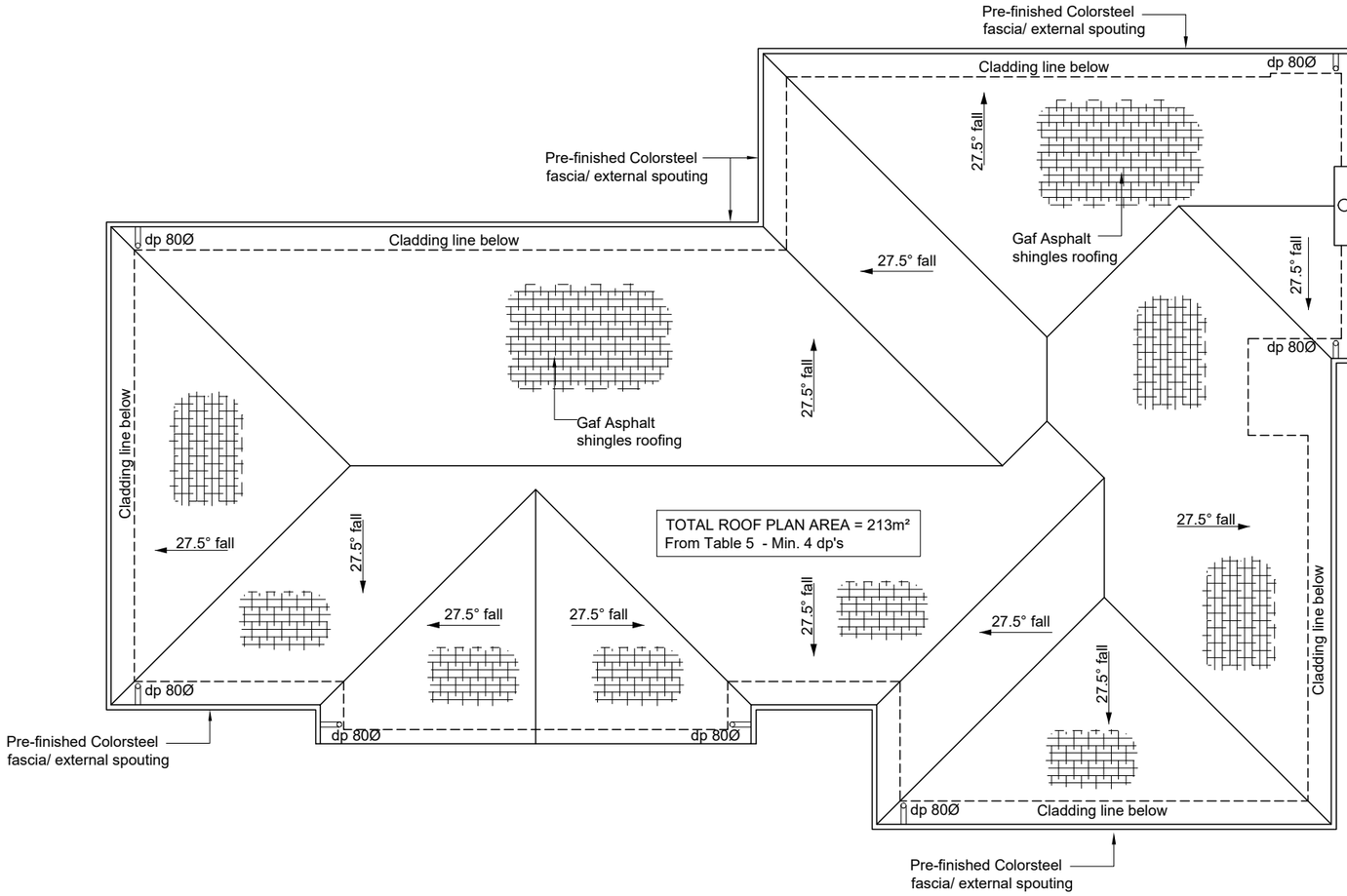

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Table 5: NZBC E1 - Downpipe Sizes for Given Roof Pitch and Area Paragraph 4.2.1

Downpipe size (mm) (minimum internal sizes)	Roof pitch			
	0-25°	25-35°	35-45°	45-55°
	Plan area of roof served by the downpipe (m²)			
63 mm diameter	60	50	40	35
74 mm diameter	85	70	60	50
100 mm diameter	155	130	110	90

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Project: New Dwelling for Lot 22 - DP 531612, 1 Kaaka Street, Swayne Park, Cambridge

Drawing Name: ROOF PLAN

Amendments:

Scale: 1:100

Date: January 2020

Drawing NO: A-302

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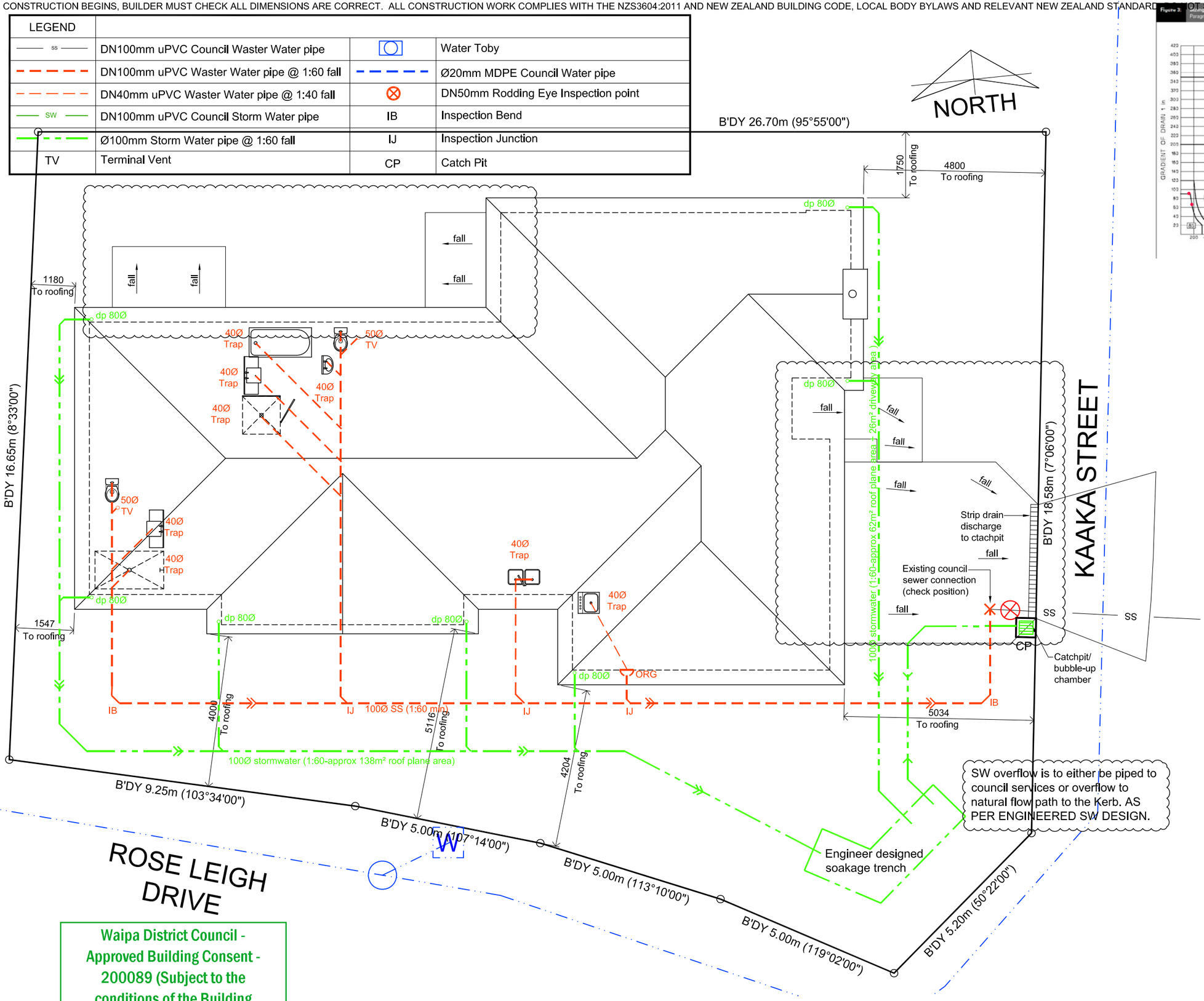
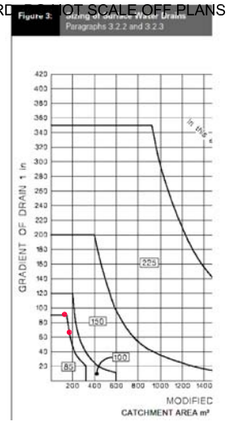
LEGEND			
—— ss ——	DN100mm uPVC Council Waster Water pipe	◯	Water Toby
- - - - -	DN100mm uPVC Waster Water pipe @ 1:60 fall	- - - - -	Ø20mm MDPE Council Water pipe
- - - - -	DN40mm uPVC Waster Water pipe @ 1:40 fall	⊗	DN50mm Rodding Eye Inspection point
—— SW ——	DN100mm uPVC Council Storm Water pipe	IB	Inspection Bend
- - - - -	Ø100mm Storm Water pipe @ 1:60 fall	IJ	Inspection Junction
TV	Terminal Vent	CP	Catch Pit





NOTES:

- CHECK POSITION OF WASTEWATER AND STORMWATER PRIOR TO COMMENCING CONSTRUCTION AND CHECK ALL PIPE DIAMETERS, GRADIENTS, ETC. ON SITE TO ENSURE ACCEPTABLE FALLS

- ALL PLUMBING AND DRAINAGE IS TO BE INSTALLED AND TESTED BY A REGISTERED TRADESPERSON

- ALL PLUMBING AND DRAINAGE TO COMPLY WITH G13/AS3 (AS/NZS 3500.2) AND E1/AS1 AND WITTH ALL RELEVANT CODES AND LOCAL BYLAWS

- WATER SUPPLY TO COMPLY WITH NZBC G12/AS1

- INTERNAL WATER RETICULATION PIPES (HOT AND COLD) ARE TO BE POLYBUTYLENE INSTALLED TO MANUFACTURER'S SPEC.

- WATER SUPPLY MIN NOMINAL PIPES DIA'S

• TEMPERING VALVE	20mm
• SHOWER COLD	20mm OR 10mm DEDICATED LINE
• SHOWER HOT	20mm OR 15mm DEDICATED LINE
• BATH, SINK, L'DY	15mm (20m MAX. LENGTH)
• BASIN	15mm (20m MAX. LENGTH)

- ALL SANITARY WASTE PLUMBING AND DRAINAGE PIPES ARE TO BE DWV GRADE uPVC AND COMPLIANT WITH AS/NZS 1260

- ORG IS TO BE 75mm ABOVE UNPAVED SURFACE OR AT A HEIGHT THAT PREVENTS PONDING OR THE INGRESS OF WATER WHERE LOCATED IN A PAVED SURFACE

- ALL HOSE TAPS TO BE FITTED WITH VACUUM BREAK NON-RETURN VALVES

MINIMUM FALL TO DRAINAGE RUNS:

DN 40	1:40 GRADIENT
DN 65	1:40 GRADIENT
DN 80/100	1:60 GRADIENT
DN 100 SW	1:120 GRADIENT

INSPECTION ACCESS POINTS

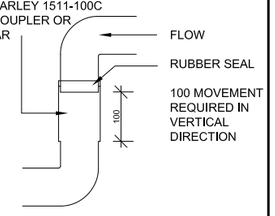
PROVIDE ACCESS POINTS TO ALL DRAINS AS REQUIRED BY AS/NZS 3500.2, 4.7 AND NZBC E1, 3.7
1. ON BRANCH DRAINS CARRYING SOIL WASTE CLOSE TO THE BUILDING BUT NO FURTHER AWAY THAN 2.5m
2. AT INTERVALS NOT MORE THAN 30m FOR SANITARY OR 50m FOR STORMWATER
3. ON THE DOWNSTREAM END OF DRAINS PASSING UNDER A BUILDING
4. AT THE JOIN WITH THE EXISTING DRAINAGE CONNECTION
5. AT CHANGES OF DIRECTION OR GRADIENT GREATER THAN 45°
6. AT A JUMP-UP
7. AT JUNCTIONS ON STORMWATER DRAINS EXCEPT WHERE THE BRANCH SERVES ONLY ONE DP AND IS LESS THAN 2m LONG

FINAL INSPECTION POINT POSITIONS ARE TO BE CONFIRMED BY THE DRAINLAYER ON DRAINAGE AS-BUILTS

WATER SUPPY:

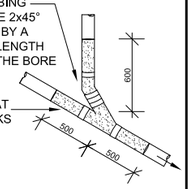
- FLEXIBLE DRAINAGE JOINTS ARE TO BE INSTALLED WHERE WW DRAINAGE LEAVES THE SLAB AND ENTERS THE GROUND

USE MARLEY 1511-100C SLIP COUPLER OR SIMILAR



THE BASE OF PLUMBING STACKS SHALL HAVE 2x45° BENDS SEPARATED BY A STRAIGHT PIPE OF LENGTH NOT LESS THAN 2x THE BORE

NO CONNECTIONS AT THE BASE OF STACKS WHERE SHOWN (HATCHED)



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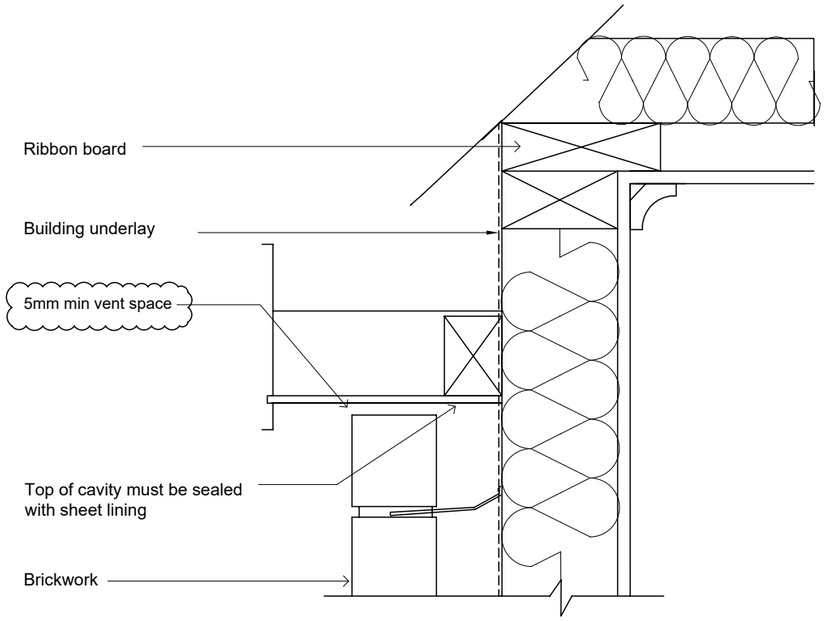
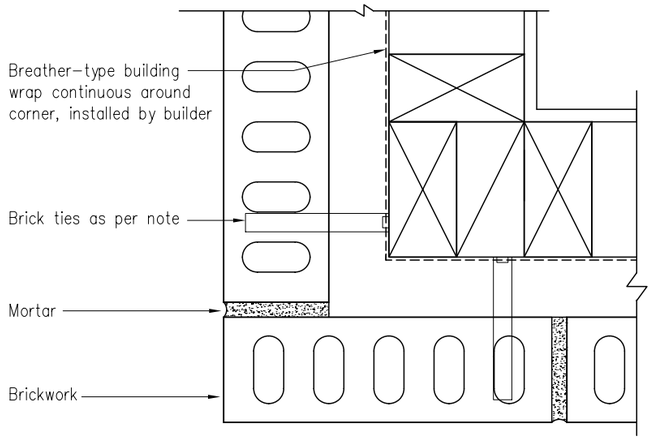
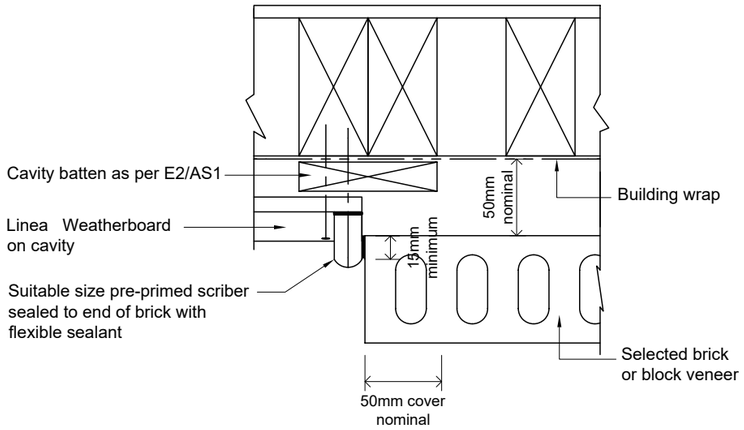
InTop Homes 55 London Street, Hamilton Centre E-mail - info@intophomes.co.nz Ph: 07-8380829	**Project:** New Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park Cambridge	**Drawing Name:** DRAINAGE PLAN	**Amendments:**	**Scale:** 1:100 **Date:** January 2020	**Drawing NO:** A-303



FLAT SOFFIT DETAIL

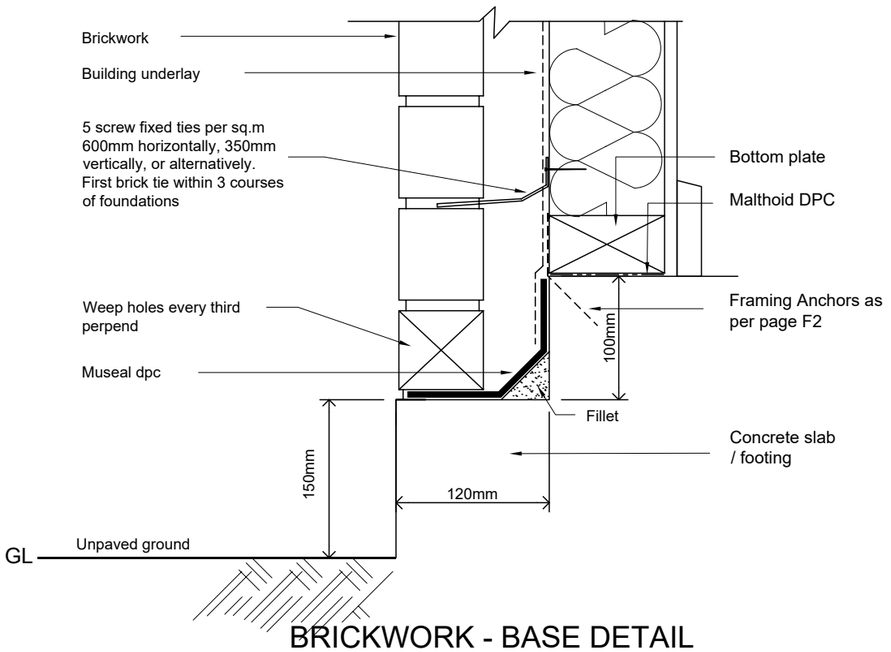


BRICKWORK - EXTERNAL CORNER DETAIL

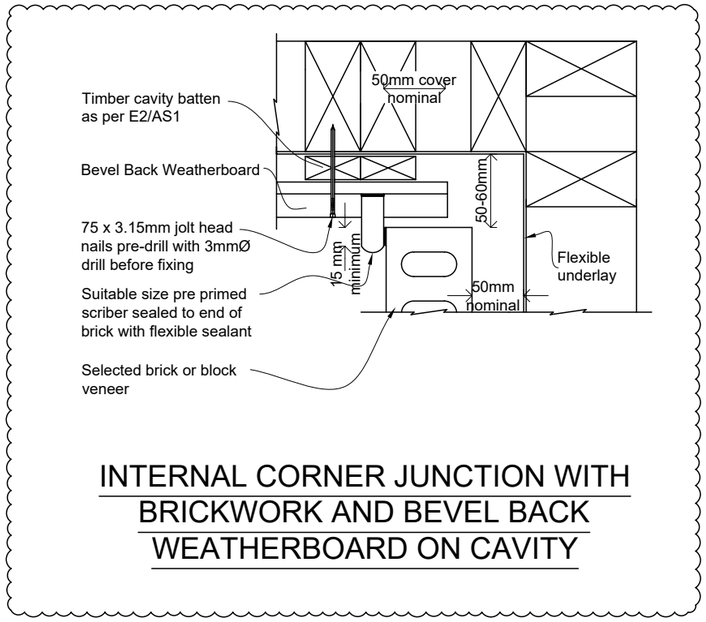


Note: Brick tie to be fixed 70mm minimum from the edge of brick to suit the cladding overlap

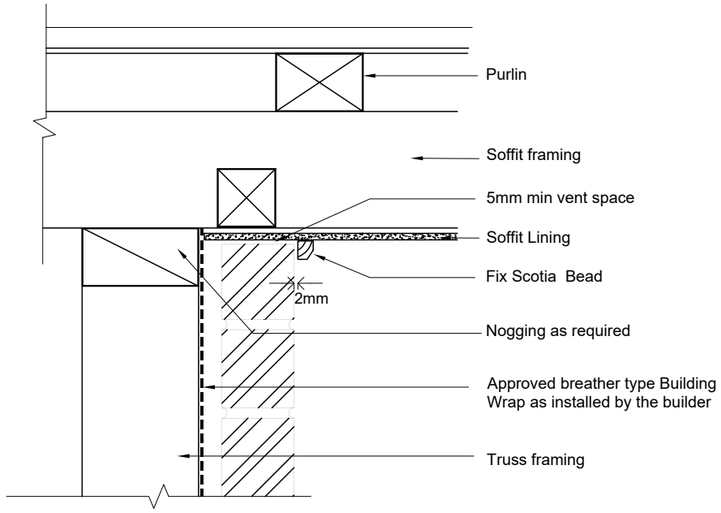
PLAN JUNCTION WITH BRICKWORK AND LINEA WEATHERBOARDS ON CAVITY



BRICKWORK - BASE DETAIL



INTERNAL CORNER JUNCTION WITH BRICKWORK AND BEVEL BACK WEATHERBOARD ON CAVITY



BRICKWORK - EAVES DETAIL

5 screwfixed ties per sq.m 600mm horizontally, 350mm vertically, or alternatively: first brick tie within 3 courses of foundations

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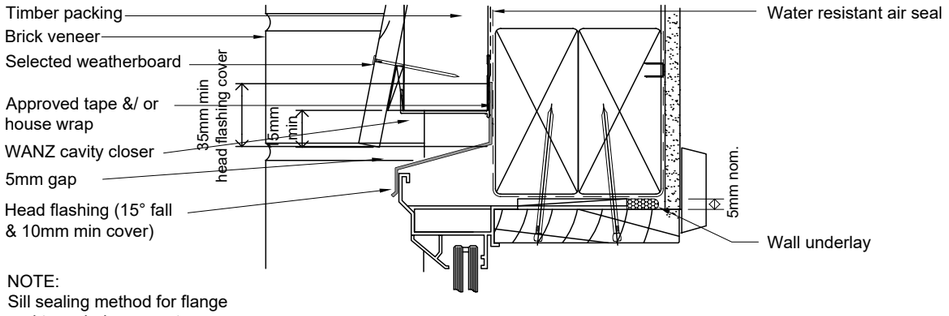
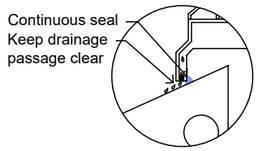
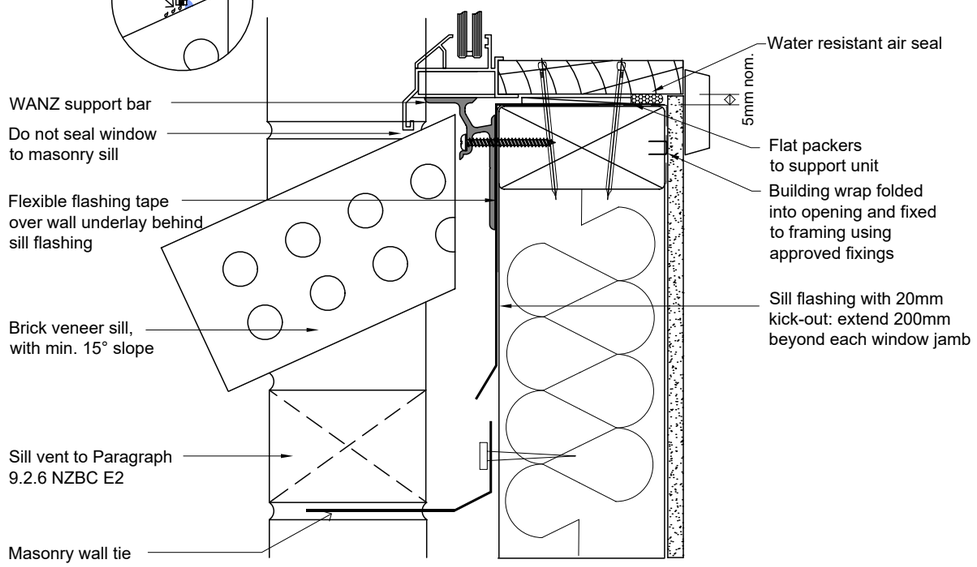


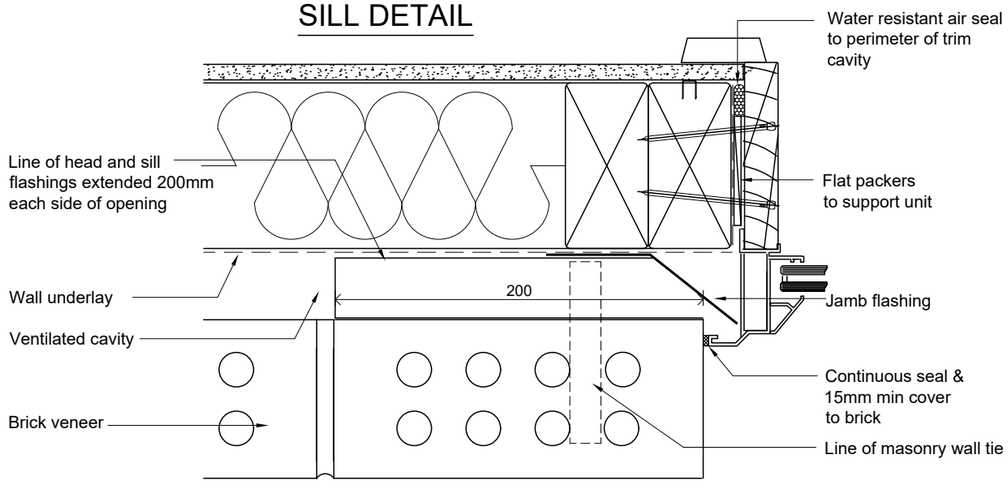
NOTE:
Sill sealing method for flange end type drainage systems



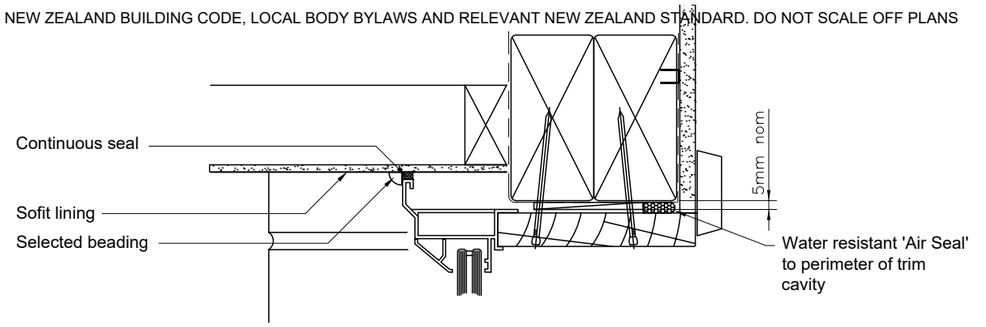
BRICKWORK - HEAD DETAIL WITH LINEA CLADDING ABOVE



SILL DETAIL



JAMB DETAIL



WINDOW HEAD TO SOFFIT

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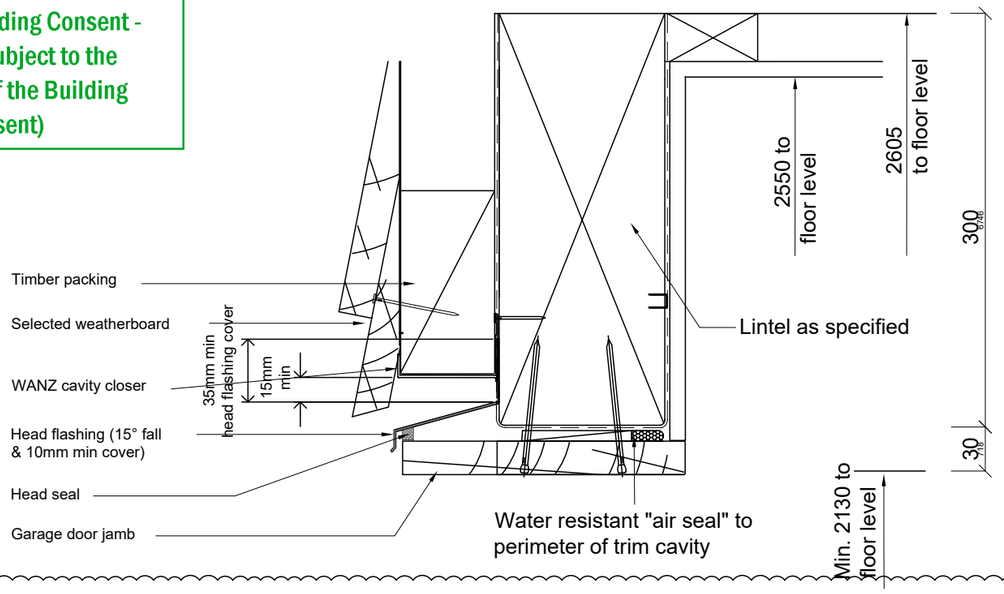
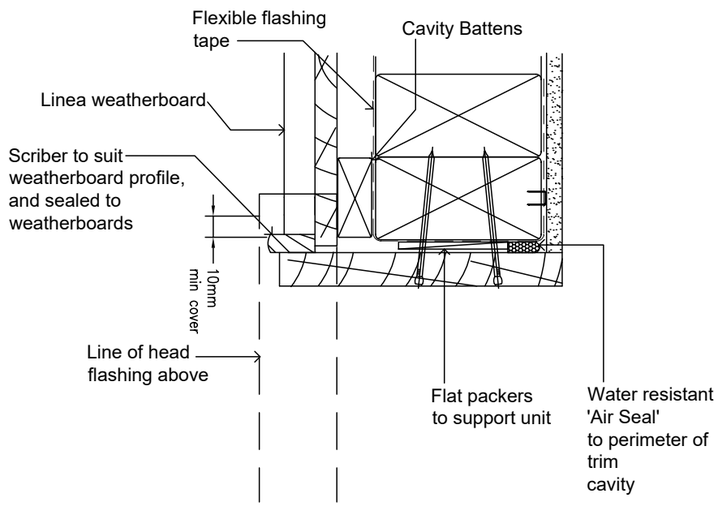
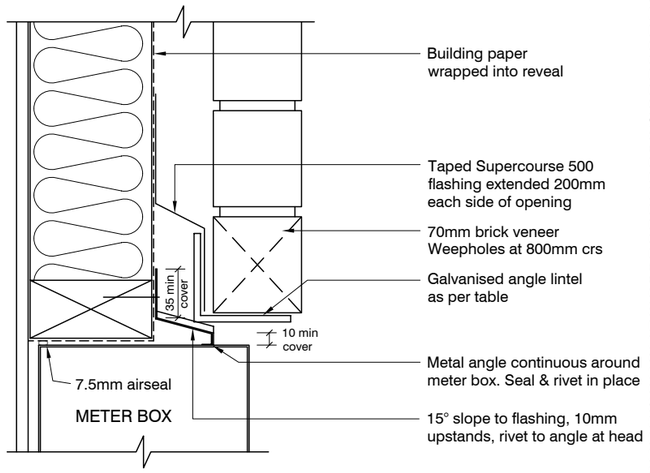


GARAGE DOOR HEAD DETAIL WITH LINEA ABOVE DOOR

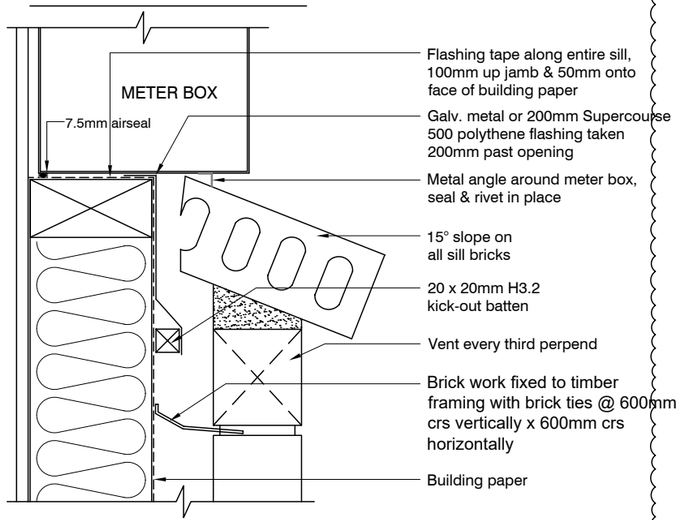


GARAGE DOOR JAMB DETAIL

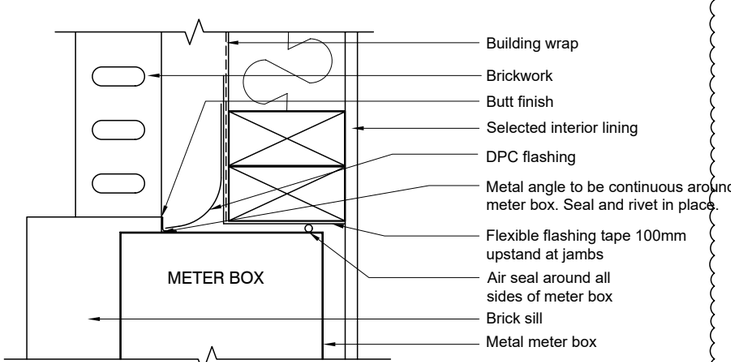
InTop Homes 55 London Street, Hamilton Centre E-mail - info@intophomes.co.nz Ph: 07-8380829	**Project:** Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park, Cambridge.	**Drawing Name:** DETAILS	**Amendments:**	**Scale:** NTS **Date:** January 2020	**Drawing NO:** D2



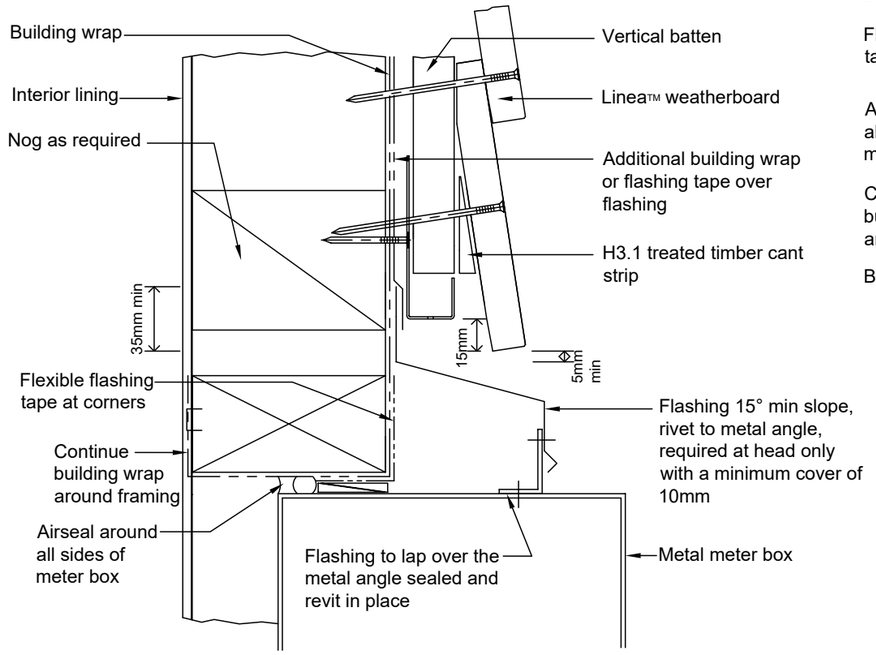
METER BOX: HEAD



METER BOX: SILL



METER BOX: JAMB



CAVITY METER BOX AT HEAD

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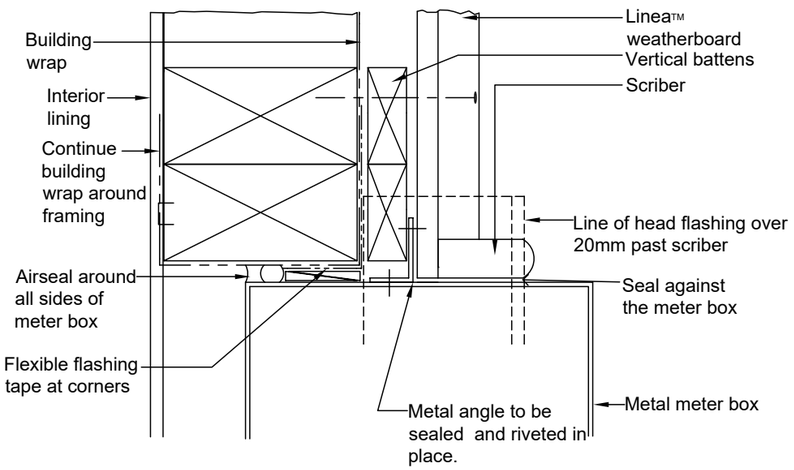
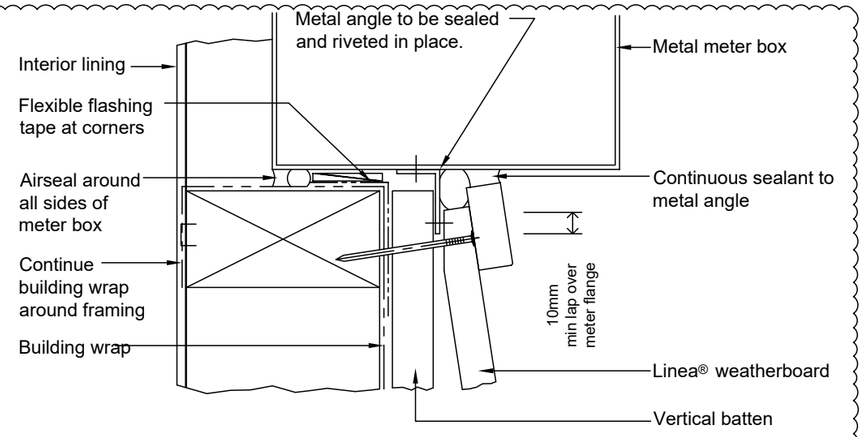
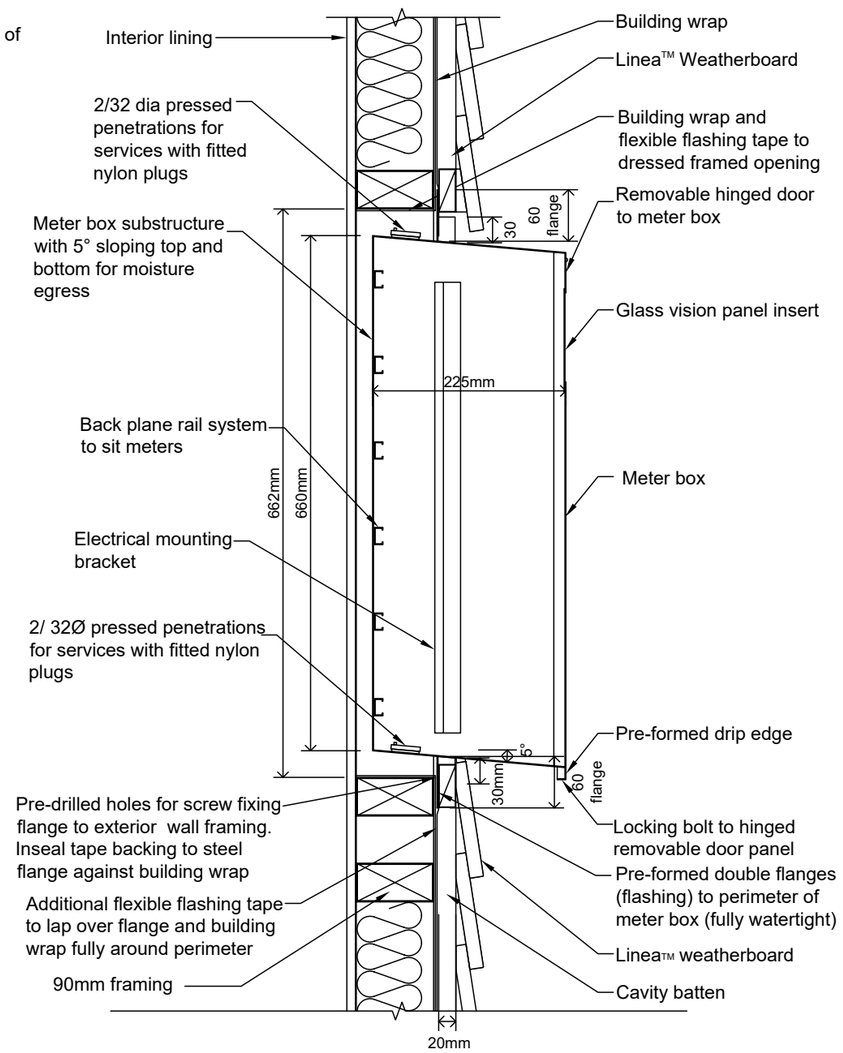


CAVITY METER BOX HEAD FLASHING AT JAMB



CAVITY METER BOX AT SILL



CAVITY FIX METER BOX

InTop Homes
55 London Street, Hamilton Centre
E-mail - info@intophomes.co.nz
Ph: 07-8380829

Project: Dwelling for Lot 22 - DP 531612, 1 Kaaka Street, Swayne Park, Cambridge.

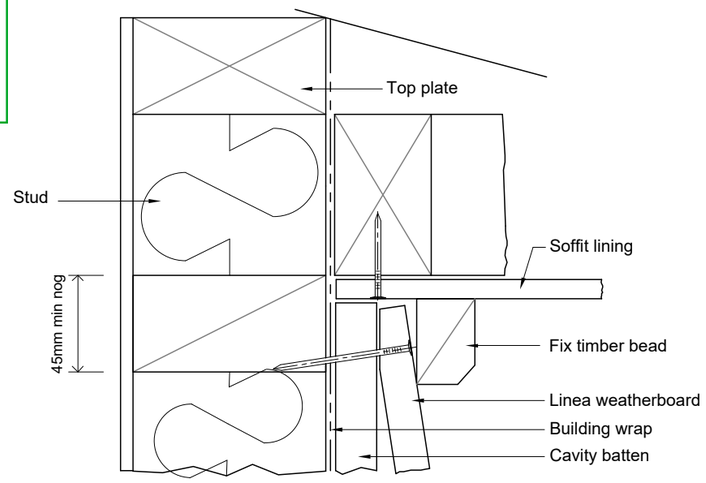
Drawing Name: DETAILS

Amendments:

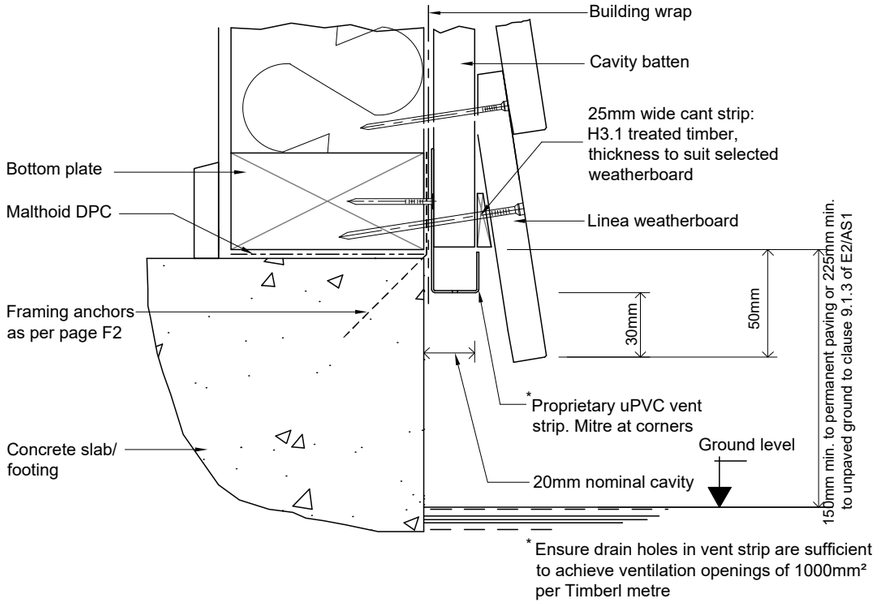
Scale: NTS

Date: January 2020

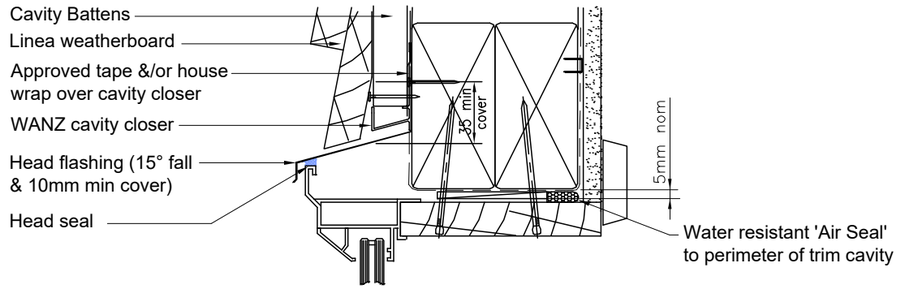
Drawing NO: D3



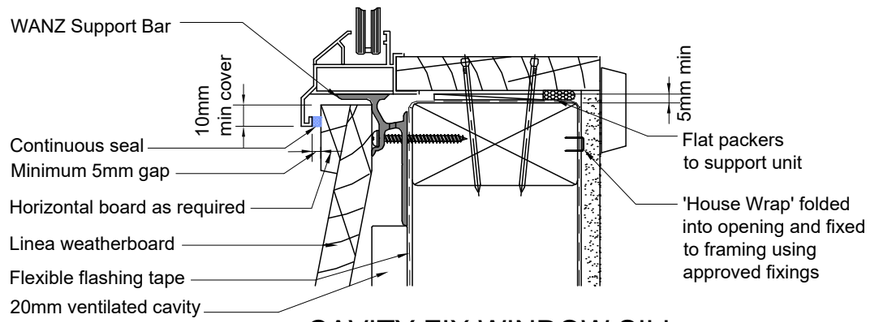
LINEA WEATHERBOARD ON CAVITY - FLAT SOFFIT DETAIL



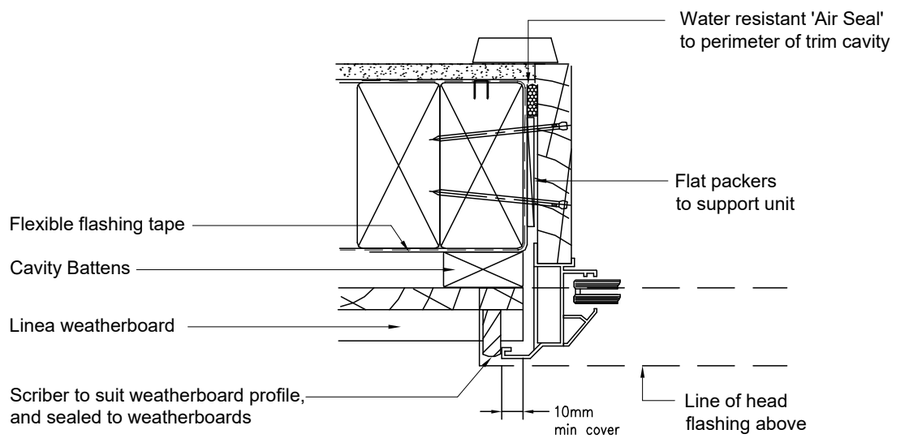
LINEA WEATHERBOARD ON CAVITY - BASE DETAIL



CAVITY FIX WINDOW HEAD WITHOUT FACINGS



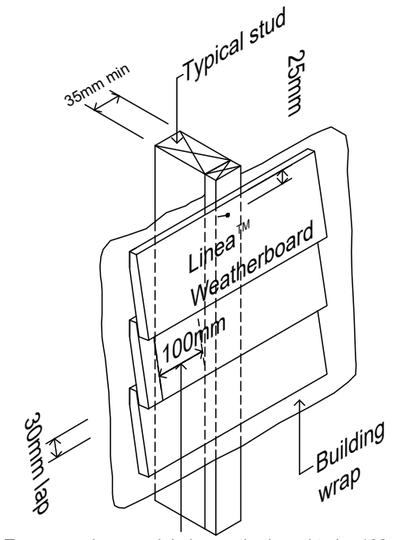
CAVITY FIX WINDOW SILL WITHOUT FACINGS



CAVITY FIX WINDOW JAMB WITHOUT FACINGS

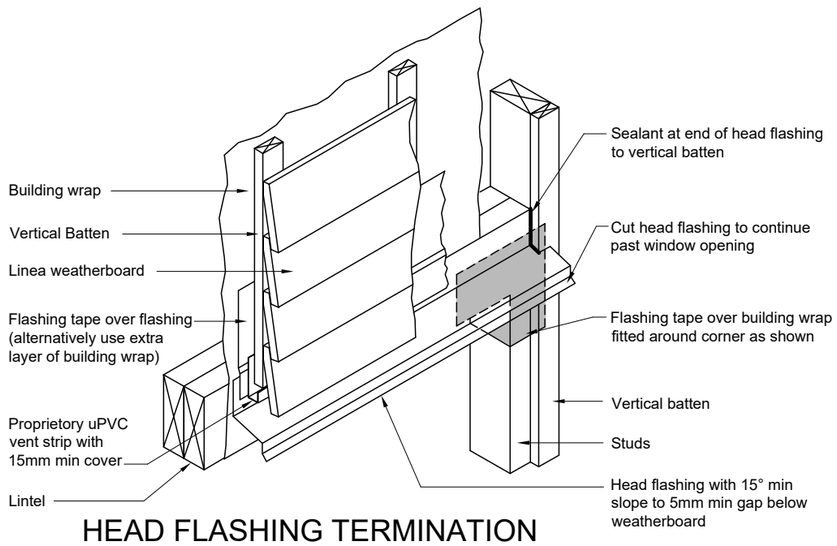
InTop Homes 55 London Street, Hamilton Centre E-mail - info@intophomes.co.nz Ph: 07-8380829	**Project:** Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park, Cambridge.	**Drawing Name:** DETAILS	**Amendments:**	**Scale:** NTS **Date:** January 2020	**Drawing NO:** D4

BEFORE CONSTRUCTION BEGINS, BUILDER MUST CHECK ALL DIMENSIONS ARE CORRECT. ALL CONSTRUCTION WORK COMPLIES WITH THE NZS3604:2011 AND NEW ZEALAND BUILDING CODE, LOCAL BODY BYLAWS AND RELEVANT NEW ZEALAND STANDARD. DO NOT SCALE OFF PLANS

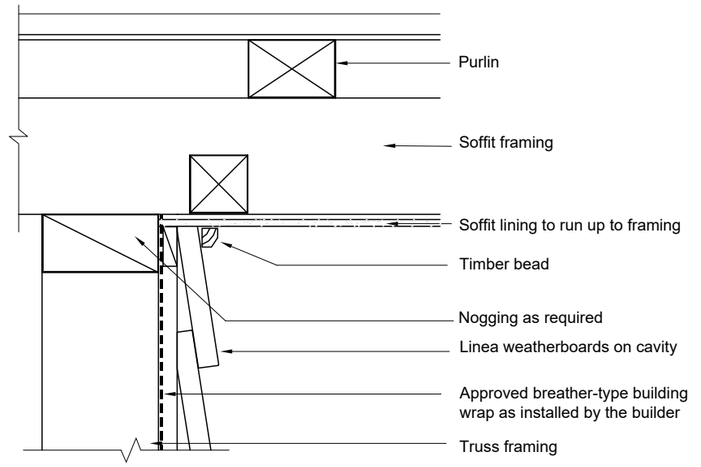


Tongue and groove join in weatherboard to be 100mm minimum from side of stud.
Joints must be staggered by 600mm min

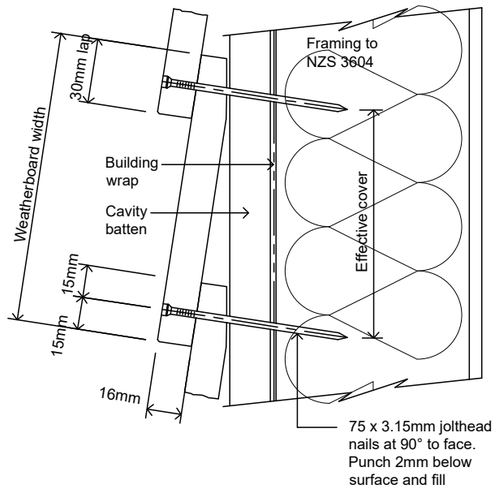
Jointing Off Stud



HEAD FLASHING TERMINATION



LINEA ON CAVITY - EAVES DETAIL



LINEA WEATHERBOARD CAVITY - EXPOSED NAILING

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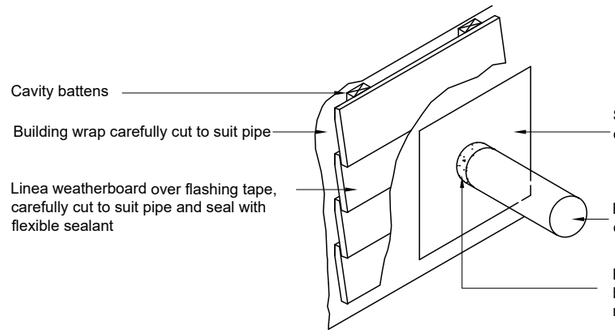


LINEA WEATHERBOARD CAVITY - PIPE PENETRATION

InTop Homes
55 London Street, Hamilton Centre
E-mail - info@intophomes.co.nz
Ph: 07-8380829

Project: Dwelling for Lot 22 - DP 531612, 1 Kaaka Street, Swayne Park, Cambridge.

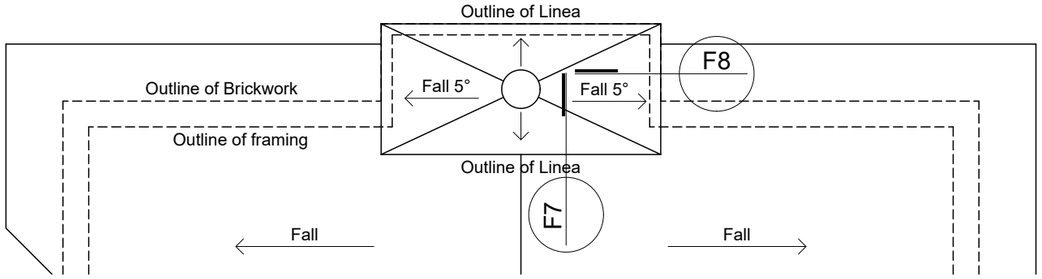
Drawing Name: DETAILS

Amendments:

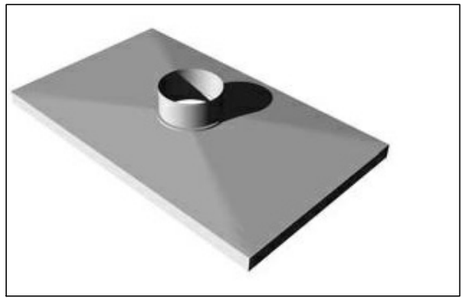
Scale: NTS

Date: January 2020

Drawing NO: D5



Plan of Roofline and Chimney



3D View of One Piece Chimney Capping

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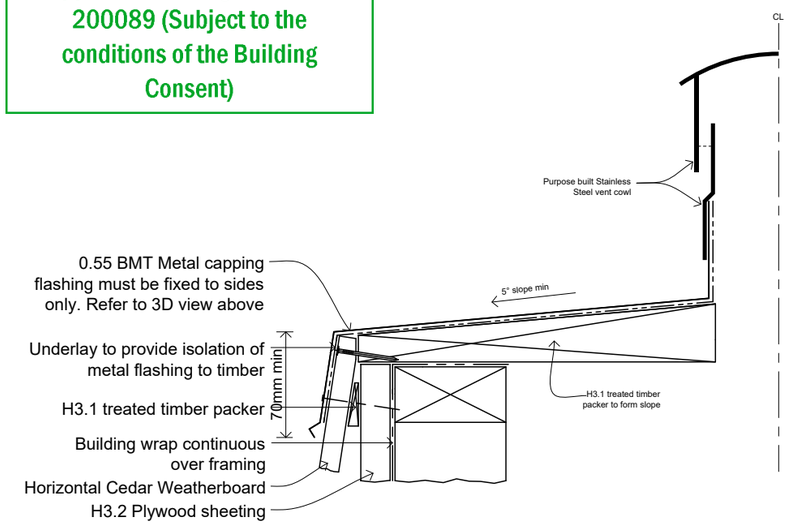
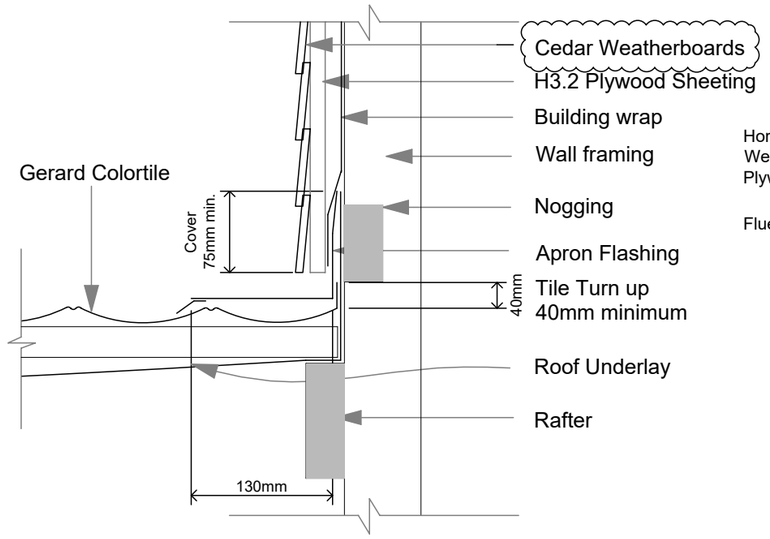
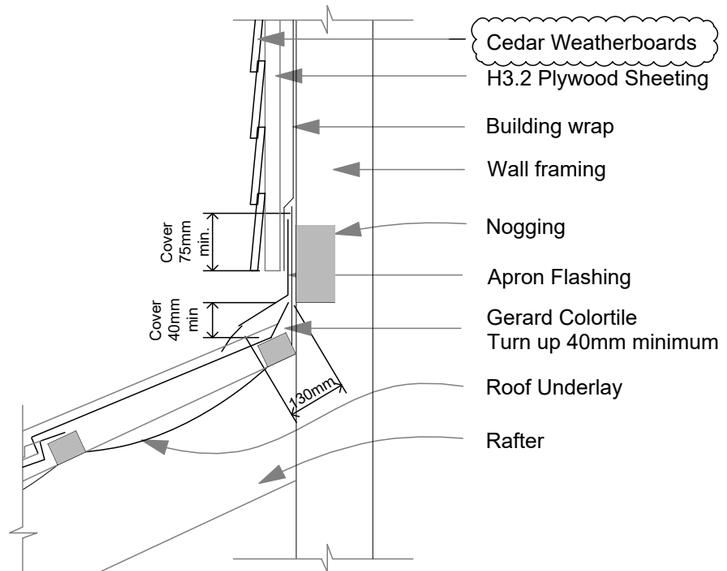


One piece Chimney Capping Detail



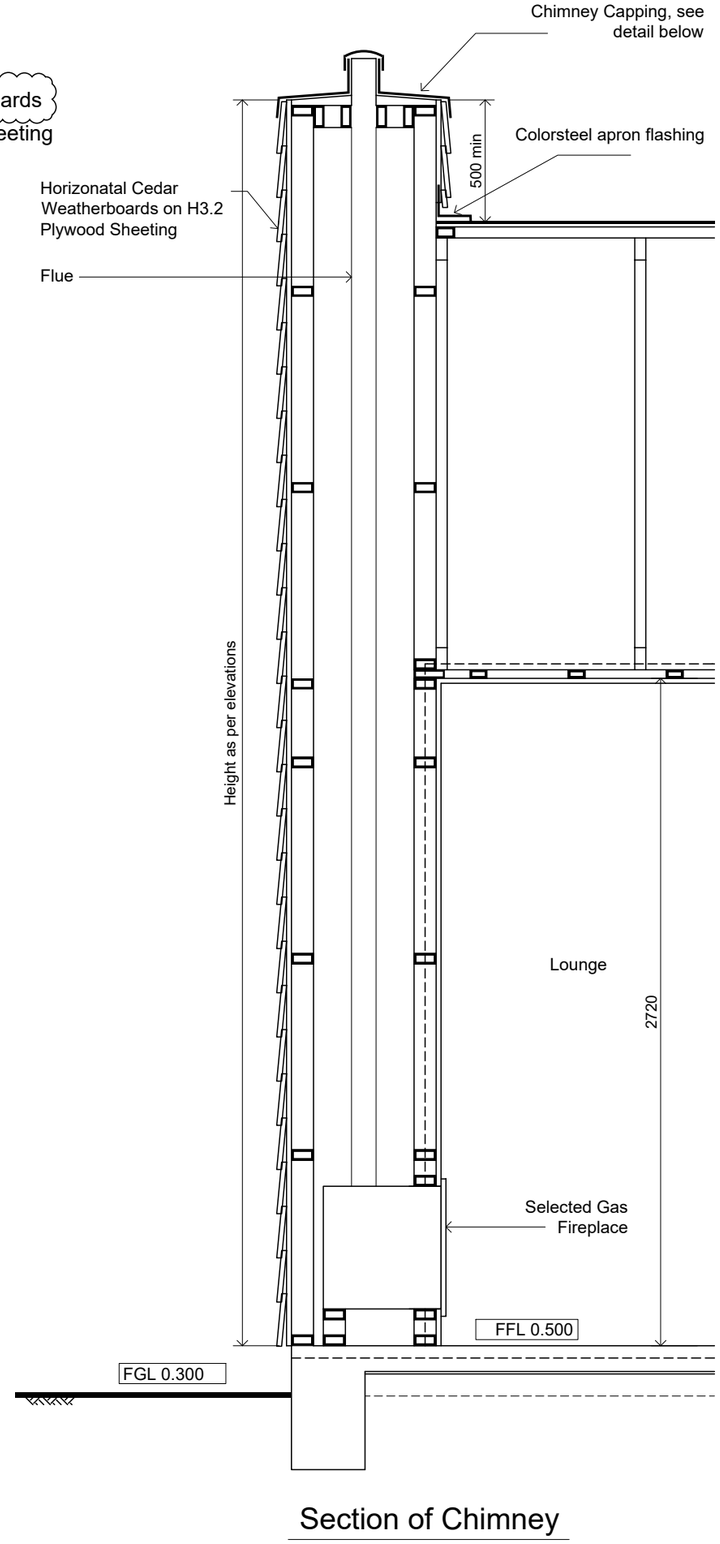
Roof installed before Cladding installed

Figure 07
Wall Flashing - Standard Cladding
Apron Flashing - Colortile profile



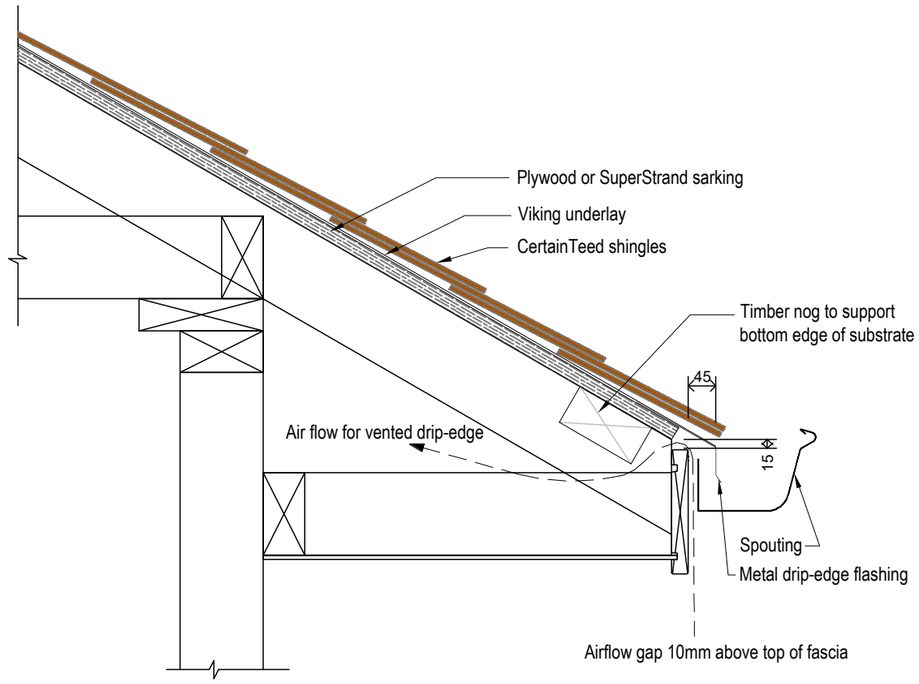
Roof installed before Cladding installed

Figure 8
Transverse Wall Flashing - Standard Cladding
Apron Flashing - Colortile profile

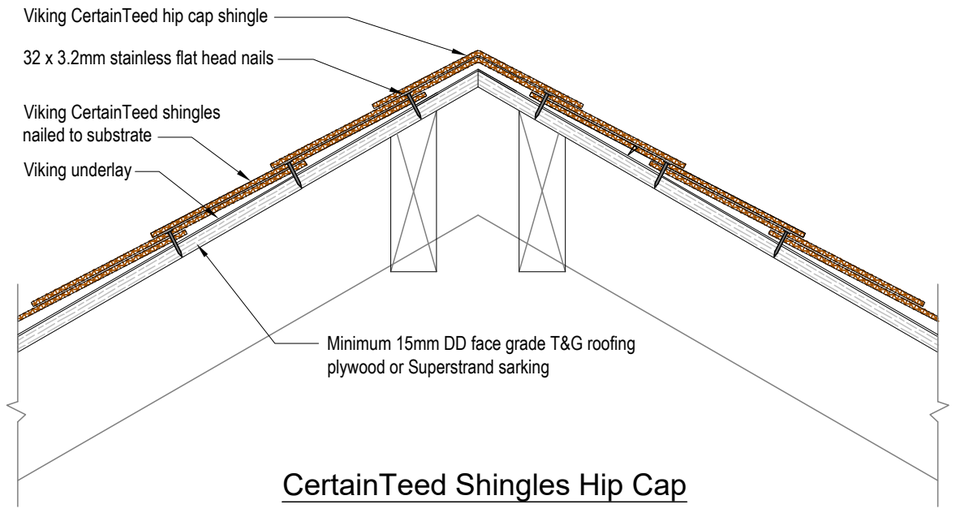


Section of Chimney

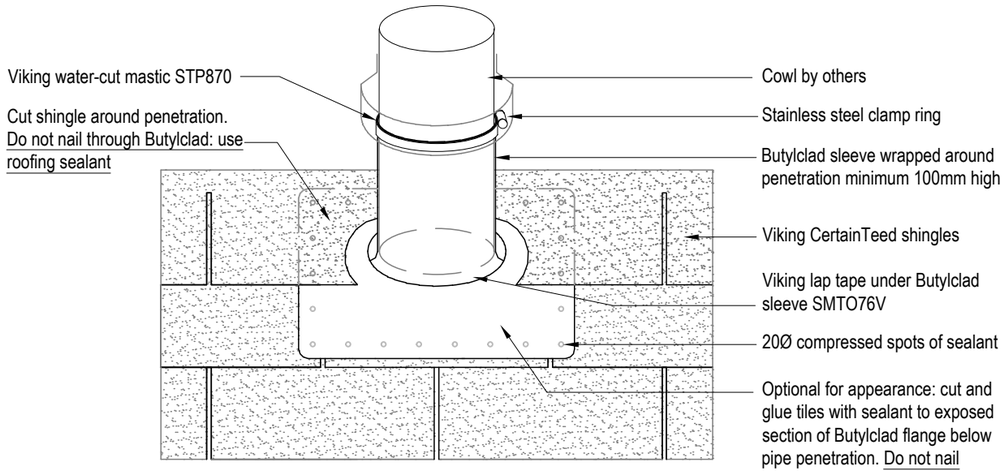
InTop Homes 55 London Street, Hamilton Centre E-mail - info@intophomes.co.nz Ph: 07-8380829	**Project:** Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park, Cambridge.	**Drawing Name:** DETAILS	**Amendments:**	**Scale:** NTS **Date:** January 2020	**Drawing NO:** D6



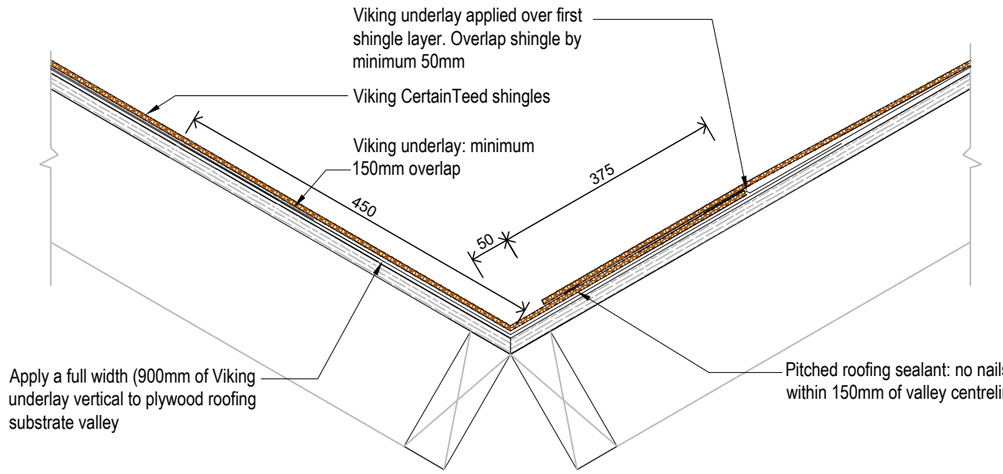
CT11 CertainTeed Vented Drip Edge



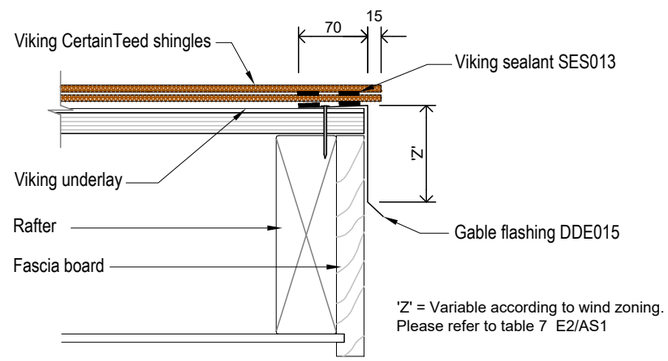
CertainTeed Shingles Hip Cap



CertainTeed Shingles Pipe Penetration



CertainTeed Shingles Shingle Valley



CertainTeed Shingles Gable Flashing - Option A

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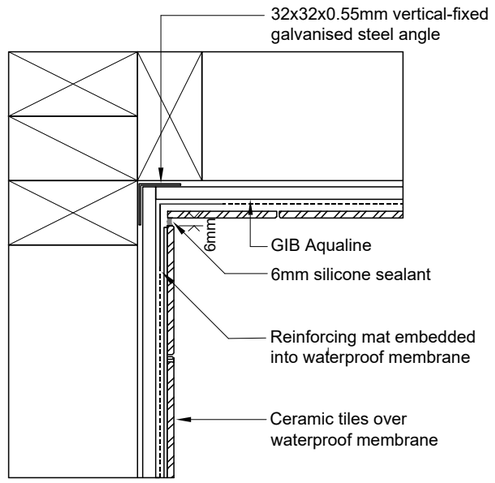
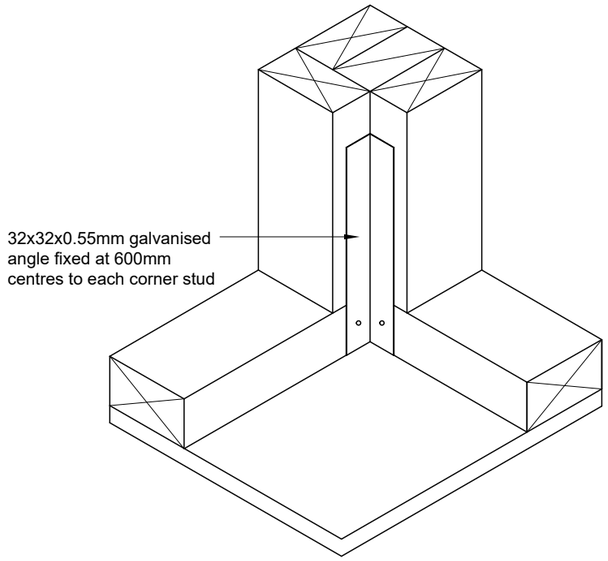
InTop Homes
55 London Street, Hamilton Centre
E-mail - info@intophomes.co.nz
Ph: 07-8380829

Project:	Drawing Name:	Amendments:	Scale:	Drawing NO:
Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park, Cambridge.	DETAILS		NTS	D7
			Date: January 2020	



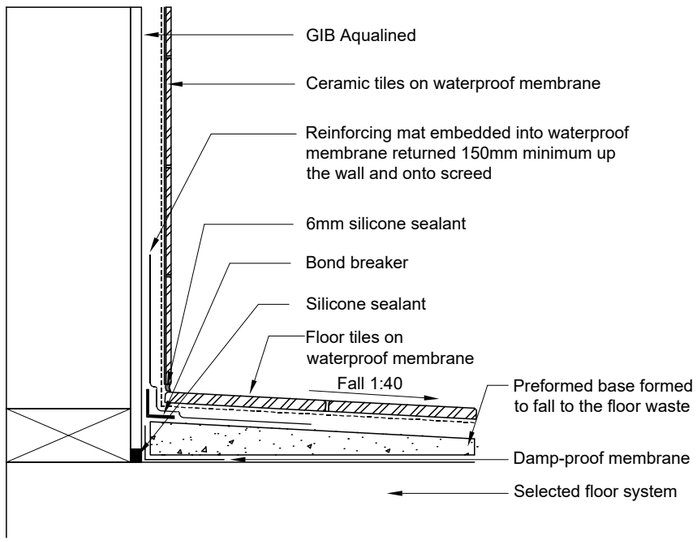
Plan View

SHOWER, TILED WALLS - CORNER DETAIL

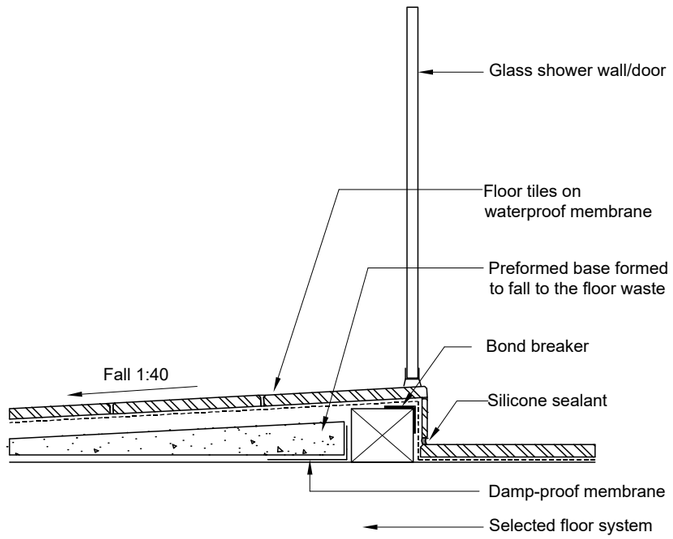


SHOWER, TILED WALLS - CORNER ANGLE DETAIL

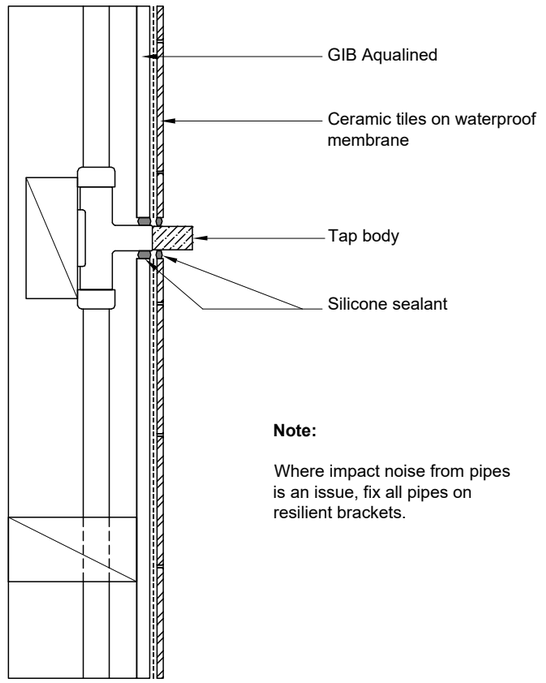
Waipa District Council - Approved Building Consent - 200089 (Subject to the conditions of the Building Consent)



SHOWER, TILED WALLS - WALL/ FLOOR DETAIL



SHOWER, TILED WALLS - FLOOR DETAIL

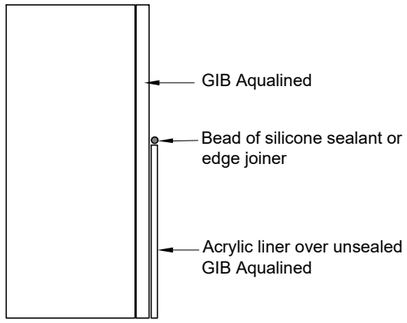


Note:

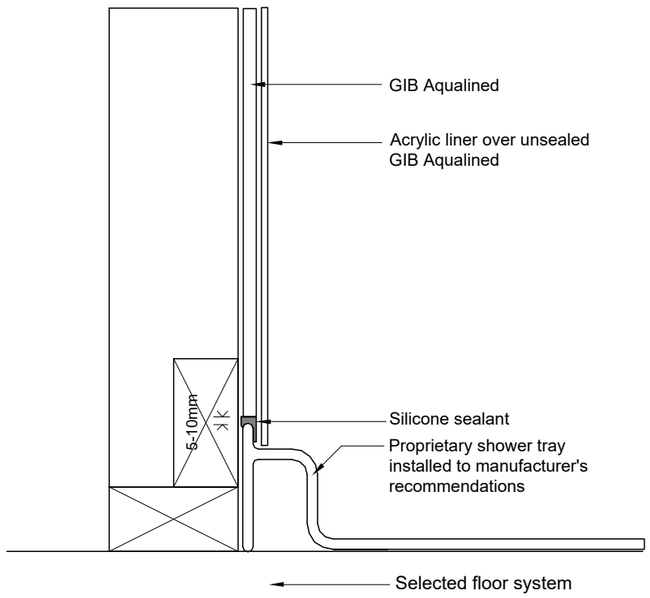
Where impact noise from pipes is an issue, fix all pipes on resilient brackets.

SHOWER, TILED WALLS - PENETRATION DETAIL

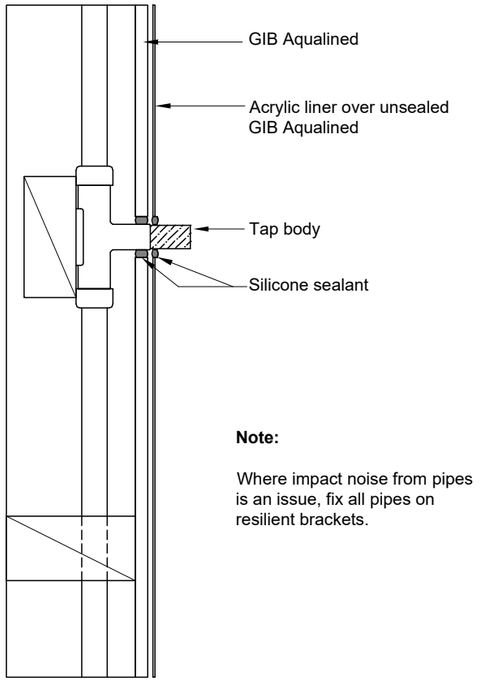
InTop Homes 55 London Street, Hamilton Centre E-mail - info@intophomes.co.nz Ph: 07-8380829	**Project:** Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park, Cambridge.	**Drawing Name:** DETAILS	**Amendments:**	**Scale:** NTS **Date:** January 2020	**Drawing NO:** D8



SHOWER, ACRYLIC LINER - TOP OF LINER DETAIL



SHOWER, ACRYLIC LINER - WALL/FLOOR DETAIL



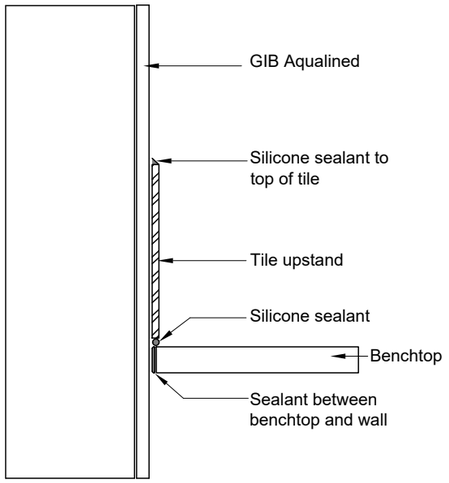
Note:

Where impact noise from pipes is an issue, fix all pipes on resilient brackets.

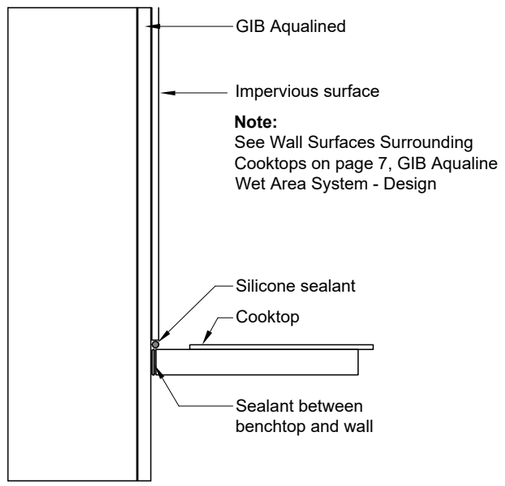
SHOWER, ACRYLIC LINER - PENETRATION DETAIL

Waipa District Council - Approved Building Consent - 200089 (Subject to the conditions of the Building Consent)

InTop Homes 55 London Street, Hamilton Centre E-mail - info@intophomes.co.nz Ph: 07-8380829	**Project:** Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park, Cambridge.	**Drawing Name:** DETAILS	**Amendments:**	**Scale:** NTS **Date:** January 2020	**Drawing NO:** D9

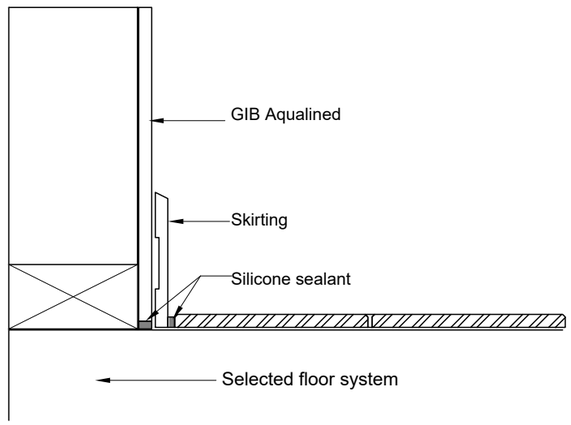


BENCHTOP - WALL/ BENCH DETAIL

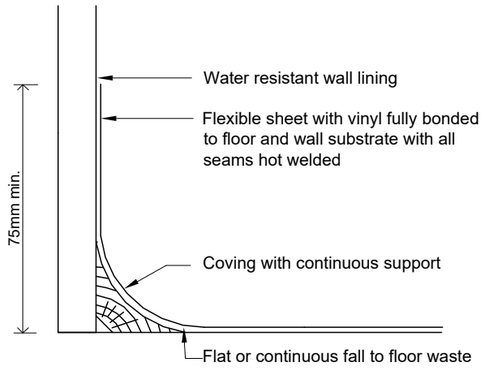


COOKTOP - WALL/ BENCH DETAIL

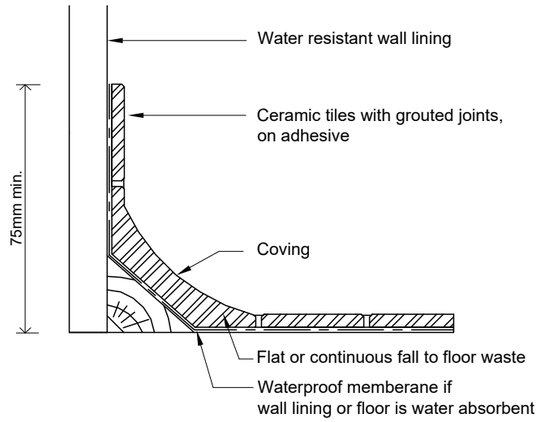
Waipa District Council - Approved Building Consent - 200089 (Subject to the conditions of the Building Consent)



FLOOR - GIB WALL/ TILED FLOOR DETAIL

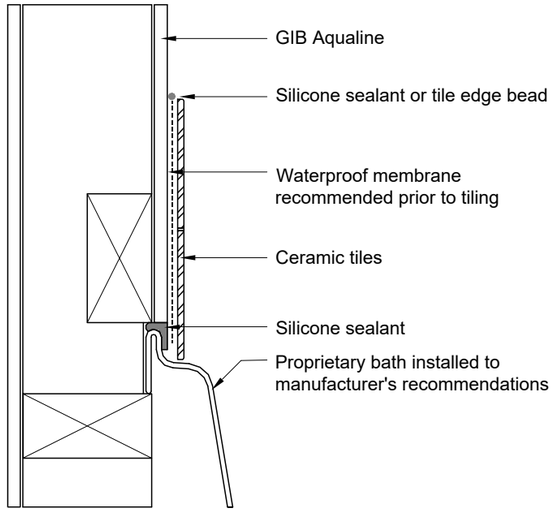


VINYL FLOOR COVERING DETAIL
(as per E3/AS1 Fig. 1)

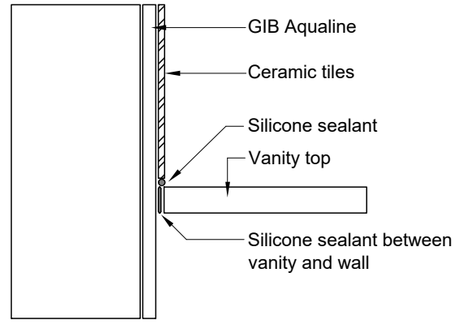


CERAMIC TILE FLOOR COVERING DETAIL
(as per E3/AS1 Fig. 1)

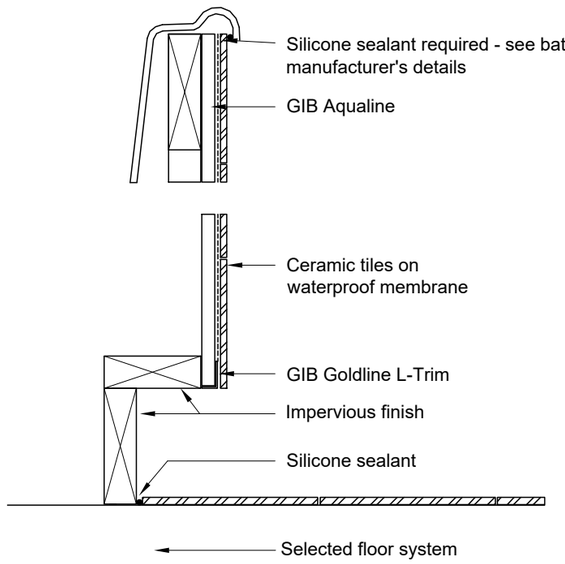
InTop Homes 55 London Street, Hamilton Centre E-mail - info@intophomes.co.nz Ph: 07-8380829	**Project:** Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park, Cambridge.	**Drawing Name:** DETAILS	**Amendments:**	**Scale:** NTS **Date:** January 2020	**Drawing NO:** D10



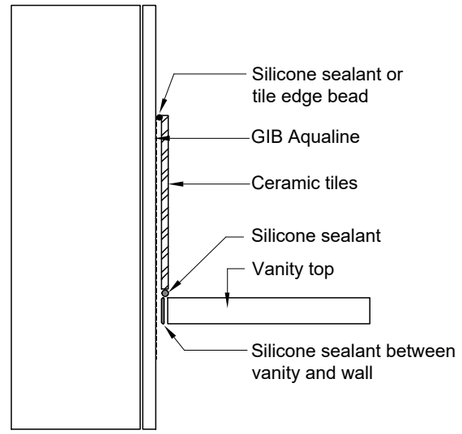
BATH, TILED WALLS - BATH/ WALL DETAIL



Option 1



BATH, TILED WALLS - PLINTH AND TILED FLOOR DETAIL

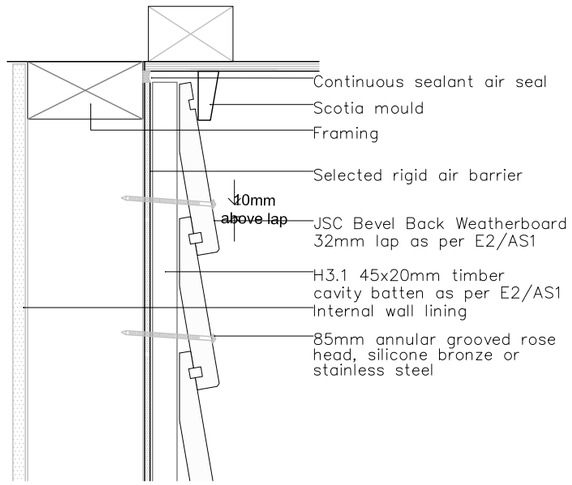


Option 2

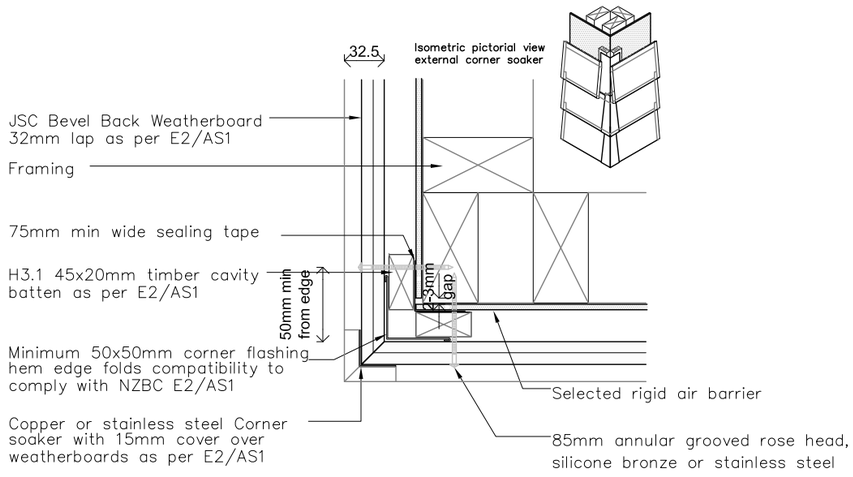
VANITY, TILED WALLS - WALL/ TOP DETAIL

Waipa District Council - Approved Building Consent - 200089 (Subject to the conditions of the Building Consent)

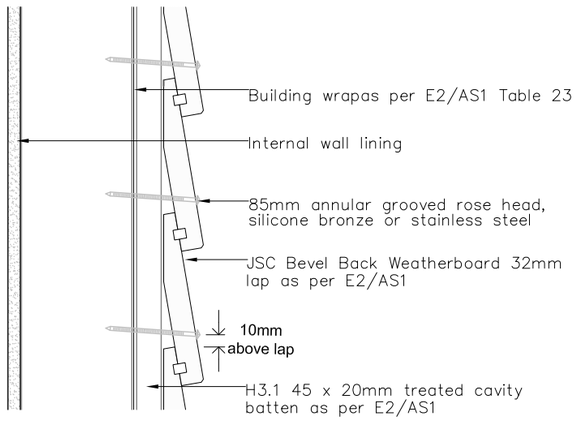
InTop Homes 55 London Street, Hamilton Centre E-mail - info@intophomes.co.nz Ph: 07-8380829	**Project:** Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park, Cambridge.	**Drawing Name:** DETAILS	**Amendments:**	**Scale:** NTS **Date:** January 2020	**Drawing NO:** D11



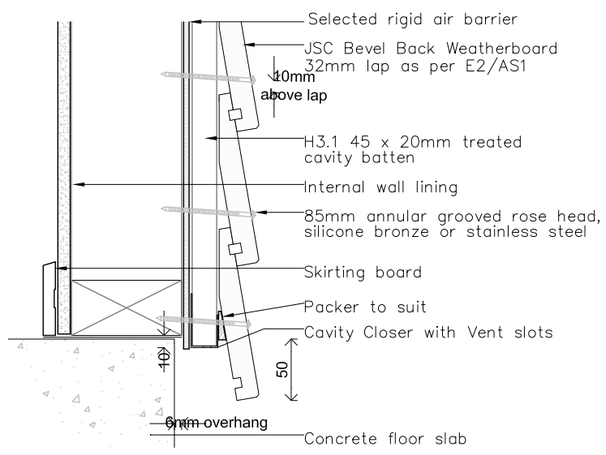
BEVELBACK CEDAR WEATHERBOARD - SOFFIT DETAIL



BEVELBACK CEDAR WEATHERBOARD - EXTERNAL CORNER



BEVELBACK CEDAR WEATHERBOARD - SECTIONAL DETAIL



BEVELBACK CEDAR WEATHERBOARD - SLAB/BOTTOM PLATE DETAIL

Waipa District Council - Approved Building Consent - 200089 (Subject to the conditions of the Building Consent)

InTop Homes
55 London Street, Hamilton Centre
E-mail - info@intophomes.co.nz
Ph: 07-8380829

Project: Dwelling for Lot 22 - DP 531612
1 Kaaka Street, Swayne Park,
Cambridge.

Drawing Name: DETAILS

Amendments:

Scale: NTS

Date: January 2020

Drawing NO: D12

GENERAL NOTES

1. IN ALL CASES THE TECHNICAL SPECIFICATIONS, WHERE PROVIDED, SHALL BE REFERENCED FOR DETAILED INFORMATION.

2. ALL STANDARDS AND CODES REFERRED TO IN THESE NOTES SHALL BE THE LATEST REVISIONS UNLESS NOTED OTHERWISE.

3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO:

   a) OBTAIN ANY NECESSARY PERMITS BEFORE STARTING ANY ON-SITE CONSTRUCTION AND/OR EXCAVATIONS MORE THAN 150 mm DEEP.

   b) VERIFY AND MARK THE EXACT LOCATION OF ALL UNDERGROUND SERVICES FROM THE LATEST REVISION OF THE UNDERGROUND SERVICES DRAWINGS. THESE MARKINGS SHALL BE APPROVED BY THE CONSTRUCTION SUPERVISOR.

   c) MAKE ANY STATUTORY NOTIFICATIONS AND ARRANGE ALL INSPECTIONS AND TESTS REQUIRED BY LAW AND BY THE DRAWINGS AND SPECIFICATIONS.

   d) VERIFY ALL DIMENSIONS RELATING TO EXISTING STRUCTURES ON SITE.

4. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING PROXIMATE TO CABLE TRENCHES.

5. ELEVATIONS SHOWN ARE IN METRES (m) UNLESS NOTED OTHERWISE.

6. DIMESNIONS SHOWN ARE IN MILLIMTRES (mm) UNLESS NOTED OTHERWISE.

7. COORDINATES SHOWN ARE IN METRES (m) UNLESS NOTED OTHERWISE.

8. THE STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION AND WITH ARCHITECTURAL, SERVICES, CIVIL AND OTHER PROJECT DRAWINGS. ANY DISCREPANCIES SHALL BE REFERRED TO ARCHITECTURAL, SERVICES, CIVIL AND OTHER PROJECT DRAWINGS. ANY DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER FOR RESOLUTION.

9. THE PRESENCE, LOCATION AND DETAILS OF NIBS, PLINTHS, RECESSES, REBATES, PENETRATIONS, SLEEVES, CHASES, DUCTS, CAST-IN FIXINGS, INSERTS, BRACKETS, FLASHINGS, DAMP-PROOFING AND WATERPROOFING ETC ARE NOT NECESSARILY SHOWN ON THE STRUCTURAL DRAWINGS.

10. THE LOCATION, SIZE AND DETAILS OF ALL NIBS, PLINTHS, RECESSES, REBATES, PENETRATIONS etc. IN STRUCTURAL MEMBERS, MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION UNLESS SHOWN ON THE STRUCTURAL DRAWINGS. THESE ITEMS SHALL BE CAST-IN, FORMED, OR SHOP FABRICATED AND SHALL NOT BE CUT OR CORED ON SITE, UNLESS NOTED OTHERWISE OR APPROVED BY THE ENGINEER.

11. SUBSTITUTION FOR OR AMENDMENT OF DETAILS SHOWN OR MATERIALS SPECIFIED SHALL NOT BE CARRIED OUT WITHOUT APPROVAL OF THE ENGINEER.

12. IN THE EVENT THAT THERE IS ANY CONFLICT BETWEEN THE DRAWINGS AND THE SPECIFICATION THEN THE REQUIREMENTS OF THE DRAWINGS SHALL TAKE PRECEDENCE, WITH THE DETAIL DRAWINGS TAKING PRECEDENCE OVER THESE GENERAL NOTES.

13. ANY DISCREPANCIES IN THESE DRAWINGS AND/OR SPECIFICATION OR WITH ARCHITECTURAL OR OTHER TRADES DRAWINGS AND/OR SPECIFICATION SHALL BE REFERRED TO THE ENGINEER FOR CLARIFICATION PRIOR TO COMMENCING THAT SECTION OF WORK.

14. THE CONTRACTOR IS RESPONSIBLE TO ADEQUACY OF COMPONENTS FOR LIFTING AND ERECTION, AND FOR PROPPING AND PROVIDING LATERAL RESTRAINT DURING CONSTRUCTION, UNTIL ALL STEEL IS FULLY IN PLACE AND ALL CONCRETE UP TO THAT LEVEL IS ADEQUATELY CURED TO CARRY THE CONSTRUCTION LOADS.

LEGEND

SECTION VIEW REFERENCE (LETTER)
DRAWING NUMBER WHERE SECTION IS LOCATED
(- INDICATES THIS DRAWING)

DETAIL VIEW REFERENCE (NUMBER)
DRAWING NUMBER WHERE DETAIL IS LOCATED
(- INDICATES THIS DRAWING)

INDICATES SPAN DIRECTION OF LOAD BEARING BARS FOR WEB GRATING

CIVIL NOTES

1. ALL EXCAVATION WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH WORKSAFE NEW ZEALAND GOOD PRACTICE GUIDELINE 'EXCAVATION SAFETY'.

2. ALL CONCRETE CONSTRUCTION WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH NZS 3101 AND NZS 3109.

3. ALL CONCRETE EXPOSURE CLASSIFICATION SHALL BE B2 AS PER NZS 3101 SECTION 3.4 UNLESS NOTED OTHERWISE.

4. UNLESS NOTED OTHERWISE THE 28 DAY COMPRESSIVE STRENGTH AND GRADING OF CONCRETE AS DEFINED IN NZS 3109 SECTION 6 SHALL BE:

BLINDING CONCRETE	10 MPa NORMAL GRADE
FOUNDATIONS AND FLOOR SLABS	20 MPa NORMAL GRADE
MASONRY GROUT	17.5 MPa NORMAL GRADE

5. CONCRETE SHALL HAVE A SURFACE FINISH WHICH COMPLIES WITH NZS 3114 AS LISTED BELOW:

SURFACES EMBEDDED IN THE GROUND	F1
VERTICAL SURFACES ABOVE GROUND	F4
EXTERIOR SLABS	U2
INTERIOR SLABS	U3

6. ALL CONCRETE CORNERS ABOVE GROUND SHALL BE CHAMFERED 20 mm AND RE-ENTRANT ANGLES FILLETED 20 mm UNLESS NOTED OTHERWISE.

7. ALL REINFORCING BARS DENOTED 'DH' SHALL BE GRADE 500E MA AND ALL STIRRUPS, TIES AND OTHER BARS DENOTED 'D' OR 'R' SHALL BE GRADE 300 IN ACCORDANCE WITH NZS 3402. WELDED WIRE FABRIC SHALL BE IN ACCORDANCE WITH NZS 3422.

8. REINFORCING BAR HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH NZS 3109 UNLESS NOTED OTHERWISE.

9. WELDING OF REINFORCEMENT IS FORBIDDEN WITHOUT THE EXPRESS APPROVAL OF THE ENGINEER.

10. GRADE 500 REINFORCING BARS SHALL NOT BE SITE BENT WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER.

11. MINIMUM CONCRETE COVER TO REINFORCEMENT SHALL BE 50 mm UNLESS NOTED OTHERWISE.

12. GROUT SHALL BE CONCRETE PLUS S FC EPOXY GROUT PLACED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS NOTED OTHERWISE.

13. ALL REINFORCING BARS GROUTED INTO EXISTING CONCRETE SHALL BE GROUTED WITH CONCRETE PLUS S FC EPOXY GROUT PLACED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. HOLES SHALL BE CLEANED WITH COMPRESSED, OIL-FREE AIR PRIOR TO GROUTING.

14. ALL CONCRETE SURFACES AGAINST WHICH NEW CONCRETE SHALL BE SUBSEQUENTLY BE POURED SHALL BE CLEANED AND ROUGHENED TO PRODUCE A 'TYPE B' CONSTRUCTION JOINT IN ACCORDANCE WITH NZS 3109 SECTION 5.6.

15. ALL CAST-IN ANCHOR BOLTS AND CHEMICAL ANCHORS SHALL BE HOT-DIPPED GALVANISED UNLESS NOTED OTHERWISE.

16. ALL MASONRY UNITS SHALL BE SERIES 20 IN ACCORDANCE WITH NZS 3102 UNLESS NOTED OTHERWISE. BLOCKWORK CONSTRUCTION SHALL BE IN ACCORDANCE WITH NZS 4210 WITH ALL CELLS FILLED WITH 17.5 MPa GROUT USING THE 'HIGH LIFT METHOD' UNLESS NOTED OTHERWISE.

FOUNDATION NOTES

1. ALL SERVICES SHALL BE IDENTIFIED AND CLEARLY MARKED BY THE CONTRACTOR PRIOR TO ANY EXCAVATION OR GROUND DISTURBANCE OCCURRING.

2. FOUNDATIONS ARE TO BE FOUNDED ON ORIGINAL UNDISTURBED GROUND, AT A MINIMUM DEPTH OF 450 BEFORE ANY CONCRETE IS PLACED A QUALIFIED ENGINEER SHALL VERIFY THAT THE SAFE BEARING CAPACITY OF THAT GROUND IS AS FOLLOWS : ALLOWABLE WORKING SOIL STRESS = 100 kPa

3. ANY SOFT SPOTS AT FORMATION LEVEL ARE TO BE DUG OUT AND REPLACED WITH WELL-COMPACTED HARDFILL.

4. THE TOP SURFACE OF ALL HARDFILL TO RECEIVE A DPC IS TO BE CHOKED WITH SAND.

5. WHERE REQUIRED PLACE 40 mm SITE CONCRETE UNDER FOUNDATIONS.

6. PLACE DPC UNDER ALL FOUNDATIONS AND GROUND SLABS.

STRUCTURAL NOTES

1. ALL MATERIAL FOR STRUCTURAL STEEL PLATES SHALL BE AS 3678 GRADE 250 OR EQUIVALENT UNLESS NOTED OTHERWISE.

2. ALL MATERIAL FOR STRUCTURAL STEEL ROLLED SECTIONS SHALL BE AS 3679 GRADE 300PLUS OR EQUIVALENT UNLESS NOTED OTHERWISE.

3. ALL MATERIAL FOR STRUCTURAL STEEL TUBULAR SECTIONS (CHS,SHS,RHS, PIPE) SHALL BE AS 1163 GRADE C250LO, C350LO, API 5L GRADE B OR EQUIVALENT UNLESS NOTED OTHERWISE.

4. ALL STRUCTURAL STEELWORK FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH NZS 3404 UNLESS NOTED OTHERWISE.

5. ALL WELDING WORKMANSHIP AND WELD PROCEDURES SHALL BE IN ACCORDANCE WITH AS 1554 UNLESS NOTED OTHERWISE.

6. ALL WELDS SHALL BE TYPE 'SP' AS DEFINED IN NZS 3404 UNLESS NOTED OTHERWISE.

7. ALL WELDS SHALL BE 6 mm CONTINUOUS FILLET WELD ALL ROUND UNLESS NOTED OTHERWISE.

8. ALL WELD SYMBOLS ON DRAWINGS ARE AS PER AS 1101.3 UNLESS NOTED OTHERWISE.

9. WELDING ELECTRODES SHALL HAVE A MINIMUM ULTIMATE STRENGTH OF 480 MPa UNLESS NOTED OTHERWISE.

10. UPON COMPLETION OF FABRICATION, REMOVE ALL BURRS AND WELD SPATTER AND ROUND OFF ALL FABRICATED EDGES TO A 1 mm RADIUS, GRIND SMOOTH ALL WELDS ON SURFACES USED IN BEARING OR WHERE IN CONTACT WITH OTHER STEEL.

11. ALL FABRICATED STEEL STRUCTURES SHALL BE HOT-DIP GALVANISED IN ACCORDANCE WITH AS/NZS 4680 UNLESS NOTED OTHERWISE.

12. ALL BOLTS, NUTS AND WASHERS SHALL BE AS 1252 GRADE 8.8 HOT-DIP GALVANISED TO AS 1214 AND EACH BOLT SUPPLIED WITH ONE NUT AND ONE WASHER UNLESS NOTED OTHERWISE.

    BOLTING NOMENCLATURE :

    8.8/S - GRADE 8.8 BOLT TIGHTENED IN SNUG TIGHT MODE.
    8.8/TB - GRADE 8.8 BOLT TIGHTENED USING PART TURN METHOD, IN ACCORDANCE WITH NZS 3404.
    8.8/TF - GRADE 8.8 BOLT TIGHTENED USING PART TURN METHOD, IN ACCORDANCE WITH NZS 3404. THE SURFACE FINISHES OF ALL MATING SURFACES SHALL BE SUITABLE FOR FRICTION MODE BOLTING.

13. ALL NUTS SHALL BE TIGHTENED AS PER THE /S, /TB, /TF BOLTING PROCEDURE AS SPECIFIED ON THE DRAWINGS AND IN ACCORDANCE WITH NZS 3404 UNLESS NOTED OTHERWISE.

14. MINIMUM BOLT HOLE EDGE DISTANCES SHALL COMPLY WITH THE REQUIREMENTS OF NZS 3404 UNLESS NOTED OTHERWISE.

15. ALL WEB GRATING TO LANDINGS AND PLATFORMS SHALL BE FIXED DOWN USING PROPRIETARY CLIP SYSTEM AS PER MANUFACTURER'S RECOMMENDATIONS UNLESS NOTED OTHERWISE.

16. HOLDING DOWN BOLTS SHOULD BE GRADE 4.6 FOR GRADE 250.

17. GROUTING UNDER BASE PLATES :
USE SIKAGROUT 212 OR SIMILAR AS A DRY PACK FOR LOAD BEARING MEMBERS. FOR NON LOAD BEARING MEMBERS A DRY-PACK MIX BY DRY VOLUME OR WEIGHT SHALL CONSIST OF 1 PART CEMENT TO 2.5 PARTS OF SAND THAT WILL PASS A No.14 BRITISH STANDARD SIEVE MAY BE USED. SUFFICIENT WATER SHALL BE ADDED TO PRODUCE A MORTAR WHICH, WHEN USED, WILL STICK TOGETHER ON BEING MOLDED INTO A BALL BY A SLIGHT PRESSURE OF THE HANDS, AND WILL NOT EXUDE FREE WATER BUT WILL LEAVE THE HANDS DAMP. THE PROPER AMOUNT OF MIXING WATER AND THE PROPER CONSISTENCY ARE THOSE WHICH WILL PRODUCE A FILLING WHICH IS AT THE POINT OF BECOMING RUBBERY WHEN THE MATERIAL IS SOLIDLY DAMP. ANY LESS WATER WILL NOT MAKE A SOUND SOLID PACK; ANY MORE WILL RESULT IN EXCESSIVE SHRINKAGE.

THE JOINT SHALL BE FILLED AND COMPACTED ABOUT 10 mm AT A TIME. EACH 10 mm ADDITION SHALL BE SOLIDLY COMPACTED OVER ITS ENTIRE SURFACE BY THE USE OF A HARDWOOD CAULKER AND A HAMMER. THE CAULKER SHALL HAVE A FACE AREA OF ABOUT 25 mm SQUARE. THE EXPOSED EDGE OF THE DRY-PACK SHALL BE FINISHED SMOOTH AND SHALL TAPER INWARDS AT THE TOP, LEAVING THE EDGE OF THE BASE-PLATE 5 mm PROUD OF THE DRY-PACK TO MINIMISE RAIN PENETRATION.

ABBREVIATIONS

APPROX	APPROXIMATELY
B	BOTTOM
BCD	BOLT CIRCLE DIAMETER
BF	BOTH FACES
BOP	BOTTOM OF PIPE
CONC	CONCRETE
CL OR CL	CENTRELINE
CJ	CONSTRUCTION JOINT
COS	CHECK ON SITE
CP	CENTRALLY PLACED
CRS	CENTRES
CS	CARBON STEEL
CVR	COVER
D	GRADE 300 DEFORMED BAR
DH	GRADE 500 DEFORMED BAR
DIA	DIAMETER
DPC	DAMP PROOF COURSE
DPM	DAMP PROOF MEMBRANE
DWG	DRAWING
EA	EQUAL ANGLE
EF	EACH FACE
EL	ELEVATION
EQ	EQUAL
EXIST	EXISTING
EW	EACH WAY
FDN	FOUNDATION
FF	FAR FACE
FLG	FLANGE
FL	FLAT
FOF	FACE OF FLANGE
FS	FAR SIDE
GALV	GALVANISED
GL	GROUND LEVEL
GP	GENERAL PURPOSE WELD
HD	HOLD DOWN (BOLT)
HORIZ	HORIZONTAL
HP	HIGH POINT
ID	INSIDE DIAMETER
IL	INVERT LEVEL
IP	INTERSECTION POINT
LG	LONG
MAX	MAXIMUM
MIN	MINIMUM
MS	MILD STEEL
NB	NOMINAL BORE
NF	NEAR FACE
NOM	NOMINAL
No	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
O/A	OVERALL
OD	OUTSIDE DIAMETER
PL	PLATE
PLATF	PLATFORM
PS	PIPE SUPPORT
PCD	PITCH CIRCLE DIAMETER
PFC	PARALLEL FLANGE CHANNEL
PROJ	PROJECTION
R	GRADE 300 PLAIN ROUND BAR
RAD	RADIUS
RC	REINFORCED CONCRETE
RCRRJ	REINFORCED CONCRETE RUBBER RING JOINT
REF	REFERENCE
REQ'D	REQUIRED
REBAR	REINFORCING BAR
REV	REVISION
RL	REDUCED LEVEL
SCH	SCHEDULE
SHT	SHEET
SIM	SIMILAR
SJ	SAWN JOINT
SP	STRUCTURAL PURPOSE WELD
SPEC	SPECIFICATION
SS	STAINLESS STEEL
STGD	STAGGERED
STRS	STARTERS
STD	STANDARD
SQ	SQUARE
SYM	SYMMETRICAL
/S	SNUG TIGHT
T	TOP
/TB	TENSION BEARING
/TF	TENSION FRICTION
T&B	TOP AND BOTTOM
TFB	TAPERED FLANGE BEAM
TFC	TAPERED FLANGE CHANNEL
THK	THICK
TOC	TOP OF CONCRETE
TOP	TOP OF PLATE
TOS	TOP OF STEEL
TP	TANGENT POINT
TYP	TYPICAL
UA	UNEQUAL ANGLE
UB	UNIVERSAL BEAM
UC	UNIVERSAL COLUMN
UNO	UNLESS NOTED OTHERWISE
U/S	UNDERSIDE
VERT	VERTICAL
WP	WORK POINT

ABBREVIATIONS - STANDARDS

AISI	AMERICAN IRON AND STEEL INSTITUTE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
API	AMERICAN PETROLEUM INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AS	AUSTRALIAN STANDARD
AS/NZS	AUSTRALIAN/NEWZEALAND STANDARD
BS	BRITISH STANDARD
EN	EUROPEAN STANDARD

ASAP Engineering Limited
Siva Natarajan B Eng., CPENGNZ., MIPENZ
Chartered Professional Engineer
(REG # 1011032)
021 031 1820 (M)

ASAP Engineering Limited

Site: Lot 22, 1 Kaaka Street, Swayne Park, Cambridge

Drawing: **AS20012-DWG-001**

Scale (Original at A3): NOT APPLICABLE

Title: GENERAL NOTES

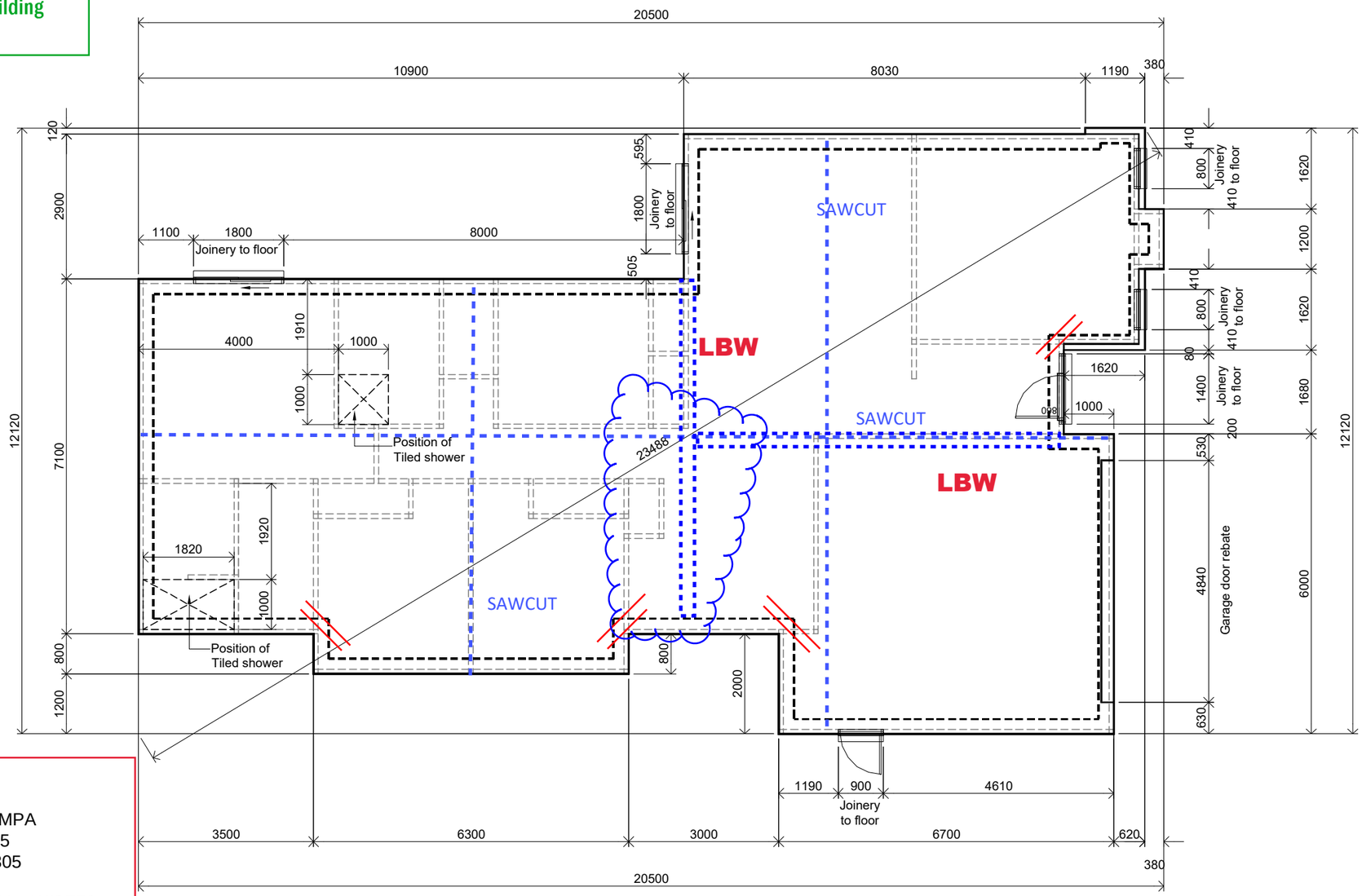
Client: INTOP HOMES

Rev	Description	Drawn	
A	Issued for consent	SN	Feb 20

Waipa District Council - Approved Building Consent - 200089 (Subject to the conditions of the Building Consent)

BEFORE CONSTRUCTION BEGINS, BUILDER MUST CHECK ALL DIMENSIONS ARE CORRECT. ALL CONSTRUCTION WORK COMPLIES WITH THE NZS3604:2011 AND NEW ZEALAND BUILDING CODE, LOCAL BODY BYLAWS AND RELEVANT NEW ZEALAND STANDARD. DO NOT SCALE OFF PLANS

Waipa District Council - Approved Building Consent - 200089 (Subject to the conditions of the Building Consent)



CONCRETE NOTES

1.0 CONCRETE GRADE 20 MPA
2.0 LOAD BEARING 300X305
3.0 INTERNAL STRIP 100X305
4.0 PODS 1100X1100X220
5.0 SLAB THICKNESS 85 MM, , W/SE72 MESH
6.0 EXTERNAL BEAM 300X305

Foundation Layout

REBATE TO SLAB = 120mm

NOTES:

- REFER TO GEOTECH REPORT RECOMMENDATIONS BEFORE FOUNDATION CONSTRUCTION

- ALL LEVELS TO BE CHECKED ON SITE PRIOR TO COMMENCING CONSTRUCTION

- FGL IS FINISHED GROUND LEVEL AFTER THE REMOVAL OF ANY EXISTING TOPSOIL.

- INTERNAL SLAB THICKENING REQUIRED AS PER APPROVED TRUSS MANUFACTURER'S DESIGN

- MINIMUM COVER FOR REINFORCING:
  - AGAINST GROUND 75mm
  - AGAINST FORMWORK 50mm
  - TOP COVER TO MESH 30mm

- PROVIDE FOR FLEXIBLE DUCTS IN SLAB TO PROVIDE UNDERGROUND ENTRY FOR ALL SERVICES.

SAWCUTS

- SAWCUTS ARE NOT TO BE LOCATED: -
  - OVER ANY RIB OR BEAM: ON EDGE IS OKAY
  - ALONG THE INSIDE FACE OF ANY BATHROOM WALL OR THROUGH ANY BATHROOM
  - THROUGH ANY RE-ENTRANT CORNER REINFORCING

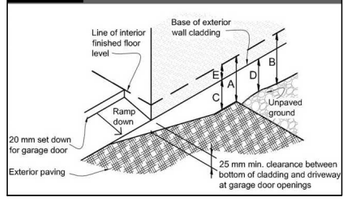
- 30mm EXPANSION SAWCUTS SHOULD BE PLACED ALONG ONE SIDE OF 100mm INTERNAL RIB OR ALONG SIDE OF A 300mm WIDE LOADBEARING WALL RIB.

Table 18: Minimum clearances
Paragraphs 9.1.3, 9.1.3.1, 9.1.3.2, 9.1.3.3, 9.1.3.4, 9.1.3.5 and 9.2.7

Minimum clearances (mm)	Masonry veneer		Other claddings				
	A	B	A	B	C	D	E
Concrete slab	100	150	150	225	100	175	50
Timber floor Refer Note 1)					100	175	502)

NOTE: 1) Refer to NZS 3604 for requirements.
2) Cladding to extend minimum 50 mm below bearer or lowest part of timber floor framing.

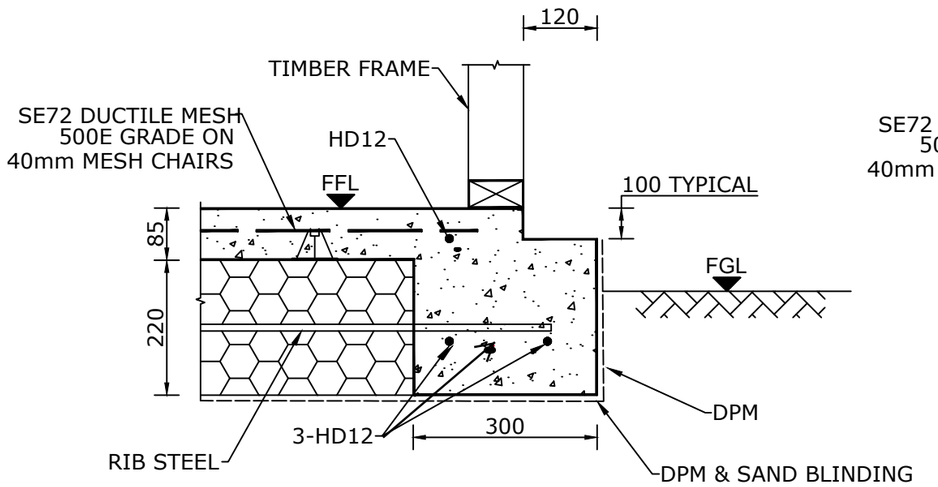
Figure 65: Levels and garage openings
Paragraphs 9.1.3, 9.1.3.4, 9.2.5, Table 18



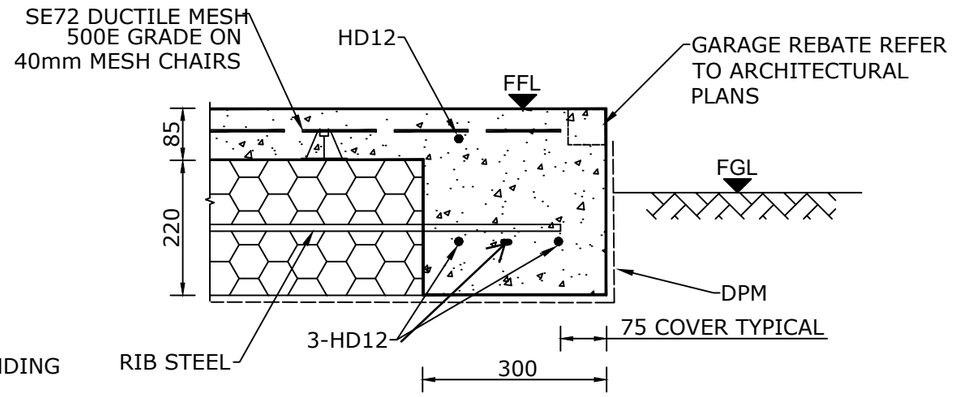
ASAP Engineering Limited
Siva Natarajan B Eng., CPENGNZ., MIPENZ
Chartered Professional Engineer
(REG # 1011032)
021 031 1820 (M)

ASAP Engineering Limited

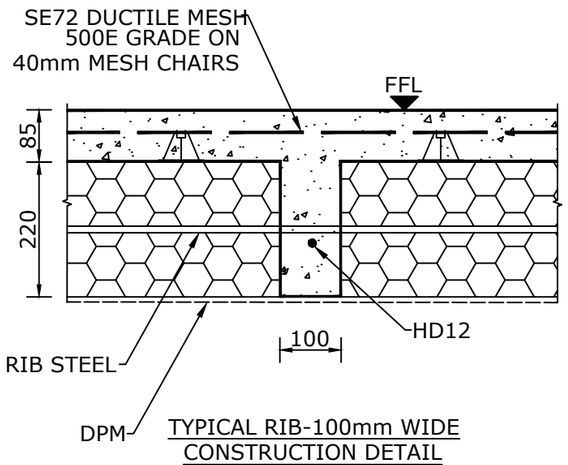
InTop Homes 55 London Street, Hamilton Centre E-mail - info@intophomes.co.nz Ph: 07-8380829	**Project:** New Dwelling for Lot 22 - DP 531612 1 Kaaka Street, Swayne Park Cambridge	**Drawing Name:** SLAB PLAN	**Amendments:**	**Scale:** 1:100 **Date:** January 2020	**Drawing NO:** AS20012 - DWG - 002



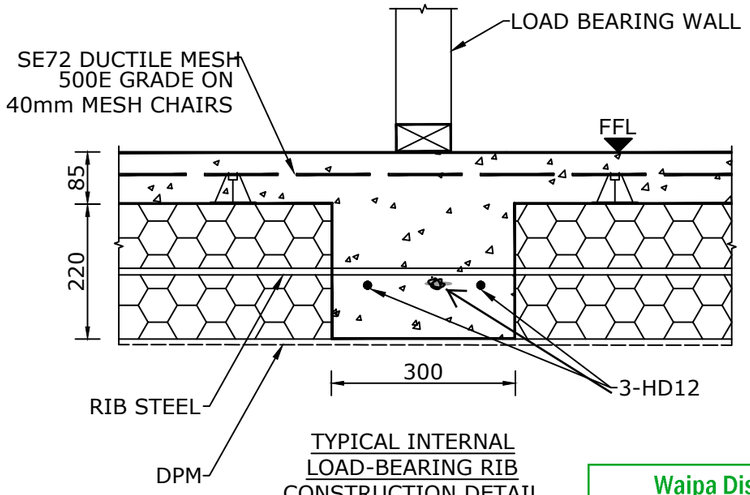
TYPICAL VENEER REBATED
CONSTRUCTION DETAIL



TYPICAL CLAD FRAME
CONSTRUCTION DETAIL



TYPICAL RIB-100mm WIDE
CONSTRUCTION DETAIL



TYPICAL INTERNAL
LOAD-BEARING RIB
CONSTRUCTION DETAIL

Waipa District Council -
Approved Building Consent -
200089 (Subject to the
conditions of the Building
Consent)

Notes:

- ALL DIMENSION IN mm, DO NOT SCALE THE DRAWING, USE STATED DIMENSION ONLY
- CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT OF ANY WORK
- CONCRETE STRENGTH = 20MPa
- REINFORCEMENT STEEL IN ACCORDANCE WITH NZS 3422 & 3402
  HD BARS = 500MPa
- SURFACE FINISHES COMPLY TO NZS 3114:1987

ASAP
Engineering Limited
Siva Natarajan B Eng., CPENGNZ., MIPENZ
Chartered Professional Engineer
(REG # 1011032)
021 031 1820 (M)

ASAP
Engineering Limited

Site: Lot 22, 12 Kaaka Street, Swayne Park, Cambridge	Drawing: **AS20012-DWG-003**	Scale (Original at A3): 1:10
Title: TYPICAL DETAILS 1 OF 2	Client: INTOP HOMES	

Rev	Description	Drawn	
A	Issued for consent	SN	Feb 20

Notes:

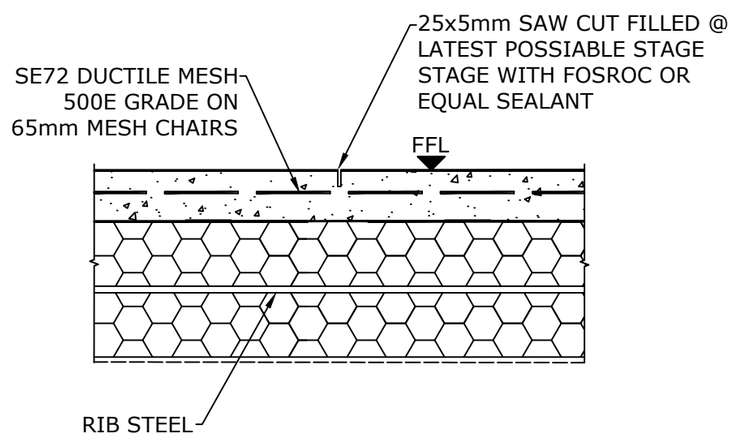
- ALL DIMENSION IN mm, DO NOT SCALE THE DRAWING, USE STATED DIMENSION ONLY

- CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT OF ANY WORK

- CONCRETE STRENGTH = 20MPa

- REINFORCEMENT STEEL IN ACCORDANCE WITH NZS 3422 & 3402
  HD BARS = 500MPa

- SURFACE FINISHES COMPLY TO NZS 3114:1987



TYPICAL SAWCUT DETAIL

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ASAP Engineering Limited
Siva Natarajan B Eng., CPENGNZ., MIPENZ
Chartered Professional Engineer
(REG # 1011032)
021 031 1820 (M)

ASAP Engineering Limited

Site: **Lot 22, 1 Kaaka Street, Swayne Park, Cambridge**

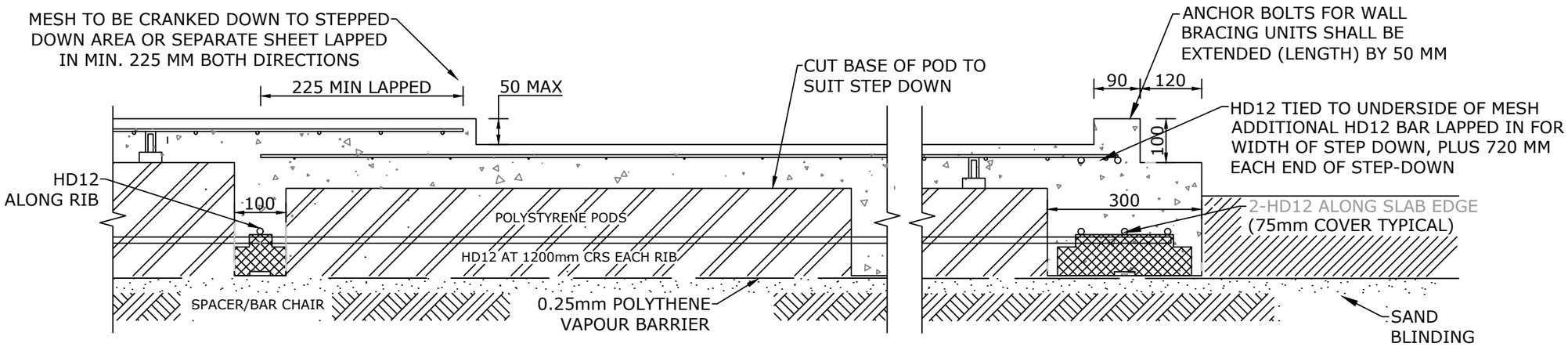
Drawing: **AS20012-DWG-004**

Scale (Original at A3): NOT TO SCALE

Title: **TYPICAL DETAILS 2 OF 2**

Client: **INTOP HOMES**

Rev	Description	Drawn	
A	Issued for consent	SN	Feb 20



FLOOR-SET-DOWN DETAIL FOR MAX. 50mm REBATED SHOWER

Waipa District Council - Approved Building Consent - 200089 (Subject to the conditions of the Building Consent)

ASAP Engineering Limited
Siva Natarajan B Eng., CPENGNZ., MIPENZ
Chartered Professional Engineer
(REG # 1011032)
021 031 1820 (M)

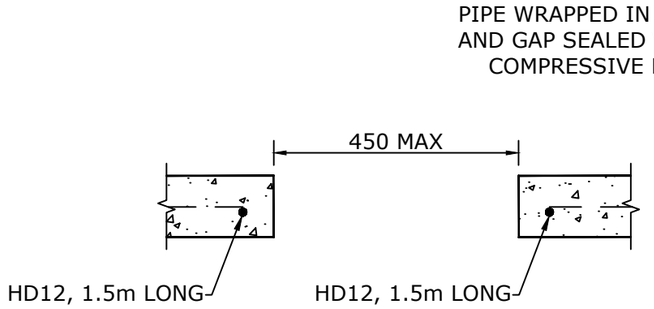
Notes:

- ALL DIMENSION IN mm, DO NOT SCALE THE DRAWING, USE STATED DIMENSION ONLY
- CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT OF ANY WORK
- CONCRETE STRENGTH = 20MPa
- REINFORCEMENT STEEL IN ACCORDANCE WITH NZS 3422 & 3402
  HD BARS = 500MPa
- SURFACE FINISHES COMPLY TO NZS 3114:1987

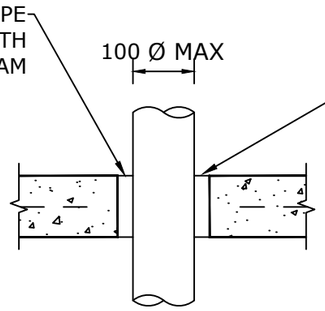
ASAP Engineering Limited

Site: Lot 22, 1 Kaaka Street, Swayne Park, Cambridge	Drawing: **AS20012-DWG-005**	Scale (Original at A3): NOT TO SCALE
Title: TYPICAL REBATED SHOWER DETAIL	Client: INTOP HOMES	

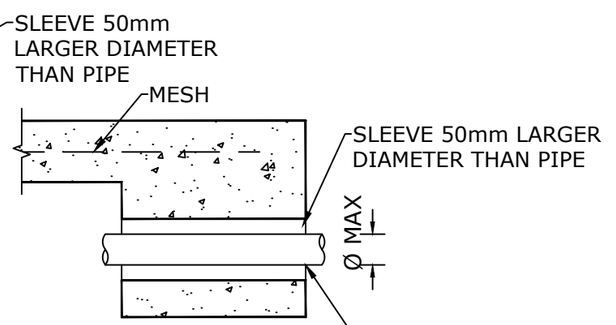
Rev	Description	Drawn	
A	Issued for consent	SN	Feb 20



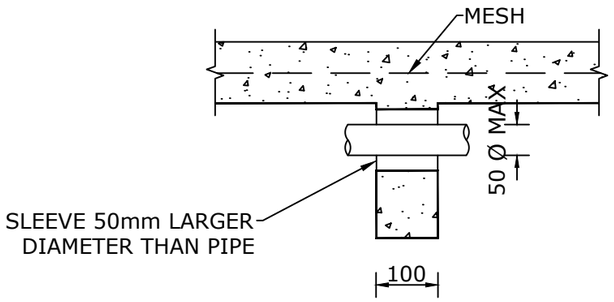
LARGE PENERATION THROUGH SLAB (SHOWER/WASTE TRAPS)



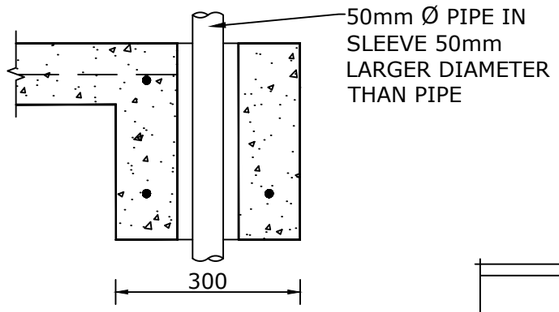
SMALL VERTICAL PENETRATION THROUGH SLAB



HORIZONTAL PENERTATION THROUGH EDGE BEAM



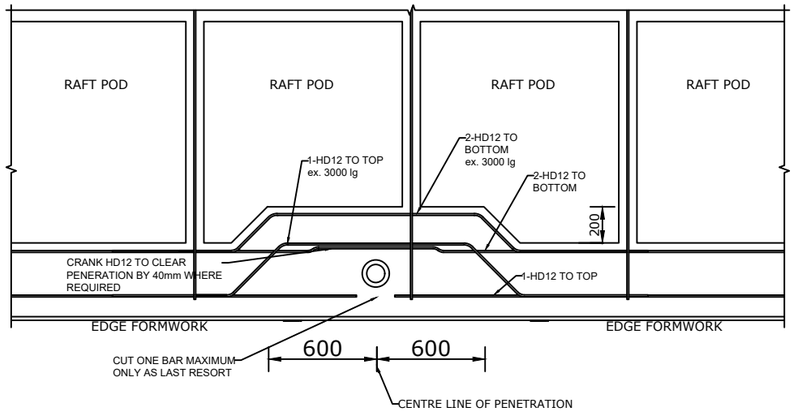
HORIZONTAL PENERTATION THROUGH INTERNAL RIB



VERTICAL PENERTATION THROUGH EDGE BEAM

Element	Vertical Services	Horizontal Services
300m wide edge beam	50mm in a duct 50mm larger diameter than pipe	50mm in a duct 50mm larger diameter than pipe unless detailed as per note 2
500mm localised wide edge beam [1]	100mm in a duct 50mm larger diameter than pipe	50mm in a duct 50mm larger diameter than pipe, see note 2
300mm wide internal load bearing rib	50mm in a duct 50mm larger diameter than pipe	50mm in a duct 50mm larger diameter than pipe, see note 2
100mm wide internal rib	Nil	50mm in a duct 50mm larger diameter than pipe, see note 2
Slab	110mm in a duct 50mm larger diameter than pipe or for large services 450mm square [4] see also note 2.	Nil

Waipa District Council - Approved Building Consent - 200089 (Subject to the conditions of the Building Consent)



LOCALISED INCREASE IN WIDTH AT EDGE BEAM WHERE VERTICAL SERVICES UP TO 100mm DIAMETER

Notes:

- ALL DIMENSION IN mm, DO NOT SCALE THE DRAWING, USE STATED DIMENSION ONLY
- CONTRACTOR TO CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT OF ANY WORK
- CONCRETE STRENGTH = 20MPa
- REINFORCEMENT STEEL IN ACCORDANCE WITH NZS 3422 & 3402
  HD BARS = 500MPa

ASAP Engineering Limited
Siva Natarajan B Eng., CPENGNZ., MIPENZ
Chartered Professional Engineer
(REG # 1011032)
021 031 1820 (M)

ASAP Engineering Limited

Site: Lot 22, 1 Kaaka Street, Swayne Park, Cambridge

Drawing: **AS20012-DWG-006**

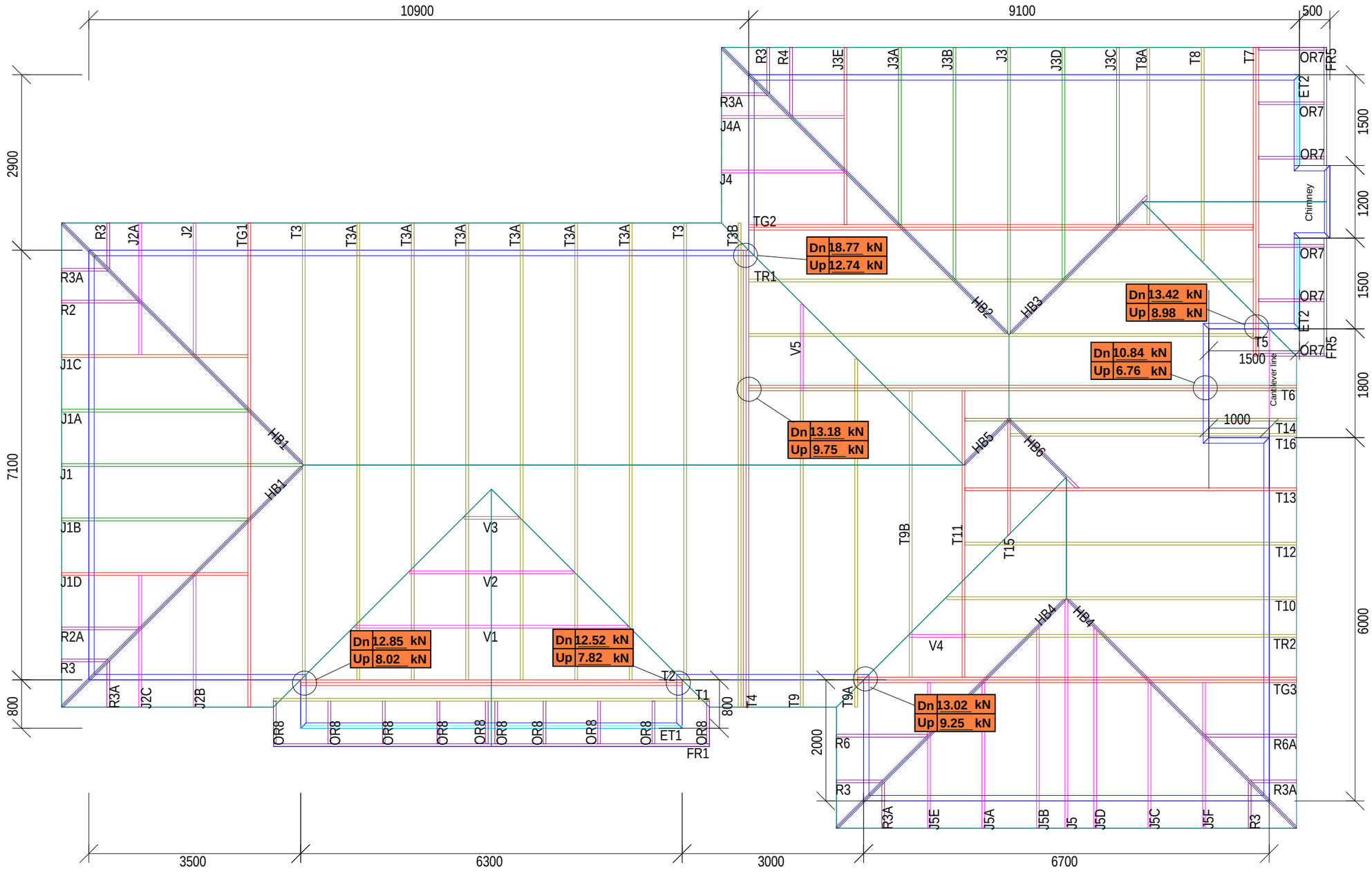
Scale (Original at A3): NOT TO SCALE

Title: TYPICAL SERVICE DETAILS (WHERE APPLICABLE)

Client: INTOP HOMES

Rev	Description	Drawn	
A	Issued for consent	SN	Feb 20

Waipa District Council - Approved Building Consent - 200089 (Subject to the conditions of the Building Consent)



DAYLE ITM
AVONDALE | EAST TAMAKI | KOPU
FTMA NEW ZEALAND

JOB No **DS3454**

Client: Intop Homes Ltd
Job Name: Lot 22
Address: 1 Kaaka Street
Swayne Park
Cambridge

Pitch: 27.5deg
Roof Material: Asphalt Shingles/15mm F
Soffit Overhang: 450mm
Wind Area: High
Snow Load(factored): 0.000kPa

Trusses and rafters at 900mm max centres unless stated otherwise. This layout is to be read in conjunction with the Architectural plans.

DRAWN Chris Moffatt | 23 Jan,2020
BRANCH East Tamaki

All walls shown on this layout are considered to be load bearing unless otherwise noted.

kN

NOTIFICATION OF POINT LOADED LINTELS AND POINT LOADS ON INTERNAL OR EXTERNAL WALLS WHERE THE DOWNLOAD IS HIGHER THAN 10kN.
Note: If no point loads indicated, loading does not exceed 10kN.

Point Loads indicated are Ultimate Limit State Loads to show slab strengthening requirements.
Do not use for truss fixing calculation.

Colour coding of trusses on plan is to show location and rotation of all members. Colour markings on trusses to match up with those on plan to ensure all members are fixed around the correct way. REFER TO TRUSS NUMBERS & DIMENSIONS FOR EXACT POSITIONING.

Dimensions shown are overall frames. Running dimensions are from outside of frame to face of truss. Double trusses to be gun nailed together @250crs (staggered) in chords and webs (1 row for timber widths up to 100mm, 2 rows up to 200mm, otherwise 3 rows)

Disclaimer:
Dayle ITM will not consider any claims for the correction of any pre-cut errors unless prior consultation has taken place and approval for the error has been agreed.

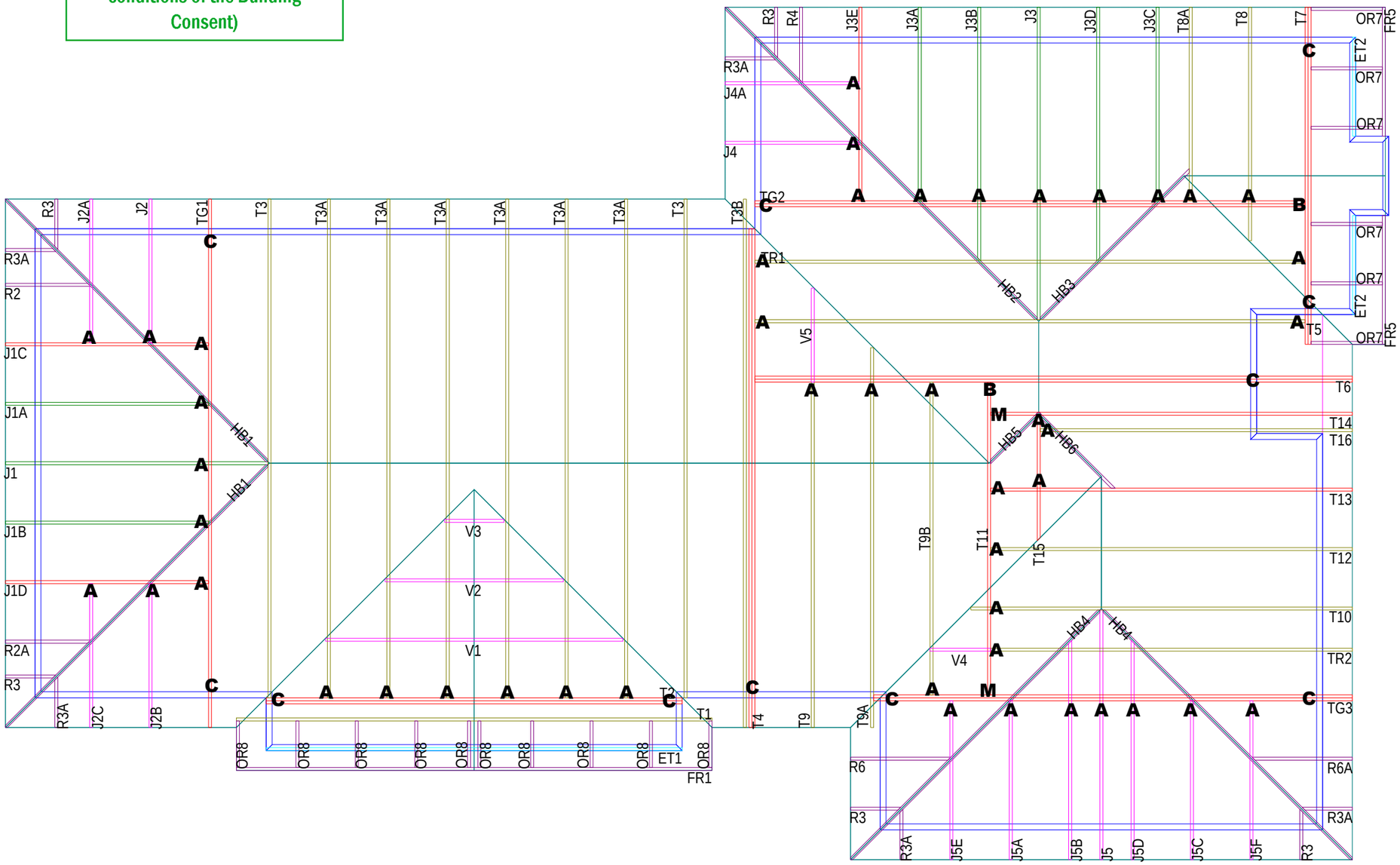
Dayle ITM do not agree to pay for any waiting time.

Truss Layout

MiTek™

Document Set ID: 10408234
Version: 1, Version Date: 03/06/2020

Waipa District Council - Approved Building Consent - 200089 (Subject to the conditions of the Building Consent)



DAYLE ITM

AVONDALE | EAST TAMAKI | KOPU

FTMA NEW ZEALAND

JOB No **DS3454**

Client:	Intop Homes Ltd
Job Name:	Lot 22
Address:	1 Kaaka Street Swayne Park Cambridge

Pitch:	27.5deg
Roof Material:	Asphalt Shingles/15mm F
Soffit Overhang:	450mm
Wind Area:	High
Snow Load(factored):	0.000kPa

Trusses and rafters at 900mm max centres unless stated otherwise. This layout is to be read in conjunction with the Architectural plans.

DRAWN Chris Moffatt	23 Jan,2020
BRANCH East Tamaki	

FIXINGS

A = 47x90 Joist Hanger
B = 47x120 Joist Hanger
C = CT200 (pair)
D = 47x190 Joist Hanger
E = 95x165 Joist Hanger
G = SH-140 Split Hanger
H = SH-180 Split Hanger
K = SH-220 Split Hanger
L = 6kN Strap
M = Multigrips (pair)
N = Nailon Plate
T = CPC 40 Short (pair)
Q = 9kN Pack
P = 16kN Pack
X = 25kN Uplift
Y = 35kN Uplift
Z = 45kN Uplift

All truss fixings not indicated as above must have two wire dogs.

Colour coding of trusses on plan is to show location and rotation of all members. Colour markings on trusses to match up with those on plan to ensure all members are fixed around the correct way. REFER TO TRUSS NUMBERS & DIMENSIONS FOR EXACT POSITIONING.

Dimensions shown are overall frames. Running dimensions are from outside of frame to face of truss. Double trusses to be gun nailed together @250crs (staggered) in chords and webs (1 row for timber widths up to 100mm, 2 rows up to 200mm, otherwise 3 rows)

Disclaimer:
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Dayle ITM do not agree to pay for any waiting time.

Truss Fixings

MiTek™

Waipa DISTRICT COUNCIL

Postal Address
Private Bag 2402
Te Awamutu 3840
New Zealand

Head Office
07 872 0030
101 Bank Street
Te Awamutu 3800

Cambridge Office
07 823 3800
23 Wilson Street
Cambridge 3434

Form 5
Building consent - BC200089

Section 51, Building Act 2004

200089@waipa.abcs.co.nz
BC200089

Digitally Delivered

The building

Street address of building:	1 Kaaka Street Cambridge 3434
Legal description of land where building is located:	Lot 22 DP 531612
Building name:	
Location of building within site/block number:	1 Kaaka Street Cambridge 3434
Level/unit number:	0

The owner

Name of owner:	Intop Homes Limited
Contact person:	Geng (henry) Wu
Mailing address:	Po Box 12465 Chartwell Hamilton 3248
Street address/registered office:	
Phone number:	Landline: 0212889600 Mobile:
Daytime:	No information provided
After hours:	No information provided
Facsimile number:	No information provided
Email address:	leon.2008@hotmail.com
Website:	No information provided

First point of contact for communications with the building consent authority:
Claire Newman; Mailing Address: Po Box 21169rototunawaikato
Hamilton 3256; Phone: 078532000; Email: office@hbcdesigns.co.nz

Building work

The following building work is authorised by this building consent:
Lot 22 - New single storey 4 bedroom residential dwelling with attached double garage

This building consent is issued under section 51 of the Building Act 2004. This building consent does not relieve the owner of the building (or proposed building) of any duty or responsibility under any other Act

relating to or affecting the building (or proposed building). This building consent also does not permit the construction, alteration, demolition, or removal of the building (or proposed building) if that construction, alteration, demolition, or removal would be in breach of any other Act.

This building consent is subject to the following conditions:

Section 90 - Inspections by Building Consent Authorities: (1) Every building consent is subject to the condition that agents authorised by the building consent authority for the purposes of this section are entitled, at all times during normal working hours or while building work is being done, to inspect-
(a) land on which building work is being or is proposed to be carried out; and
(b) building work that has been or is being carried out on or off the building site; and
(c) any building.

(2) The provisions (if any) that are endorsed on a building consent in relation to inspection during the carrying out of building work must be taken to include the provisions of this section.

(3) In this section, inspection means the taking of all reasonable steps to ensure that building work is being carried out in accordance with a building consent.

Booking Inspections
Inspections must be booked prior to 4pm on the day preceding the day of the required inspection. Please quote the Building Consent number when booking inspections.
Please arrange the booking of inspections and direct inquiries regarding this consent to the Customer Support team on 0800 924 723.

Inspections
The following inspections are required to be carried out by Waipa District Council:

- Wastepipes
- Framing / Pre-wrap
- Preline
- Internal Membrane
- Final
- Floor Slab
- Half High Brick
- Post Line
- Drainage

Construction monitoring requirements
Please contact the following consultants directly to arrange the construction monitoring identified which they have been engaged to carry out.
Suitably Qualified Engineer
Building Platform Construction

Suitably Qualified CPEng Engineer
Foundation construction.

Suitably Qualified Engineer
Storm water disposal system

Documents required
Half High Brick

- Form 6a - LBP record of building work - Brick and blocklaying
- B1: NZS 4229 masonry veneer - Construction monitoring records (PS3 / PS4)

Final

- E1: PS4 On Site Stormwater Disposal System And As-built Plans
- Form 6a - LBP record of building work - Foundations
- Form 6a - LBP record of building work - Carpentry
- Form 6a - LBP record of building work - Brick and blocklaying
- Form 6a - LBP record of building work - Roofing
- B1: Ground bearing certificate (PS3 / PS4)
- B1: Slab - Construction monitoring records (PS3 / PS4)
- E3: Internal waterproofing membrane product & installer warranties
- G9: Energy works certificate
- G10 & G11: Energy works certificate
- G12: Pipework pressure test documentation
- G13: Underslab plumbing as-built & plumbers details
- G13: As-builts, drainlayer details, pipework test

Compliance schedule
A compliance schedule is not required for this building.

Copies of all site reports/records must be provided to the Building Consent Authority as work proceeds for their records. Please upload all required documents via your customer portal or email to the consent email address.

All required documents are to submitted and approved prior to final inspection being carried out.

Attachments
Copies of the following documents are attached to this building consent:

- Advice notes / Endorsements

- Form 4: Certificate attached to PIM

Signature: Danielle Hooper
Position: Senior Building Control Officer - Processing
On behalf of: Waipa District Council
Issue Date: 03 June 2020

Advice notes / Endorsements

Hazardous Materials: As with any construction project there is a likelihood that some materials used may potentially emit quantities of gas, liquid, radiation or solid particles i.e. glues, paints, dust or particles from insulation etc. that could be harmful. Please ensure spaces remain well ventilated and clean to mitigate potential build-up or concentration of these.

Site Safety: Please ensure all appropriate site safety measures are provided throughout the contract works to comply with NZ Building Code Clause F5 and all occupational safety and health requirements.

Section 37 - RMA: This consent is issued subject to section 37 of the Building Act 2004. A resource consent is required under the Resource Management Act 1991 for district plan non-compliance and has not yet been obtained. Until this approval has been received from the relevant Territorial Authority no building work may proceed OR building work may only proceed to the extent stated on the Form 4 certificate.

Section 52 - Lapse of Building Consent: A building consent lapses and is of no affect if the building work to which it relates, has not commenced within 12 months after the date of issue of the building consent.

Code Compliance Certificate: Following the completion of all building work to be carried out under this Building Consent the owner or his agent must as soon as practicable, apply to the Waipa District Council on the prescribed form within the consent portal for a Code Compliance Certificate.

Accidental Discovery Protocols: In the event that bones or artifacts are discovered in the course of site excavation, the consent holder should cease works in that area and contact Council's Planning Department. The Council will notify Iwi and/or Heritage New Zealand Pouhere Taonga to determine the appropriate method of recording and/or removal. It should be noted that all sites associated with human activity prior to 1900 have protection under the Heritage New Zealand Pouhere Taonga Act 2014, regardless of whether the sites are registered.