

METRO GLASSTECH

INSULATING GLASS UNIT WARRANTY

Metropolitan Glass and Glazing Limited and its subsidiaries (Metro GlassTech), warrant that all Insulating Glass Units manufactured by GlassTech will comply with the requirements of the Consumer Guarantees Act 1993, and in particular that:

1. The units are fit for the purpose for which they are commonly supplied and
2. Are acceptable in appearance and finish and
3. Are safe and durable.

These warranties are given in terms of the Consumer Guarantees Act 1993 and are qualified by the appropriate qualifications and restrictions in that Act. In addition to the statutory guarantees, Metro GlassTech warrant that **for a period of ten (10) years** from the date of manufacture, units will not

develop material obstruction of vision as a result of dust or film formation on the internal glass surface caused by failure of the hermetic seal arising from faulty manufacture. In the event that the units develop an obstruction of vision due to internal failure of the hermetic seal, Metro GlassTech will re-supply as supply only replacements the defective units, and the warranty period will extend to the re-supplied units **for a further period of ten (10) years from delivery.**

Metro GlassTech advises that in terms of the Consumer Guarantees Act 1993, all of its products carry a guarantee of acceptable quality and a guarantee that the goods correspond with Metro GlassTech's description of them, but in terms of the Act, Metro GlassTech will not be liable under the guarantee of acceptable quality for failure as a result of:

1. Any act of default or omission of, or any representation made by, any person other than Metro GlassTech or the employees or agents of Metro GlassTech.
2. Any cause independent of human control, occurring after the goods have left the control of Metro GlassTech.

This warranty shall not apply where any one or more of the following circumstances exist:

1. Failure of the hermetic seal is caused in whole or in part by the breaking or fracturing of any portion of the glass unit.
2. The units are installed contrary to our Handling, Storage and Glazing instructions.
3. The units are damaged by improper handling storage or glazing.
4. The units are altered in any way.
5. The units are subject to abnormal stresses from the load application of heat, excessive vibration, building or foundation movement or the failure to provide adequate expansion or contraction provisions in the framing members.
6. The units are treated /glazed with materials which do not remain resilient for the warranty period and/or are not compatible with the unit seal or glass type.
7. The units are installed in circumstances, which do not provide total water repellency or a suitable water drainage system for the warranty period.
8. The units are installed in watercraft, land vehicles, trailers, swimming pools, or commercial refrigeration products without written approval of the installation method.

Metro GlassTech reserves the right to inspect in the field any units which are alleged to be defective and which are the subject of a claim under this warranty or under the Consumer Guarantees Act 1993.

NOTE: Metro GlassTech Insulating Glass Units have been tested by BRANZ and comply with BS5713

WARRANTY DETAILS

METRO GLASSTECH

WARRANTY DETAILS

CUSTOMER: Rylock Kapiti 2000 Limited

CLIENT O/N: 460657 Dixon

WORKS ORDER: 726993

METRO GLASS BRANCH: WELLINGTON

DATE: Nov 15, 2010

NO OF UNITS: 2

Dixon/Rogers

NORTH HARBOUR
Fax (09) 415 0480
Ph (09) 415 0470

CENTRAL AUCKLAND
Fax (09) 849 4569
Ph (09) 815 1199

SOUTH AUCKLAND
Fax (09) 274 1100
Ph (09) 274 1030

BAY OF PLENTY
Fax (07) 575 5290
Ph (07) 575 5503

WELLINGTON
Fax (04) 232 9930
Ph (04) 232 9920

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WARRANTY DETAILS

METRO GLASSTECH

WARRANTY DETAILS

CUSTOMER: Rylock Kapiti 2000 Limited

CLIENT O/N: 460664

WORKS ORDER: 726996

METRO GLASS BRANCH: WELLINGTON

DATE: Nov 15, 2010

NO OF UNITS: 1

NORTH HARBOUR

Fax (09) 415 0480

Ph (09) 415 0470

CENTRAL AUCKLAND

Fax (09) 849 4569

Ph (09) 815 1199

SOUTH AUCKLAND

Fax (09) 274 1100

Ph (09) 274 1030

BAY OF PLENTY

Fax (07) 575 5290

Ph (07) 575 5503

WELLINGTON

Fax (04) 232 9930

Ph (04) 232 9920



WINDOWS • DOORS • CONSERVATORIES • BALUSTRADES
RYLOCK KAPITI

20/12/2010

Matthew Dixon

In reply to the e-mail forwarded from John and Cathryn regarding window and door issues.

We have returned to site and made all the necessary adjustments and remedial work to cover all your concerns.

- 1- Any gaps that could be seen were mainly clear small joint sealer used as per manufacturers specifications; they have now been sealed in grey.
- 2- Now the stops are fitted you can see that they are correctly spaced to allow maximum opening and are very robust.
- 3- Bedroom lock was not working at the time as we removed a screw on leading edge as a sample to source stainless screws as requested.
- 4- The large sliders facing west have also been adjusted to allow door to travel into closing stiles.
- 5- Screws on leading edges have been replaced with 316 stainless steel. The screws supplied were from the hardware manufacturer.
- 6- There is no possible way to have sliding door stiles in line with other stiles when open with the door hardware selected.

Enclosed is a warranty statement that all windows and doors comply with Fletcher Aluminium manufacturing requirements and recommendations.

Rylock Kapiti have in the past manufactured successfully Atlantic windows and single sliding doors when first introduced to the market, but not bi-part or stackers.

We were not lacking in knowledge of assembly in this area but due to unforeseen circumstances did hold up production in this area and for that we can only apologize.

As the quote states a 5 year warranty is given with good supplied which includes hardware, a 10 year warranty is supplied with double glazing.

In closing the windows and doors do look fantastic and also the new home, and we hope John and Cathryn get great enjoyment from their new property.

Rylock Kapiti will stand by their product and will attend to any issues that may occur as we pride ourselves on the products we make and our service.

Kind regards;

Director
Warren Eade

Estimator
Dave Stewart

Rylock Kapiti 2000 Ltd

16 Parata Street, PO Box 531 Waikanae 5250, New Zealand
Ph 04 293 6874, Fax 04 293 6878, Email rylock.kapiti@xtra.co.nz

Website www.rylock.co.nz





Electrical Certificate of Compliance

For a low voltage installation if prescribed electrical work has been done on any part of it and the prescribed electrical work involved placing, replacing or repositioning conductors or fittings attached to conductors.

ME 75244



No. of attachments:

To be completed whether or not an inspection is required.

CUSTOMER INFORMATION - PLEASE PRINT CLEARLY

Name of customer: D & C Rodgers Contact Ph No: _____

Address of installation: 114 Patawa Road, Peka Peka

Postal address of customer if different from above: _____

DECLARATION OF CONFORMITY (Please tick appropriate boxes or attach the Declaration of Conformity from the installation designer)

I declare that the design of the installation or part- installation described below complies with:

- (a) either Part 2 of AS/NZS 3000:2007 ☐ or Part 1 of AS/NZS 3000:2007 and Regulation 59 ☒
- (b) and is compatible with the following supply system: 230V/400V MEN ☐ or other system (attached) ☐

This declaration is issued by:

Name: Jarred Hooper Date: 14/3/2011 Signature: [Signature]

WORK DETAILS

- No. of lighting circuits 47 Mains ☒ Electrical Lines ☐
- No. of socket outlets 30 Main earthing system ☐
- No. of fixed appliances 6 MEN switchboard closest to the point of supply ☐

Description of work carried out by the installer (or if multiple installers or homeowner please attach details of work done) ☐

05 APR 2011

CERTIFICATION OF WORK (Please tick appropriate boxes)

I am satisfied, and certify, that the work described was done in accordance with the Electricity Act 1992; and that the completed installation or part-installation on which the work was done is electrically safe.

- ☒ The work has been installed in accordance with the design detailed in the Declaration of Conformity described above
- ☒ The tests as required by the Electricity (Safety) Regulations 2010 have been satisfactorily completed (Results attached ☐)
- ☒ The installation has an earthing system that is correctly rated
- ☒ The fittings on which work has been done are safe to connect to a power supply (Supplier declaration of conformity attached ☐)
- ☒ The installation or part-installation is safe to connect to a power supply

Certifier details (This section must be completed)

Name: Jarred Hooper Registration No: ED49249

Company: Stones Elec Ltd Contact Ph No: 0274512174

Date: 11/3/2011 Signature: [Signature]

Electrical Worker details (if not certifier)

Name: Oliver Mackie Registration No: 304523

Company: Stones Elec Ltd Contact Ph No: 0272721935

Date: 11/3/2011 Signature: [Signature]

Inspection details

Electrical work requiring inspection by a registered electrical inspector

- ☒ Mains work (Mains, MEN switchboards closest to the point of supply or main earthing systems)
- ☐ Medical ☐ High Voltage Work
- ☐ Mains parallel generation systems ☐ Hazardous ☐ Animal Stunning/Meat Conditioning
- ☒ Work carried out in accordance with Part 1 of AS/NZS 3000:2007

I have inspected as per the Electricity (Safety) Regulations 2010 the work described above, and certify it electrically safe.

Name: Chris Jennings Registration No: 1244594 Contact Ph No: 04 281282

Date: 11th March 2011 Signature: [Signature]

ECANZ COC June 2010

CUSTOMER COPY - THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED



**P & J Plastering
Contractors Ltd**

Joe Tousoo
P O Box 312
Waikanae
Kapiti Coast
p: 04 293 1466
f: 04 293 1471
m: 021 548 536
pandjplastering@inspire.net.nz

LICENSED PLASTERER WARRANTY

Job Number : 25231
Site Address : 114 Paetawa rd. , Pekapeka, Kapiti Coast
Consent No :
Building Owner : John Rogers (Architect/Director CCM)
Builder : Matthew Dixon
Licensed Plasterer : P & J Plastering Contractors Ltd
Systems Used : Integra Cavity Plus Render System,
Substrates Used : Integra AAC Panel,
Textures Used : Fast Float Tasman,
Colours Used : Stonehenge (R)
Start Date : 10-Oct-2010
End Date : 20-Jan-2011
Clauses and Further Information :

The Licensed Plasterer warrants that defects in the work carried out by the Licensed Plasterer arising within five years of the Completion Date recorded above and caused by faulty workmanship in the application of the Rockcote Resene Products ("RRP") or as a result of RRP being applied other than in accordance with the manufacturer's or supplier's specifications will be made good by the Licensed Plasterer and without cost to the Purchaser.

- The warranty will only apply if the Purchaser has made full payment for the supply and application of the RRP and thereafter will extend to subsequent owners of the property.
- The warranty will only apply where the defect is a direct result of faulty workmanship in the application of the RRP.
- The liability of the licensed plasterer is limited to remedying the defect in the workmanship and the licensed plasterer will not by virtue of this warranty be liable for any other damage, loss, liability, expense or any other loss of any kind whatsoever.
- The warranty will not apply to any repair or maintenance work if any such repair or maintenance work is done other than under the supervision of and subject to the inspection and approval of the Licensed Plasterer or Rockcote Resene Limited.
- Any remedial work carried out under this warranty will not extend the term of this warranty.

Signed by P & J Plastering Contractors Ltd

**P&J PLASTERING
CONTRACTORS LTD
PO BOX 312
WAIKANAЕ**

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

(Guidance notes on the use of this form are printed on the reverse side)

ISSUED BY: **Hamish Wells**

(Construction Review Firm)

TO:

John Roberts

(Owner/Developer)

TO BE SUPPLIED TO:

KCDL

(Building Consent Authority)

IN RESPECT OF:

FOUNDATIONS, STAIRS, PORTALS, POSTS & BRACING

(Description of Building Work)

AT:

114 PALTANA ROAD PETA PETA

(Address)

LOT **1**

DP **83449**

SO

Hamish Wells

(Construction Review Firm)

has been engaged by

John Roberts

to provide ☐ CM1 ☐ CM2 ☒ CM3 ☐ CM4 ☐ CM5 (Engineering Categories) or ☐ OL1 ☐ OL2 ☐ OL3 ☐ OL4 (Architectural Categories)

observation ☐ or other services

(Extent of Engagement)

in respect of clause(s) **B1 & B2** of the Building Code for the building work described in

documents relating to Building Consent No. **100581 & 100581A** and those relating to

Building Consent Amendment(s) Nos. **NA** 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. **NA** (copies attached)

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

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

the relevant requirements of the Building Consents and Building Consent Amendments identified above, with respect to

Clause(s) **B1 & B2** of the Building Regulations.

I, **Hamish Wells** am: ☒ CPEng No. **186323**

(Name of Construction Review Professional)

☐ Reg Arch No.

I am a Member of: ☒ IPENZ ☐ NZIA and hold the following qualifications: **NZCE (Civil) REA**

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: ☐ YES ☒ NO

SIGNED BY **Hamish Wells** ON BEHALF OF **Hamish Wells**

Date:

28/3/11

Signature:

A. T. Wells

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Construction Review 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 to accompany **Forms 6 or 8 of the Building (Form) Regulations 2004** for the issue of a Code Compliance Certificate.



RESIDENTIAL WARRANTY & MAINTENANCE REQUIREMENTS

COLORSTEEL® Maxx™

PROPERTY OWNER: Mat Dixon

SITE ENVIRONMENT:
Very Severe

SITE ADDRESS: 114 Paetawa Road
Peka Peka

DATE OF SUPPLY TO SITE: 7/10/10

COLOUR: Foam

You have chosen high quality COLORSTEEL® Maxx™ pre-painted steel products, which are designed to give you protection well into the future. The terms and conditions of this warranty are detailed below. To ensure you gain maximum value from your investment over time, the maintenance program under Maintenance specified on the reverse **MUST BE STRICTLY ADHERED TO:**

This warrants the following material: Lift No: P372604; P375741

	Roofing	Cladding	Gutter	Fascia
Will not perforate through corrosion:	15 Years	0 Years	0 Years	0 Years
Will not flake, peel or excessively fade:	15 Years	0 Years	0 Years	0 Years

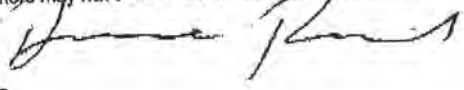
The product manufactured from COLORSTEEL® Maxx™ is subject to normal wear and tear, which may include uniform fading, chalking and dirt collection. Minor white corrosion, which may appear at unwashed tension bends or cut edges, is a natural weathering phenomenon of COLORSTEEL® Maxx™ and does not constitute a failure of the coating system. Testing to determine coating performance will be in accordance with the methods described in Australian Standard AS1580.

Unless New Zealand Steel has agreed in writing to extend the warranty for this particular installation, the warranty does not cover failure of the material or the coating caused by any of these events:

- chemical pollutants in atmosphere or rainwater
- underside corrosion as a result of high humidity, condensation or pollution generated within a building
- the product having been inappropriately stored prior to installation
- installation which does not comply with recommendations given in New Zealand Steel's product data sheets, or the NZ Metal Roof and Wall Cladding Code of Practice current at the time
- physical damage during or after installation, including scratching, contact with other metal items, incorrect installation of external loads such as air-conditioning units, and failure to remove swarf.
- contact with water run-off from incompatible catchment materials, including copper, lead and masonry
- water entrapment or ponding for any reason
- causes beyond the control of New Zealand Steel, including storms, earthquakes, and actions by other persons
- mechanical, chemical or other damage caused after the product has left the control of New Zealand Steel.
- failure to maintain the product in line with New Zealand Steel's maintenance recommendations.

*Environment zones are described in detail in the New Zealand Steel Information Bulletin **Environmental Categories**. If you live within 100 metres of the sea or in an area with a corrosive environment you should check these Categories.

If COLORSTEEL® Maxx™ pre-painted steel has failed to perform as warranted, New Zealand Steel will at its sole option repair or replace (including labour) the affected material. A new warranty will be issued to cover the balance of the original offer for both the paint coating and perforation protection. The roofing manufacturer named below will not be liable for any consequential loss or damage except as may be required under any mandatory statutory provisions. Nothing in this warranty is intended to exclude or limit any rights consumers may have under the Consumer Guarantees Act 1993.

This roof was installed by: Roofing Direct Signature of Installer 

And carries the installers workmanship warranty for: 5 Years

A copy of the current COLORSTEEL® Maxx™ colour chart has been provided:

Signature of property owner or agent:

Date: 30/10/10

PLEASE RETURN A SIGNED COPY OF THE WARRANTY TO THE ROOFING MANUFACTURER

This Warranty is issued by (the roofing manufacturer): Quin Roofing



Waterproofing Solutions Ltd Rubber Membrane Product Warranty

Warranty Number 839
Contract Name Dixon
Approved Installer Roofing Direct Ltd
Use of Membrane

Roof	Deck	Gutters	Canopies
------	------	---------	----------

Date of Installation 2/11/2010
Contract Address 114 Pastawa Rd, Peka Peka
Material 1.5mm Grey Epispán
Area Installed 20 sqm

Waterproofing Solutions Limited hereby offers a product warranty on the above contract for a period of 20 years from the date of installation, subject to the following conditions:

- This warranty only applies to any manufacturing defect in the membrane or premature deterioration due to weathering, which permits any water to pass through the membrane and cause leakage. This warranty covers only the waterproofing properties of the membrane. Waterproofing Solutions will not be liable for any non-waterproofing claims including any aesthetic issues.
- The warranty covers the membrane provided it has been supplied by, and installed in accordance to, Waterproofing Solutions Ltd.
- The warranty does not cover any workmanship faults. This is the responsibility of the installer.
- An installer that is currently accredited by Waterproofing Solutions Ltd has installed the membrane.
- Waterproofing Solutions Ltd will have no further liability or responsibility other than what is set out in this warranty. This warranty will not cover any costs resulting from consequential damages arising from faulty product, workmanship or installation.
- The warranty period may be compromised with a lack of proof of regular yearly inspections and maintenance of the membrane as per our membrane care and maintenance guidelines.
- The building owner provides inspection reports as proof of annual maintenance and cleaning.

This warranty will not cover nor will Waterproofing Solutions be held liable for the following acts, conditions, circumstances or and damage or defects which may arise from:

- Damage caused by falling objects, traffic or any other outside source.
- Building movement including settlement, expansion and contraction of joints, flashings, terminations or movement between dissimilar substrates.
- Any new installations over the membrane.
- Improper installation of other services, electrical or mechanical.
- Negligent, misuse, improper or unapproved use of the membrane.
- Improper substrate preparation, including fixings and quality of surface.
- Where construction is not in accordance with the current building/membrane roofing code.
- The failure of material or structures to conform to the manufacturer's specifications.
- Where membrane has not been installed by a Waterproofing Solutions Ltd approved installer.
- Storage, handling or treatment of membrane or membrane accessories other than in accordance with Waterproofing Solutions' recommendations.
- Other roofing material failures causing undue stress on the membrane.
- Defects in or improper design.
- Acts of God, floods, fire, earthquakes, hail, lightning, hurricane, tornado or any other unusual weather conditions.
- The advice from an outside party not approved by Waterproofing Solutions Ltd.
- Exposure to chemicals, fire, radiation or any other toxic waste.
- Moisture, air or gases both internally or externally.
- Deliberate or accidental modifications, tampering or willful damage to the membrane.

Claims:

- Any claims must be forwarded to Waterproofing Solutions Ltd within 14 days of discovery. Replacement of product will be in accordance with the current Consumer Guarantees Act.
- This warranty is in addition to, and not in substitution for any rights which the consumer may have in terms of the Consumer Guarantees Act 1993.
- Claims will be settled by replacement of materials in accordance with current New Zealand Law and to a maximum of total value of initial materials purchased.

Access To Materials And Site:

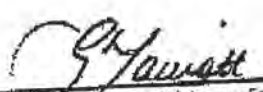
- In the event of replacement or inspection, the owner shall supply adequate access to the affected membrane before reparation can occur.
- Waterproofing Solutions Ltd will not be liable or required to carry out movement, removal or replacement of any items such as plant, railings, ladders or any other items, including any of the costs incurred.

Other Warranty Claims:

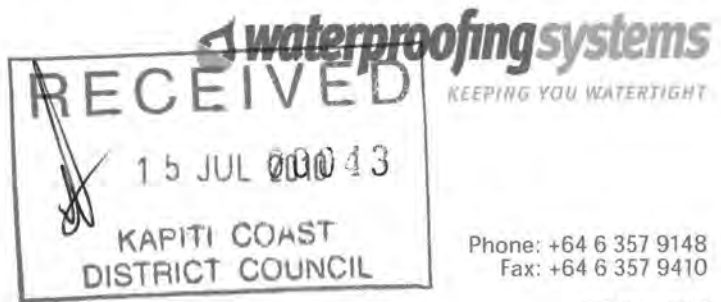
- In no circumstance will any other warranty be honored by Waterproofing Solutions Ltd except a signed, approved and original document produced by Waterproofing Solutions Ltd. All other warranty claims are hereby excluded.

Validity Of Warranty:

- This warranty is valid and enforceable on the condition full payment has been received by Waterproofing Solutions Ltd for the materials supplied.
- This warranty shall be interpreted according to the laws of New Zealand and any disputes shall be decided in the courts of New Zealand.


Approved by Waterproofing Solutions Ltd

15 / 12 / 2010
Date



Phone: +64 6 357 9148
Fax: +64 6 357 9410

PO Box 1113
Palmerston North
New Zealand

www.waterproofing.co.nz

1 January 2007

To Whom It May Concern:

PRODUCER STATEMENT

The duroSET® and duroQIK® liquid applied systems are rubber based membranes used for a wide variety of covered internal and external waterproofing applications. Such applications include bathrooms and other internal wet areas, and external decks and balconies.

Waterproofing Systems Ltd confirms that when applied in accordance with our published specifications the duroSET® and duroQIK® systems will provide a watertight membrane. We further confirm that this system conforms to NZBC B2.3.1(b) and is durable for 15 years.

The durability of the duroSET®/duroQIK® system has been independently verified by BRANZ and it has a valid BRANZ Appraisal Certificate. The current Certificate No's. are 469 (2005) and 470 (2005).

Waterproofing Systems Ltd issues the material warranty at the completion of the installation and on completion of our QC process. The subcontractor is responsible for issuing the workmanship warranty.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'John Stallard', followed by a period.

John Stallard
Technical Director

The project covered by this Producer Statement is:

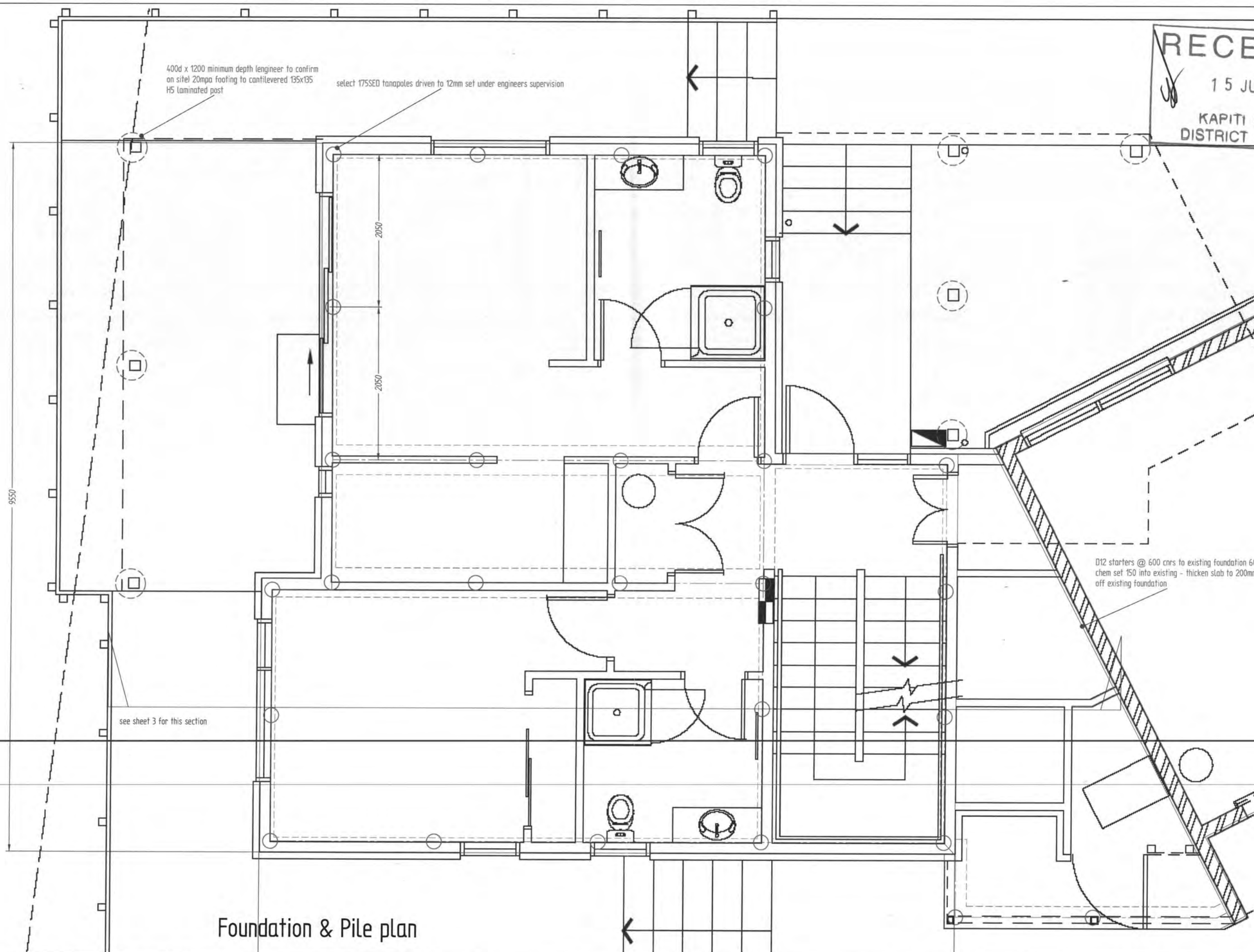
Name: _____

Location: _____

Ref. No. _____



RECEIVED
 00044
 15 JUL 2010
 KAPITI COAST
 DISTRICT COUNCIL



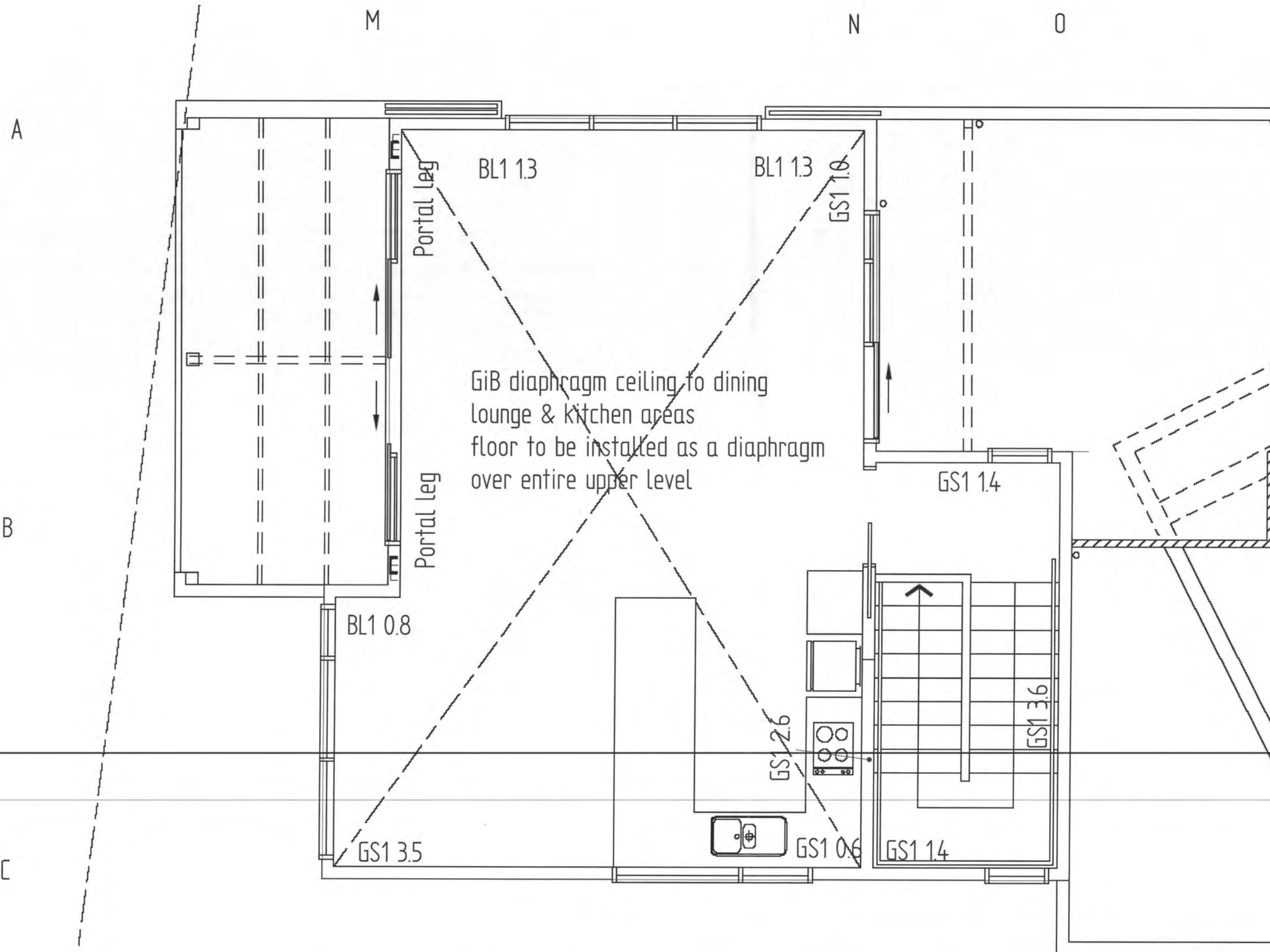
Foundation & Pile plan

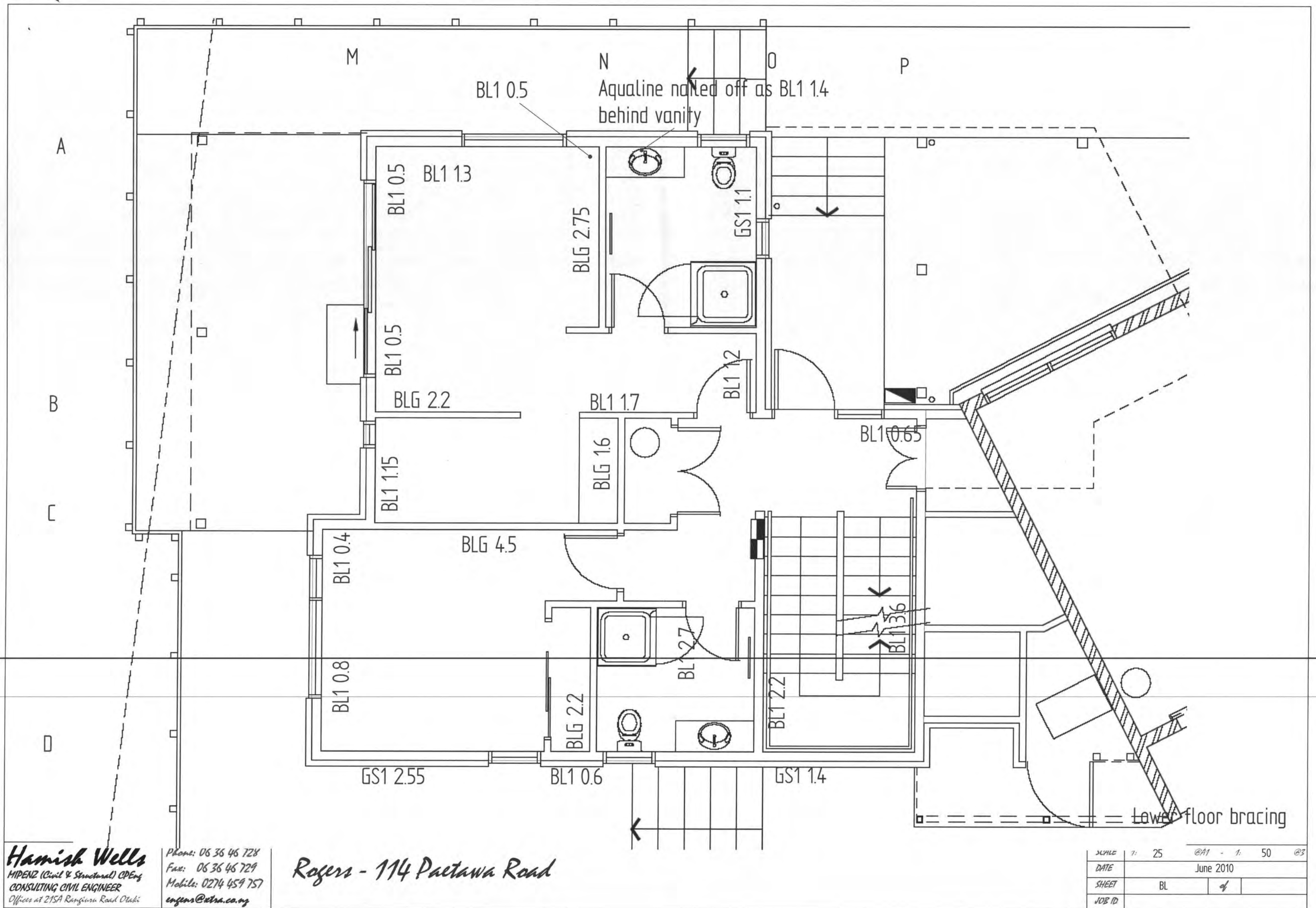
Hamish Wells
 MIPENZ (Civil & Structural) CPENG
 CONSULTING CIVIL ENGINEER
 Offices at 215A Rangiora Road Otaki

Phone: 06 36 46 728
 Fax: 06 36 46 729
 Mobile: 0274 459 757
 eng@extra.co.nz

Rogers - 114 Paetawa Road

SCALE	1: 25	@A1	1: 50	@3
DATE	June 2010			
SHEET	PF1	4		
JOB ID				



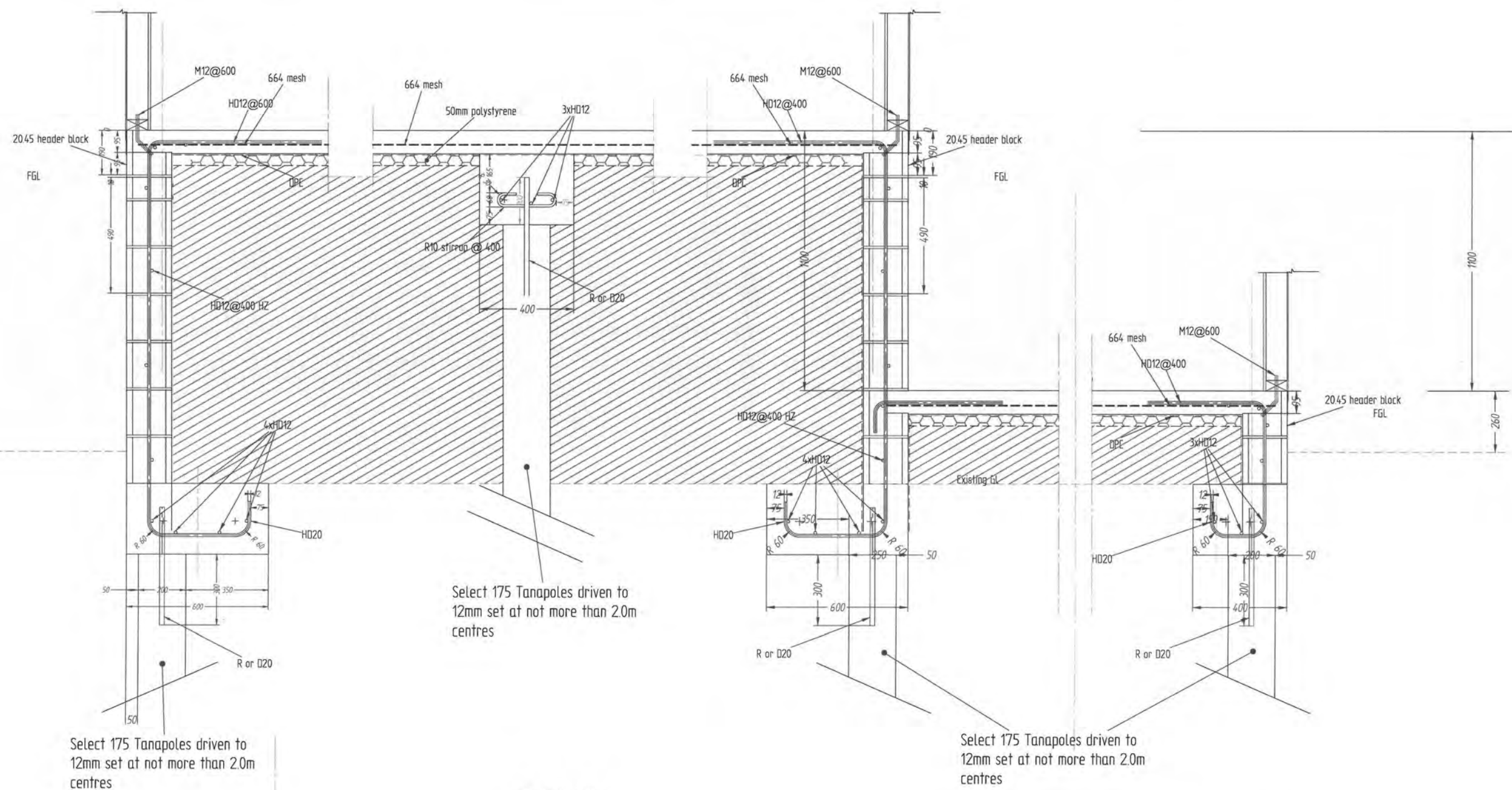


Hamish Wells
 MIPENZ (Civil & Structural) CPEng
 CONSULTING CIVIL ENGINEER
 Offices at 215A Rungtira Road Otaki

Phone: 06 36 46 728
 Fax: 06 36 46 729
 Mobile: 0274 459 757
 engens@xtra.co.nz

Rogers - 114 Paetawa Road

SCALE	1: 25	@A1 - 1: 50	@3
DATE	June 2010		
SHEET	BL	4	
JOB ID			



Grade f_y (Mpa)	Bar type	Bar diameter, d_b (mm)	Minimum diameter of bend, d_i (mm)	
			Plain bars	Deformed bars
300 or 500	Stirrups and ties	6-20 24	$2d_b$ $3d_b$	$4d_b$ $6d_b$
	All other bars	6-20 24-40	$5d_b$ $6d_b$	$5d_b$ $6d_b$

Reinforcing

Pacific Steel, New Zealand's only producer of hot rolled Reinforcing Steel has a reinforcing bar range which complies with the standard AS/NZS 4671: 2001 Steel Reinforcing Material. There are two grades of steel reinforcing bars designated as Seismic 300[®] and Seismic 500[®]. Pacific Steel manufactures a Seismic 500[®] bar through two different manufacturing methods.

Chemical & Mechanical Properties

Steel Grade	Carbon Equiv.	Carbon %	Sulphur & Phos. %	Yield Strength MPa*	Tensile Strength MPa*	Elongation %*
300	max.	max.	max.	min.	min.	min.
Seismic 300 [®] HA [®]	0.43	0.22	0.05	300-380	1.15	1.50 33 (with torsion)
Seismic 500 [®] QT [®]	0.49	0.22	0.05	500-600	1.15	1.40 30 (with torsion)
Seismic 500 [®] QT [®]	0.49	0.22	0.05	500-600	1.15	1.40 30 (with torsion)

* Characteristic values

Manufacturing process

1) Seismic 300[®] HA[®] - This is a bar that is manufactured by the microalloy process where an additive called vanadium is added to the bar to give it its strength and ductility. By following the correct procedure for bending bar on site, the bar will retain its strength and ductility without changing the mechanical properties of the bar. The bar itself can be recognised by its deformation and the words Seismic 300[®] HA[®].

2) Seismic 500[®] QT[®] - This bar is manufactured by a Quench and Tempered process. This means that the bar gets its strength from the heat treatment. Any changes to the bar through welding or heating will compromise the strength of the bar. A quench and tempered bar can be recognised by its deformation and the words Seismic 500[®] QT[®].

Dimensional Requirement Table

Bar Designation	Normal Dimensions	Max kg/m
Plain	Deformed	
10	10	28.3
12	12	37.7
16	16	50.3
20	20	62.8
25	25	78.5
28	28	98.0
32	32	101.0
40	40	126.0

Handling Characteristics

	Seismic 300 [®] HA [®]	Seismic 500 [®] QT [®]
BENDING	Yes - with prebending and following correct procedure	Not recommended
WELDING	Yes - following correct procedure	Not recommended
THREADING	Yes - loss of strength proportional to loss of cross-sectional area	Not advised - loss of strength proportional to loss of area
CERTIFIED TO AS/NZS 4671	Yes - long term quality assured	Yes - long term quality assured

Identifying the bar on site

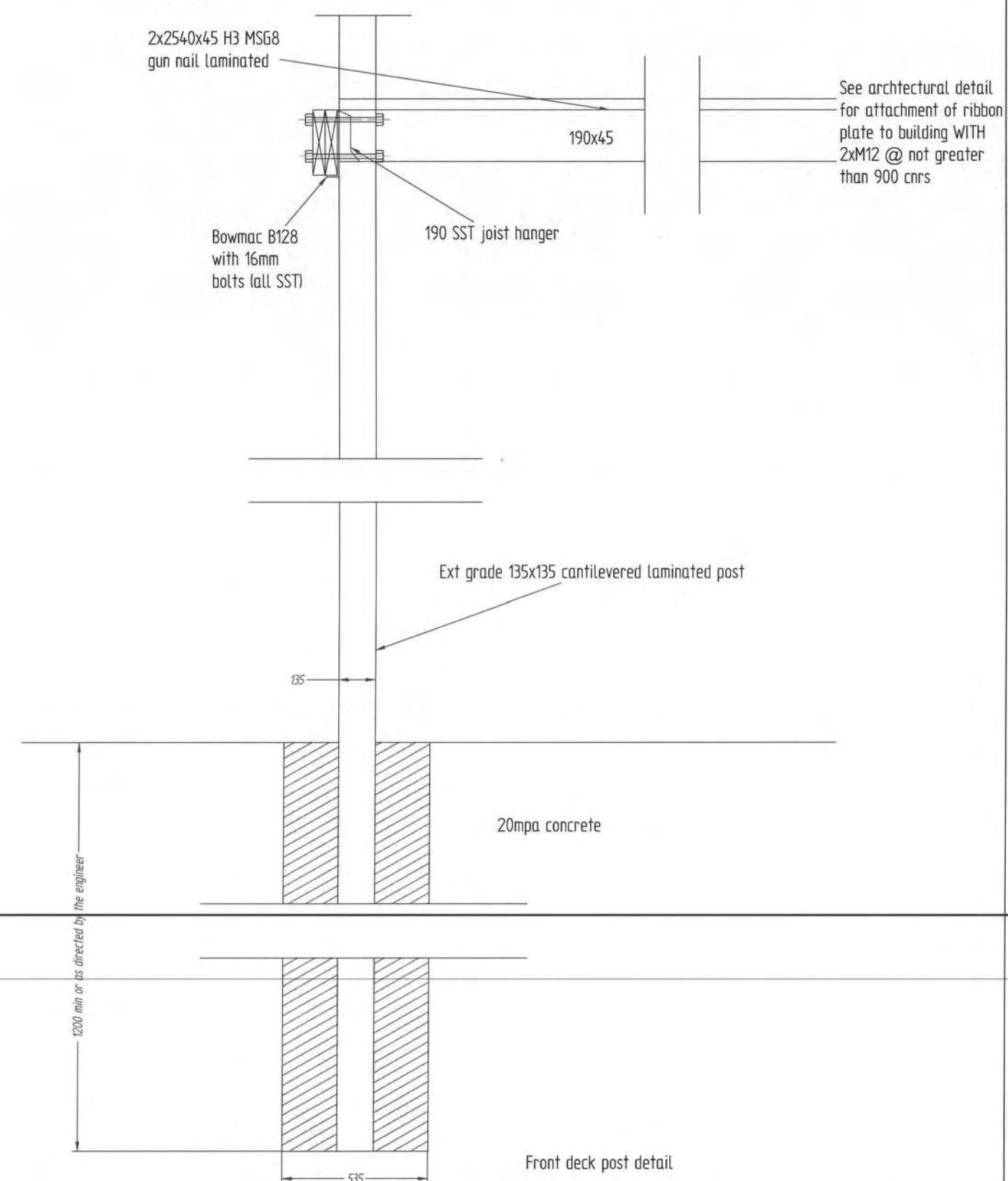
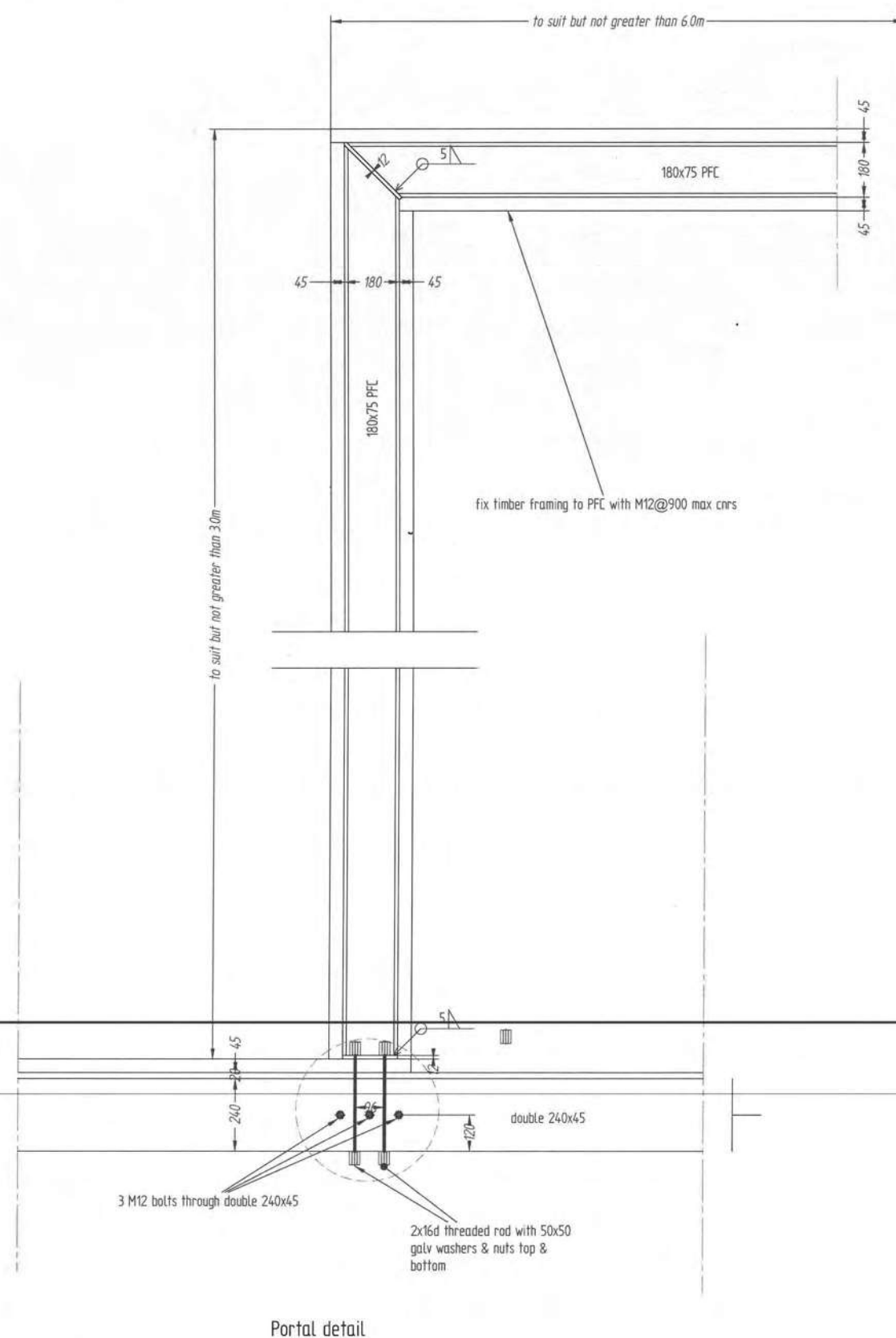


Hamish Wells
MIPENZ (Civil & Structural) CPENG
CONSULTING CIVIL ENGINEER
Offices at 215A Rangitikei Road Otaki

Phone: 06 36 46 728
Fax: 06 36 46 729
Mobile: 0274 459 757
eng@etna.co.nz

Rogers - 114 Paetawa Road

SCALE	1: 10	@A1 - 1: 20	@3
DATE	June 2010		
SHEET	D1	1	
JOB ID			

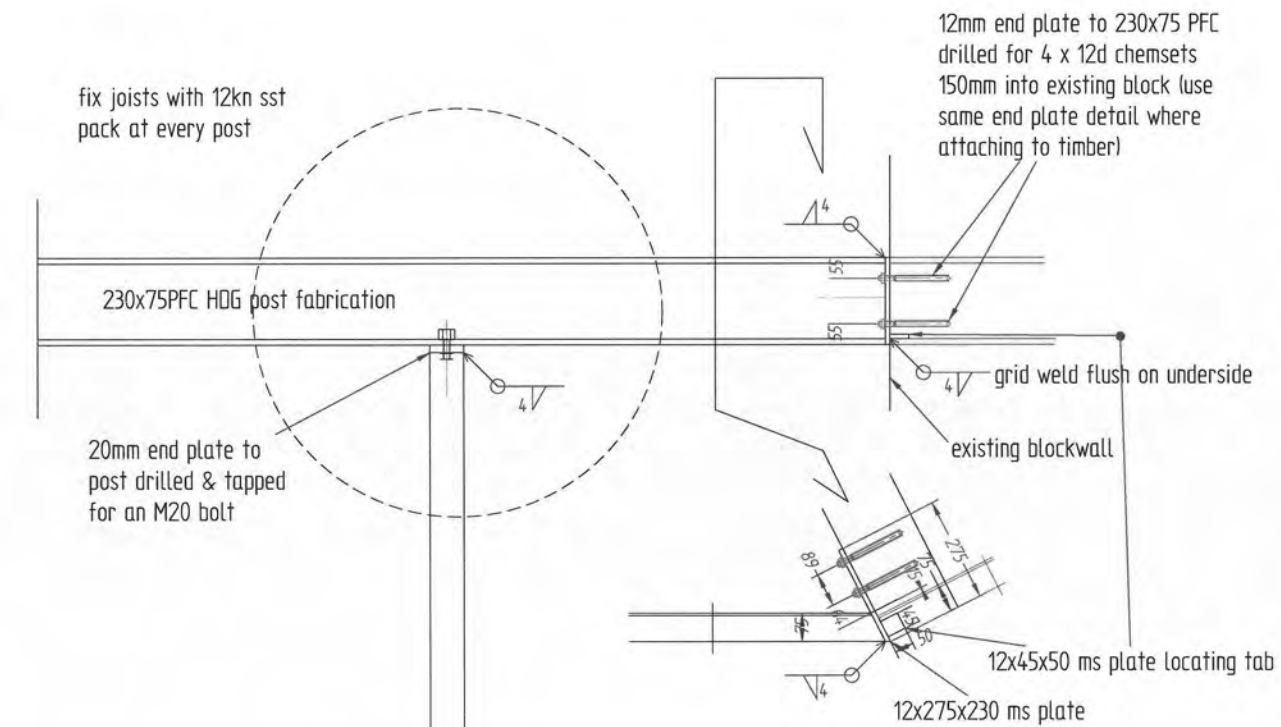


Hamish Wells
 MIPENZ (Civil & Structural) CPENG
 CONSULTING CIVIL ENGINEER
 Offices at 215A Rangitikei Road Otaki

Phone: 06 36 46 728
 Fax: 06 36 46 729
 Mobile: 0274 459 757
 enqns@etna.co.nz

Rogers - 114 Paetawa Road

SCALE	1: 10	@A1 - 1: 20	@3
DATE	June 2010		
SHEET	P1	of	
JOB ID			

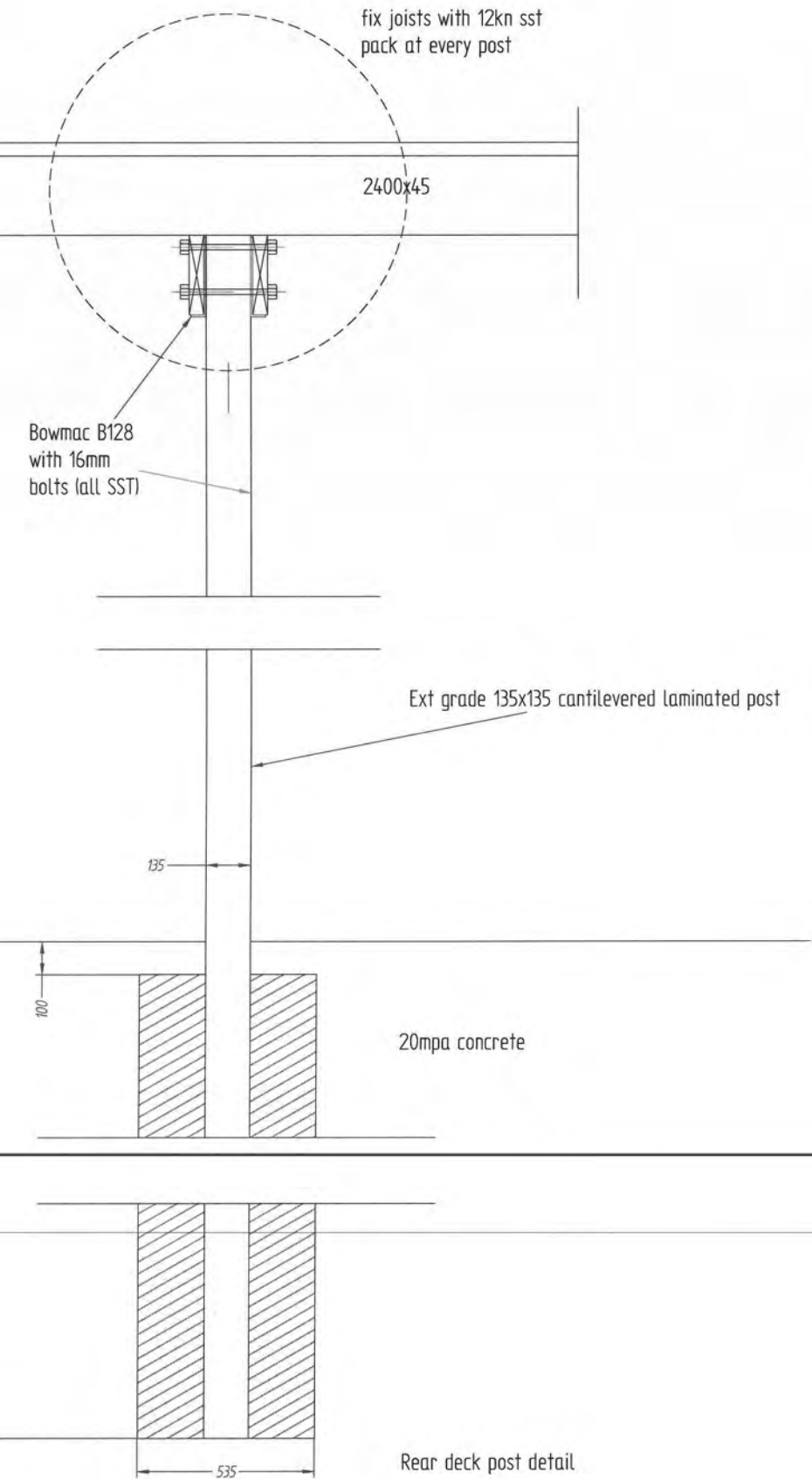


Ext grade 89x89x6 HDG cantilevered post

Ext grade 89x89x6 HDG cantilevered post

Entry foundation & post detail (refer D1 for footing dimensions)

See architectural detail for attachment of ribbon plate to building WITH 2xM12 @ not greater than 900 cnrs

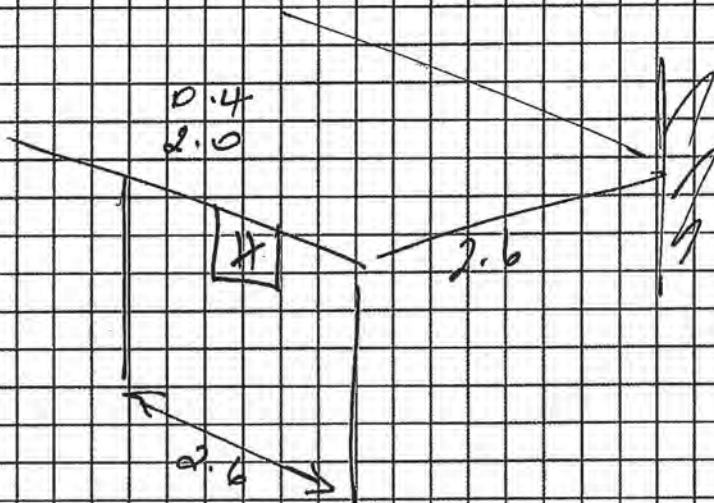


Hamish Wells
MIPENZ (Civil & Structural) CPEng
CONSULTING CIVIL ENGINEER
Offices at 215A Rangirua Road Otaki

Phone: 06 36 46 728
Fax: 06 36 46 729
Mobile: 0274 459 757
eng@etna.co.nz

Rogers - 114 Paetawa Road

SCALE	1: 10	@A1	1: 20	@3
DATE	June 2010			
SHEET	P2	of		
JOB ID				



$$Q = (0.4 \times 1.4) + (2.0 \times 1.6) = 3.76$$

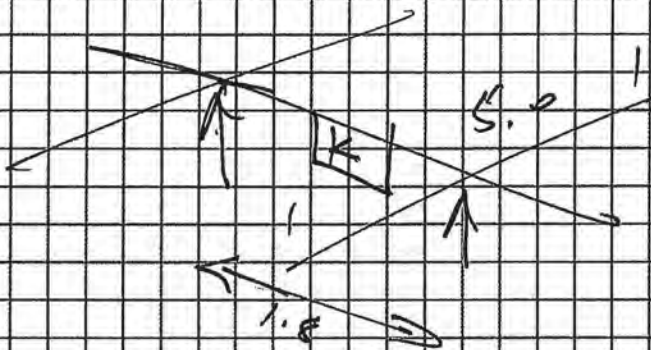
$$W = 3.76 \times \frac{2.6}{2} = 4.88$$

$$M = 4.88 \times \frac{2.6^2}{8} = 4.13$$

$$4.13 \times 10^3 = \frac{b \times 0.24^2}{6} \times 6 \times 10^4$$

$$b = 0.072 = 75 \text{ mm}$$

USE EITHER 240x75 OR 2x 240x45



$$w = \frac{5}{2} \times 3.76$$

$$w = 9.4 \times \frac{1.8^2}{8} = 3.807 \checkmark$$

$$3.807 \times 10^3 = \frac{b \times 0.140^2}{6} \times 6 \times 10^6$$

$$= 0.194 ?$$

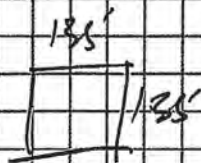
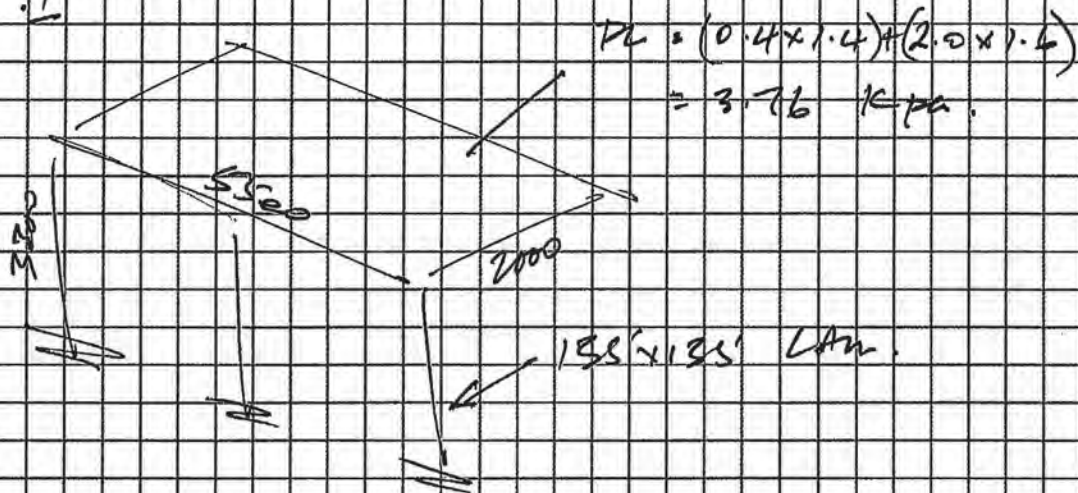
$$\text{let } b = 9 \text{ mm.}$$

$$3.807 \times 10^3 = \frac{0.09 \times d^2}{6} \times 6 \times 10^6$$

$$d = 205.7$$

$$\text{use } 2 \times 240 \times 15.$$

Deck 1



$$Z = \frac{0.135^3}{6} = 410.1 \times 10^{-6}$$

$$f_{b \max} = 0.6 \times 42 = 25.2$$

$$M_{\max} = Z f_b = 410.1 \times 10^{-6} \times 25.2 \times 10^3$$

$$= 10.33 \times 10^3 \text{ N}$$

$$M = \left(\frac{3.76 \times 5.5 \times 1}{3 \text{ poles}} \right) \times 3.3 \times 0.49 = 9.89 \text{ kN}$$

Deck 2 more posts at better connection to house & garage for same load etc.

Foundations - Site Soil Conditions are soft sand to approx 300mm below GWL. Driven timber piles supporting a foundation wall tied to the concrete Slab are the most suitable solution. The foundation wall is designed to be completely self supporting between the piles. Ground beams are provided, with piled support to support internal load bearing walls & keep the Slab size optimal.

Note: Minimum set for any driven timber piles is 600mm over 300mm & not less than 1500mm below GGL.

Truss roof & beam: the 250x90 RSC is over size but selected to match the existing steel on the frame. 89x89x6 gbs are adequate for the loads from the upper floor.

Bracing - 150x75 RSC bracing portal required in upper floor west exterior wall as shown on the plans.

HAMISH WELLS LTD.

PO Box 188
Otaki

215a Rangirua Road
Otaki

Mobile 0274 459 757
Land Line (06) 364 6728
Fax (06) 364 6729
Email engenr@xtra.co.nz

Makeup on Architectural Plans. The
architects plans contain numerous details
of fixings for posts, beams & foundation
these have been reviewed & approved on
an endorsed plan set.

PS1 & PS2 are attached.

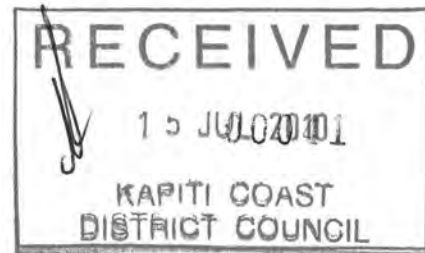
H. F. Wells

M.P.E.N.Z

CPLng # 186323.

Rogers House
114 Paetawa Road, Peka Peka

Additions and Alterations



Index of Supporting Documents

Bracing Calculation – Gib Ezybrace

H1 Heatloss Calculation
BRANZ House Insulation Guide pages

Prowood Laminated Timber Summary Sheet
Producer Statement

Glass Balustrade Producer Statement
Standard Fixing Detail

Existing Effluent Disposal System Percolation Report
Engineers Acceptance Letter

GIB

V03/09

Name	Rogers House	Additions & Alterations
Street and Number	114 Paetawa Road	
Lot and DP Number	Lot 1	DP 83749
City/Town/District	Peka Peka	
Designer	Alan Craig	
Company Name	Alan Craig Design Ltd	
Date	12/07/2010	



10 mm GIB® Plasterboard

Number of storeys	two	▼
Floor Loading	2kPa	▼
Foundation Type	slab	▼
		▼

Cladding Weight	light	▼
Roof Weight	light	▼
Room in Roof Space	no	▼

medium	▼
light	▼
no	▼

Roof Pitch (degrees)
Roof height above eaves (m)
Building height to apex (m)
Ground to lower floor level (m)

Lower to upper floor level (m)

Stud Height (m)	2.7
Building Length (m)	9.4
Building Width (m)	9.6
Building Plan Area (m ²)	74

Lower Floor

3.2
3.0
10.8
9.6
82

Earthquake Zone

Select by Building Consent Authority Map

A 

or Preference	Very High	▼
Region	Preference selected	▼
Terrain	Preference selected	▼
Exposure	Preference selected	▼
Topography	Preference selected	▼

Consult GIB® EzyBrace™ Systems, 2009
for Wind Zone definitions

Demand W (BU)		lower	Walls upper
along	slab	1644	584
across	slab	1662	508

Demand along / across E (BU)		
	Walls	
	lower	upper
slab	796	346

GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009



GIB® Wall Bracing Calculation Sheet B

Single or Upper Walls Along

V03/09

Along		Bracing Elements provided						Wind	Earthq.
1	2	3	4	6	5	7	8	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
A	146	1	1.3		2.85	BL1(10)	GIB®	131	115
	OK	2	1.3		2.4	BL1(10)	GIB®	156	137
line totals		3							
W	287	4							
EQ	252	5							
B	146	1	0.8		2.9	BL1(10)	GIB®	79	73
	OK	2	1.4		2.4	GS1(10)	GIB®	97	77
line totals		3							
W	176	4							
EQ	150	5							
C	146	1	3.5		2.8	GS1(10)	GIB®	207	165
	OK	2	0.6		2.4	GS1(10)	GIB®	39	33
line totals		3	1.4		3.9	GS1(10)	GIB®	59	47
W	305	4							
EQ	245	5							
D	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
E	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
F	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
G	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
H	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

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Wind	Earthq.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
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28	28
29	29
30	30
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32	32
33	33
34	34
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81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

Totals Achieved	Achieved/Demand	W	131%	EQ	187%	769	648
Timber Floor, design limit of 120 BU/m						accepted	OK OK
Totals Required (from Demand)						584	346

Wall Bracing Systems

For full construction details see technical literature

Single or Upper Walls Along

Supplier	System	Minimum Length (m)	BU's W/m	BU's EQ/m
	none		 BRANZ Appraised Appraisal No.294 (2009)	
GIB®	GS1(10)	0.4		
GIB®	GS2(10)	0.6		
GIB®	BL1(10)	0.4		
GIB®	BLP	0.4		
GIB®	BLG	0.6		
Ecoply	EP1	0.6	130	130
Ecoply	EP2	0.6	145	150
Ecoply	EPG 0.4	0.4	120	125
Ecoply	EPG 1.2	1.2	150	150
Ecoply	EPGs 0.4	0.4	100	120
Ecoply	EPGs 1.2	1.2	150	120
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			

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Timber Floor

Based on BRANZ research we recommend a limit of 120 BU/m for NZS3604 timber floors. If this limit is declined specific engineering must ensure that uplift forces generated by elements rated higher than 120 BU/m can be resisted by the floor framing.

In case the limit is accepted please ensure not to enter custom elements with ratings higher than 120 BU/m

accept limit of 120 BU/m for timber floors



Distribution (NZS3604:1999 minimum values)

Internal wall bracing lines	70	BU
External wall bracing lines	10 x L(m)	BU
Lines supporting diaphragms	100	BU

Recommended distribution check (75% x D/n)

No bracing line less than	146	BU
---------------------------	-----	----

GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009



GIB® Wall Bracing Calculation Sheet B

Single or Upper Walls Across

V03/09

Across		Bracing Elements provided						Wind	Earthq.
1	2	3	4	6	5	7	8	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
M	127	1	2		2.4	Steel	Portal	240	240
	OK	2							
line totals		3							
W	240	4							
EQ	240	5							
N	127	1	2.6		2.4	GS1(10)	GIB®	179	143
	OK	2	1		2.4	GS1(10)	GIB®	68	55
line totals		3							
W	247	4							
EQ	198	5							
O	127	1	5.1		3.9	GS1(10)	GIB®	217	173
	OK	2							
line totals		3							
W	217	4							
EQ	173	5							
P	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
Q	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
R	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
S	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
T	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

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Wind Earthq.

Totals Achieved	Achieved/Demand	W	139%	EQ	176%	703	611
Timber Floor, design limit of 120 BU/m						OK	OK
Totals Required (from Demand)						508	346

accepted

Wall Bracing Systems

For full construction details see technical literature

Single or Upper Walls Across

Supplier	System	Minimum Length (m)	BU's W/m	BU's EQ/m
	none		 BRANZ Appraised Appraisal No.294 [2009]	
GIB®	GS1(10)	0.4		
GIB®	GS2(10)	0.6		
GIB®	BL1(10)	0.4		
GIB®	BLP	0.4		
GIB®	BLG	0.6		
Ecoply	EP1	0.6	130	130
Ecoply	EP2	0.6	145	150
Ecoply	EPG 0.4	0.4	120	125
Ecoply	EPG 1.2	1.2	150	150
Ecoply	EPGs 0.4	0.4	100	120
Ecoply	EPGs 1.2	1.2	150	120
Portal	Steel	1	120	120
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			

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Timber Floor

Based on BRANZ research we recommend a limit of 120 BU/m for NZS3604 timber floors. If this limit is declined specific engineering must ensure that uplift forces generated by elements rated higher than 120 BU/m can be resisted by the floor framing.

In case the limit is accepted please ensure not to enter custom elements with ratings higher than 120 BU/m

accept limit of 120 BU/m for timber floors



Distribution (NZS3604:1999 minimum values)

Internal wall bracing lines	70	BU
External wall bracing lines	10 x L(m)	BU
Lines supporting diaphragms	100	BU

Recommended distribution check (75% x D/n)

No bracing line less than	127	BU
---------------------------	-----	----

GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009



GIB® Wall Bracing Calculation Sheet B

Lower Walls Along

V03/09

Along

Bracing Line		Bracing Elements provided						Wind	Earthq.
1	2	3	4	6	5	7	8	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
A	308	1	1.3		3	BL1(10)	GIB®	139	110
	not enough	2	0.5		3	BL1(10)	GIB®	50	46
line totals		3	1.4		3	BL1(10)	GIB®	151	117
W	339	4							
EQ	272	5							
B	308	1	2.2		3	BLG	GIB®	264	238
	OK	2	1.75		3	BL1(10)	GIB®	194	141
line totals		3	0.65		3	BL1(10)	GIB®	65	58
W	523	4							
EQ	437	5							
C	308	1	4.5		3	BLG	GIB®	540	486
	OK	2							
line totals		3							
W	540	4							
EQ	486	5							
D	308	1	2.55		3	BL1(10)	GIB®	284	204
	OK	2	0.6		3	BL1(10)	GIB®	60	54
line totals		3	1.4		3	GS1(10)	GIB®	77	62
W	421	4							
EQ	320	5							
E	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
F	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
G	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
H	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

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Wind	Earthq.
------	---------

Totals Achieved	Achieved/Demand	W	111%	EQ	190%	1823	1515
Concrete Slab						OK	OK
Totals Required (from Demand)						1644	796

Wall Bracing Systems

For full construction details see technical literature

Lower Walls Along

Supplier	System	Minimum Length (m)	BU's W/m	BU's EQ/m
	none		 BRANZ Appraised Appraisal No.294 [2009]	
GIB®	GS1(10)	0.4		
GIB®	GS2(10)	0.6		
GIB®	BL1(10)	0.4		
GIB®	BLP	0.4		
GIB®	BLG	0.6		
Ecoply	EP1	0.6	130	130
Ecoply	EP2	0.6	145	150
Ecoply	EPG 0.4	0.4	120	125
Ecoply	EPG 1.2	1.2	150	150
Ecoply	EPGs 0.4	0.4	100	120
Ecoply	EPGs 1.2	1.2	150	120
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			

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Concrete Slab

A limit of 150 BU/m applies to solid concrete slabs

Ensure not to enter custom elements with ratings higher than 150 BU/m

Distribution (NZS3604:1999 minimum values)

Internal wall bracing lines	70	BU
External wall bracing lines	10 x L(m)	BU
Lines supporting diaphragms	100	BU

Recommended distribution check (75% x D/n)

No bracing line less than	308	BU
---------------------------	-----	----

GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009



GIB® Wall Bracing Calculation Sheet B

Lower Walls Across

V03/09

Across		Bracing Elements provided						Wind	Earthq.
Bracing Line								9W	10EQ
1	2	3	4	6	5	7	8		
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
M	312	1	0.8		3	BL1(10)	GIB®	82	71
	not enough	2	0.4		3	BL1(10)	GIB®	39	37
line totals		3	1.15		3	BL1(10)	GIB®	121	98
W	341	4	0.5		3	BL1(10)	GIB®	50	46
EQ	297	5	0.5		3	BL1(10)	GIB®	50	46
N	312	1	2.2		3	BLG	GIB®	264	238
	OK	2	1.6		3	BLG	GIB®	192	173
line totals		3	2.75		3	BLG	GIB®	330	297
W	786	4							
EQ	707	5							
O	312	1	2.2		3	BL1(10)	GIB®	245	176
	OK	2	1.2		3	BL1(10)	GIB®	127	102
line totals		3	1.1		3	GS1(10)	GIB®	60	48
W	432	4							
EQ	327	5							
P	312	1	2.15		2.5	BL1(10)	GIB®	287	206
	OK	2	0.55		2.5	BL1(10)	GIB®	66	60
line totals		3	1.3		2.5	GS1(10)	GIB®	86	69
W	439	4							
EQ	335	5							
Q		1			2.5				
		2							
line totals		3							
W		4							
EQ		5							
R	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
S	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
T	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

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Wind	Earthq.
------	---------

Totals Achieved	Achieved/Demand	W	120%	EQ	209%	1998	1666
Concrete Slab						OK	OK
Totals Required (from Demand)						1662	796

Wall Bracing Systems

For full construction details see technical literature

Lower Walls Across

Supplier	System	Minimum Length (m)	BU's W/m	BU's EQ/m
	none		 BRANZ Appraised Appraisal No 294 (2009)	
GIB®	GS1(10)	0.4		
GIB®	GS2(10)	0.6		
GIB®	BL1(10)	0.4		
GIB®	BLP	0.4		
GIB®	BLG	0.6		
Ecopy	EP1	0.6	130	130
Ecopy	EP2	0.6	145	150
Ecopy	EPG 0.4	0.4	120	125
Ecopy	EPG 1.2	1.2	150	150
Ecopy	EPGs 0.4	0.4	100	120
Ecopy	EPGs 1.2	1.2	150	120
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			
Custom	Custom			

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Concrete Slab

A limit of 150 BU/m applies to solid concrete slabs

Ensure not to enter custom elements with ratings higher than 150 BU/m

Distribution (NZS3604:1999 minimum values)

Internal wall bracing lines	70	BU
External wall bracing lines	10 x L(m)	BU
Lines supporting diaphragms	100	BU

Recommended distribution check (75% x D/n)

No bracing line less than	312	BU
---------------------------	-----	----

H1 CALCULATION SHEET

Non-Solid Construction

Page 1

Project No

746

Project Title

Alterations and Additions

Date

22-Jun-10

J & C Rogers

114 Paetawa Road, Peka Peka

PROPOSED BUILDING

Additions only considered

House Dimensions Length 10.9 m Width 9.55 m Height 7.9 m

Total Wall Area

Ground $(6.1 + 4.2 + 1.95 + 9.35 + 3.7 + 0.8 + 5.85) \times 3 + (0.5 + 3.5 + 0.65 + 1.4 + 1.45 + 0.6) \times 2.7$
 $= (31.7 \times 3) + (8.3 \times 3.7) = 95.7 + 22.95 = \mathbf{118.65 \text{ m}^2}$

First $(9.35 \times 2.55 \times 2) + (9.55 \times 2.9) + (9.55 \times 2.45)$
 $= 47.685 + 28.28 + 23.88 = \mathbf{99.84 \text{ m}^2}$

Total Wall $118.65 + 99.84 = \mathbf{218.49 \text{ m}^2}$

Floor Area **81.3 m²**

Roof Area **81.3 m²**

Area of Glazing (includes doors) Ground $(0.8 \times 2.2) + (0.8 \times 1.1) + (0.8 \times 1.4) + (2.6 \times 1.4) + (0.7 \times 1.1) + (3 \times 2.2) + (1.6 \times 0.9) + (0.8 \times 1.1) + 0.7 \times 1.1 + (0.7 \times 2.2) = 1.76 + 0.88 + 1.12 + 3.64 + 0.77 + 6.6 + 1.44 + 0.88 + 0.77 + 1.54 = \mathbf{19.31 \text{ m}^2}$

First $(0.8 \times 2.2) + (2.5 \times 1.1) + (3.2 \times 1.4) + (4.7 \times 2.4) + (1.8 \times 0.8) + (2.8 \times 2.2) + (0.8 \times 2.2) = 1.76 + 2.75 + 4.48 + 11.28 + 1.44 + 6.16 + 1.76 = \mathbf{27.87 \text{ m}^2}$

Total glazed area $19.31 + 27.87 = \mathbf{47.18 \text{ m}^2}$

% Glazed wall area Ground $19.31 / 118.65 = \mathbf{16.27\%}$
 First $27.87 / 99.84 = \mathbf{27.91\%}$
 Total $47.18 / 218.49 = \mathbf{21.57\%}$

Wall Area Ground $118.65 - 19.31 = \mathbf{99.34 \text{ m}^2}$
 First $99.84 - 27.87 = \mathbf{71.97 \text{ m}^2}$

Glazing over 30% = Ground **Nil**
 First **Nil**

H1 CALCULATION SHEET

Non-Solid Construction

Page 2

Project No

746

Project Title

Alterations and Additions

Date

22-Jun-10

J & C Rogers

114 Paetawa Road, Peka Peka

REFERENCE BUILDING

Reference heat loss equations - non-solid construction

Area of glazing **Climate Zone** **Reference building heat loss equation**

<= 30%	1 & 2	HL Reference =				
of total		A Roof +	A Wall +		A Glazing <=30%	A Glazing >30%
wall area		<u>A Skylight +</u>	<u>A Door +</u>	<u>A Floor +</u>	<u>of total wall</u>	<u>of total wall</u>
		R 2.9	R 1.9	R 1.3	R 0.26	R 0.26
	=	<u>81.3 +</u>	<u>118.65 + 99.84 +</u>	<u>81.3 +</u>	<u>47.18 +</u>	<u>Nil</u>
		R 2.9	R 1.9	R 1.3	R 0.26	
	=	28.03 +	62.44 + 52.54 +	62.53 +	181.46	
	=	387				

H1 CALCULATION SHEET

Non-Solid Construction

Page 3

Project No

746

Project Title

Alterations and Additions

Date

22-Jun-10

J & C Rogers

114 Paetawa Road, Peka Peka

PROPOSED BUILDING

Additions only considered

Area of glazing	Climate Zone	Proposed building heat loss equation					
<= 30% of total wall area	1 & 2		$A_{\text{Roof}} +$	$A_{\text{Wall}} +$	$A_{\text{Glazing}} \leq 30\%$	$A_{\text{Glazing}} > 30\%$	
		HL Reference =	$\frac{A_{\text{Skylight}} +}{R 2.9}$	$\frac{A_{\text{Door}} +}{R 1.9}$	$\frac{A_{\text{Floor}} +}{R 1.3}$	$\frac{\text{of total wall}}{R 0.26}$	$\frac{\text{of total wall}}{R 0.26}$
		=	$\frac{81.3 +}{R 3.4}$	$\frac{118.65 + 99.84 +}{R 2.9 - R 2.5}$	$\frac{81.3 +}{R 2}$	$\frac{47.18 +}{R 0.26}$	<u>Nil</u>
		=	23.91 +	40.91 + 39.93 +	40.65 +	181.46	
		=	<u>326.86</u>				
		HL Proposed <=		HL Reference			
		326.86	<=	387			

SUPPORTING EVIDENCE

Element	Insulation	Construction	Construction R-value	BRANZ Insulation Guide Page
Ceiling	New Greenstuf R3.4 Roll form	Profiled roofing	R 3.4	33
Walls	New Greenstuf pads R2.5	Cavity fix weatherboards	R 2.5	55
		Sto plaster on 60mm EFIS	R 2.9	75
Floor	50mm polystyrene sheet full cover + 60mm polystyrene to face of footing (plaster over)	Concrete floor	R 2	91
Windows	Double Glazed - clear / obscure	Aluminium framed	R 0.26	23
Skylights	Nil			

Floor Slab Area / Perimeter Ratio = 80.1 / 40.2 = 1.99

Table 6 – WERS Ratings and R-Values of Glazing and Framing

Generic Windows	Winter Heating Stars Zones 1 and 2	Summer Cooling Stars Zones 1 and 2	Winter Heating Stars Zone 3	Summer Cooling Stars Zone 3	R-value m ² C/W	U-value W/m ² C
Aluminium frame						
Single grey standard tint	1.0	2.5	1.0	3.0	0.15	6.7
Single advanced tint	1.0	3.0	1.0	3.5	0.15	6.7
Double grey reflective / clear	1.5	5.0	0.5	5.0	0.26	3.9
Single clear	2.0	1.5	2.0	1.5	0.15	6.7
Single clear Double bronze tint / clear	2.5	4.5	2.5	4.5	0.26	3.9
Double advanced tint / clear	2.5	4.5	2.5	4.5	0.26	3.9
Double grey tint / clear	2.5	4.0	3.0	4.5	0.26	3.9
Double clear laminated / clear	2.5	4.0	3.0	4.5	0.26	3.9
Double tint/low-e	3.0	4.5	3.0	5.0	0.31	3.2
Double clear	3.5	2.0	3.5	2.5	0.26	3.9
Double clear / low emissivity clear	4.0	2.5	4.0	2.5	0.31	3.2
Double clear / low-e clear + argon	4.5	2.5	4.5	2.5	0.33	3.0
Composite frame						
Single advanced tint	1.0	3.0	1.0	3.0	0.15	6.6
Single clear	2.0	1.0	2.0	1.0	0.15	6.6
Double advanced tint / clear	3.0	4.0	3.0	4.5	0.26	3.9
Double tint / low-e	3.0	4.5	3.5	4.5	0.31	3.2
Double clear	4.0	2.0	3.5	2.0	0.26	3.9
Double clear / low-e clear	4.5	2.0	4.5	2.5	0.31	3.2
Double clear / low-e + argon	5.0	2.0	5.0	2.0	0.34	3.0

ELEMENT

CLADDING

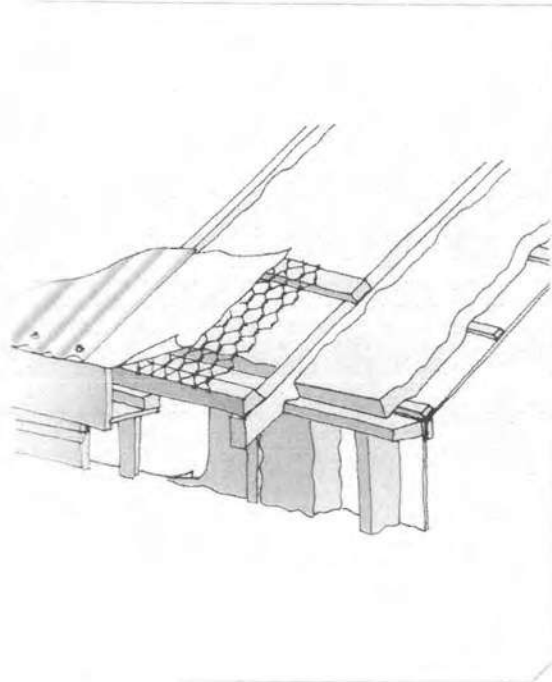
CONSTRUCTION

Roof

Profiled steel

Skillion roof

190 mm rafters and battens



Framing timber spacing

Insulation material R-value

Framing timber spacing	2.4	2.8	3.2	3.6	4.0	4.4	4.8
rafters 1200 (3.75%)	2.6	3.0	3.4	3.7	4.1	4.4	4.7
rafters 900 (5%)	2.6	3.0	3.3	3.7	4.0	4.3	4.6
rafters 600 (7.5%)	2.6	2.9	3.2	3.5	3.9	4.2	4.5

Total construction R-value

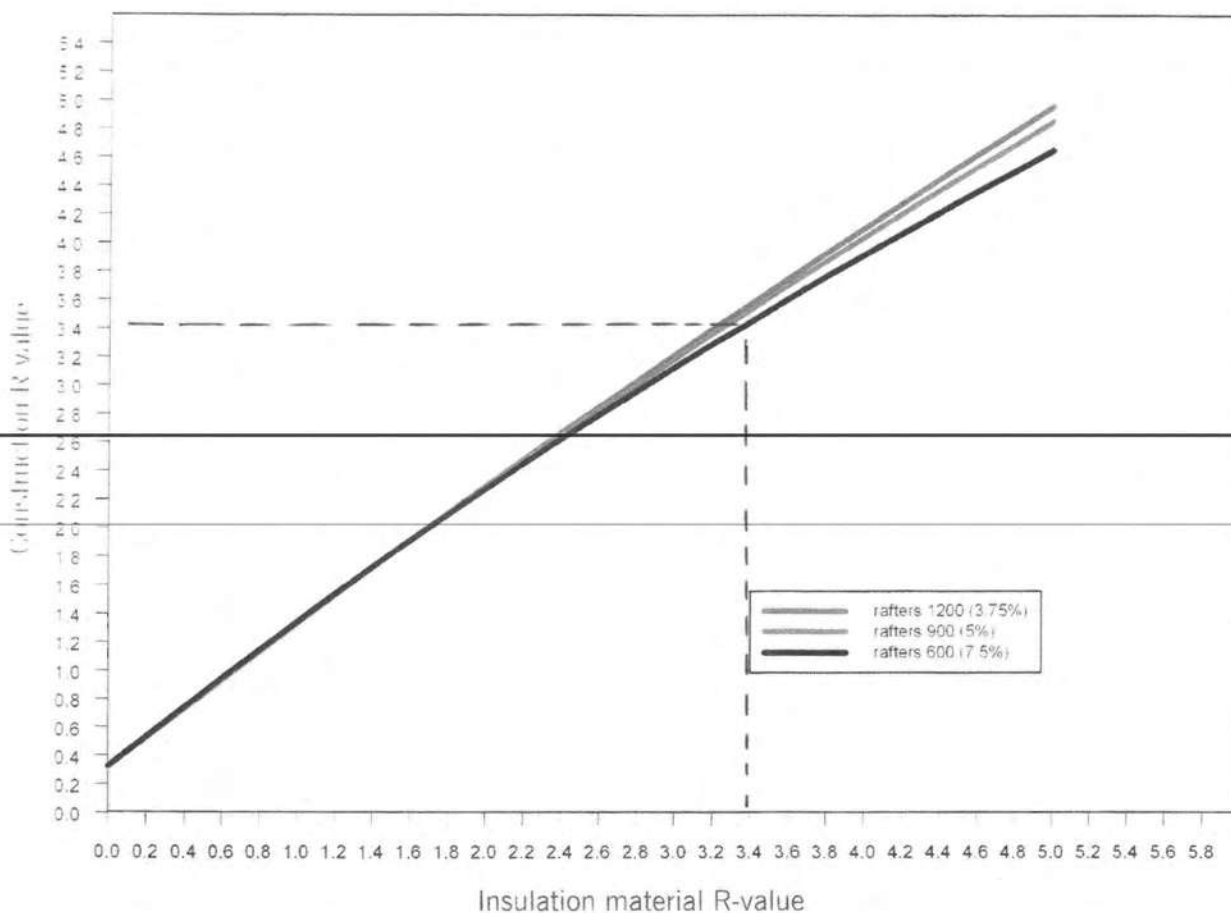
rafters 1200 (3.75%)

rafters 900 (5%)

rafters 600 (7.5%)

1. A minimum 25 mm air gap is required between the insulation and the underside of the roof underlay
2. R-5.0 is the highest practicable R-value of common insulation materials that can be used with 190 mm rafters

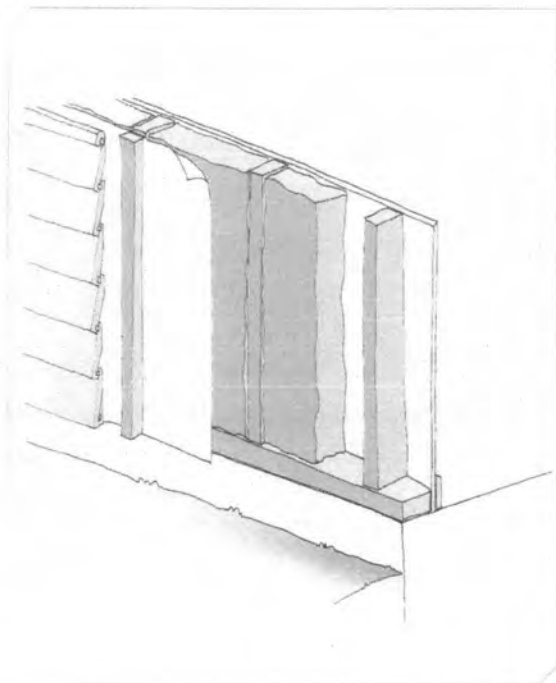
Skillion profiled steel with 190 mm rafters and battens



ELEMENT

CLADDING

CONSTRUCTION

Wall**Bevel-back
Weatherboard****Timber framed – cavity**
140 mm frame

Framing timber spacing

Insulation material R-value

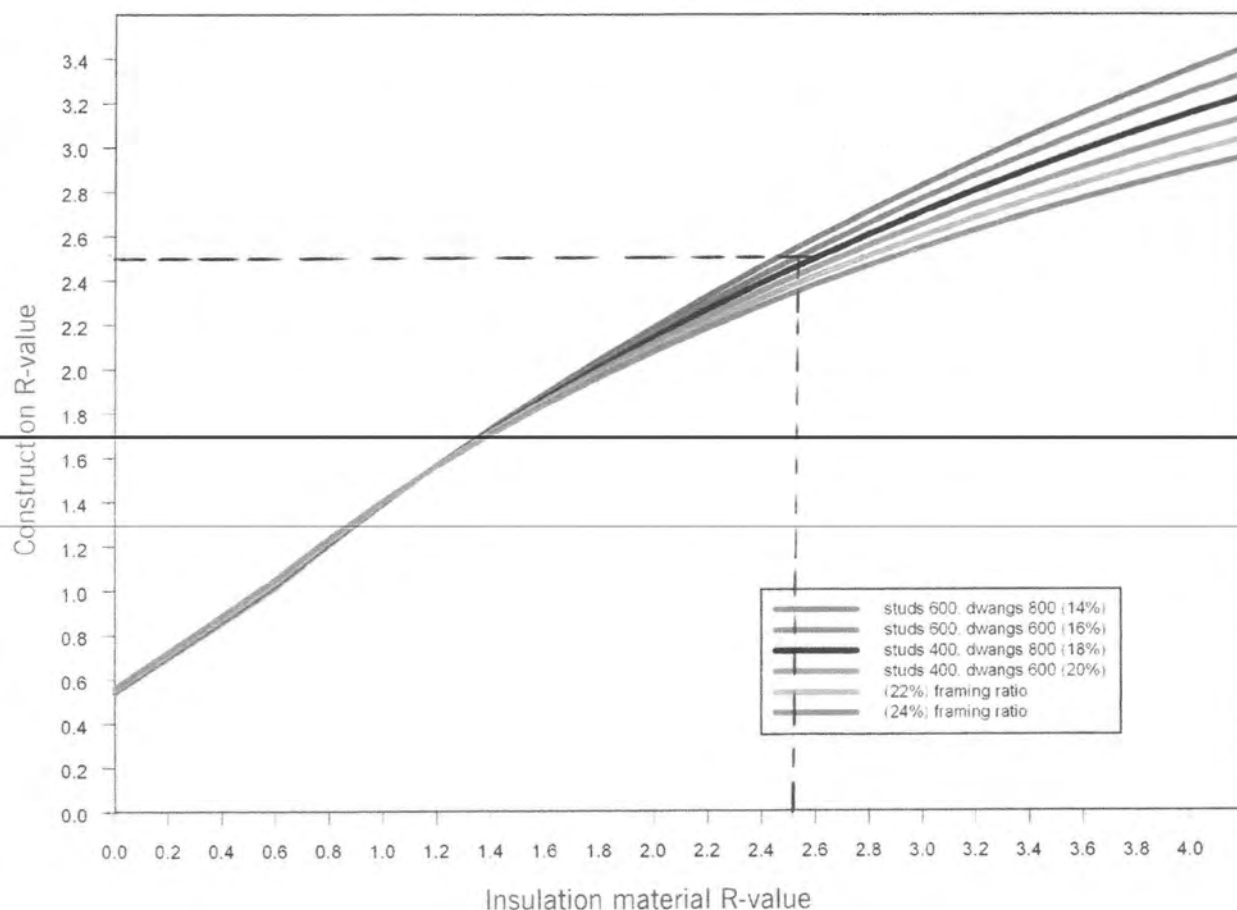
1.8 2.0 2.2 2.4 2.6 2.8 3.0

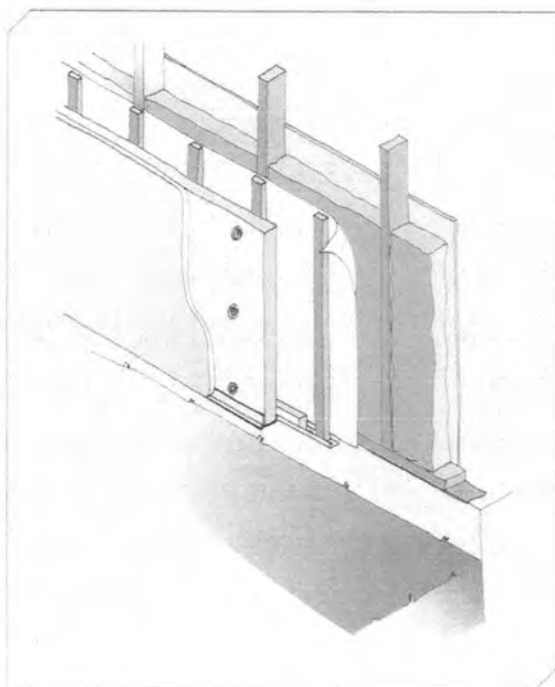
Total construction R-value

studs 600, dwangs 800 (14%)	2.0	2.1	2.3	2.4	2.5	2.7	2.8
studs 600, dwangs 600 (16%)	2.0	2.1	2.2	2.4	2.5	2.6	2.7
studs 400, dwangs 800 (18%)	2.0	2.1	2.2	2.3	2.5	2.6	2.7
studs 400, dwangs 600 (20%)	1.9	2.1	2.2	2.3	2.4	2.5	2.6
(22%) framing ratio	1.9	2.1	2.2	2.3	2.4	2.5	2.6
(24%) framing ratio	1.9	2.0	2.1	2.2	2.3	2.4	2.5

1. All insulants should be placed against wall underlay

Bevel-back weatherboard with cavity 140 mm frame

**Wall****Bevel-back
Weatherboard****Timber framed – cavity**
140 mm frame



Framing timber spacing

Insulation material R-value

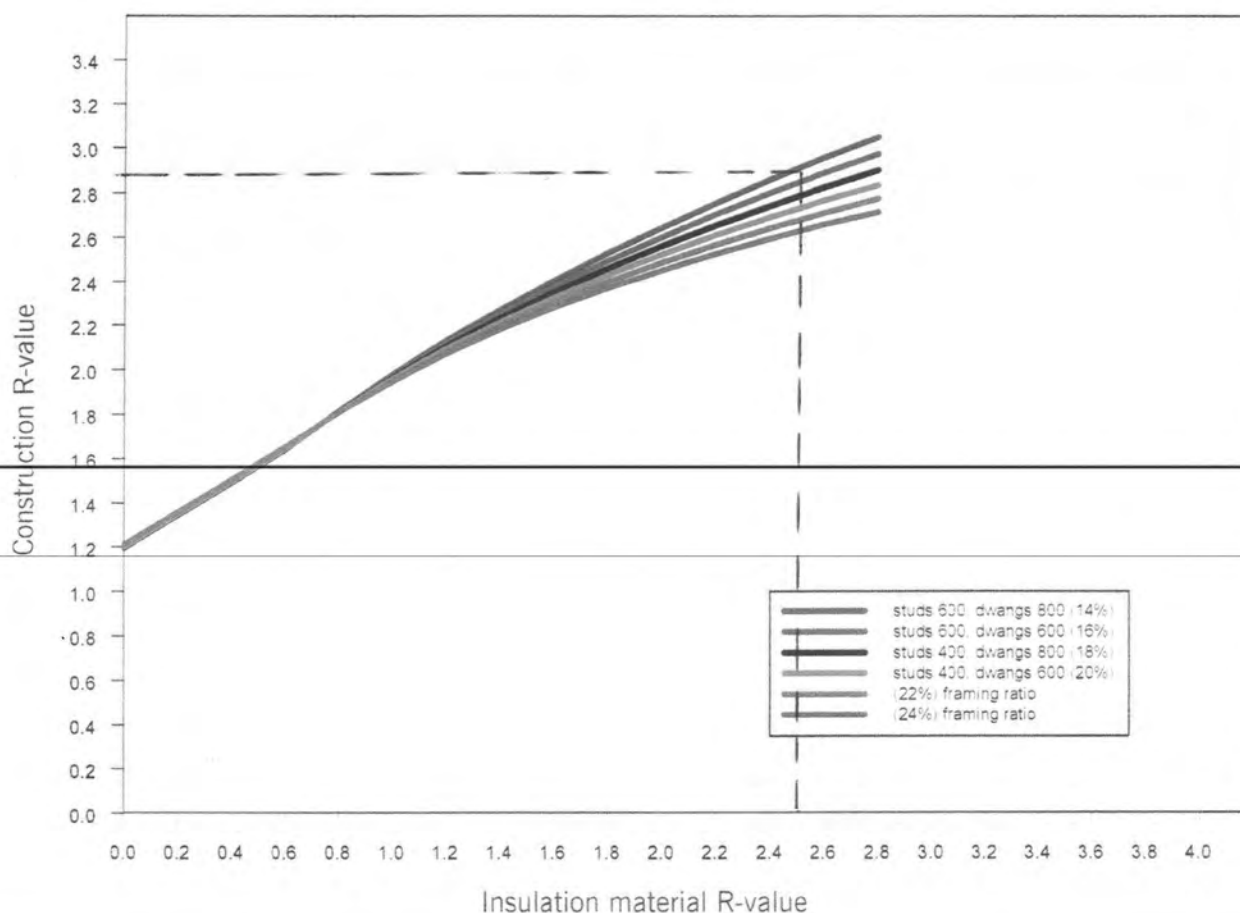
1.8 2.0 2.2 2.4 **2.5** 2.6 2.8

Total construction R-value

studs 600, dwangs 800 (14%)	2.5	2.6	2.7	2.8	2.9	3.0
studs 600, dwangs 600 (16%)	2.4	2.6	2.7	2.8	2.8	2.9
studs 400, dwangs 800 (18%)	2.4	2.5	2.6	2.7	2.8	2.9
studs 400, dwangs 600 (20%)	2.4	2.5	2.6	2.6	2.7	2.8
(22%) framing ratio	2.4	2.4	2.5	2.6	2.7	2.7
(24%) framing ratio	2.3	2.4	2.5	2.5	2.6	2.7

1. All insulants should be placed against wall underlay
2. Polystyrene assumed to be grade 'S' – for 'H' grade add 0.1 to the construction R-value
3. R-2.8 is the highest practicable R-value of common insulation materials that can be used with 90 mm studs

60 mm EIFS with cavity, 90 mm frame



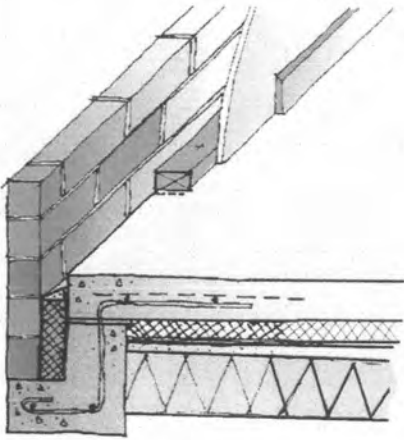
ELEMENT

FLOORING

CONSTRUCTION

Floor**Concrete****Slab on ground**

Edge insulation behind brick veneer

**Construction****Area/perimeter ratio**

1.3 1.5 2.0 2.2 2.5 2.8 3.1 4.0

Total construction R-valuefull cover 100 mm EPS +
50 mm EPS behind bricks

1.7 2.2 2.4 2.7 2.9 3.2 3.8

full cover 50 mm EPS +
50 mm EPS behind bricks

1.4 1.9 2.1 2.3 2.5 2.7 3.3

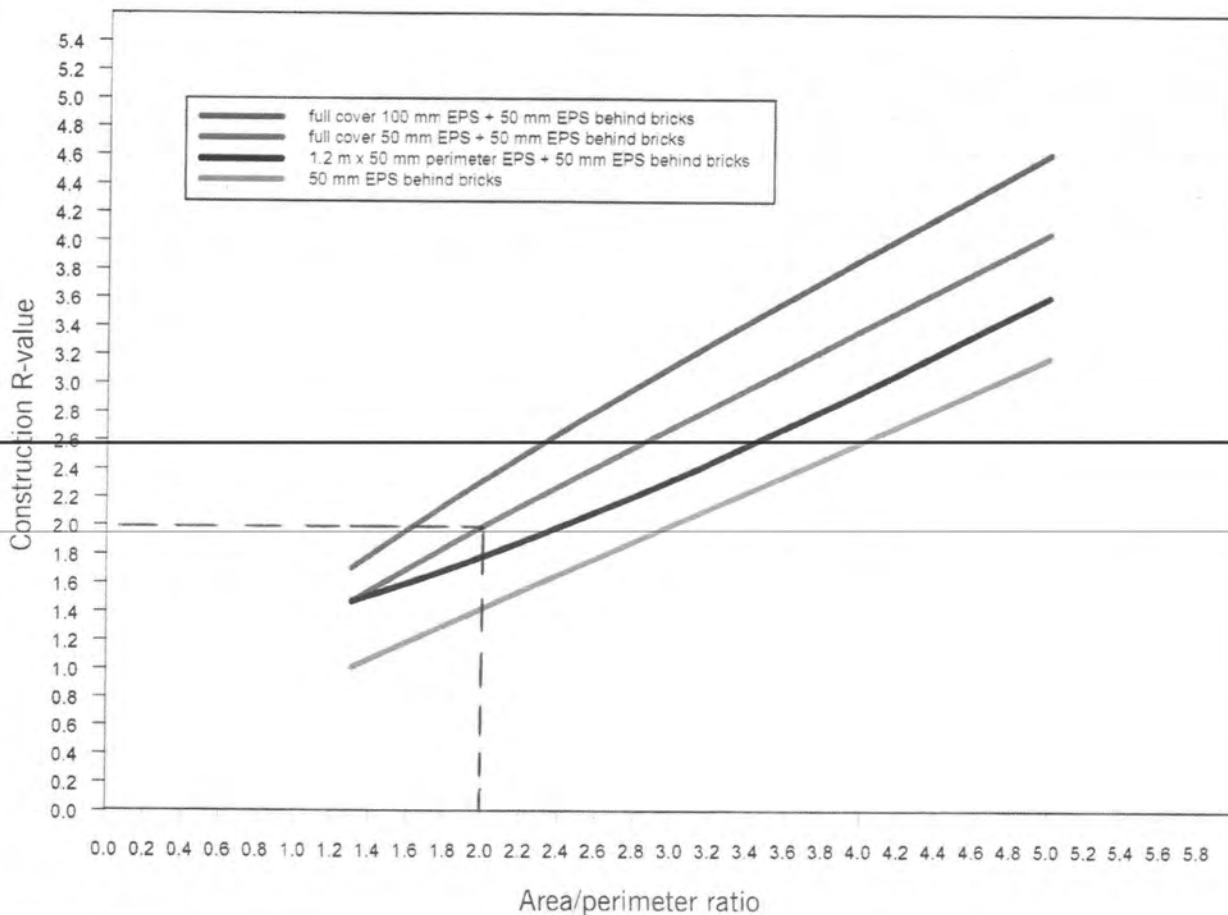
1.2 m x 50 mm perimeter
EPS + 50 mm EPS
behind bricks

1.4 1.7 1.8 2.0 2.2 2.3 2.9

50 mm EPS behind bricks

1.0 1.3 1.5 1.7 1.8 2.0 2.5

1. For dry sandy loam multiply the construction R-value by 1.2
2. For wet or saturated clay, or for areas with a high water table multiply the construction R-value by 0.8

Slab on ground, edge insulation behind brick veneer

PROWOOD

Sustainable Solutions

INITIAL SETUP PAGE

IMPORTANT: The following setup can be altered on each page if required

Date 12 July 2010

Job Rogers House, 114 Paetawa Road, Peka Peka

Roof Weight Light

Wind Zone Low

Roof Pitch (degrees) 4

Eaves [width in mm] 0

Snow Load Kpa

Apply above to: Select one of the following

Calculate Snow Load to AS/NZS1170.3:2003

Applies to Sub-Alpine Regions of New Zealand

Location (Snow Region) No Snow Load

Altitude Above Sea Level (m)

Design Life (years) Normally 50 years

Structure Importance Level Select 2 for Houses

Roof Pitch (degrees) Use the above box to alter the Roof Pitch

Obstructed Roof? Select **No** only if unobstructed pitched roof

Site Exposure Coefficient (Ce) = 1 for Sub-Alpine regions (do not change without good reason)

Ground Snow Kpa

PROWOOD

Sustainable Solutions

PROLAM SUMMARY

Date: 12 July 2010

Snow Region: No Snow Load

Job Description: Rogers House, 114 Paetawa Road, Peka Peka

Altitude (m): 50

- Prolam® Internal & Verandah Rafters

Rafter Spacing: 0.6 m, **Rafter Span:** 6.8 m, **Size:** 63 mm, **Ceiling:** Yes, **Wind Zone:** Very High,

Roof Weight: Light, **Snow Load:** 0 kPa, **Visual:** No, **Exposed:** No

Use Prolam Rafter PLR12 300 - 290 x 63mm,

Fixing Details: 2/100 x 3.75 skewed nails and 2 wire dogs or 2.7kN connection

- Prolam® Verandah Lintels

Verandah Roof Width: 2.6 m, **Lintel Span:** 5.5 m, **Size:** 88 mm, **Ceiling:** No, **Wind Zone:** Very High, **Visual:** Yes,

Roof Weight: Light, **Roof Pitch:** 0 kPa, **Snow Load:** Up to 25°, **Exposed:** Yes

Use Prolam Lintel PLVL12 300 - 290 x 88mm. Use fixing drawing EXT as per page 26.

Architect/Engineer: Alan Craig Design Ltd

Signature:

This specification only applies to Prolam Branded Products

**tasman
consulting
engineers**

PRODUCER STATEMENT

Tasman Consulting Engineers Ltd have been engaged by Prowood to prepare and span tables and charts for the PROLAM® lintels, beams and posts as presented in the PROLAM® Post and Beam Manual.

The design has been carried out using sound and widely accepted engineering principles to the requirements of AS/NZS1170:2002, NZS3603:1993 and NZS3604:1999 using the timber properties for GL8 and GL12 glue laminated timber.

David King

David King

ME(Civil) MIPENZ (Structural) CPEng IntPE

283 Waiwhero Rd P O Box 413 Motueka New Zealand Phone 03 526 7436 Fax 03 526 7437

Email: info@prowoodnz.com • www.prolamnz.com



PROLAM® products are manufactured to the requirements of AS/NZS 1328.1:1998 Glue Laminated Structural Timber, and AS/NZS 1491:1996 Finger Jointed Structural Timber under an approved quality system based on the ISO 9000 series of standards. As such if the product is used in accordance with **PROLAM®** product literature, it will meet the durability clauses of the New Zealand Building Code B2.

Subfloor Applications:

- **PROLAM®** may be used where approved practices for clearance and ventilation are used.

External Use:

- **PROLAM®** is recommended for weather exposed applications if sealed and maintained in accordance with **PROLAM®** literature.

Preservative Treatment:

- **PROLAM®** Beams are CCA H3.2 treated as defined by NZS 3640:2003, for weather exposed applications, such as verandah beams, deck bearers, and subfloor applications.
- **PROLAM®** Posts are CCA H5 treated as defined by NZS 3640:2003 for in-ground and weather exposed applications, such as deck piles, verandah posts and similar applications.

Storage of **PROLAM®**:

- To ensure **PROLAM®** remains straight and true at the time of installation, follow the below recommendations:
 1. Store under cover so that it remains dry until installation.
 2. Stack clear of the ground for good ventilation.
 3. Stack on bearers to keep flat and straight.

Branded **PROLAM®**:

- **PROLAM®** is branded for your protection. Look-alike materials may not perform to the standard of **PROLAM®**. For your protection do not accept unauthorized substitution



NEW ZEALAND SOCIETY OF
ARCHITECTS
ESTABLISHED 1904



MFG Test: BA112 Domestic
Test B2

PRODUCER STATEMENT – PS1 – DESIGN

(Guidance notes on the use of this form are printed on the reverse side)

ISSUED BY:

Robert Good for Nancekivell Cairn Ltd

(Suitably qualified Design Professional)

TO:

(Owner)

TO BE SUPPLIED TO:

(Territorial Authority)

IN RESPECT OF: **Load Testing to BA112 Base Fixed at 400mm CRS with 12mm toughened glass to 1000mm height above base of channel to resist AS/NZS 1170 occupancy A,B,C3, & E and ULS wind load of 2.25 kPa**
(Description of Building Work)

Nancekivell Cairn Ltd.....has been engaged by ...Metro Frameless Glass Systems Ltd.....
(Design Firm) (Owner/Developer/Contractor)

to provide **Monitoring to Load Tests and Confirmation of Loading Achieved**..... in respect of the
(Extent of Engagement)
requirements of Clause(s) **B1, B2, F2, F4**..... of the Building Code for



Part only as specified

of the building work. The design has been prepared in accordance with **B1/VM1, B2/AS1, F2/AS1, F4/AS1**
(verification method(s)/acceptable solution(s))

(respectively) of the approved documents issued by the Department of Building & Housing and the work is described on

..... **Metro Frameless Glass Ltd**..... drawings titled ...**BA112 – Domestic, Concrete, Steel, and Timber Fixing**

(Design Firm)

and numbered **B2/1, B2/2, B2/3**..... and the specification and other documents according to which the building is proposed to be constructed.

As an independent design professional covered by a current policy of Professional Indemnity Insurance to a minimum value of \$200,000. I BELIEVE ON REASONABLE GROUNDS that subject to:

(i) **Structure to which Balustrade is fixed is to be engineered to resist Ultimate Limit State Moment of 0.45 kNm per fixing comprising Pull Out Load of 12.0 kN and shear load of 0.45 kN**

(ii) **Excludes installation not explicitly in accordance with drawings B2/1, B2/2, B2/3 attached**

and (iii) all proprietary products meeting the performance specification requirements, the drawings, specifications, and other documents according to which the building is proposed to be constructed comply with the relevant provisions of the building code.

Robert Good

(Signature suitably qualified Design Professional)

Date **21-09-2005**

MEng Sts, BE(civil), CPEng no. 142660

(Professional Qualifications)

Member

..... **P.O. Box 355-377 Browns Bay**.....
(Address)

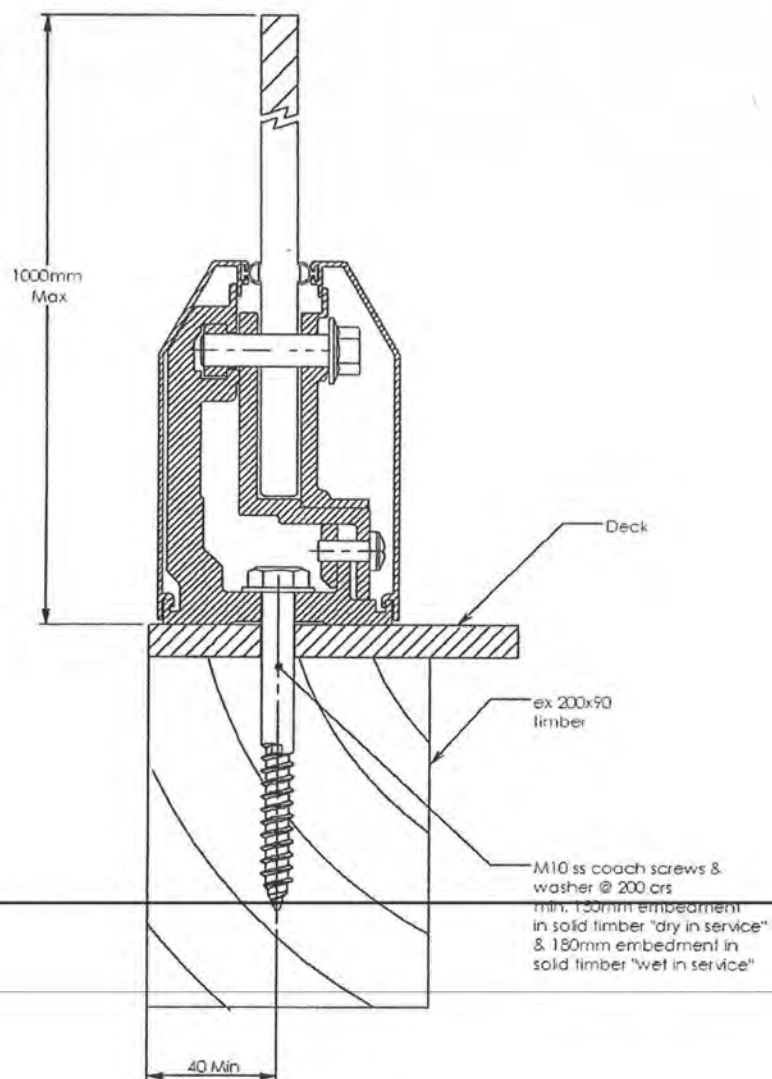
METRO FRAMELESS

MFG

B2/3

Base Mount - Timber fix domestic

**BA112 MFG Frameless Glass Balustrade 12mm
toughened glass**



Note:

Capacity of 1@200x90 solid timber fixing to deck structure to be in accordance with load specified on the attached producer statement.
Deck capacity to be verified prior to fixing balustrade.



Cuttriss, McKenzie, Martin Ltd.

RESOURCE MANAGEMENT CONSULTANTS
REGISTERED SURVEYORS — CONSULTING ENGINEERS

Directors

BARRIE N SHUTE FNZIS
ALAN L MILNE MNZIS
ROBERT T SOWRY MNZIS
W MARK EDGAR B SURV MNZIS

PO BOX 1445
State Ins Building
173 Rimu Road
PARAPARAUMU
Tel 0-4-298 6319
Fax 0-4-298 3429
EMAIL: cmmi@cuttriss.co.nz

17362 : Titchener

6 January 1998

The District Inspector
Kapiti Coast District Council
Private Bag
PARAPARAUMU

Attention: Mr J Hickey

PERCOLATION TEST REPORT

SITE: Lot 1 DP 83749
CLIENT: Robinson / Lineham
LOCATION: Paetawa Road, PEKA PEKA

1. DOCUMENTS:

The above site has been investigated for wastewater disposal as requested. Soakage field location and design plans are appended hereto.

2. TOPOGRAPHY:

The site generally comprises of natural undulating low sand dunes. The level of natural ground was measured at high tide and shown on the design plan attached (note the level is in terms of 'on-site' benchmark OIT III assumed datum RL 10.000).

3. CONCLUSION:

The soakage rates for this area exceed 150mm/hour and therefore place the site in Limitations Category A according to Table 2 of NZS 4610:1982.

These results are very rapid and therefore disposal should be as recommended in Category A, Table 3, NZS4610: 1982.

4. RECOMMENDATIONS:

In our opinion trickle fed soakage trenches 450mm wide, 450mm deep and of minimum total length of 20 metres with a distribution box alternating the flow into the separate trenches at suitable intervals would be adequate. 100mm diameter PVC pipes are to be perforated or slotted at regular intervals and laid flat or at a grade not steeper than 1:200. Some excavating may be necessary to construct soakage trenches to the correct length and grade. (Refer our design plan attached).

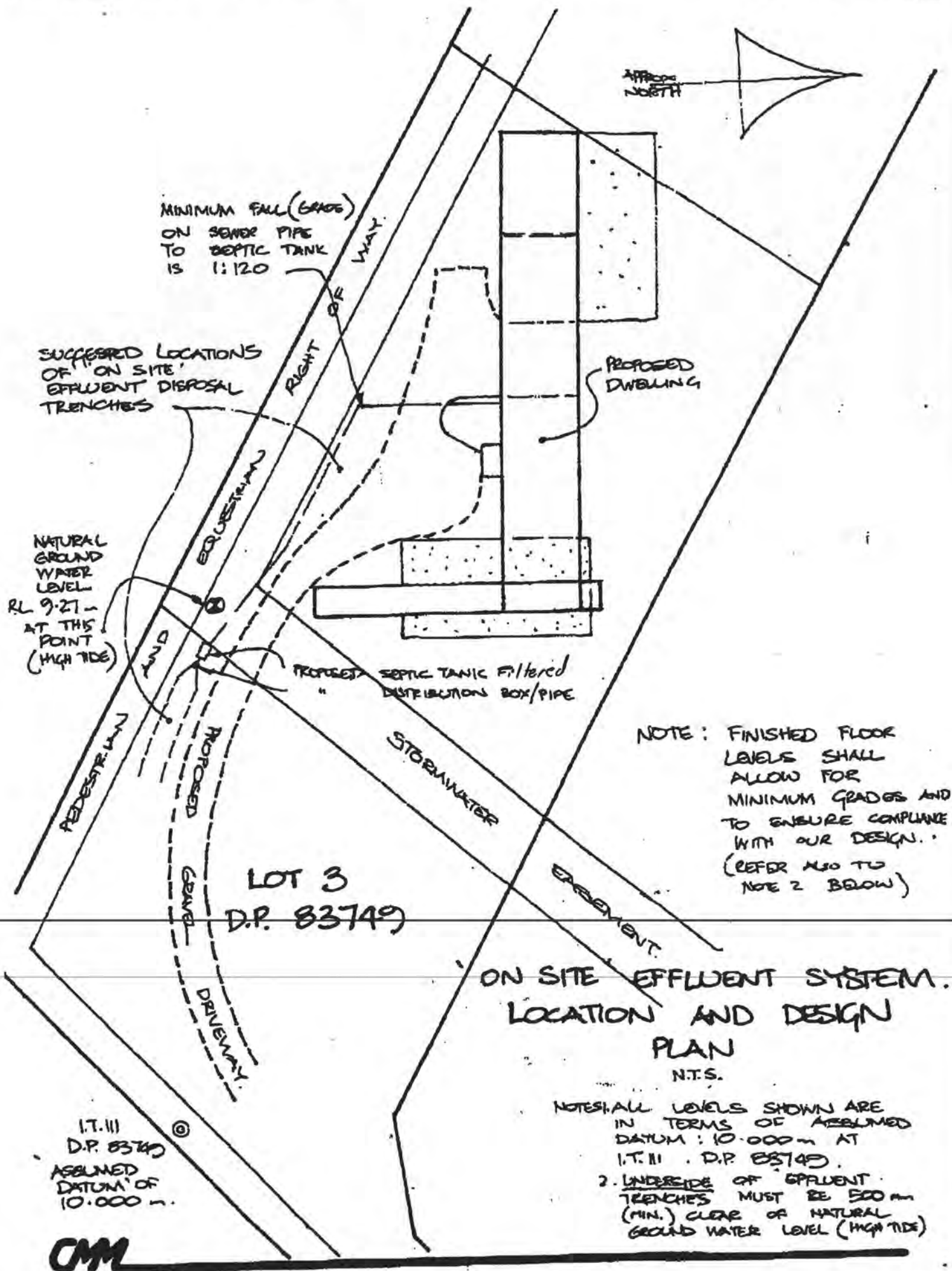
5. CONDITIONS:

The information, opinion and recommendations, which are not to be construed as a guarantee contained in this report are furnished to the agent of the owner and the Kapiti Coast District Council for their purposes alone on the express condition that they will not be relied upon by any other person and do not remove the necessity for further inspections and/or testing when the proposed drainage system is installed.

Yours faithfully


R. S. Hinchener

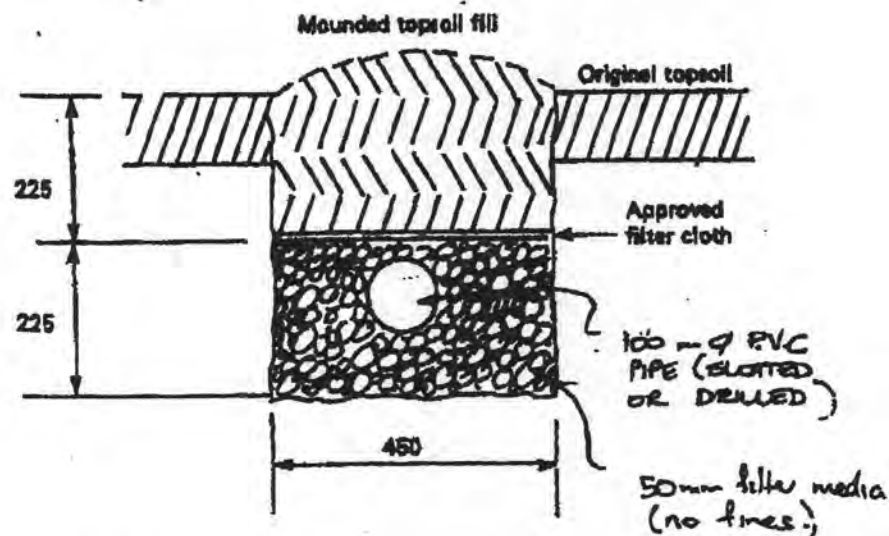
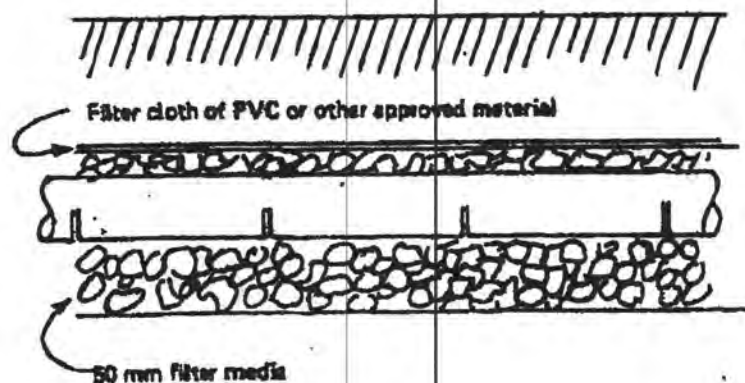
CUTTRISS MCKENZIE MARTIN LTD





Cuttriss, McKenzie, Martin Ltd.

RESOURCE MANAGEMENT CONSULTANTS
REGISTERED SURVEYORS • CONSULTING ENGINEERS



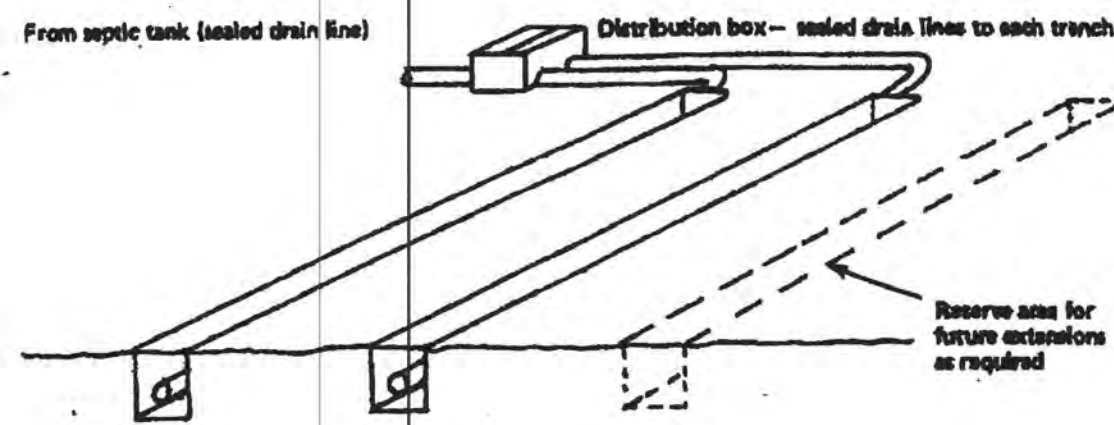
- NOTE - (1) Distribution drains to be 100 mm diameter P.V.C. slotted @ 400 mm intervals or drilled holes/perforations comprising at least 2% of surface area.
(2) Distribution pipes to be laid flat or at gradient not greater than 1 in 200.
(3) Sides and base of trench to be carefully scratched with a pointed tool before laying filter media.

Fig. 4 TYPICAL TRENCH CONSTRUCTION
(All measurements mm)

13/01/1998 11:25 64-4-4991888
08/01/1998 15:27 +64-4-2983429

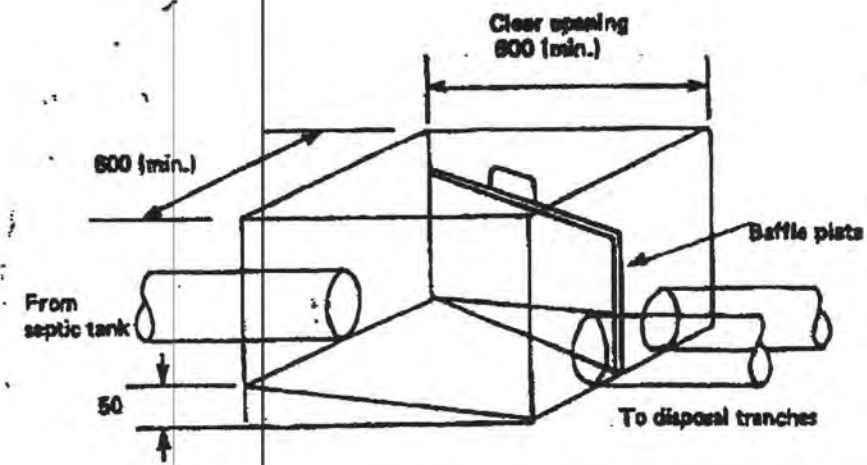
STUDIO PACIFIC ARCH
CUTTRISS PARAPARANGI

PAGE 06
PAGE 06



NOTE - TRENCHES (1) Design length split into a minimum of two trenches to enable alternation of loading.
 (2) Trench spacing 2 m minimum between edges.

Ground flat or sloping →



NOTE - DISTRIBUTION BOX (1) Inlet and outlet pipes 100 mm diameter.
 (2) Lid to be made up flush with ground level.
 (3) Construction to be of approved materials.
 (4) Baffle plate to be used for alternation of loading and resting cycles.

Fig. 5 TYPICAL TRENCH LAYOUT
 (All measurements mm)

OPERATION & MAINTENANCE OF YOUR WASTEWATER DISPOSAL SYSTEM

WASTEWATER DISPOSAL OPERATION SYSTEM

The first stage of wastewater treatment is in the septic tank(s) where solids are removed through settlement and biological activity.

From the septic tank, the relatively clear but still polluted water will flow to a ground soakage system. This system will further cleanse the water which will then pass into the natural ground where purification of pollutants occur.

If the septic tank is not properly operated and maintained, it will pass excessive solids and pollutants into the soakage field which would then clog up leading to potential health hazards and the need for expensive reinstatement of the soakage field.

MAINTENANCE

- DO Clean the tanks once every two years to remove the build up of solids and thereby allow maximum settlement time for the wastewater.
- DO Use biodegradable soaps for washing to enable a quick breakdown of the waste and stop foaming.
- DO Monthly adjust the baffle or valves in the distribution box to rest half of the soakage field each month.
- DO Monthly clean out or check surface water/rainwater collector/diversion drains and groundwater cut off trench outlets to prevent soakage into and overload of system by rainwater/surface water.
- DO Keep children off the ground soakage systems especially in winter. A precautionary measure in case water levels rise towards the surface.
- DO Keep a written record of the dates of installation, cleaning, maintenance inspections and stoppages. A case history assists if problems arise.
- DO Exclude grease from drainage system. Plates and utensils should be thoroughly scraped to remove grease before washing.
- DONT Use excessive bleaches or disinfectants. The normal amount used in a household will not harm the system. Excessive bleaches or disinfectants can kill the bugs which break down the effluent.
- DONT Use a garbage grinder. It will greatly increase the water and pollutant load in the waste and may overload the system.
- DONT Pass sanitary napkins etc into the system, it may clog up the system.
- DONT Cover the vent or access lid to the septic tank(s) as access for cleaning will be blocked and the tank may build up excessive levels of potentially dangerous gas (methane).
- DONT Allow vehicles on the trenches or beds and fence these areas off if stock is kept to prevent damage to the soakage system ie compaction of the ground and thereby reduce available soakage.



Surveyors, Engineers & Resource Managers

Cuttriss Consultants Limited
Hutt Valley, Wellington, Kapiti Coast

PO Box 386
State Insurance Building
173 Rimu Road
Paraparaumu
Tel: 04-298 5319
Fax: 04-298 3429
Email: kapiti@cuttriss.co.nz

ref: Titchener / 17362

21 October 1998



The District Inspector
Kapiti Coast District Council
Private Bag 601
PARAPARAUMU

Dear Sir

114

**'ON SITE' EFFLUENT DISPOSAL : LOT 1 DP 83749 PAETAWA ROAD PEKA PEKA
FOR ROBINSON / LINEHAM**

Testing:

Percolation tests were carried out generally to the requirements of NZS 4610:1982 and about the suggested area for on site effluent disposal. These tests indicated that 20 metres of effluent trench were required along with an approved type of septic tank and distribution box. (refer to our report dated 6 January 1998).

Our recommendation for on site effluent disposal was adopted by owners with Thomas Plumbing carrying out the work.

From our site inspection carried out on we observed that the approximately 20 metres of trench had been constructed and that septic tank had been installed to the general requirements of our report.

All work appeared to be carried out to a satisfactory standard.

Yours faithfully

R G Titchener
CUTTRISS CONSULTANTS LTD



BRANZ Appraised

Appraisal No.470 [2005]

BRANZ Appraisals

Technical Assessments of products
for building and construction

BRANZ APPRAISAL CERTIFICATE No. 470 (2005)

DUROSET® AND DUROQIK® WET AREA MEMBRANES

Waterproofing Systems Ltd

P O Box 1113

Palmerston North

Tel: 06 357 9148

Fax: 06 357 9410

www.waterproofing.co.nz

Email: info@waterproofing.co.nz



BRANZ

BRANZ Limited
Private Bag 50 908
Porirua City
New Zealand
Tel: +64 4 237 1170
Fax: +64 4 237 1171
www.branz.co.nz

BRANZ Pty Ltd
P O Box 830
Brookvale
NSW 2100
Australia
Tel: +61 2 9938 6011
Fax: +61 2 9938 6911
www.branz.com.au



Product

1.1 DuroSET® and DuroQIK® Wet Area Membranes are liquid-applied waterproofing membranes for use under vinyl, ceramic or stone tile finishes in internal wet areas.



2.1 DuroSET® and DuroQIK® Wet Area Membranes have been appraised for use as waterproofing membranes for internal wet areas of buildings, within the following scope:

- on floor substrates of concrete, flooring grade particleboard, plywood, compressed fibre cement sheet and fibre cement sheet tile underlay, and on wall substrates of concrete, concrete masonry, wet area fibre cement sheet lining systems and wet area plasterboard lining systems; and,
- when protected from physical damage by vinyl, ceramic or stone tile finishes; and,
- where floors are designed and constructed such that deflections do not exceed 1/360th of the span.

2.2 The use of DuroSET® and DuroQIK® Wet Area Membranes on concrete slabs where hydrostatic or vapour pressure is present from below is outside the scope of this Certificate.

2.3 Movement and control joints in the substrate must be carried through to the tile finish. The design and construction of the substrate and movement and control joints is specific to each building, and therefore the responsibility of the building designer and building contractor and is outside the scope of this Certificate.

2.4 The vinyl, ceramic or stone tile finishes are outside the scope of this Certificate.

2.5 The membranes must be installed by trained applicators, approved by Waterproofing Systems Ltd.

Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, DuroSET® and DuroQIK® Wet Area Membranes if designed, used, installed and maintained in accordance with the statements and conditions of this Certificate, will meet or contribute to meeting the following provisions of the NZBC:

Clause B2 DURABILITY: Performance B2.3.1 (b), 15 years. DuroSET® and DuroQIK® Wet Area Membranes meet this requirement. See Paragraph 9.1.

Clause E3 INTERNAL MOISTURE: Performance E3.3.6. Interior wet area floors and walls incorporating DuroSET® and DuroQIK® Wet Area Membranes will meet this requirement. See Paragraphs 11.1 – 11.7.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. DuroSET® and DuroQIK® Wet Area Membranes meet this requirement and will not present a health hazard to people.

3.2 This Certificate appraises an Alternative Solution in terms of New Zealand Building Code compliance.

Technical Specifications

4.1 Materials supplied by Waterproofing Systems Ltd are as follows:

DuroSET®

- DuroSET® is a styrene-butadiene copolymer-based, one-part, ready-to-use, liquid-applied membrane supplied as a beige thixotropic paste in 20 litre pails.

DuroQIK®

- DuroQIK® is a quick drying, latex based, two-part, flexible, cementitious-based, liquid-applied membrane. It is supplied as DuroQIK® liquid in 15 litre pails and DuroMIX® powder in 18.75 kg bags. When dry, the membrane is light grey in colour.

duroPRIME™

- duroPRIME™ is a multi-purpose, two-in-one primer and waterproof bonding agent. It is used to prime substrates prior to the application of the membranes. It is supplied as a white coloured liquid in 20 litre pails.

Reinforcing Fabric (RF)

- The reinforcing fabric is a 100% non-woven polypropylene used as reinforcement flashing fabric in DuroSET® and DuroQIK® membranes. The fabric has a weight of 40 g/m² and is available in rolls 100 m long x 100 mm and 200 mm wide.

Elastofabric Tapes and Corners

- Elastomeric bond-breaker tapes are used at movement and expansion joints, and elastomeric formed corner sections for use at internal and external corner wall/floor junctions as set out in Technical Literature. The tapes are available in rolls 10 m long x 120 mm wide. The corner sections are approximately 150 mm long and are available for internal corner/floor junctions (90°) and external corner/floor junctions (270°).

EF Polyurethane Sealant

- EF Polyurethane Sealant is an elastomeric, single component, moisture curing polyurethane, multi-purpose construction sealant used for forming the bond breaker joints at junctions under the membrane. The sealant can be used in conjunction with backing rods where required. It is available in 600 ml sausages for use in a caulking gun.

DuroFIX®

- DuroFIX® is a polymer-modified, flexible, quick-drying tile adhesive used to adhere tiles to the membranes. It is available in 20 kg bags and must be mixed with clean water.

Handling and Storage

5.1 All materials must be stored inside, up off concrete floors, in dry conditions, out of direct sunlight and out of freezing conditions. The materials in the original unopened packaging

have a shelf life of 12 months from date of manufacture. Once opened, the materials must be used within 3 months.

Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ website for reference to the current Technical Literature for the DuroSET® and DuroQIK® Wet Area Membranes. The Technical Literature must be read in conjunction with this Certificate. All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Certificate must be followed.

Design Information

General

7.1 DuroSET® and DuroQIK® Wet Area Membranes are for use in buildings where an impervious waterproof membrane is required to floors and walls to prevent damage to building elements and adjoining areas.

7.2 DuroQIK® is designed to be used where a quicker curing time is required, such as in cool or humid conditions.

7.3 The membranes must be protected from physical damage by the application of vinyl, ceramic or stone tile finishes.

7.4 Movement and control joints may be required depending on the shape and size of the building or room, and the tile finish specified. Design guidelines can be found in the BRANZ Tiling Good Practice Guide.

7.5 Timber framing must comply with NZS 3604, or where specific engineering design is used, the framing shall be of at least equivalent stiffness to the framing provisions of NZS 3604, or comply with the serviceability criteria of NZS 4203. In all cases framing must be provided so that the maximum span of the substrate as specified by the substrate manufacturer is met and all sheet edges are fully supported. Timber framing supporting the substrates must be constructed such that deflections do not exceed 1/360th of the span. Where NZS 3604 is used, the allowable joist spans given in Table 7.1 shall be reduced by 20%.

Substrates

Plywood

8.1 Plywood must be a minimum of 17 mm thick complying with AS/NZS 2269, CD Grade Structural with sanded C face upwards and treated to H3 (CCA treated). LOSP treated plywood must not be used. The plywood must be supported with dwangs or framing with a maximum span of 400 mm in each direction and fixed with 10 g x 50 mm stainless steel countersunk head screws at 150 mm centres on the edges and 200 mm through the body of the sheets.

Fibre Cement Compressed Sheet/ Fibre Cement Sheet Tile Underlay

8.2 Fibre cement compressed sheet must be manufactured to comply with the requirements of AS 2908.2 and must be specified by the manufacturer as being suitable for use as a wet area substrate. Fibre cement sheet tile underlay must be suitable for use in internal wet areas. Installation must be in accordance with the instructions of the manufacturer.

Particleboard

8.3 Particleboard must be specified for the end use in accordance with NZS 3602.

Concrete and Concrete Masonry

8.4 Concrete and concrete masonry substrates must be to a specific engineering design meeting the requirements of the NZBC, such as concrete construction to NZS 3101, concrete slab-on-ground to NZS 3604, and concrete masonry to NZS 4229 and NZS 4230.

Wet Area Wall Linings

8.5 Plasterboard wall linings must be manufactured to comply with AS/NZS 2588 and be suitable for use in internal wet areas.

8.6 Fibre cement sheet must be suitable for use in wet areas.

Durability

Serviceable Life

9.1 The DuroSET® and DuroQIK® Wet Area Membranes, when subjected to normal conditions of environment and use, are expected to have a serviceable life of at least 15 years and be compatible with ceramic or stone tile finishes with a design service life of 15-25 years.

Maintenance

10.1 No maintenance of the membranes will be required provided significant substrate movement does not occur and the vinyl or tile finish remains intact. Regular checks must be made of vinyl and tiled areas to ensure they are sound and will not allow moisture to penetrate. Any cracks or damage must be repaired immediately by repairing the vinyl or tiles, grouts and sealants.

10.2 In the event of damage to the membranes, the vinyl or tiling must be removed and the membrane repaired by removing the damaged portion and applying a patch as for new work.

10.3 Drainage outlets must be maintained to operate effectively, and vinyl, ceramic or stone tile finishes must be kept clean.

Internal Moisture

11.1 DuroSET® and DuroQIK® Wet Area Membranes are impervious to water and when appropriately designed and installed will avoid the likelihood of water penetrating behind linings or entering concealed spaces.

11.2 DuroSET® and DuroQIK® Wet Areas Membranes are suitable for use to contain accidental overflow to meet NZBC Clause E3.3.2. A means of code compliance for overflow is given in NZBC Acceptable Solution E3/AS1 Paragraph 2.

11.3 Surfaces must be finished with vinyl, ceramic or stone tile finishes. A means of code compliance to NZBC Clause E3.3.3 is given in NZBC Acceptable Solution E3/AS1 Paragraph 3.1.1 (b) and 3.1.2 (b).

11.4 Falls in showers and shower areas must be a minimum of 1 in 50. In unenclosed showers, falls must extend a minimum of 1500 mm out from the shower rose. Floor wastes must be provided and the floor must fall to the outlet.

11.5 The waterproofing membrane must completely cover shower bases, and for unenclosed showers it must extend a minimum of 1500 mm out from the shower rose. Further design guidance on waterproofing wet areas, including waterproofing walls and junctions can be obtained from AS 3740, the BRANZ Good Practice Guide – Tiling, and flooring and wallboard manufacturers.

11.6 Where water resistant wall finishes such as prefinished sheet materials are used, they must flash over the membrane a minimum of 30 mm.

11.7 BRANZ recommends the entire floor be covered by a waterproof membrane for bath, shower and spa rooms where timber, plywood or particleboard floors are used. This is also a requirement of particleboard manufacturers.

Additional Information

Installation Skill Level Requirement

12.1 Installation of the membranes must be completed by trained applicators, approved by Waterproofing Systems Ltd.

12.2 Installation of substrates must be completed by tradespersons with an understanding of internal wet area construction, in accordance with instructions given within the Waterproofing Systems Ltd Technical Literature and this Certificate.

Preparation of Substrates

13.1 Substrates must be dry, clean and stable before installation commences, with surfaces that are even and free from nibs, sharp edges, dust, dirt or other materials such as oil, grease or concrete formwork release agents.

13.2 The relative humidity of concrete substrates must be 75% or less before membrane application. The concrete can be checked for dryness by using a hygrometer as set out in BRANZ Bulletin No. 424.

13.3 All voids, cracks, holes, joints and excessively rough areas must be filled to achieve an even and uniform surface. Junctions of substrate abutments, such as at wall/floor and wall/wall junctions must have a Elastofabric bond breaker joint system or RF underflashing installed as set out in the Technical Literature.

13.4 Substrates must be primed with duroPRIME™ and allowed to dry fully before the membrane is installed.

Membrane Installation

14.1 Installation must not be undertaken where the substrate surface temperature is below 5°C or above 35°C.

14.2 DuroQIK® liquid and DuroMIX® powder must be mixed and left to stand for 5 minutes before re-mixing, then applying. DuroSET® must be thoroughly stirred before application.

14.3 The membrane must be applied in a minimum of two coats at the rates set out in the Technical Literature to give a total minimum finished thickness of 1.2 mm. Subsequent coats must be applied in an opposite direction to the previous coat.

14.4 Application can be made by roller (medium/long nap), brush (long bristle), or a non-edge serrated flat steel trowel.

14.5 Elastofabric tapes and comers must be used at junctions as set out in the Technical Literature.

14.6 Clean up may be undertaken with water.

Tiling

15.1 The membranes must be fully cured before tiling. The cured membranes must be protected at all times to prevent mechanical damage, so may require temporary covers until the finishing is completed.

15.2 Tiling must be undertaken in accordance with AS 3958.1 and the BRANZ Good Tiling Practice Guide. The compatibility of the tile adhesive must be confirmed with the adhesive manufacturer or Waterproofing Systems Ltd, if using other than DuroFIX® tile adhesive.

Inspections

16.1 The Technical Literature must be referred to during the inspection of membrane installations by Building Consent Authorities and Territorial Authorities.

16.2 Critical areas of inspection are:

- Construction of substrates, including crack control and installation of under flashings and movement control joints.
- Moisture content of the substrate prior to the application of the membrane.
- Acceptance of the substrate by the membrane installer prior to application of the membrane.
- Installation of the membrane to the manufacturer's instructions, particularly installation to the correct thickness and use of reinforcement.
- Membrane curing and integrity prior to the installation of tiles including protection from mechanical damage during curing and prior to tile installation.

Health and Safety

17.1 Safe use and handling procedures for the membranes are provided in the Technical Literature. The materials must be used in conjunction with the relevant Material Safety Data Sheet.

Summary of Investigations

The following is a summary of the technical investigations carried out:

Tests

18.1 The following testing of DuroSET® has been undertaken by the following organisations:

- Amdel Limited, Australia – water absorption; tensile strength and elongation; shore A hardness; water vapour transmission; accelerated weathering and low temperature flexibility.
- CSIRO, Australia – mass per unit area and gravimetric thickness; tensile strength and elongation at break; tensile strength and elongation at break after UV exposure, including immersion in water, bleach and detergent; loss on heating; moving joint test and cyclic strain.

Test methods and results have been reviewed by BRANZ and found to be satisfactory.

18.2 The following testing of DuroQIK® has been undertaken by Amdel Limited, Australia – wet area durability testing in accordance with AS/NZS 4858 covering immersion in water, bleach, detergent, and heat ageing; UV ageing; water absorption; low temperature flexibility and water vapour transmission. Test methods and results have been reviewed by BRANZ and found to be satisfactory.

18.3 The following testing of Elastofabric has been undertaken by Amdel Limited, Australia – wet area durability testing in accordance with AS/NZS 4858 covering immersion in water, bleach, detergent, and heat ageing; cyclic movement; low temperature flexibility; water absorption and water vapour transmission.

Test methods and results have been reviewed by BRANZ and found to be satisfactory.

18.4 Although not required by the standard AS/NZS 4858 as water vapour transmission testing had already shown compliance, additional testing of DuroSET® and DuroQIK® was also undertaken by Amdel Limited for suitability over particleboard in accordance with AS/NZS 4858, Appendix C, and found to be satisfactory.

18.5 Testing of DuroFIX® has been undertaken by Amdel Limited, Australia for tile adhesion shear strength to both

membranes in accordance with ATM D2919-01 before and after heat ageing and water immersion. Test methods and results have been reviewed by BRANZ and found to be satisfactory.

Other Investigations

19.1 An assessment was made of the durability of the DuroSET® and DuroQIK® Wet Area Membranes by BRANZ technical experts.

19.2 Site visits have been carried out by BRANZ to assess the practicability of installation and to examine completed installations.

19.3 The Technical Literature has been examined by BRANZ and found to be satisfactory.

Quality

20.1 The manufacture of the membranes has been examined by BRANZ, and details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

20.2 The quality management system of the membrane's manufacturer has been assessed and found to be satisfactory.

20.3 The quality of supply of the membrane system to the market is the responsibility of Waterproofing Systems Ltd.

20.4 Quality on site is the responsibility of the trained applicators, approved by Waterproofing Systems Ltd.

20.5 Designers are responsible for the substrate design, and building contractors are responsible for the quality of construction of substrate systems in accordance with the instructions of the substrate manufacturer, Waterproofing Systems Ltd and this Certificate.

20.6 Building owners are responsible for the maintenance of the tiling or stone finishing systems in accordance with the instructions of Waterproofing Systems Ltd.

Sources of Information

- AS 2908.2 – 2000 Cellulose-cement products - flat sheet.
- AS 3740 – 2004 Waterproofing of wet areas within residential buildings.
- AS 3958.1 – 1991 Guide to the installation of ceramic tiles.
- ASTM D2919-01 Standard test method for determining durability of adhesive joints stressed in shear by tension loading.
- AS/NZS 4858: 2004 Wet area membranes.
- AS/NZS 2269:1994 Plywood – Structural.
- NZS 3101: 1995 The design of concrete structures.
- NZS 3602: 2003 Timber and wood-based products for use in buildings.
- NZS 3604: 1999 Timber framed buildings.
- NZS 4229:1999 Concrete masonry buildings not requiring specific engineering design.
- NZS 4230:1990 Code of practice for the design of masonry structures.
- BRANZ Good Practice Guide – Membrane Roofing, reprint October 2003.
- BRANZ Good Practice Guide – Tiling, reprint March 2004.
- New Zealand Building Code Handbook and Approved Documents, Building Industry Authority, 1992.
- The Building Regulations 1992, up to, and including October 2004 Amendment.



BRANZ

In the opinion of BRANZ, DuroSET® and DuroQIK® Wet Area Membranes are fit for purpose and will comply with the Building Code to the extent specified in this Certificate provided they are used, designed, installed and maintained as set out in this Certificate.

The Appraisal Certificate is issued only to the Certificate Holder, Waterproofing Systems Ltd, and is valid until further notice, subject to the Conditions of Certification.

Conditions of Certification

1. This Certificate:
 - a) relates only to the product as described herein;
 - b) must be read, considered and used in full together with the technical literature;
 - c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
 - d) is copyright of BRANZ.
2. The Certificate Holder:
 - a) continues to have the product reviewed by BRANZ;
 - b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
 - c) abides by the BRANZ Appraisals Services Terms and Conditions.
3. The product and the manufacture are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ.
4. BRANZ makes no representation as to:
 - a) the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
 - b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
 - c) any guarantee or warranty offered by the Certificate Holder.
5. Any reference in this Certificate to any other publication shall be read as a reference to the version of the publication specified in this Certificate.

For BRANZ

P Robertson
Chief Executive

Date of issue: 9 August 2005



**SPECIFY WITH
CONFIDENCE**

BRANZ Appraisals

Technical Assessments of
products for building and
construction

**BRANZ
APPRAISAL
CERTIFICATE
No. 436 (2005)**

**BUTYNOL®
ROOFING
MEMBRANE**

Ardex NZ Ltd
P O Box 19549
Woolston
Christchurch

Tel: 03 384 3029
Fax: 03 384 9779
www.butynol.co.nz



BRANZ Limited
Private Bag 50 908
Porirua City
New Zealand
Tel: +64 4 237 1170
Fax: +64 4 237 1171
www.branz.co.nz

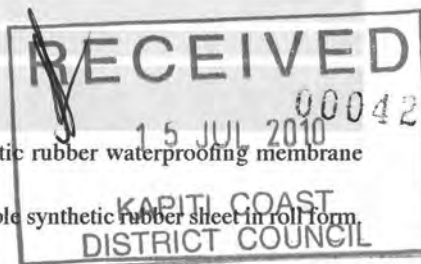
BRANZ Pty Ltd
P O Box 830
Brookvale
NSW 2100
Australia
Tel: +61 2 9938 6011
Fax: +61 2 9938 6911
www.branz.com.au



Product

1.1 Butynol® Roofing Membrane is a synthetic rubber waterproofing membrane designed to be used on roofs and decks.

1.2 The product is supplied as single-ply, flexible synthetic rubber sheet in roll form. The product is installed as a single layer system.



Current view of Christchurch Town Hall.
1 mm Butynol® Roof Membrane laid 1972.

Scope

2.1 Butynol® Roofing Membrane has been appraised for use as waterproofing membrane for buildings within the following scope:

- scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1; and,
- with timber supporting structures designed and constructed in accordance with the NZBC; and,
- with nominally flat or pitched roofs constructed to drain water to gutters and drain outlets complying with NZBC; and,
- with substrates of plywood sheet; and,
- with decks that have a maximum size of 40m².

2.2 Butynol® Roofing Membrane has also been appraised for use as waterproofing membrane for external reinforced concrete and plywood roofs, pedestrian decks and balconies for buildings within the following scope:

- up to 3 storeys with a maximum height from ground to eaves of 10m and with a floor plan area limited only by seismic and structural control joints; and,
- with the reinforced concrete structure designed and constructed in accordance with the NZBC; and,
- with timber supporting structures designed and constructed in accordance with the NZBC; and,
- with nominally flat, curved or pitched roofs constructed to drain water to gutters and drain outlets complying with NZBC.

2.3 This Appraisal is limited to roofs, decks and balconies within the following scope:

- constructed to suitable falls (Refer Paragraph 13.1 – 13.9); and,
- with no steps within the deck level, no integral roof gardens and no down pipe discharging directly onto the deck.

2.4 The design and construction of the substrate and movement and control joints is specific to each building, and therefore the responsibility of the building designer and building contractor and is outside the scope of this Certificate.

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, Butynol® Roof Membrane, if designed, used, installed and maintained in accordance with the statements and conditions of this Certificate, will meet or contribute to meeting the following provisions of the NZBC:

Clause B2 DURABILITY: Performance B2.3.1 (b) 15 years. Butynol® Roof Membrane meets this requirement. See Paragraph 9.1.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.1 and E2.3.2. Roofs, Decks and balconies incorporating Butynol® Roof Membrane meets these requirements. See Paragraphs 12.1 – 12.9.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Butynol® Roof Membrane meets this requirement and will not present a health hazard to people.

3.2 This Certificate appraises an Acceptable Solution in terms of New Zealand Building Code compliance and the product complies with NZBC Acceptable Solution E2/AS1 Paragraph 8.5. This product is also appraised as an Alternative Solution as outlined in Paragraph 2.2

4.1 Materials supplied by Ardex NZ Ltd are as follows:

Butynol® Membranes

- All membranes are single-ply, flexible synthetic rubber membranes. They are supplied in rolls nominally 1.4 metres wide by 17.9 metres long. Each roll is packed in polythene wrapper trademarked 'Butynol®' with thickness identified. Gauges available are 1.0, 1.5 and 2.25mm in black and 1.5mm in six colours.

Adhesive WA98

- A specially formulated solvent-based adhesive for all Butynol® applications. Supplied in 1, 4 and 20 litre containers.

Seam Primer

- A water resistant primer adhesive, used with seam tape for general lap bonding.

Seam Tape

- Uncured cold gum tape used for general lap bonding and laps likely to be subject to periodic ponding. Supplied in 50mm x 30.5 metre rolls.

Flashing Tape

- A malleable tape for moulding gussets, pipe flashings and awkward situations. Supplied in widths of 50-100mm x 5 metres long.

Butynol Sealant

- A specially designed and formulated sealant for sealing Butynol® flashings into chases. Supplied in 375mm tubes.

Handling and Storage

5.1 Handling and storage of all materials whether on or off site is under the control of the Ardex NZ Ltd trained installers. Dry storage must be provided for all products and the rolls of membrane must be stored in an upright position.

Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for the Butynol® Roofing Membrane. The Technical Literature must be read in conjunction with this Certificate. All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Certificate must be followed.

Design Information

General

7.1 Butynol® Roofing Membrane is for use on roofs, decks and balconies where an impervious waterproof membrane is required to prevent damage to building elements and adjoining areas.

7.2 The 1.0mm thickness product is designed for use on roofs and gutters, and will accommodate light traffic; the 1.5mm is for walk out decks and high maintenance areas; and the 2.25mm is a heavy duty product that is custom made on request.

7.3 The effective control of internal moisture must be considered at the design stage due to the impermeability of the membrane. Refer to BRANZ publication "Good Practice Guide to Membrane Roofing".

7.4 Timber framing systems must comply with NZS 3604, or where specific engineering design is used, the framing shall be of at least equivalent stiffness to the framing provisions of NZS 3604, or comply with the serviceability criteria of NZS 4203. In all cases framing must be provided so that the maximum span of the substrate as specified by the substrate manufacturer is met and that all sheet edges are fully supported.

Substrates

Plywood

8.1 Plywood must be treated to H3.2 (CCA treated). LOSP treated plywood must not be used. Plywood must comply with NZBC Acceptable Solution E2/AS1 Paragraph 8.5.3 and 8.5.5. Where specific design is used (i.e. outside the scope of E2/AS1), the plywood thickness and fixing size may increase and centres may decrease to meet specific wind loadings.

Concrete

8.2 Concrete substrates must be to a specific engineering design meeting the requirements of the NZBC, such as concrete construction to NZS 3101.

Durability

Serviceable Life

9.1 Butynol® Roofing Membrane when subjected to normal conditions of environment and with proper maintenance can expect to have a serviceable life of at least 20 years.

Maintenance

10.1 No maintenance of the membrane is normally required provided significant substrate movement does not occur.

10.2 In the event of damage to the membrane, the membrane

Outbreak of Fire

11.1 The membrane must be protected from heat sources such as flues and chimneys in accordance with the requirements of NZBC Acceptable Solution C/AS1 Part 9 for the protection of combustible materials.

External Moisture

12.1 Roofs, decks and balconies must be designed and constructed to shed precipitated moisture. They must also take account of snowfalls in snow prone areas. A means of meeting code compliance with NZBC Clause E2.3.1 is given by the Technical Literature which matches details in NZBC Acceptable Solution E2/AS1.

12.2 When installed in accordance with this Certificate and the Technical Literature, Butynol® Roofing Membrane will prevent the penetration of water and will therefore meet code compliance with Clause E2.3.2. The membrane is impervious to water and will give a weathertight roof, roof deck or balcony.

12.3 The minimum fall to roofs is 1 in 40 and to decks, balconies and gutters are 1 in 60. All falls must slope to an outlet. Inadequate falls will allow moisture to collect and increase the risk of deterioration of the membrane.

12.4 Butynol® Roofing Membrane is impermeable; therefore a means of dissipating construction moisture must be provided in the building design and construction to meet code compliance with Clause E2.3.6.

12.5 Roof, deck and balcony falls must be built into the substrate and not created with mortar screeds applied over the membrane.

12.6 Allowance for deflection and settlement of the substrate must be made in the design of the deck or balcony to ensure falls are maintained and no ponding of water can occur.

12.7 Drainage flanges must be used for any outlet and must be fitted with a grate or cage to reduce potential sources of blockages. An overflow must be provided where the deck or balcony does not drain to an external gutter or spouting.

12.8 Penetrations and upstands of the membrane must be raised above the level of any possible flooding caused by blockage of deck and balcony drainage.

12.9 The design of details not covered by the Technical Literature is subject to specific weathertightness design and is outside the scope of this certificate.

Water Supplies

13.1 Butynol® Roofing Membrane is suitable for roofs used for the collection of water supplies in compliance with the provisions of NZBC G12.3.1. Water collection systems are the subject of specific design and are outside the scope of this Certificate.

Installation Skill Level Requirement

14.1 Installation of the membrane must be completed by trained applicators, approved by Ardex NZ Ltd.

14.2 Installation of substrates must be completed by tradespersons with an understanding of roof, deck and balcony construction, in accordance with instructions given within the Ardex NZ Ltd Technical Literature and this Certificate.

Preparation of Substrates

15.1 Substrates must be dry, clean and stable before installation commences. Surfaces must be smooth and free from ribs, sharp edges, dust, dirt or other materials such as oil, grease or concrete formwork release agents. All surface defects must be filled to achieve an even and uniform surface.

15.2 Concrete substrates can be checked for dryness by using a hygrometer, as set out in BRANZ Bulletin No. 424. The relative humidity of the concrete must be 75% or less before membrane application.

15.3 The moisture content of a timber substructure must be a maximum of 20% and plywood sheet must be dry at time of membrane application. This will generally require plywood sheets to be covered until just before the membrane is laid, to prevent rain wetting.

15.4 Substrates must be primed with a 50/50 solution of WA98 and adhesive solvent and left to dry before membrane is installed.

Membrane Installation

16.1 The membrane must be installed in accordance with the Technical Literature.

16.2 Plywood joints must be taped with 25mm wide PVC pressure sensitive tape.

16.3 The membrane must be unrolled without tension onto the prepared substrate and allowed to 'relax' for at least 20 minutes prior to installation.

16.4 Adhesive must be applied to both the membrane and the substrate, one half at a time. When the adhesive is tack dry, the sheet is rolled onto the substrate. The process is then repeated for the other half of the sheet. Joints in substrates with a pitch of 5° or less, all coloured membranes irrespective of pitch, all guttering and areas subjected to periodic ponding require lap bonding using Ardex seam tape. Joints in substrates with a pitch above 5° can be sealed using WA98 adhesive. This applies to the black Butynol® only.

Inspections

17.1 The Technical Literature must be referred to during the inspection of membrane installations by Building Consent Authorities and Territorial Authorities.

17.2 Critical areas of inspection for waterproofing systems are:

- Construction of substrates, including crack control and installation of bond breakers and movement control joints.
- Moisture content of the substrate prior to the application of the membrane.
- Acceptance of the substrate by the membrane installer prior to application of the membrane.
- Installation of the membrane to the manufacturer's instructions.

Health and Safety

18.1 Safe use and handling procedures for the membrane system is provided in the Technical Literature.

The products must be used in conjunction with the relevant Materials Safety Data Sheet for each membrane.

The following is a summary of the technical investigations carried out:

Tests

19.1 Tests have been carried out on the membrane by Materials and Quality Consultancy Ltd. This testing covered specific gravity, shore hardness, tensile strength, modulus of elongation, elongation at break, tensile and elongation retention after heat aging, tear strength, ozone resistance and water absorption as detailed in NZBC Acceptable Solution E2/AS1 Paragraph 8.5.4(b). Results and test methods have been reviewed by BRANZ and found to be satisfactory.

19.2 Water vapour permeability tests have been undertaken by BRANZ in accordance with ASTM E96.

19.3 Tests have been carried out on the membrane to assess its suitability for use with potable water supplies. This testing showed the product was satisfactory.

19.4 The adhesives, primers and seam tapes used with Butynol® Roofing Membrane meet the intended performance requirements of NZBC Acceptable Solution E2/AS1 Paragraph 8.5.4(c). *Note: At the time of this Certificate's issue BRANZ EM5 as outlined on Paragraph 8.5.4(c)(i) was not published.*

Other Investigations

20.1 An assessment was made of the durability of the Butynol® Roofing Membrane by BRANZ technical experts using NZBC B2/VM1 History of Use.

20.2 Site visits have been carried out by BRANZ to assess the practicability of installation, and to examine completed installations.

20.3 The Technical Literature has been examined by BRANZ and found to be satisfactory.

Quality

21.1 The manufacture of the Butynol® Roofing membrane has been examined by BRANZ, and details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory. The membrane manufacturer is the subject of AS/NZS ISO 9001 Certificate by Telarc Limited, Registration No. 621.

21.2 The quality of manufacture of the product is the responsibility of Ardex NZ Ltd.

21.4 The quality of supply of the product to the market is the responsibility of Ardex NZ Ltd.

21.5 Quality on site is the responsibility of the Ardex NZ Ltd approved applicators.

21.6 Designers are responsible for the substrate design, and building contractors are responsible for the quality of construction of substrate systems in accordance with the instructions of the substrate manufacturer, Ardex NZ Ltd and this Certificate.

Sources of Information

- AS/NZS 2269:1994 Plywood – Structural
- ASTM E 96-02 Water vapour transmission of materials in sheet form, American Society of Testing Materials, Philadelphia, 1992.
- NZS 3101: 1995 The design of concrete structures.
- NZS 3604: 1999 Timber framed buildings.
- Compliance Document for New Zealand Building Code External Moisture Clause E2, Department of Building and Housing, Third Edition July 2005.
- New Zealand Building Code Handbook and Approved Documents, Building Industry Authority, 1992.
- The Building Regulations 1992, up to, and including October 2004 Amendment.



In the opinion of BRANZ, Butynol® Roofing Membrane is fit for purpose and will comply with the Building Code to the extent specified in this Certificate provided it is used, designed, installed and maintained as set out in this Certificate.

The Appraisal Certificate is issued only to the Certificate Holder, Ardex NZ Ltd, and is valid until further notice, subject to the Conditions of Certification.

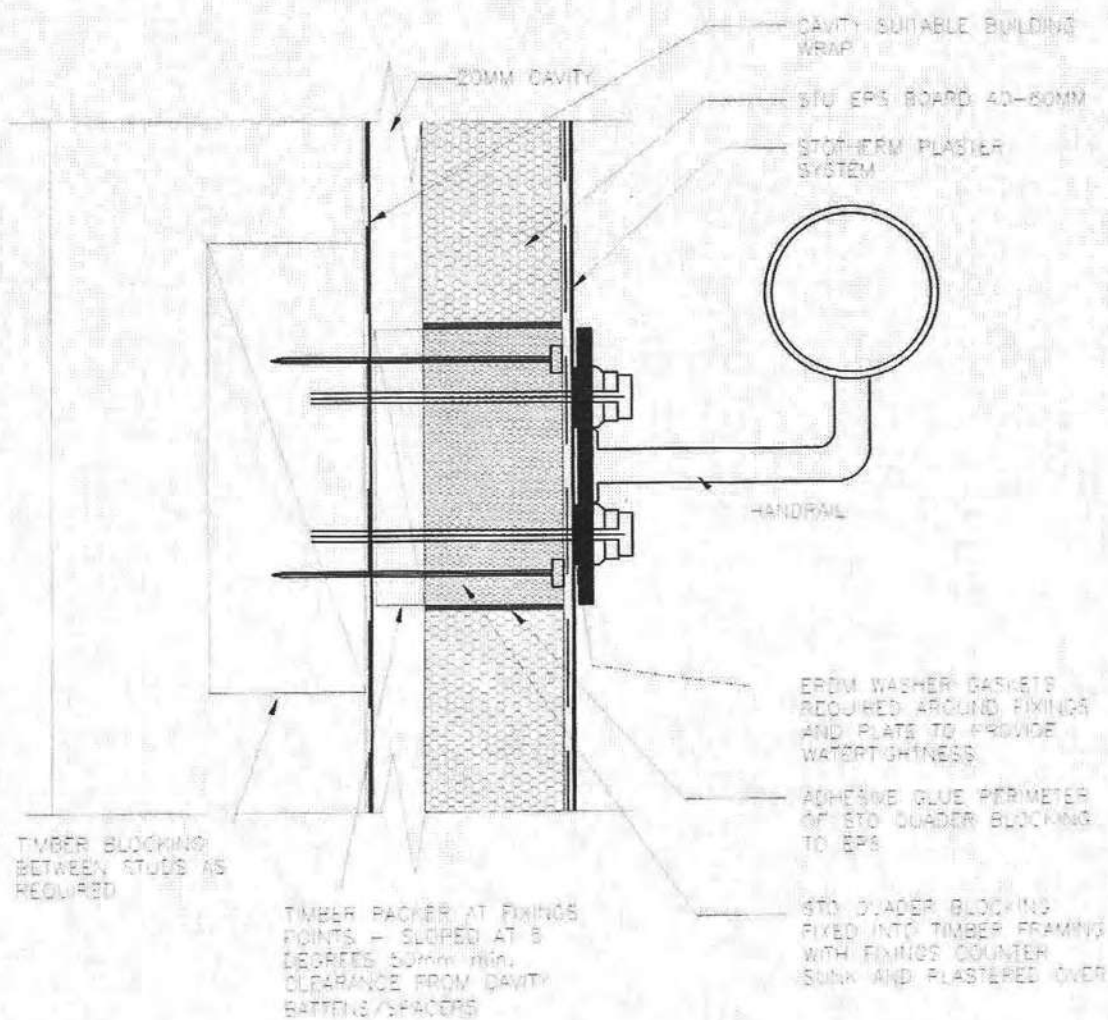
Conditions of Certification

1. This Certificate:
 - a) relates only to the product as described herein;
 - b) must be read, considered and used in full together with the technical literature;
 - c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
 - d) is copyright of BRANZ.
2. The Certificate Holder:
 - a) continues to have the product reviewed by BRANZ;
 - b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
 - c) abides by the BRANZ Appraisals Services Terms and Conditions.
3. The product and the manufacture are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ.
4. BRANZ makes no representation as to:
 - a) the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
 - b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
 - c) any guarantee or warranty offered by the Certificate Holder.
5. Any reference in this Certificate to any other publication shall be read as a reference to the version of the publication specified in this Certificate.

For BRANZ

P Robertson
Chief Executive

Date of issue: 11 July 2005



STO QUADER BLOCK A HIGH DENSITY NON COMPRESSIBLE EPS POLY BLOCK WITH 4x28mm PL WOOD INSERTS FACING FRAMING
 SIZE 645/145x60 / FOUR SECTIONS PER BLOCK

STOTHERM Plaster System	StoTherm Quader Block Fixing for Handrail Bracket	ST 32
	Sto details are intended for use by the design professional and user of Sto products to assist in developing specific project details. They should be modified where necessary to accommodate individual project conditions. The wall assembly must be designed to prevent or control condensation within the assembly. Final details and specifications must be approved by a licensed professional.	2008



Kāpiti Coast District Council

Private Bag 60 601
Paraparaumu 5254
New Zealand

Tel (04) 296 4700
or 0800 486 486

Fax (04) 296 4830 ■
kapiti.council@kapiticoast.govt.nz ■
www.kapiticoast.govt.nz ■

10 August 2010

Alan Craig Design Ltd - Alan Craig
34 County Road
Otaki 5512

Building Consent: 100581

Dear Sir/Madam

Emailed to Agent

Request for further information

Description: Two story addition to west of existing building including raised slat decks.
Location: 114 Paetawa Road, Peka Peka
Legal Description: LOT 1 DP 83749-INT IN ROW

Following checking of your *Building Consent* it is apparent that further information is required..

Information Needed:

- 1) Durability of exposed 250PFC Galv beam.
- ✓2) Butynol to fold down into gutter not finish at top.
- ✓3) Details of outside handrals.
- ✓4) Head flashing to hooded vent grille on weatherhead to be taken back to framing.

We have suspended your application and will not proceed any further with its processing until the above information is received.

Please contact me if you would like to discuss this matter.

Yours faithfully

Stuart Nepia
CONSENTS
Direct line tel. no. (04) 296 4858

Alan Craig Design Lld.

ACD

34 County Road, Otaki

P 06 364 7488

F 06 364 7487

M 027 68 44 217

alan@alancraigdesign.co.nz

A D N Z Architectural Designers NZ Inc

Professional Member

Regional Award Winner 2007

10 August 2010

S. Nepia
Kapiti Coast District Council
Building Consents
Rimu Road, Private Bag 601,
Paraparaumu 5254

Re: **Building Consent Application No. BC100581**
114 Paetawa Road, Peka Peka – Building Consent RFI-1 Response

Our Ref 746-bcr1

Dear Stuart,

Reference to your Building Consent Request for further information dated 10 August 2010 we provide the following responses.

Item 1 Durability of PFC

The 250 PFC and 89 SHS support posts will be Hot Dip Galvanised prior to delivery to site as per Structural Steel Specification Section 7 clause 7.06.

After erection the PFC and SHS posts will be painted as per Exterior Painting Specification Section 20 clause 4.8 i.e Primer and two top coats. The paint work on the steel would be expected to be maintained in good condition with re-paints as required.

✓ **Item 2 Butynol at Gutter**

Refer to A6.04 Rev 1 attached.

The detail 3 has been revised to show the Butynol roof membrane turned down the front face of the edge flashing into the gutter.

✓ **Item 3 Exterior Handrails**

Refer to A2.01 Rev 2, A3.01 Rev 2 and A3.02 Rev 2 showing the location of 3 off exterior handrails. Exterior handrails shall be 45mm diameter H3.1 (or Cedar) timber on stainless steel brackets at 1200 c/s.

Refer to Sto detail ST32 attached for handrail bracket fixing brackets to be incorporated into the Sto cladding system.

✓ **Item 4 Vent Grille head Flashing**

Refer to A6.09 Rev 1 attached.

Detail 2 has been revised to show the head flashing extended back to the framing line (similar to detail 1) as required.

Please do not hesitate to contact the writer should you wish to discuss this matter.

Yours sincerely

Alan Craig

Alan Craig
Architectural Designer

cc: John Rogers

To: 'Stuart Nepia'
Cc: John Rogers
Subject: RFI Response for 114 Paetawa Road, BC 100581

Hi Stuart,
Please find attached our response letter to your RFI dated 10 August 2010 and attached drawings as noted in the letter.

Regards
Alan

Alan Craig Design Ltd

Architectural Designer

34 County Road, Otaki 5512

P 06 364 7488

F 06 364 7487

M 027 68 44 217

ADNZ Architectural Designers of NZ

Professional Member

Regional Design Award Winner 2007

From: Stuart Nepia [mailto:stuartn@kapiticoast.govt.nz]

Sent: Tuesday, 10 August 2010 11:22 a.m.

To: alan@alancraigdesign.co.nz

Subject: [SPAM] Request for further information 114 Paetawa Road, Peka Peka BC100581

10 August 2010

Alan Craig Design Ltd - Alan Craig
34 County Road
Otaki 5512

Building Consent: 100581

Dear Sir/Madam

Request for further information

Description: *Two story addition to west of existing building including raised slat decks.*

Location: 114 Paetawa Road. Peka Peka

13/08/2010

Legal Description: LOT 1 DP 83749-INT IN ROW

Following checking of your *Building Consent* it is apparent that further information is required..

Information Needed:

- 1) Durability of exposed 250PFC Galv beam.
- 2) Butynol to fold down into gutter not finish at top.
- 3) Details of outside handrals.
- 4) Head flashing to hooded vent grille on weatherhead to be taken back to framing.

We have suspended your application and will not proceed any further with its processing until the above information is received.

Please contact me if you would like to discuss this matter.

Yours faithfully

Stuart Nepia

CONSENTS

Direct line tel. no. (04) 296 4858



**ARCHITECTURAL
SPECIFICATION**

ROGERS HOUSE
ADDITIONS AND ALTERATIONS

for
Mr J. & Mrs C. ROGERS
114 PAETAWA ROAD
PEKA PEKA

July 2010

Prepared by
Alan Craig Design Ltd.
N.Z.C.D. (Arch) Architectural Designer
34 County Road, Otaki
P 06 364 7488 F 06 364 7487 M 027 68 44 217
alan@alancraigdesign.co.nz

SPECIFICATION INDEX

Risk Matrix

Bracing Data Sheets

Bracing Detail Sheets

NZS 3604 & Lumberlok Detail Sheets

Glass Balustrade Standard Bottom Mount Detail

- 1 Preliminary & General**
 - 2 Excavation**
 - 3 Carpentry**
 - 4 Joinery**
 - 5 Concrete**
 - 6 Blockwork**
 - 7 Structural Steelwork**
 - 8 Profiled Colorsteel Roofing**
 - 9 STO**
 - 10 Butynol Membrane**
 - 11 Autex Greenstuff Insulation**
 - 12 Plumbing**
 - 13 Drainage**
 - 14 Electrician**
 - 15 Gas Fitter**
 - 16 Wet Area Waterproofing Membrane**
 - 17 Tiler**
 - 18 Precast Concrete Paving**
 - 19 Painter – General**
 - 20 Painter – Exterior**
 - 21 Painter - Interior**
 - 22 Monetary Allowances**
 - 23 Owner Supply / To Be Advised**
-

RISK MATRIX CALCULATION

Project No

746

Date

22-Jun-10

Project Title

Alterations and Additions

J & C Rogers

"114 Paetawa Road, Peka Peka

Building Face

North

Risk Item	Selection	Description	Score
Wind Zone	VH ▼	Very High wind zone	2
Storeys	H ▼	2 storey	2
Roof/Wall Intersection	M ▼	Partly exposed (e.g. hip and gable with no eaves)	1
Eaves Width	VH ▼	0 - 100mm at 1st floor level, or 100 - 450mm at 2nd floor level, or 450 - 600mm at 3rd floor level	5
Envelope Complexity	L ▼	Simple rectangular, L, T or boomerang shape with single cladding type	0
Deck Design	M ▼	Fully covered in plan by roof, or timber slat deck at first or second floor level	2
Total Risk Factor			12

Building Face

East

Risk Item	Selection	Description	Score
Wind Zone	VH ▼	Very High wind zone	2
Storeys	H ▼	2 storey	2
Roof/Wall Intersection	M ▼	Partly exposed (e.g. hip and gable with no eaves)	1
Eaves Width	VH ▼	0 - 100mm at 1st floor level, or 100 - 450mm at 2nd floor level, or 450 - 600mm at 3rd floor level	5
Envelope Complexity	L ▼	Simple rectangular, L, T or boomerang shape with single cladding type	0
Deck Design	M ▼	Fully covered in plan by roof, or timber slat deck at first or second floor level	2
Total Risk Factor			12

Building Face

South

Risk Item	Selection	Description	Score
Wind Zone	VH ▼	Very High wind zone	2
Storeys	H ▼	2 storey	2
Roof/Wall Intersection	M ▼	Partly exposed (e.g. hip and gable with no eaves)	1
Eaves Width	VH ▼	0 - 100mm at 1st floor level, or 100 - 450mm at 2nd floor level, or 450 - 600mm at 3rd floor level	5
Envelope Complexity	L ▼	Simple rectangular, L, T or boomerang shape with single cladding type	0
Deck Design	M ▼	Fully covered in plan by roof, or timber slat deck at first or second floor level	2
Total Risk Factor			12

Building Face

West

Risk Item	Selection	Description	Score
Wind Zone	VH ▼	Very High wind zone	2
Storeys	H ▼	2 storey	2
Roof/Wall Intersection	M ▼	Partly exposed (e.g. hip and gable with no eaves)	1
Eaves Width	VH ▼	0 - 100mm at 1st floor level, or 100 - 450mm at 2nd floor level, or 450 - 600mm at 3rd floor level	5
Envelope Complexity	L ▼	Simple rectangular, L, T or boomerang shape with single cladding type	0
Deck Design	M ▼	Fully covered in plan by roof, or timber slat deck at first or second floor level	2
Total Risk Factor			12

Suitable Claddings

Ground

Sto plaster on polystyrene - cavity fixed all faces

First

Linea bevelback weatherboards - cavity fixed all faces

To E2/As1 Building Envelope Risk matrix



Specification Number	Length (m) minimum	Lining requirements
GS1	0.4	10 or 13mm GIB® Standard Plasterboard one side

WALL FRAMING

Wall framing to comply with,

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS3604)
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZS3602)

Framing dimensions and height as determined by NZS3604 stud and top plate tables for load-bearing and non load-bearing walls. The use of kiln dried machine stress graded timber is recommended.

BOTTOM PLATE FIXING**Timber floor**

Pairs of 100 x 3.75mm hand driven nails or three 90 x 3.15mm power driven nails at 600mm centres.

Concrete floor*Internal bracing lines*

In accordance with the requirements of NZS3604 for internal wall plate fixing or alternatively 75 x 3.8mm shot fired fasteners fitted with 16mm disks, spaced at 150mm and 300mm from the end studs and thereafter at 600mm centres.

External wall bracing lines

In accordance with the requirements of NZS 3604:1999 for external plate fixing.

WALL LINING

One layer of 10 or 13mm GIB® Standard Plasterboard. Vertical or horizontal fixing permitted. Sheet joints shall be touch fitted. Use full length sheets where possible.

PERMITTED SUBSTITUTION

The Bracing Unit ratings for system GS1(10) apply to 10mm GIB® Standard Plasterboard and any other GIB® Plasterboard. The ratings for GS1(13) apply to 13mm GIB® Standard Plasterboard and any other 13mm GIB® Plasterboard.

FASTENING THE LINING**Fasteners**

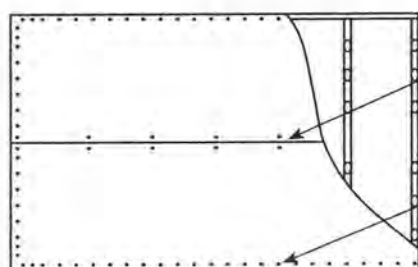
32mm x 6g GIB® Grabber® Drywall Screws or 30mm GIB® nails.

Fastener Centres

50, 100 and 150mm from each corner and 150mm thereafter around the perimeter of the bracing element. For vertical fixing place fasteners at 300mm centres at sheet joints in the tapered sheet edge. For horizontal fixing place single fasteners in the tapered edge where sheets cross studs. Use daubs of GIBFix® Adhesive at 300mm centres to intermediate studs. Place fasteners 12mm from tapered paper bound sheet edges and 18mm from sheet end or cut sheet edges.

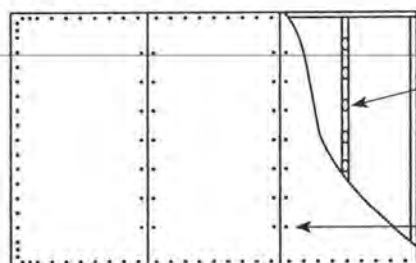
JOINTING

All fastener heads stopped and all sheet joints paper-tape reinforced and stopped in accordance with the "GIB® Site Guide".



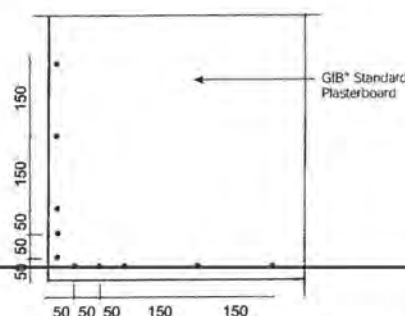
Single 32mm x 6g GIB® Grabber® Drywall Screws or 30mm GIB® Nails where sheets cross studs

32mm x 6g GIB® Grabber® Drywall Screws or 30mm GIB® Nails at 150mm centres to perimeter of bracing element

Horizontal Fixing

Daub of GIBFix® adhesive at 300mm centres to intermediate studs and noggs

Single 32mm x 6g GIB® Grabber® Drywall Screws or 30mm GIB® Nails at 300mm centres

Vertical Fixing

Fasteners are placed at 150mm centres around the bracing element perimeter starting at 50, 100, and 150mm from the bracing element corner. Fasteners are placed no closer than 12mm to a paper bound machine edge of the sheet and no closer than 18mm to a sheet end or cut edge.

In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow the specifications. This Specification sheet is issued in conjunction with the publication GIB® EzyBrace™ Systems, 2009 and has been appraised in accordance with the BRANZ Appraisal No. 294 (2009).



Specification Number	Length (m) minimum	Lining requirements	Other requirements
BLG	0.6	10mm GIB Braceline® one side 10mm GIB® Standard Plasterboard other side	Hold-downs

WALL FRAMING

Wall framing to comply with,

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS3604)
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZS3602)

Framing dimensions and height as determined by NZS3604 stud and top plate tables for load-bearing and non load-bearing walls. The use of kiln dried machine stress graded timber is recommended.

BOTTOM PLATE FIXING**Timber floor**

Use panel hold-down connections at each end of the bracing element. The GIB Handibrac® is recommended. Details are specified separately. In addition use pairs of 100 x 3.75mm hand driven nails or three 90 x 3.15mm power driven nails at 600mm centres along the length of the bracing element.

Concrete floor

Use panel hold-down connections at each end of the bracing element. The GIB Handibrac® is recommended. Details are specified separately. Within the length of the bracing element bottom plates are fixed in accordance with the requirements of NZS 3604:1999.

WALL LINING

One layer of 10mm GIB Braceline® one side of the frame and one layer of 10mm GIB® Standard Plasterboard the other. Vertical or horizontal fixing permitted. Sheet joints shall be touch fitted. Use full length sheets where possible.

PERMITTED SUBSTITUTION**GIB Braceline®**

13mm GIB Braceline® (fixed with GIB Braceline® Screws). For other permitted GIB® Plasterboard substitution refer to page 23 in GIB® EzyBrace™ Systems, 2009.

GIB® Standard Plasterboard

Any 10 or 13mm GIB® Plasterboard.

FASTENING THE LINING**Fasteners****GIB Braceline®**

32mm x 7g GIB Braceline® Screws or

35mm GIB Braceline® Nails

GIB® Standard Plasterboard

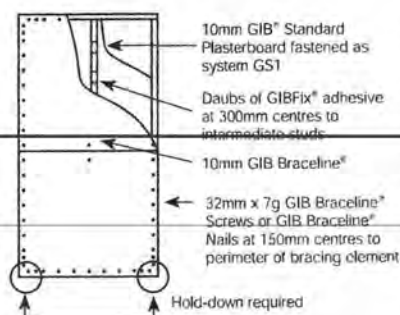
32mm x 6g GIB® Grabber® Drywall Screws or 30mm GIB® Nails.

Fastener Centres

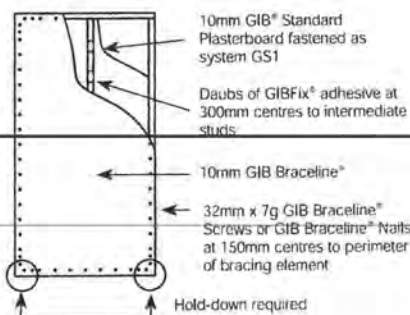
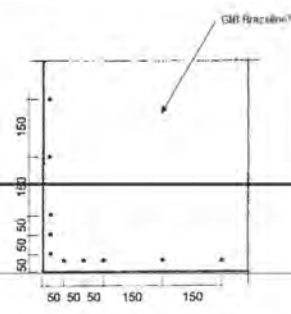
50, 100 and 150mm from each corner and 150mm thereafter around the perimeter of the bracing element. For vertical fixing place fasteners at 300mm centres at sheet joints in the tapered sheet edge. For horizontal fixing place single fasteners in the tapered edge where sheets cross studs. Use daubs of GIBFix® Adhesive at 300mm centres to intermediate studs. Place fasteners 12mm from tapered paper bound sheet edges and 18mm from sheet end or cut sheet edges.

JOINTING

All fastener heads stopped and all sheet joints paper-tape reinforced and stopped in accordance with the "GIB® Site Guide".

**Horizontal Fixing**

For hold-down fixings refer to pages 20 and 21 in GIB® EzyBrace™ Systems, 2009.

**Vertical Fixing**

Fasteners are placed at 150mm centres around the bracing element perimeter starting at 50, 100, and 150mm from the bracing element corner. Fasteners are placed no closer than 12mm to a paper bound machine edge of the sheet and no closer than 18mm to a sheet end or cut edge.



Specification Number	Length (m) minimum	Lining requirements	Other requirements
BL1	0.4	10 or 13mm GIB Braceline® one side	Hold-downs

WALL FRAMING

Wall framing to comply with,

- NZBC B1 – Structure: AS1 Clause 3 – Timber (NZS3604)
- NZBC B2 – Durability: AS1 Clause 3.2 – Timber (NZS3602)

Framing dimensions and height as determined by NZS3604 stud and top plate tables for load-bearing and non load-bearing walls. The use of kiln dried machine stress graded timber is recommended.

BOTTOM PLATE FIXING**Timber floor**

Use panel hold-down connections at each end of the bracing element. The GIB Handibrac® is recommended. Details are specified separately. In addition use pairs of 100 x 3.75mm hand driven nails or three 90 x 3.15mm power driven nails at 600mm centres along the length of the bracing element.

Concrete floor

Use panel hold-down connections at each end of the bracing element. The GIB Handibrac® is recommended. Details are specified separately. Within the length of the bracing element bottom plates are fixed in accordance with the requirements of NZS 3604:1999.

WALL LINING

One layer of 10 or 13mm GIB Braceline®, Vertical or horizontal fixing permitted. Sheet joints shall be touch fitted. Use full length sheets where possible.

PERMITTED SUBSTITUTION

The Bracing Unit ratings for system BL1 apply to 10mm GIB Braceline® (fixed with GIB Braceline® Screws or GIB Braceline® Nails) or 13mm GIB Braceline® (fixed with GIB Braceline® Screws only). For other permitted GIB® Plasterboard substitutions refer to page 23 in GIB® EzyBrace™ Systems, 2009.

FASTENING THE LINING**Fasteners**

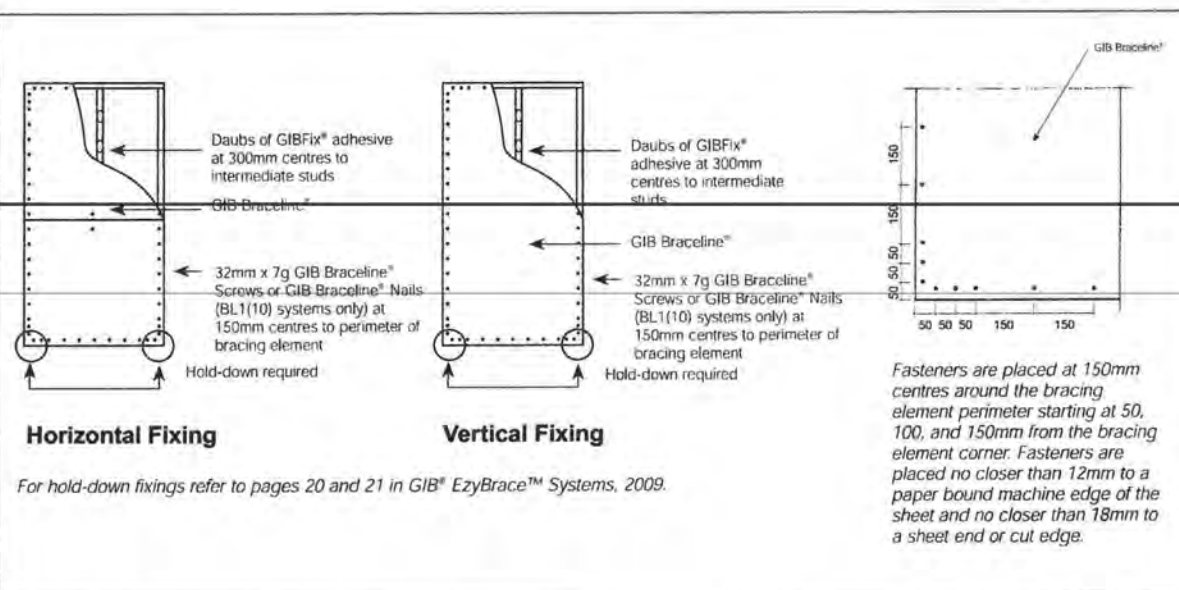
32mm x 7g GIB Braceline® Screws or
35mm GIB Braceline® Nails (BL1(10) systems only).

Fastener Centres

50, 100 and 150mm from each corner and 150mm thereafter around the perimeter of the bracing element. For vertical fixing place fasteners at 300mm centres at sheet joints in the tapered sheet edge. For horizontal fixing place single fasteners in the tapered edge where sheets cross studs. Use daubs of GIBFix® Adhesive at 300mm centres to intermediate studs. Place fasteners 12mm from tapered paper bound sheet edges and 18mm from sheet end or cut sheet edges.

JOINTING

All fastener heads stopped and all sheet joints paper-tape reinforced and stopped in accordance with the "GIB® Site Guide".



In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow the specifications. This Specification sheet is issued in conjunction with the publication GIB® EzyBrace™ Systems, 2009 and has been appraised in accordance with the BRANZ Appraisal No. 294 (2009).



Bottom Plate Fixing

APRIL 2009

Bottom plate fixing for GIB® Bracing Elements			
Brace type	Concrete slabs		Timber Floors
	External wall	Internal walls	External and Internal walls
GS1 (10 and 13)	As per NZS 3604:1999. No specific additional fastening required	As per NZS 3604:1999. Alternatively use 75 x 3.8mm shot fired fasteners with 16mm washers, 150mm and 300mm from each end of the element and 600mm thereafter.	Pairs of hand driven 100x3.75mm FH nails or 3 power driven 90x3.15 nails at 600mm centres maximum in accordance with NZS 3604:1999.
GS2 (10 and 13)	Not applicable		
BL1 (10 and 13) BLP	Intermediate fastenings to comply with NZS 3604:1999 In addition; GIB HandiBrac® and a concrete anchor with a minimum characteristic uplift capacity of 15kN at each end of the bracing element, or Metal wrap-around strap and a concrete anchor with a minimum characteristic uplift capacity of 15kN fitted with a 50x50x3mm square washer within 100mm of each end of the bracing element		Pairs of hand driven 100x3.75mm FH nails or 3 power driven 90x3.15 nails at 600mm centres maximum in accordance with NZS 3604:1999. In addition; GIB HandiBrac® and a 12x150mm galvanised coach screw at each end of the bracing element, or Metal wrap-around strap and a 12x150mm galvanised coach screw fitted with a 50x50x3mm square washer within 100mm of each end of the bracing element, or Double metal strap to boundary joist (external walls only)
BLG	Not applicable	As for BL1 and BLP on concrete slabs above	



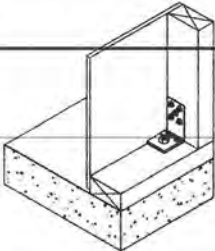
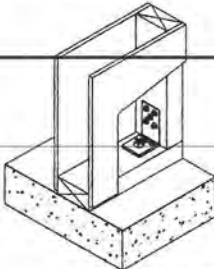
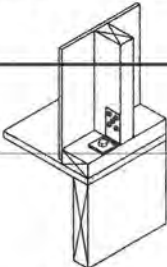
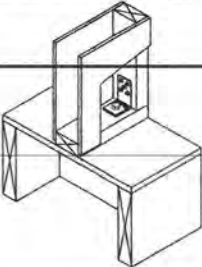
Panel Hold-down Details

GIB HandiBrac® – RECOMMENDED METHOD

Developed in conjunction with MiTek™ NZ, the GIB HandiBrac® has been designed and tested for use as a hold-down in GIB® BL and UP bracing elements.

- The GIB HandiBrac® registered design provides for quick and easy installation
- The GIB HandiBrac® provides a flush surface for the wall linings because it is fitted inside the framing. There is no need to check in the framing as recommended with conventional straps
- The GIB HandiBrac® is suitable for both new and retrofit construction
- The design also allows for installation and inspection at any stage prior to fitting internal linings



Concrete Floor		Timber Floor	
External walls	Internal walls	External walls	Internal walls
			
Position GIB HandiBrac® as close as practicable to the internal edge of the bottom plate	Position GIB HandiBrac® at the stud / plate junction	Position GIB HandiBrac® in the centre of the perimeter joist or bearer	Position GIB HandiBrac® in the centre of floor joist or full depth solid block
Hold-down fastener requirements			
A mechanical fastening with a minimum characteristic uplift capacity of 15kN.		12x150mm galvanised coach screw	

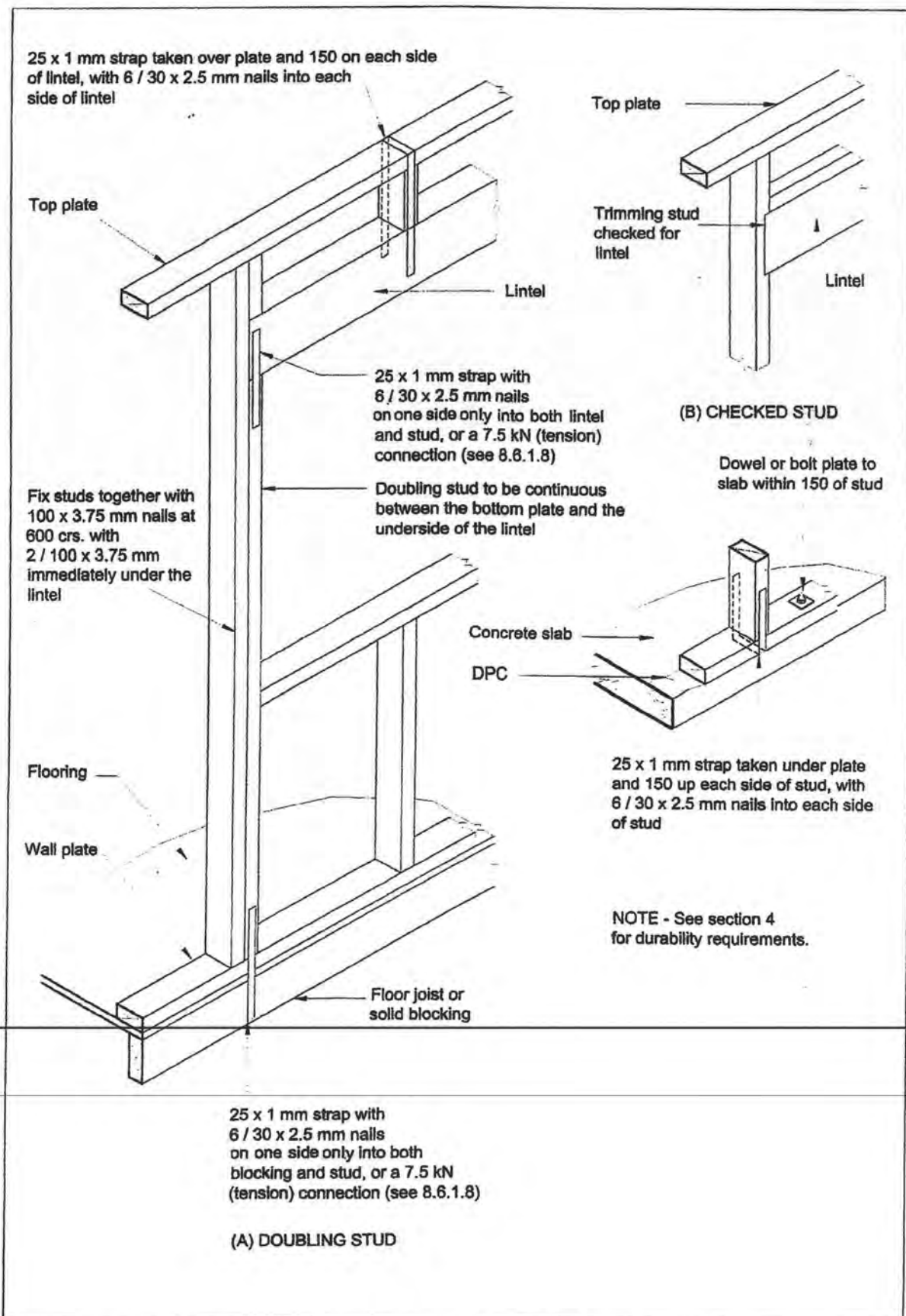


Figure 8.12 – Fixing of lintels to prevent uplift (see 8.6.1.8 and tables 8.14(A) and (B))

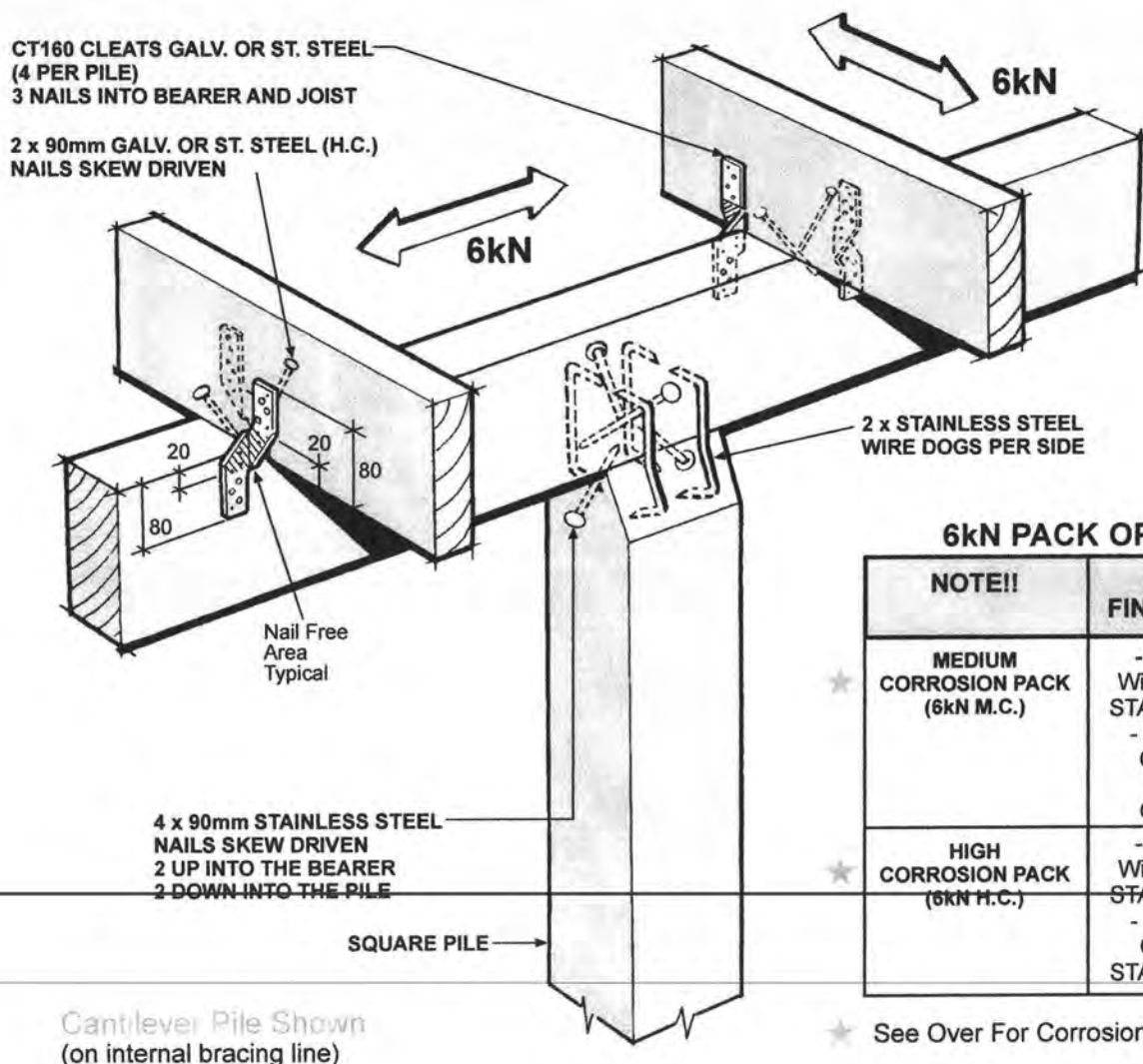


LUMBERLOK®

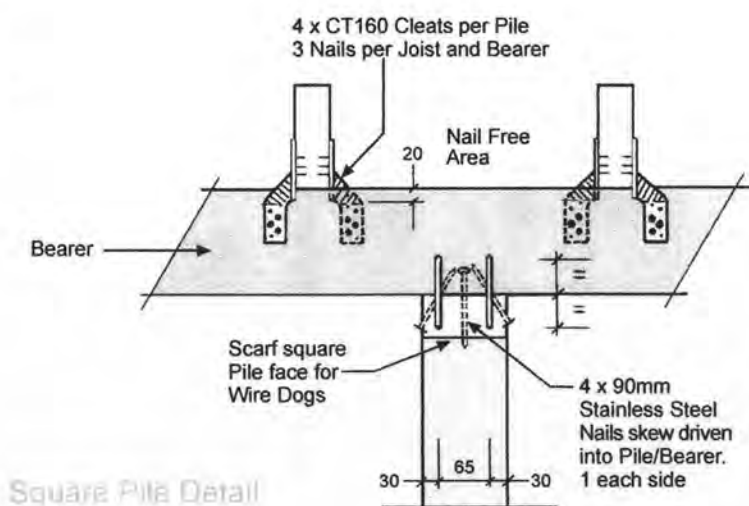
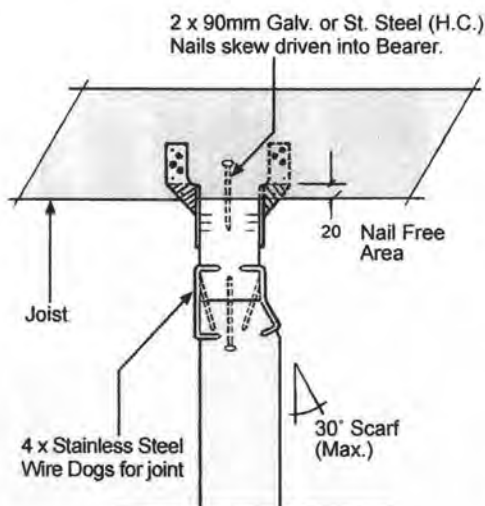
06/2008

6kN PILE FIXING

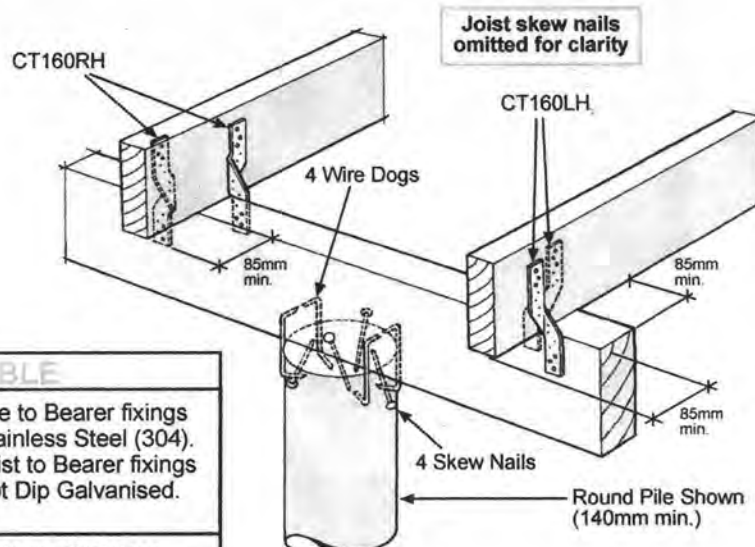
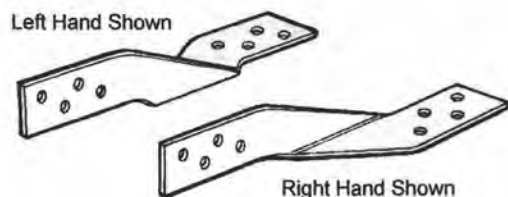
- ★ The 6kN Pile Fixing must be installed in accordance with this brochure
- ★ Auckland University Tested. Test Ref. 4613
- ★ All subfloor construction must be in accordance with NZS 3604:1999
- ★ NZS 3604 requires lines of lateral support to floor joists within 300mm of bearer or bracing lines, refer to Clause 7.1.2



**Available from leading Builders Supply Merchants
throughout New Zealand**



Square Pile Detail



CORROSION HAZARD USE TABLE	
Medium Corrosion Pack (6kN MC) - Outside geothermal areas - Outside Sea Spray Zones - If Joist to Bearer Fixings ABOVE 600mm from Ground level	Pile to Bearer fixings Stainless Steel (304). Joist to Bearer fixings Hot Dip Galvanised.
High Corrosion Pack (6kN HC) - Sea Spray Zones - All Fixings BELOW 600mm from Ground level	All items Stainless Steel (304).

6kN Joint Fixing Schedule

PILE TO BEARER	- Wire Dog Staples (4 per joint) Stainless Steel - 4 x 90mm Skew Nails (1 per face) Stainless Steel
JOIST TO BEARER	- CT160 Cleats (4 per pile) 160mm long - 3 Nails per Cleat into Joist - 3 Nails per Cleat into Bearer - 2 Skew Nails 90mm (1 per side)
NAILS	- 24 x 45mm x 3.55 dia. Spiral Nails (for Joist to Bearer fixings) - 4 x 90mm x 4 dia. St. Steel Nails (M.C. Pack only) - 8 x 90mm x 4 dia. St. Steel Nails (H.C. Pack only)

6kN Pile Set Contents

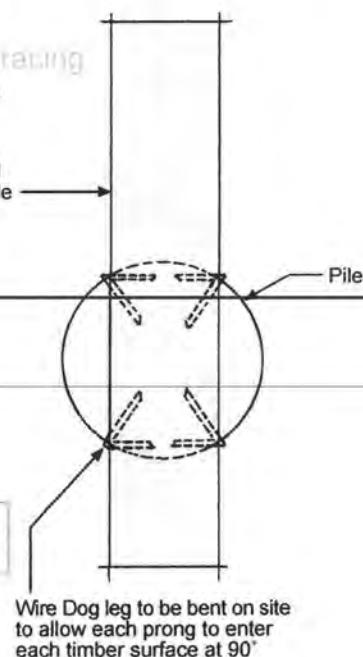
Each set represents 1 x 6kN Pile Fixing (packed 10 sets per carton)
 4 x Wire Dog Staples Stainless Steel
 4 x CT160 Cleats
 24 x 45mm x 3.55 dia. Spiral Nails
 90mm St. Steel Nails to suit 4 - M.C. pack
 8 - H.C. pack

Refer front page for Product Finish Options

90mm Galvanised Nails not included.

External Bracing Line

Bearer located centrally on Pile



MiTek New Zealand Ltd.



AUCKLAND
 PO Box 58-014, Greenmount
 Phone: (09) 274 7109
 Fax: (09) 274 7100
www.mitek.nz.co.nz

CHRISTCHURCH
 PO Box 8387, Riccarton
 Phone: (03) 348 8691
 Fax: (03) 348 0314

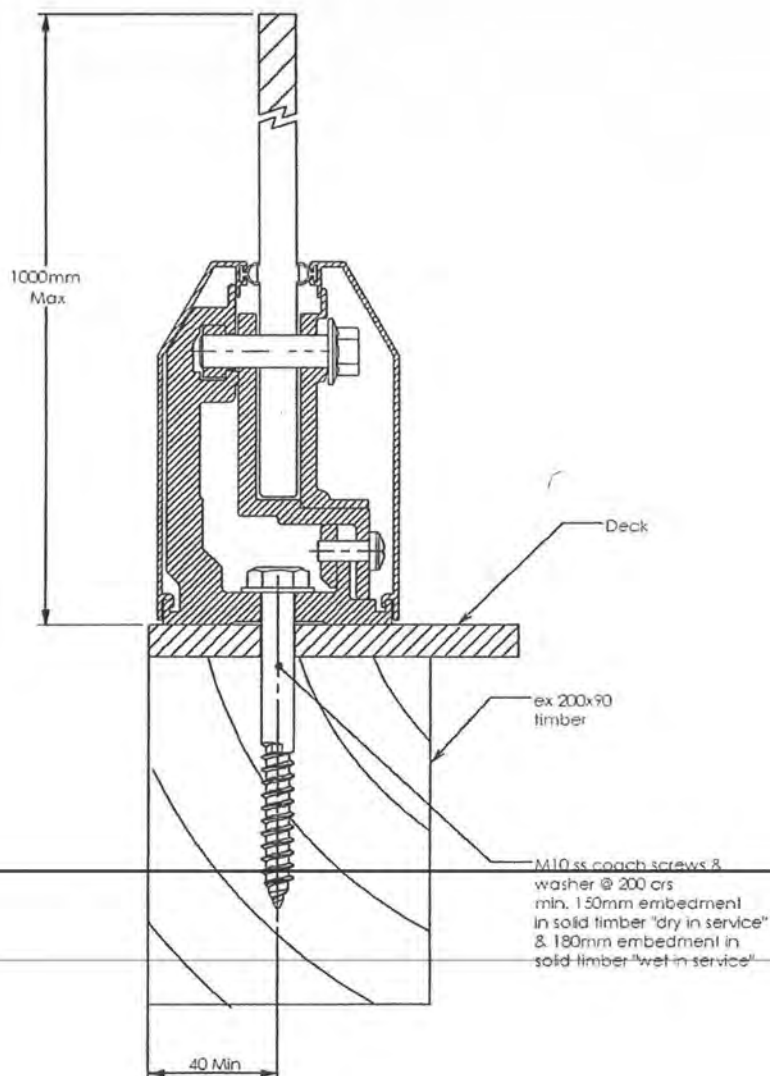
METRO FRAMELESS

MFG

B2/3

Base Mount - Timber fix domestic

**BA112 MFG Frameless Glass Balustrade 12mm
toughened glass**



Note:

Capacity of 1@200x90 solid timber fixing to deck structure to be in accordance with load specified on the attached producer statement.
Deck capacity to be verified prior to fixing balustrade.

PRELIMINARY AND GENERAL

1.01 GENERAL

This Specification shall be read in conjunction with the attached drawings and any other instructions that may be issued during the contract. Any item in this specification and not shown on the drawings or visa versa shall be equally binding as though included in both.

The contractor and his/her sub-contractors and all trades people employed on this contract shall be deemed to be familiar with all standards of workmanship and regulations and shall apply them to all phases of the work.

1.02 SCOPE

Work comprises the supply of all plant, materials and labour necessary for the construction, completion and maintenance of the whole of the works specified here/in and/or shown on the drawings attached.

1.03 REGULATIONS

All work shall comply with the requirements of the following:

- a) The New Zealand Building Code : 1992 (NZBC),
- b) The Health & Safety in Employment Act : 1992,
- c) NZS 3604 : 1999 - The Light Timber Framing Code and Amendments.

1.04 DRAWINGS AND SPECIFICATION

This Specification shall be read in conjunction with the attached drawings and any figured dimensions shall be taken in preference to those scaled.

The Contractor shall check all dimensions on site before ordering any materials or commencing any cutting and/or fabrication.

1.05 AMENDMENT TO BUILDING CONSENT

The Contractor is reminded that Variations, other than for minor changes, and particularly where changes involve structural components, weathering envelope, waterproofing systems, plumbing, sanitary drainage, accessibility, egress and the like, will require an application for amendment to the building consent to be lodged with the Building Consent Authority, and an Amendment to the Building Consent must be approved before the work is carried out.

Similarly where it is proposed to substitute product or methods from those detailed in the documents, these will, particularly in those situations described above, also require an application for Amendment to the Building Consent.

Where variations or changes are required, either at the request of the client, or where prevailing building conditions or site conditions necessitate a change to the work from that documented, the Contractor shall seek a ruling from the Building Consent Authority to clarify if a Variation to the Consent is required.

If required it shall be the Contractor's responsibility to prepare all necessary documentation and pay associated fees to obtain the required Amendment to the Building Consent. Such costs will be reimbursable by the client as a part of the approved variation cost.

1.06 INSURANCE'S

Refer to the Contract Conditions.

1.07 VARIATIONS

No variations shall be considered unless the Contractor prepares a separate estimate for such extra work. The Contractor shall not be obliged to undertake any variation until the Owner has given approval by signing and returning the variation order to the Contractor.

All the Designers fees and costs incurred due to variations requiring alterations and / or additions to the drawings / specifications and any associated Secondary Consultant and / or Territorial Authority fees shall be paid by the Owner.

1.08 FIXED QUOTE

The contract shall be priced on a fixed quote basis as described in the drawings, this specification and any attached tender schedule with no variations considered except as described in clause 1.06 above.

The quote shall be valid for 60 days from submission and thereafter may be subject to amendment

PRELIMINARY AND GENERAL

before acceptance following written proof of increases of any labour and/or materials costs as agreed between the Owner and the Contractor.

1.09 SITE

The contract is based on the site conforming with the levels and contours shown on the drawings together with specified foundations details as drawn.

Where the sub-soil is not of sufficient strength to meet the requirements of minimum foundations, all additional work, labour and materials to provide adequate foundations or bearing capacity shall become a variation to the contract.

1.10 BY LAWS AND PERMITS

The whole of the works shall be carried out in accordance with and shall comply with the New Zealand Building Code : 1992 and all By Laws and Regulations of the Territorial Authority.

The Owner or his agent shall obtain all permits and pay all inspection and other fees necessary for the carrying out of the Contract.

The Contractor shall provide a Producer Statement to the Territorial Authority at practical completion advising that the contract works have been completed in accordance with the contract documents so that the Territorial Authority may issue a Code Compliance Certificate.

1.11 TEMPORARY SERVICES

The Contractor may use water and power services on site for construction work only. All such services shall be maintained at all times. Services required to be cut temporarily shall be advised to the Owner for approval at least 24 hours prior to cutting. Any cut services shall be reinstated at the end of each working day.

1.12 SETTING OUT

The Contractor or his employees shall be responsible for setting out the works as shown on the drawings and to maintain set out level pegs and control pegs during the currency of the contract. Site boundary pegs are the Owners responsibility.

The Contractor shall confirm heights relative to the boundaries to ensure the 8m height plane is not breached.

1.13 SECURITY AND WEATHERPROOFING

The site, existing and new work shall be maintained secure and weatherproof at all times.

All parts of the works liable to injury and all adjoining property, trees etc. shall be protected by the contractor until completion of the contract. Any damage to such property, new or existing work shall be made good by the contractor at no cost to the owner.

1.14 CONTRACTOR – SUBCONTRACTOR COOPERATION

The main contractor i.e. the Carpenter, the Window manufacturer / installer and the wall cladding supplier / installer shall liaise and cooperate to ensure that the detailing and the installation of the windows / external doors and the wall cladding are carried out in a manner that will provide a weather tight and waterproof building.

1.15 MATERIALS SUBSTITUTION

Where brand names are used, substitution may be made provided the substitute materials are of same or better quality to those being substituted and to the Owners approval as per Clause 1.07 above.

1.16 COMPLETION

On completion the Contractor shall remove all trade debris from the site and leave the works clean and ready for occupancy with all services and mechanical parts in good working order. Account for and hand over all keys to the Owner.

1.17 WARRANTIES AND GUARANTEES

Provide written Warranties and Guarantees in favour of the Owner for the work itemized and for the period of time stated below.

Such time shall commence from the date of the Certificate of Practical Completion.

PRELIMINARY AND GENERAL

Aluminium Joinery	15 years
Colorsteel Roofing	15 years
Butynol Waterproof Membrane Roofing	20 years
Butynol Applicator workmanship warranty	5 years
Thermal Insulation	50 years
Plumbing & Drainage	2 years
Electrical	2 years
STOTHERM Classic Plaster System	15 years
STO Applicator workmanship warranty	5 years
Under Tile Waterproof Membrane	5 years

All Warranties and Guarantees provided by the manufacturers of materials and equipment incorporated in the works shall be provided to the Owner.

NOTE:

Warranties shall be provided to the Owner before payments are made for the relevant trade works.

EXCAVATION AND BACKFILLING

2.01 GENERAL

Refer to the Preliminary and General Section of this Specification that shall apply to this trade section. This Specification shall be read in conjunction with the attached drawings.

2.02 SCOPE

Comprises clearing the site, forming building platforms and ramps etc.
Excavate for piles, footings, retaining wall posts mowing strips etc.
Backfill behind retaining walls and lay basecourse as required.

2.03 CLEARING SITE AND BACKFILLING

Remove existing ground up to 300mm depth and stockpile on site where directed for future use.
Form areas for new building, paving and steps etc.
Comply in all respects with the Territorial Authority's requirements for the removal and disposal of excavated material, and deposition of silt on the adjacent road.

Import clean filling material for forming subgrade under new building floor slab.
Materials and construction shall comply with NZS 3604 Section 7.

Allow to spread stockpiled material up against new foundations over existing grassed area to form new ground profiles shown on the drawings. After new low retaining walls are constructed further fill / backfill to level required for new pavers and or gravel paths.

Provide and lay new gravel paving to 60mm depth to area shown on the plans.

2.04 UNSTABLE GROUND

Where loose, soft or otherwise unstable ground is encountered the excavations depth is to be increased until solid bearing is reached.
Report any areas of soft ground to the designer and engineer for resolution before extra work is undertaken. An extra to the contract will be made for such work.

CARPENTRY

3.01 GENERAL

Refer to the Preliminary and General Section of this Specification that shall apply to this trade section. This Specification shall be read in conjunction with the attached drawings.

3.02 SCOPE

Comprises the supply and fixing of all timberwork, linings, fittings, finishes and hardware as detailed. All work shall comply with the requirements of the following:

The New Zealand Building Code : 1992 (NZBC),
The Health & Safety in Employment Act : 1992,

AS/NZS 1748	Mechanically stress-graded timber
AS/NZS 1860	Particleboard flooring, 1860.1: Specifications
AS/NZS 2269	Plywood - Structural
NZS 2295	Building Papers
NZS 3602	Timber and wood-based products for use in building
NZS 3603	Timber structures standard
NZS 3604 : 2006	Amendment 2 - The Light Timber Framing Code.
NZS 3606	Manufacturer of glue-laminated timber
NZS 3631	New Zealand national timber grading rules
NZS 3640	Chemical preservation of round and sawn timber

BRANZ Bulletin 453: Fasteners selection

BRANZ Bulletin 368: Preventing moisture problems in timber framed skillion roofs

Gib-Bracing Systems Hand Book – March 2006.

Cut away for, attend on and make good after all other trades.

3.03 MATERIALS

All materials shall be new unless stated otherwise and the best of their respective kinds.

Timber Schedule

All timber treatments to comply with Table 1 and Table 2 of NZS 3602 : 2003.

Refer to the drawings where treatment and/or grading of individual members will be stated.

Exterior Finishes	- NGTR No.1 Timber DA Standard - TPA H3.1
	- NGTR Group IV Pine Finishing Standard - TPA H3.1
Weatherboards	- NGTR Group IV Pine Finishing Standard - TPA H3.1
Interior Finishes	- As above but TPA H1.1
Non-Loadbearing Interior Framing	- NGTR Group IV Pine No.1 Framing - TPA H1.1
External Wall Framing	- MSG8 or VSG8 - TPA H1.2
Deck Framing, Decking and Balustrades	- NGTR Group IV Pine No.1 - TPA H3.2
Deck Posts	- NGTR Group IV Pine No.1 - TPA H5
Stenton Timber Piles 125x125	- NGTR Group IV Pine No.1 - TPA H5

Timber species, grade and in service moisture content to NZS 3602 and treatment to NZS 3640.

Either mechanically stress graded to AS/NZS 1748, or visual grading to NZS 3631.

Machine dressed timber shall be kiln dried or air seasoned in accordance with the requirements of NZBC clause B2 Durability and NZS 3602 to a moisture content of +/- 2% of 16% for exterior work and +/- 2% of 10% for interior work.

Exposed exterior and interior finishing timber unless otherwise stated are to be machine dressed on four faces to a constant thickness and width.

Remove accessible arises, all rough and uneven patches and other surface defects.

Framing timbers to which linings are to be fixed shall be gauged to eliminate variations in size.

All timbers shall be as specified and graded according to NZS:3631 and shall be straight and in as long lengths as possible. All treated timber shall be in accordance with the Timber Preservation Authority Regulations.

All proprietary materials, fittings, linings etc. shall be of approved manufacture and design.

CARPENTRY

All nails shall be used in adequate numbers to securely fix all timbers in accordance with the best trade practice and the requirements of NZS 3604:2006 Section 4 Table 4.1 for protection against corrosion.

All screws shall be of proper gauge and length and shall match the metal of the fitting.

All externally used framing hardware and fixings for sub-floor and / or fixings exposed to the weather shall be hot dip galvanized plus epoxy coating, stainless steel or other approved non ferrous metal.

Steel fixings and fastenings including bolts within 600mm of the ground in Corrosion Zone 1 shall be Type 304 stainless steel where in contact with treated timber piles (NZS 3604:1999 Table 4.1).

All timber bolted connections shall have washers that are not less than 50mm square or 55mm diameter x 3mm thick installed. All components shall be protected against corrosion as per NZS 3604:1999: Section 4: Table 4.1.

3.04 WORKMANSHIP

Workmanship of the best shall be employed in thoroughly securing the framing together, spiking or bolting down as may be required. All nails in exposed work shall be punched below the surface.

3.05 PAINT PRIMING

All exposed timber work to the exterior including laps, rebates, mitred joints etc. shall be paint primed.

3.06 DAMP PROOF COURSE

Lay **Thermacraft Supercourse** (thickness 500 microns minimum) hi-impact polyethylene film D.P.C. to AS/NZS 2904 (embossed both sides) under all timber that is in direct contact with concrete in a single layer with 50mm overlaps at joints to provide a waterproof barrier.

Where timber piles are cut off less than 300mm above ground (150mm min.), place a bituminous DPC between the pile top and bearer to overlap timber by 6mm min.

3.07 FLOORING

Sheath the upper timber floor areas with 20mm high density flooring grade particle board. Dwang between joists for sheet edges and joints. Fix flooring with galvanized floor brads. On completion of dwelling punch all nails below the surface and one cut machine sand

3.08 FRAMING GENERALLY

The whole of the framing work shall be spiked together and properly braced. All plates and bearers shall be halved together at joints and half dovetailed at all intersections and partitions OR alternatively the use of metal connectors is permitted.

3.09 FLOOR FRAMING

Gauge 240x45 floor joists over beams and plates at 400 OR 600 crs max. as detailed to a uniform level. Joists shall be well spiked to supports with 2/100mm galv. flat head skew nails and 2/CT160 S.S. Lumberlok ties both ends. Fix full depth blocking at midspan.

3.10 WALL FRAMING

Generally unless otherwise detailed studs to external walls shall be 140x45mm MSG8 or VSG8. Studs to internal walls shall be 90x45mm.

Stud Schedule	Very High Wind	MSG8 or VSG8 grade
Stud Size	Maximum length	Spacing
Upper of Two		
External 140x45	up to 3.0m	600 crs
Internal 140x45	up to 3.0m	600 crs
Lower of two		
External 140x45	up to 3.0m	600 crs
Internal 90x45	2.4m up to 3.0m	600 crs

For single or upper of two storeys wall plates shall be H1.2 treated 45mm x width to match studs. For lower of two story construction wall plates shall be H1.2 treated 70mm x width to match studs.

CARPENTRY

Dwangs shall be the same width as studs at 800 crs maximum set out to suit wall linings.
Fix two rows as required and dwang for all joinery and plumbing fittings etc.

All framing shall be braced with braceline and / or standard gib-board internal linings.
See bracing plans and calculations. All fixings shall comply with NZS 3604 : 2006 Section 5 or the sheet manufacturers printed specifications.

Refer to the Drawings especially the framing plans and sections for individual lintel sizes and grades.
For all other lintels use the tables below or refer to NZS 3604 Table 8.9, 8.10 & 8.11 as applicable.

Lintels to Openings – Single Story or Upper of Two

VSG8 or MSG8 – from Table 8.9 NZS 3604:2006 Amendment 2

Openings up to 1100mm	2 - 90x45mm
Openings 1101mm up to 1800mm	2 - 140x45mm
Openings 1801mm up to 2500mm	2 - 190x45mm
Openings 2501mm up to 3100mm	2 - 240x45mm
Openings 3101mm up to 3800mm	2 - 290x45mm

Lintels to Openings – Lower of Two Story

VSG8 or MSG8 – from Table 8.11 NZS 3604:2006 Amendment 2

Openings up to 1100mm	2 - 140x45mm
Openings 1101mm up to 1600mm	2 - 190x45mm
Openings 1601mm up to 2000mm	2 - 240x45mm
Openings 2001mm up to 2400mm	2 - 290x45mm

Check lintels 13.5mm into studs each side of the opening for spans up to 1200mm.
Spans over 1500mm to have a 90x45mm jack stud at each end of the lintel.

3.11 ROOF FRAMING

The roof shall be framed at the slopes shown from 290x63 H3 LVL rafters at 600 crs.
Rafters shall be neatly birdsmouthed to plates and well spiked to plates.
Fix all rafters at both ends with minimum 2x100mm skewed nails and 2/4.9mm wire dogs or 2.7kN connection.

Fix roof plane diagonal braces in accordance with NZS 3604 : 2006 Fig. 10.26 where shown on A2.03.

Sheath the ground floor infill roof over Entry, and Hall roof areas with 17mm CP-D grade H3.1 treated plywood with tongue and groove long edge joints, stagger end joints.
Sheets shall be glued and screw fixed at 150mm crs around panel edges and 200mm crs to intermediate framing no closer than 10mm from sheet edges.
Screw shall be grade 316 stainless steel countersink head sunk 1.5 to 2mm below sheet surface.

NOTE: Plywood under "Butynol" Waterproofing Membrane **must NOT be LOSP** treated.
Refer to Specification section 10 for Butynol Roofing Membrane.

3.12 INSULATION AND BUILDING WRAP

Building Wrap: Timber Weatherboard cladding

Thermocraft Cover-Up high tensile coated polyolefin woven into sheet with micro sized pores that allow the membrane to breathe with a fire retardant flammability index of 1, tested to AS 1530.
To comply with BRANZ appraisal certificate No. 356.

Cover the framing with the above type building wrap fixed to the horizontally to the outside of the studs with laps of not less than 150mm at all joints and edges in accordance with the wrap manufacturers printed specifications. Tape all penetrations.
Keep clean, undamaged and without visible weather deterioration until closed in.

WALL & CEILING INSULATION

Refer to the Autex Greenstuf Thermal Insulation Specification Section 11.

3.13 EXTERIOR SHEATHING

UPPER LEVEL - Hardie Linea 180 Weatherboard

Refer to Hardie Linea Weatherboard, Technical Specification.

CARPENTRY

To all new framing after covering with building wrap fix vertical 20mm H3.2 cavity battens at 300mm crs max. See sheet Linea Figure 25 Page 23 and Figure 38 Page 28 for batten setout and fixing.
Fix battens with 60x2.8mm galvanized jolt head nails at 300mm crs max. staggered 12mm either side of batten centerline.

Horizontal weatherboards shall be Hardie Linea 180 in bevelback profile.
Use aluminium soakers behind joints and corners.

Form external corners with mitred ends over "Pro-Tek" back flashing, internal corners shall be scribed with "Pro-Tek" back flashing. Board end joints shall be T&G.

Fix boards with not less than 32mm lap using 60x3.15mm stainless steel jolt head nails in predrilled holes for concealed nailing or 75x3.15mm s.s. jolt head nails for exposed nailing.
For exposed nailing punch 2mm below surface and fill before painting.

Finish external corners with James Hardie trim and scribes as per Linea Figure 29 Page 25.
Finish internal corners with James Hardie Linea aluminium 90 degree internal "W" mould as per Linea Figure 35 Page 27.

Shadowclad Texture Plywood

Sheath both sides of the BBQ walls with 12mm "Shadowclad Texture" H3.2 treated plywood sheet.

Fix sheets with 50 x 2.8mm stainless steel flat or rose head nails driven flush at 150mm crs along sheet edges (no closer than 7mm to sheet edges) and 300mm crs to intermediate studs to the manufacturers printed instructions.

Vertical joints shall be shiplap with weathergroove as provided by the manufacturer.
All sheet edges shall be supported. DO NOT fix sheets with grain horizontally.

Finish external corners with ex 100x25 & 75x25 H3.1 battens with 6x6mm weathergroove to both back edges. Set cladding edge back 8mm to allow free drainage.

Finish internal corners with 75x25 H3.1 batten – chamfer back corner to allow free drainage.

Finish top edge of walls with 75x25 H3.1 batten both sides and 1.6mm folded Powdercoated aluminium cap flashing – 70mm vertical legs and 5 degree top slope.

LOWER LEVEL – Titan Panel

Refer to Hardie Titan and Exotec Façade Panels, Rainscreen, Technical Specification.

To the ground floor entry walls after covering with building wrap fix vertical 20mm H3.2 cavity battens at 600mm crs max. See sheet Titan Figure 3 Page 13 for batten setout and fixing.

Fix battens with 60x2.8mm galvanized jolt head nails at 300mm crs max. staggered 12mm either side of batten centerline.

Sheath new ground floor external walls of the entry where shown on the plans with Hardie Titan Panel sheet fixed with horizontal joints at 600 crs and vertical joints at 1200 crs max. as per James Hardies Building Products Technical Literature.

All joints shall be formed as per Titan Fig 7 Page 17 (vertical) and Figure 10 Page 20 (horizontal).

Fix Titan Panels with 65x10g wood thread screws in predrilled holes countersunk 2mm below the surface. Minimum 50mm from corners and 18mm to all edges.

3.14 FASCIA, BARGE AND SOFFIT

Fix 180x35 H3.1 fascia and barge board grooved to take linings as required to roof edges. Frame up for soffits with 90x45 blocking between rafters at 600 crs to width and details drawn to suit linings.

Line soffits with 6mm Villaboard, sheet fitted into grooves in back of fascia or barge with timber bead to wall linings.

Flush stop all joints and nail heads to the manufacturers printed details.

3.15 INTERIOR LINING

Line walls with either:

10mm Standard Gibraltar board fixed with 30mm galv. gib clouts OR

10mm Braceline fixed with 30 x 3.5mm gib clouts and Braceline washers OR

CARPENTRY

10mm Gib-Aqualine board (Bathroom, Ensuite, Kitchen East wall) with 30mm galv. gib clouts.

Line new ceilings with

13mm Standard Gibralter board fixed with 40mm galv. gib clouts OR

13mm Gib-Aqualine board (Bathroom, Ensuite) with 40mm galv. gib clouts.

Alternately fix 10mm sheets with 25mm x 6g Gib Grabber High Thread Drywall screws and 13mm sheets with 32mm x 6g Gib Grabber High Thread Drywall screws.

Nailing or screw fixing generally shall be in accordance with the manufacturers printed instructions.

Fix stop fillets to all external corners to form a true and straight edge for stopping.

At the completion of all fixing and nailing plaster all internal and external angles, joints and nail heads with stopping plaster.

Trowel all areas to a flat even finish Level 4 and leave the whole of the works ready for the painter.

3.16 DECK FRAMING

Install 240x88 LVL H3 deck bearers fixed to posts with 2 x M12 s.s. bolts.

Fix 140x88 LVL H3 deck bearers to posts with 1 x M12 s.s. bolt.

Fix stringers to block wall with D12100 s.s. dynabolts at 750 crs.

Fit 50x50x3mm s.s. washers to all bolts.

Fix H3.2 G8 stringer plates to timber walls over shaped H3.2 packer with EPDM washer behind to space plates off w/b face by 12mm using M12 s.s. bolts with 50x50x3mm s.s. washers as detailed. Seal around bolt penetrations and fit neoprene washers to bolts.

Gauge deck joists over or between beams and stringer at 600 crs max. as detailed to a uniform level.

Joists shall be well spiked down to bearers in accordance with Table 7.5 of NZS 3604:2006.

Joist sizes shall be:

West Deck 190x45 H3.2 G8

East Deck 240x45 H3.2 G8

Lower Decks 140x45 H3.2 G8

3.17 DECKING

The deck surface shall be 90x35 pine grip tred profile nail gapped.

Fix with 2 nails at all joists to run in the direction shown on the drawings.

3.18 STEPS

The stair flights shall be constructed as detailed with 240x45 H3.2 end strings, intermediate under bearers at 600 crs max., 2/140x35 H3.2 grooved treads and 90x45 H3.2 riser closer.

3.19 SLIDING SCREEN

Construct and install cedar sliding screens to North upper wall with aluminium sill tracks and head channel guides as detailed on A6.05.

3.20 BALUSTRADES

Construct balustrades with timber framing, cedar slat cladding and brackets/bolting as detailed on A6.05.

Supply and install frameless glass balustrade to west deck face by Metro Glass as detailed on drawing B2/3 Top Mount – Timber Fix Domestic BA112 MFG 12mm Frameless Glass Balustrade System. Balustrade manufacturer to supply 50x5mm G.M.S. angle handrail to top of glass balustrade to be fixed by balustrade installer.

3.21 FINISHING TIMBERS

Fix 60x10mm radiused skirtings to all rooms.

Fix 60x10mm radiused architraves to all rooms.

Scribe internal corners and mitre external corners.

3.22 HARDWARE

Allow to install door hardware etc. as listed below, Owner supplied or as directed on site.

Internal door knobs and standard latchsets

4 off Guest Bed, Master Bed, Hall

CARPENTRY

Internal door knobs and privacy latchsets	2 off	Bathroom, Ensuite
Sliding door recessed pulls	2 off	Guest Bed Wardrobe
Internal dummy handles and double ball catches	6 off	Linen, Cupboard, Coats
Toilet roll holders	2 off	Bathroom, Ensuite
900x900 mirror	2 off	Bathroom, Ensuite
Hand towel rings	2 off	Bathroom, Ensuite

3.23 WARDROBES, COATS

Frame for wardrobes as shown and line as specified for the room.
Owner to arrange fitout to Master bedroom Walk-in-Wardrobe.

Provide Guest Bedroom wardrobe and coat cupboard with a full length 25mm dia. g.m.s. hanging rail and ex 300x25mm shelf fixed to support on walls.

3.24 LINEN CUPBOARD

Frame for Linen Cupboard as shown and line as specified for the room.
Fit cupboard with five rows of ex 50x25 slatted shelving spaced at 375mm centres.

3.25 KITCHEN

Supply and installation of kitchen joinery is to be by agreed Joiner.
Refer to Monetary Allowance - \$16,500.
Allow to attend on installer as required.

3.26 JOINERY

Take delivery of and install all Joinery as shown on the drawings or specified.
Fit all windows, doors, stairs and joinery fittings into openings true, square, well wedged and packed from framing.

JOINERY

4.01 GENERAL

Refer to the Preliminary and General Section of this Specification that shall apply to this trade section. This Specification shall be read in conjunction with the attached drawings.

4.02 SCOPE

Comprises the construction and supply of new Doors and Windows as detailed.
Deliver to site, store and protect from breakage, damage etc. Carpenter to install.

Comply with the following standards:

NZS 3602	Code of Practice for Specifying Timber & Wood Based Products for use in Buildings
NZS 3608	Resin Bonded Wood Particle Board
NZS 4211	Code of Practice for Performance of Windows
NZS 4223	Code of Practice for Glazing of Windows

NZS 1170	Structural design actions, Part 5: Earthquake actions – New Zealand
AS 1449	Wrought alloy steels - stainless and heat resisting steel plate, sheet and strip
AS 1734	Aluminium and aluminium alloys - Flat sheet, coiled sheet and plate
AS/NZS 1866	Aluminium and aluminium alloys - Extruded rod, bar, solid and hollow shapes
NZS 3504	Specification for aluminium windows
AS 3715	Metal finishing - Thermoset powder coatings for architectural applications
NZS 4203	General structural design and design loadings for buildings
AS/NZS 4680	Hot-dip galvanised (zinc) coatings on fabricated ferrous articles
AAMA 2604	Performance requirements and test procedures for high performance organic coatings on aluminium extrusions and panels
BS 3900	Methods of tests for paints, Part C5: Determination of film thickness

Manufacturer's and supplier's documents relating to work in this section are:

Specifiers Guide Website: www.fletcheraluminium.co.nz.

US Federal Specification

TT-S-001543A Sealing compound, silicone rubber base (for caulking, sealing and glazing in buildings and other structures)

TT-S-00230C Sealing compound, elastomeric type, single component (for caulking, sealing and glazing in buildings and other structures)

WANZ Specification for powder coatings on architectural aluminium products

WANZ Window installation system - An Alternative Solution for the installation of windows and doors

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

4.03 EXTERIOR DOORS

~~All frames shall be Anodised aluminium to match windows as detailed on A5.01.~~

Doors shall be type and sizes noted on A5.01 with rebated timber stiles, rails and t&g panels.
Hang doors on 2 pairs of stainless steel fixed pin butt hinges.

4.04 ALUMINIUM DOORS AND WINDOWS

All exterior windows and doors shall be of the sizes and with opening sashes or doors as shown on the drawings.

Exterior Aluminium windows and doors shall be of selected manufacture to comply with NZS 4211:2008 Performance of Windows with air leakage to Level 8 with members of Satin Anodised aluminium as selected by the Owners.

Windows shall be designed to a wind speed of 50m/s minimum (Very High Wind).
Manufacturers compliance labels are to be appropriately displayed on all units.

Any window opening sash that is 760mm or less from the floor level and a fall of 1 meter or more is

JOINERY

possible from that window, a restrictor stay (colour matched to wedge fasteners) shall be installed to limit the window opening to less than 100mm wide.

Exterior Aluminium windows and doors shall be complete with H3.1 treated timber reveals rebated for interior linings - width to suit architraves - with all hardware and fully glazed, weight for size.

All windows shall have condensation channel frames with drains to the exterior.

Any bathroom window with glass within 1500mm of the finished floor level shall be glazed with **Grade A Safety Glass**. Safety glazing shall be permanently etched or certified by the supplier.

Fit all sashes with a pair of black double tongued wedge fasteners.

Provide matching aluminium flashings as required to fit the work. All flashings and sashes shall be thoroughly sealed against the penetration of water and adequately protected from draughts.

4.05 INTERIOR DOORS

Interior doors shall be 38mm thick in the sizes shown on the drawings, hollow core, veneered for paint finish.

Clash locking edge only.

Hinged doors shall be hung on 1 & 1/2 pairs of 75x60mm loose pin bronze butt hinges.

Sliding doors shall be supplied complete with track and pelmet.

Frames shall be ex 150x50mm solid rebated, width to suit framing, lining and architraves – Slimline rebated on back for linings.

Provide and install CS for Doors cavity slider pocket for D10 at the top of the stairs on the first floor.

4.06 KITCHEN FITTINGS

The supply and installation of the kitchen joinery shall be by agreed Joiner.

Refer to Monetary Allowance of \$16,500.

4.07 STAIR

Construct new stair flights from ex 250x50 timber strings with 25mm MDF treads and 18mm MDF risers for carpet finish. Fit blocks and wedges etc. to best trade practice.

Stair handrail shall be 42mm diameter timber to outside of stair and landing only on Halliday and Baillie brackets at min 1300 centres.

To stair centre wall top finish shall be as per detail 6 on A6.04.

CONCRETE

5.01 GENERAL

Refer to the Preliminary and General Section of this Specification that shall apply to this trade section. This Specification shall be read in conjunction with the attached drawings.

5.02 SCOPE

Comprises the construction of new concrete foundations, floors and paving etc.

5.03 CONCRETE QUALITY AND MATERIALS

All concrete shall comply with the requirements of NZS 3104 "Concrete Production – High Grade" and NZS 3109 "Specification for Concrete Construction". This applies to General Requirements, Quality of Concrete, Mixing and Placing, Formwork and Details of Reinforcement.

Concrete shall be 20 MPa "High Grade" maximum aggregate size to be 19mm to NZS 3104.

Build into foundations M12 g.m.s. bolts at 900 centres and 300mm maximum to corners, doorways and wall ends for fixing bottom plates.

5.04 FORMWORK

All formwork shall be set out and constructed to form concrete profiles as shown on the drawings.

5.05 REINFORCING

All reinforcing and welded mesh shall comply with AS/NZS 4671 Steel reinforcing materials. Minimum cover to reinforcing in footings shall be 50mm to formed faces and 75mm where cast directly against soil. Top reinforcing in slabs shall have 40mm cover. All reinforcing shall be grade 300E or 500E for bars denoted 'D' and HD' respectively.

Reinforcement shall be as detailed, cut, bent and laps provided in accordance with NZS 3109. Fix chairs for top reinforcement in slabs at 1.0 metre centers to ensure adequate support. Cover tolerances to NZS 3109, clause 3.9.

Welded reinforcing mesh shall be to NZS 3422.

5.06 FOUNDATIONS

Footings shall be founded on firm bearing on a level base below ground level as detailed. Remove any unsuitable material to the Engineer's satisfaction, and replace with granular hardfill. Include starter bars in footings as required for blockwork foundation walls.

5.07 CONCRETE FLOOR CONSTRUCTION

All footings and slabs shall be constructed on 150mm minimum thickness of compacted hardfill. Blind backfill with 25mm sand and overlay the whole of the area under floor slab with a layer of Thermatheme Orange 300 concrete underlay (DPM) lapped 150mm and taped at joints. Over DPM lay 50mm XPS Polystyrene sheet insulation prior to placing floor slab.

The DPM shall be laid continuous over prepared hardcore to area of slab with not less than 100mm projecting beyond the outer limits of the foundations.

Seal DPM around all services and other projections with self-adhesive tape. The DPM shall be protected against tears or holes and any damage shall be made good just prior to concreting.

Slabs and perimeter foundations shall be thoroughly compacted by immersion vibrators and shall be screeded off to a true and even line. The floor shall be finished with a rotary power float to give a smooth dense finish. There shall be no abrupt deviations in the finished surface and the maximum gradual deviation measured under a 3 metre straight edge shall not be more than 6mm.

Construct floor slabs in accordance with NZS 3604, section 7.5.

Do not place concrete until all excavations, boxing and reinforcing have been inspected and passed by the territorial authority inspector.

CONCRETE

5.08 CURING

All floor slabs shall be cured by the application of an approved spray or membrane within 24 hours of pouring concrete or wet cured for 7 days.

5.09 SAW CUTS

Cut slabs where indicated on the drawings and as required to control shrinkage cracking. Provide one saw cut central in each direction. Carry out cutting as soon as possible, without causing tear-out of aggregate and before shrinkage cracking has occurred, generally within 24 hours of pouring.

Where saw cuts are made, cut out 100mm of every second wire of the mesh for a length of 50mm each side of the saw cut position.

Saw cuts : $\frac{1}{3}$ rd slab depth or 30mm minimum.

5.10 CONCRETE SURFACE FINISHES

Finish all concrete surfaces in accordance with NZS 3114 : 1987 as follows:

Foundations below ground level	F1
Formed concrete surfaces exposed to view	F3
Unformed surfaces visible in final structure	U3
Unformed surfaces of external paths and steps	U3

BLOCKWORK

6.01 GENERAL

Refer to the Preliminary and General Section of this Specification that shall apply to this trade section. This Specification shall be read in conjunction with the attached drawings.

6.02 SCOPE

Comprises the supply and installation of all block work and accessories as detailed.

6.03 MATERIALS

- a) Blocks shall comply with NZS 4210 Masonry Construction Materials and Workmanship.
- b) Blocks shall be manufactured to AS/NZ 4455 Masonry units and segmented pavers and with clean sharp edges precise to form and dimension without fractures, honeycombing, stains and arises chipped, of approved texture and finish.
Use open ended bond beam blocks for all walls - Type 20.16.
- c) Mortar shall be composed of sand, cement and Admixtures to NZS 4210.
All materials in mortar mix shall be accurately measured by volume in suitable calibrated devices. Shovel measures shall not be permitted.
Mortar for laying blocks shall comply with NZS 4210 having a minimum compressive strength of 12.5 MPa when tested in accordance with Appendix 2A of NZS 4210.
- d) Concrete shall be poured into all the cells and bond beams.
- e) Concrete for "All cells filled" block work shall comply with NZS 4210 having a minimum compressive strength of 17.5 MPa and a maximum slump of 150mm and a maximum spread of 520mm when tested in accordance with the test requirements of NZS 3112.
Course grout shall have a maximum aggregate size of 13.2mm
- f) Reinforcing steel shall be grade 300 complying with AS/NZS 4671. Reinforcing details shall comply with the requirements of NZS 3109 and NZS 4210. Lap vertical bars only where shown on the drawings. Horizontal bars shall be lapped 40 diameters. Reinforcing at the time concrete is placed shall be free from loose flaking rust, mud, oil or other coatings.
Provide hooks and laps as detailed. Rigidly tie all reinforcing in place.

6.04 BLOCKLAYING

All work shall be carried out by approved tradesmen skilled in concrete block construction and in accordance with NZS 4210 and the best trade practice.

Set out all concrete masonry walls as shown on the drawings. Walls shall be erected true to line and plumb in even and level stretcher bond courses properly bonded, bedded and jointed in mortar. Reinforce the walls as detailed. Check all start positions prior to commencing block laying. Where misplacement exceeds the placement tolerance, obtain written direction before proceeding. Fill all cells in one continuous operation using 1200mm maximum lifts, build in bolts etc. required for work by other trades, lay bond beams, reinforce and fill with concrete.

Blocks shall not be wetted prior to laying. Purpose made blocks shall be used for all window and door openings and corners etc. unless otherwise detailed. Mortar beds shall be laid on face shells only and not on ends.

Thoroughly clean the base joint prior to grouting, providing cleanouts at 800 crs. and as required.

Minimum cover as required for reinforced concrete, grout and block work treated as a homogeneous material. Maintain reinforcing bars for retaining walls a minimum of 15mm and for other block work a minimum of 6mm from the block work face, with the space filled with grout.

Construct within the tolerances in NZS 4210, clauses 2.6.5 and 2.7.1.
Lay blocks with bedding of consistent thickness throughout.

6.05 POINTING

All mortar joints shall be fitted tight and neatly and expertly pointed with 10mm diameter concave joints.

BLOCKWORK

6.06 PRE-GROUTING INSPECTION

Inspect walls prior to grouting. Ensure cells are clean and reinforcement is correctly placed. Where "high lift" (to NZS 4210) grouting is used, seal the clean out holes and brace to prevent blow outs.

6.07 QUALITY RECORDS

Keep accurate records relating to strength and quality of materials used in the construction and make the information available to the territorial authority inspector on request.

6.08 CLEANING DOWN AND MAKING GOOD

On completion clean down all exposed faces of block work with a stiff brush removing all mortar projections and irregularities. Make good any damaged corners, arises or surfaces of block work to an even texture.

STRUCTURAL STEEL

7.01 GENERAL

Refer to the Preliminary and General Section of this Specification that shall apply to this trade section. This Specification shall be read in conjunction with the attached drawings.

7.02 SCOPE

Comprises the supply, fabrication, and erection of all structural steelwork as shown or implied on the drawings or in this specification.

7.03 MATERIALS

All materials shall be in accordance with this specification and the drawings. Materials shall comply with the following standards and amendments thereto:

- a) Structural Steel for plates, beams, columns, channels and angles shall be mild steel complying with Grade 300 of NZS 3404. SHS sections shall be grade 350.
- b) Structural Tubes shall comply with BS 1387 or similar.
- c) Black bolts and nuts shall comply with AS 1111 : 1980 and AS 1112 : 1980. Bolts and nuts shall be hexagonal metric commercial grade 4.6.
- d) Electrodes shall be covered electrodes and the type used in all cases shall be the best suited to the particular work in hand.

7.04 WORKMANSHIP

Workmanship shall be first class throughout and shall comply with NZS 3404.

Welding procedures and workmanship for metal and welding of mild steel shall comply with AS 1554. Employ only qualified welders on the construction.

All butt welds shall develop the full strength of the member joined and the methods of preparation, fit-up, welding etc, shall be such that the full strength is achieved.

Single V butt welds shall have backing runs as specified in AS 1554:1991.

All welds shall be free of cracks, slag, inclusions, gross porosity, cavities and other deposition faults.

7.05 SETTING OUT AND DIMENSIONS

Check the setting out of all holding down bolts etc, before fabrication and erection.

Any discrepancies outside acceptable limits shall be reported to the Engineer.

7.06 EXTERIOR STEELWORK

All new exterior steelwork i.e PFC and SHS posts shall be Hot Dip Galvanised after completion of all fabrication.

Clean sections thoroughly and apply zinc coating by hot dip process to the requirements of BS 729 to give a coating weight of not less than 600 grams per square metre.

After erection any portion of the galvanising work which has been scratched or marked in any way in transit or during erection shall be touched up with a cold galvanizing coating.

All materials shall comply with relevant NZ Standard Specification and all workmanship shall be of the highest quality.

7.07 INTERIOR STEELWORK – Portal Frame

- a) Preparation Prior to Painting:

Before being painted, all steelwork shall be sand blasted to SA 2.5 complying with Swedish Standard SIS 055900 - 1967 "Steel Surface Preparation Grades".

- b) Priming:

All steelwork shall be painted with two coats of Resene Steel Fab primer, applied strictly in accordance with the manufacturers recommendations. The minimum dry film build thickness shall be 40 microns per coat. After erection any portion of the paint work which has been scratched or marked in any way in transit or during erection shall be touched up.

Painting shall not be carried out on damp surfaces or in unsuitable weather.

Adequate time must elapse between successive coats of paint.

PROFILED COLORSTEEL ROOFING

8.01 GENERAL

Refer to the Preliminary and General Section of this Specification that shall apply to this trade section. This Specification shall be read in conjunction with the attached drawings.

8.02 SCOPE

Comprises the supply and fixing of new roofing and accessories by approved fixers as detailed.

8.03 VEEDEK COLORSTEEL MAXX

To all new roof area as shown on the drawings fix:

- a) **Materials**
The sheet roofing shall be 0.45mm BMT Veedek profile Colorsteel MAXX or equal roofing in colour selected by the owners and one length from ridge or hip to gutter.
- b) **Purlins**
Fix over rafters 75x50 H3.1 purlins on flat at 800 crs max.
- c) **Underlay**
Over purlins stretch 75mm galv. Wire netting securely fixed with galv. staples.
Tie netting edges together with galvanized wire clips.
Over netting fix Thermacraft 213 Bituminous heavy weight breather / absorbent type roofing underlay. Lay horizontally over purlins with 150mm side lap.
Lap over all hips, ridges and lap over fascia board to give drip into gutter.
- d) **Fixing**
Fix Veedek colorsteel MAXX roofing with side laps of 1 rib for all roof pitches.
Fixing pattern shall be as specified by the roofing manufacturer.
Lap sheets away from the prevailing wind.
Fix roofing with colour matched factory painted Class 4 coated steel screw fasteners, 12g x 50mm or M6 RoofZip, (30mm min purlin penetration as recommended by roofing manufacturer).
Iron to project at fascia to give 50mm drip to gutter.
- e) **Verge**
Finish Verge with 250mm wide by 0.55mm BMT Colorsteel MAXX flashing in colour to match roofing. Notch flashing over ribs in roofing and fix with at all ribs into purlins with colour matched factory painted Class 4 coated steel screw fasteners, 12g x 50mm or M6 RoofZip.
- f) **Barge**
Finish at barge with 0.45mm BMT Colorsteel MAXX square edge moulding lapping the roofing at least 2 ribs and fixed with colour matched factory painted Class 4 coated steel screw fasteners, 12g x 50mm or M6 RoofZip into each purlin.

8.04 WORKMANSHIP

Minimise foot traffic on the roofing during fixing. Workmen shall wear soft soled shoes at all times.
All drilling shall be with a magnetic swarf collection chuck to collect metal filings.
Ensure all waste material and excess fixings are removed from the roof and gutters at the end of each working day. Soldering shall **NOT** be permitted.

8.05 SEPARATION

Separate metal sheeting from CCA treated timber with building wrap or other suitable isolation material.

8.06 COMPLETE

Ensure the work is complete with all flashings, finishings and trim properly installed so the cladding system is completely weathertight.

8.07 REPLACE

Replace all damaged or marked elements.

8.08 REMOVE

Remove debris, unused materials and elements from the site.



Stoanz Ltd
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SPECIFICATION
STOTHERM CLASSIC PLASTER SYSTEM
incorporating;
STOTHERM PANELS on a cavity plastered in
LEVELLITE basecoat plaster reinforced with
STOARMAT MESHED plaster finished in **STOLIT K**
coloured finishing render coated in **STOCOLOR**
MAXICRYL facade paint.

BRANZ Appraisal No 478 (2008) - ACAD Details www.sto.co.nz building with Sto

Project:

Rodgers Residence
114 Paetawa Road
Peka Peka – Kapiti Coast

Prepared for:

Alan Craig Design Limited

1. PREAMBLE

This specification is for the application of the **StoTherm Classic Plaster System** consisting of; **StoTherm 60mm Panels** plastered in **LevelLite** basecoat plaster, **StoArmat meshed** reinforcement plaster finished in selected **Stolit K 1.0 or 1.5mm** coloured finishing render coated with **StoColor Maxicryl** facade paint over **StoTherm** cavity batten and building wrap on timber or steel framed construction in accordance with the NZBC.

2. CONSTRUCTION AND DETAILING

Responsibility

All work in this section shall be the responsibility of the Main Contractor, unless otherwise expressly agreed.

The Main Contractor is to ensure that he or she is fully conversant with all StoTherm Standard installation and fixing details (StoTherm ACAD Details @ www.sto.co.nz) and the Main Contractor's responsibilities before works commence. The Main Contractor is to be responsible for all liaison with the various sub contractors to ensure that all items relating to weather tightness of joints/connections affecting the StoTherm cladding system are strictly in accordance with StoTherm ACAD standard or any project specific details, i.e. items such as roofs, down pipes, light & security fittings, electrical wiring, flashings, dissimilar material, deck membranes etc that flash or penetrate the StoTherm System. The main contractor shall also ensure that all the window and door joinery is installed in accordance with StoTherm details by others before the StoTherm System has commenced.

The Sto QA Compliance Form is required to be filled out by the various parties involved for the Sto Warranty.

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Timber Frame

Timber framing must comply with NZS 3604 for buildings or parts of a building within the scope limitations of NZS 3604. Buildings or parts of a building outside the scope of NZS 3604 must be to a specific design in accordance with NZS 3603 and NZS 4203 (AS/NZS 1170). Studs must be at maximum 600 mm centres in Low, Medium, High and Very High Building Wind Zones and maximum 400 mm centres for specifically designed buildings. Dwangs must be fitted flush between the studs at maximum 800 mm centres. All framing shall be true in vertical and horizontal planes with particular attention to intersections of top plate/floor joists/bottom plate in multi-storey construction. Adequate timber framing/blocking shall be provided by the Main Contractor/Builder to facilitate adequate cladding fixings for the designated wind zone, membrane upstands, dissimilar surfaces and exterior fixtures for the StoTherm System. The timber grade and level of treatment shall be in accordance with the latest requirements contained in NZS: 3602. Generally, this will require a minimum treatment level of H1.2. The Moisture content of the timber frame shall be no more than 24% prior to the StoTherm EIFS Cavity installation.

Steel Frame

Steel framing must be to a specific design meeting the requirements of the NZBC. The minimum framing specification is 'C' section studs and dwangs of overall section size of 75 mm web and 32 mm flange. Steel thickness must be minimum 0.55 mm. For steel framed buildings situated in NZS 3604 defined Building Wind Zones up to, and including, 'Very High' studs must be at maximum 600 mm centres. For all other buildings, studs must be at maximum 400 mm centres. Dwangs must be fitted flush between the studs at maximum 800 mm centres.

Note: All areas to be supported by **Sto Quader** blocking are required to be designated/assigned prior to the cavity batten installation and timber blocked as necessary.

Wall insulation

NZBC Acceptable Solution H1/AS1 or NZBC Verification Method H1/VM1 can be used for housing, communal residential, communal non-residential and commercial buildings. For buildings with a glazing area of 30% or less of the total wall area, the minimum wall R-values required for non-solid construction are: Climate Zone 1 & 2 – R 1.9 and Climate Zone 3 – R 2.0. The Thermal resistance of building elements may be verified by using NZS 4214. The BRANZ House Insulation Guide Third Edition provides thermal resistances of common building elements and is based on calculations from NZS 4214. Calculations in accordance with NZS 4214 require that the ventilated air gap and the thermal resistance of each layer between the ventilated air gap and the outside air be de-rated by 45%.

Building Wrap

All framing exterior surfaces shall be covered with a breather type building wrap recommended by the manufacturers as suitable for use in a wall cavity system. The building wrap must be fixed to the framing in accordance with the building wrap manufacturer's specifications. The building wrap shall be taken into all door/window openings and fastened to the inside face of the framing. Head/jamb/sill junctions and sills shall be adequately overlapped and an approved flashing tape used to mask/cover these internal junctions (care must be executed in the placing of flashing tapes to avoid too many overlaps especially at the corners, as these result in a significant lump under the uPVC joinery flashings).

All these details shall be in strict accordance with NZBC Acceptable Solution E2/AS1 and the flashing tape manufacturer's recommendations. Proprietary aluminium or approved other window/door head flashings are to be supplied by the Main Contractor. The Sto EPS Installer shall fix these Head flashings as per the StoTherm ACAD Details.

Soffits

Shall be fixed before cladding is installed and allowance made to close off the cavity with framing or battens to stop air flow into the roof space. A 6/8mm bead of MS Sealant is installed after EPS cladding work is completed and before plastering commences. Inclined soffits require a flashing, soffits less than 450mm wide may require a flashing see table 1: E2/AS1 alternatively Sto Joint Seal Tape can be installed in accordance with StoTherm ACAD details

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Aluminium Window & Door Joinery

All windows, doors etc shall be fitted by the appointed exterior joinery installer. They must be installed prior to the EPS and StoTherm uPVC cladding flashings. The window frames are to be installed offset from the timber frame to allow for the cavity and flashings plus a 3mm gap between the batten and the back face of the aluminium facing (approx 24mm from frame to allow for tapes) refer StoTherm ACAD details. If a WANZ joinery support bracket is used ensure that it finishes 10mm short of the joinery jambs. **Note:** Air seals are required to be fitted by the window installer in accordance with E2/AS1.

Joinery Head Flashings

All proprietary aluminium or approved other type window or door head flashings are to be supplied by the Main Contractor. The supplied head flashings are to be fitted by the Sto installer, taped onto the building wrap they must measure 5mm past the window frame jambs (10mm) so they tight butt into the extended Sto uPVC joinery jamb flashings and are then sealant sealed to form stop ends.

Penetrations / Fittings

Penetrations / Fittings such as waste pipes and fixing brackets shall be flashed with a square sized flexible flashing tape fixed 100mm all round onto the building wrap and a 25mm strip wrapped around pipe / fitting to secure penetration star cut in the square, prior to cladding installation. **Note:** All penetrations through the StoTherm Plaster system shall be adequately supported at the framing by blocking sized to suit. **Sto Quader Block** mechanically fixed and adhesively joined into the poly system can be used to support heavy fixtures as a high density packer. Fixtures that have a face load weight of less than 8kg i.e. such items as downpipe saddles, lighting and security fittings can be installed using **Sto Spiral** fittings after the StoTherm plaster system has been applied. All electrical wiring shall only penetrate the StoTherm EPS and plaster system in the appropriate sized uPVC conduit with flange installed, at a minimum downwards rake of 5°. Refer Sto details. All plumbing piping etc installed should have a downwards rake.

NOTE: MAIN CONTRACTOR & ALL SUB TRADES INVOLVED IN ANY EXTERIOR WORK

All Details must be in strict accordance with Sto standard or project specific ACAD details

3. STOTHERM PANEL INSTALLATION

Responsibility

All work in this section shall be the responsibility of the **Sto Applicator**, unless otherwise expressly agreed. If an endorsed StoTherm panel fixer fits the cladding, the **Sto Applicator** shall be satisfied that the surface is satisfactory before proceeding with any plastering work.

StoTherm Cavity Battens

(Fixed by the Sto Endorsed EPS Installer - in liaison with the Main Contractor)

All exterior wall surfaces shall be battened using **StoTherm Self Adhesive Cavity Battens** placed in accordance with the batten layout as set out in the StoTherm ACAD details. The StoTherm uPVC vented foot tray (min 1000mm² per l/m venting) must be installed first tacked onto the timber bottom plate as a level starter with vertical battens installed from inside the StoTherm foot tray.

To all studs fix a **StoTherm self adhesive cavity batten** to the full length of the stud with all joins tight butted. The battens must be centred on the timber studs and an additional batten or strap is required on greater than 450mm-centred framing to prevent the insulation bulging into the cavity. Additional vertical battens are also required at internal and external corners, openings and a continuous horizontal batten at the soffits for fixings, gables must also be lined or incorporate an air barrier to prevent air flow into the roof. Noggins/dwangs depending on fixings set out (see table below) require a cavity batten packer offset at a minimum 5 degrees slope and with a minimum 50mm gap at the vertical batten transitions. Additional horizontal spacers are required at the head and sill for support and the cavity is to be limited to two stories plus gables. Three storey construction requires the cavity to be closed with an interstorey metal flashing.

The information contained in this Specification is based on our experience and testing and represents the latest information available at the date of production. No responsibility is taken for uses to which this information may be put, but we advise that where application of products and processes is in complete conformity with this specification an appropriate warranty is available. We reserve the right to alter or update information parameters and formulations at any time without prior notice.

StoTherm Panels

Shall be 60mm "H" grade self-extinguishing sheet manufactured to AS 1366 Pt 3 by an approved manufacturer and stress relieved in the plant. Cavity battens are to be StoTherm adhesively cavity battens. All StoTherm panel layouts are to comply with the StoTherm ACAD sheet set out details with panel joints tight butted and glued or foam adhered around openings. If there are any gaps between sheet joints due to variations in the edges **Sto Adhesive Foam** shall be used to flush fill them taking care not to fill the cavity.

StoTherm Fixings

Shall be 90mm x 3.55 galvanised flathead nails for 40mm and 110mm x 4.0 galvanised flathead nails for 60mm, with **Sto Yellow** washers. All fixing centres are to be strictly set out as per fixings layout as detailed in this section to comply with the specified wind zone.

All cladding fixings shall be driven in so they sit 2-3mm below the surface of the panel.

StoTherm Panel Installation

Panels shall be trued from the base, using the 60mm **StoTherm Cavity Foot Trays** (fitted before batten stage) as a starter. Joinery is flashed using the **StoTherm uPVC 40/60 Cavity Jamb & Sill Flashings** and the **StoTherm Vented Head detail** all correctly installed as per the StoTherm ACAD details.

Note: If a WANZ joinery support bracket has been used a **StoTherm 40/60 uPVC Face Fixed Jamb & Sill flashing** will need to be used at the sill to accommodate the bracket. Always refer to www.sto.co.nz for current StoTherm ACAD details.

Panels shall be fixed with **StoTherm fixings** (nails/washers) at maximum centres as specified in the following tables;

StoTherm Fixing Centres for Edges and Intermediate Studs

NZS 3604 Building Wind Zone	Maximum Fixing Centres (mm)
Low ¹	300
Medium ¹	300
High ¹	300
Very High ²	200

1. One fixing is also required into each dwang and top and bottom plates between the studs.
2. Fixings are also required into each dwang at 200 mm centres and top and bottom plates between the studs.

Specifically designed buildings up to 2500 Pa ULS wind pressure with studs at maximum 400 mm centres		
Maximum vertical fixing centres (mm) along studs	Maximum horizontal fixing centres (mm) along top and bottom plates	Maximum horizontal fixing centres (mm) along dwangs
150	200	150

Panel joints shall always occur over a batten on a framing member and shall be straight, true and in the same plane. When fixing at sheet edges nails in adjacent sheets shall be staggered.

Nails shall be carefully driven home 2-3mm compressing the panel not in a skewed manner.

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Where necessary edges that are to be exposed shall be capped prior to fixing. At dissimilar materials junctions the StoTherm panel shall be finished as per the StoTherm details. External corners should be made with factory-cut sheet edges on both faces tightly butted.

Note: Detailing must be in accordance with project specific or StoTherm ACAD details.

Control & Interstorey Joints

Vertical control joints are required on walls; over 20 metres long, where the system abuts dissimilar material or overlays different construction material. Interstorey or horizontal joints are required at 6.0 metres excluding gables. See StoTherm ACAD details for third storey interstorey joint.

Sealant

Shall be **MS Sealant** used strictly in accordance with the Manufacturers Technical Data Sheet.

Plastered Parapet & Balustrade tops

All plastered horizontal surfaces must have a minimum 10° fall and have **Sto Flexyl waterproofing** membrane installed On **balustrades** and **parapets** tops **Sto Flexyl** must be correctly mixed (drill mix 1/1- with fresh cement) and applied with a layer of Sto mesh embedded into the Sto Flexyl attaining a total minimum film thickness of 1/1.5mm. Extend membrane 75 mm up or down adjacent vertical surfaces and 50mm past any poly joints see StoTherm Details and allow to dry overnight. All **Sto Flexyl waterproofing** is to be over coated in StoArmat reinforcement plaster.

Note: Sto Flexyl waterproofing has been evaluated by BRANZ to meet **AS/NZS 4858** waterproof membrane requirements as required by E2/AS1.

Architectural Shapes – Profiles

Any Architectural shapes used to create detailing shall be correctly cut to size and fitted using **Gluecoat Mortar** applied to the back of the shape with a notch trowel prior to placing. Fixings may be used to position shapes correctly whilst the adhesive cures or for mechanically securing large profiles. The profiles shall be pre meshed or receive a **StoArmat** mesh coat. Profiles are placed after the reinforcement mesh coat and are sealant or edge meshed on to the surface at the perimeter junction. When used to cover an interstorey joint ensure lower wall remains free with a 5.0mm gap.

4. STOTHERM CLASSIC PLASTER INSTALLATION

Responsibility

All work in this section including provision of external sealant beads and finishing system shall be the responsibility of the **Sto Applicator** who must assure themselves that the surfaces to be coated are dry, free of contamination and satisfactory before he commences work.

Materials

Stoanz Ltd supplies all the following materials

LevelLite basecoat plaster	StoArmat meshed reinforcement plaster
Stolit K 1.0 or 1.5mm coloured finishing render	StoTherm Panels
StoColor Maxicryl façade paint	Sto Adhesive Foam
StoTherm uPVC Components & Fixings	Sto Flexyl waterproofing
Sto EPS Self Adhesive Cavity Battens	Sto Quader Block
Sto Pre meshed Angles & Drip Edges	

General

Plastering shall be carried out in stages over the StoTherm cladding consisting of; 5/7.0mm **LevelLite** solid basecoat plaster coated with **StoArmat meshed** reinforcement plaster finished in the selected **Stolit K 1.0 or 1.5mm** coloured finishing render coated with **StoColor Maxicryl** façade paint. Adequate protection of all adjacent surfaces must be undertaken prior to commencing .

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StoArmat reinforcement plaster / Sto Flexyl waterproofing

All rebates around joinery are fitted with **Sto uPVC sill and jamb flashings** and are to be plastered in the **StoArmat meshed** plaster. Apply **Sto Flexyl waterproofing** as required to those areas as previously detailed.

LevelLite basecoat plaster

To clean dry prepared surfaces apply a levelling basecoat coat of **LevelLite** by hawk and trowel or pump at approximate thickness of 6 to 8.0mm as a solid basecoat. Float or screed the surface with an **h** rule to achieve an even plane surface free of hollows and deviations allow to set green and remove any ridging or bumps in **LevelLite** with a Sto feathered straight edge or Grid Plane to achieve a minimum dry film thickness 5.0mm. Allow plaster to dry and apply **Sto Flexyl waterproofing** as required before subsequent plaster coats are applied.

StoArmat Meshed reinforcement plaster

To clean dry **LevelLite** plastered surfaces apply an even coat of **StoArmat** plaster by hawk and trowel at approximately 1.5 to 2.0mm and while the **StoArmat** is still wet lightly apply **Sto mesh** ensuring adjacent drops of mesh are overlapped by a minimum 75mm and float the surface to ensure the mesh has been embedded in and allow to dry. Once dry apply a further coat of **StoArmat** at approximately 1.0 to 1.5 mm thick by hawk and trowel to cover the mesh and leave a plane even surface free of voids or deviations. Before applying the selected finishing render remove any slight ridging etc of the **StoArmat** with a Sto rasp ready for subsequent top coating. All application procedures for the **StoArmat** should be in accordance with the Sto TDS sheets and Stoanz Limited's recommendations. Always install **Sto pre meshed uPVC Drip Edges** on concrete block lintels and **Sto pre meshed or Stainless Steel** corners on external corners.

Sealant Installation after mesh coat application

All junctions between the joinery and plastered cladding and around penetrations, flashings and similar details shall be sealed with **MS Sealant**.

Finishing Render as selected.**Stolit K 1.0 or 1.5mm coloured finishing renders as selected**

To all exterior plastered surfaces apply selected finishing render **Stolit K 1.0 or 1.5mm** tinted to the selected colour and applied with a stainless steel trowel gauging to the thickness of the aggregate size and finished with a plastic trowel to the requisite pattern and allow to dry normally overnight. The spreading rate shall be approximately 12sqm/1.0mm 9sqm/1.5mm -/per pail.

StoColor Maxicryl façade paint

All **Stolit K** surfaces shall receive one (1) full coat of **StoColor Maxicryl** façade paint tinted to the selected colour and applied by brush and roller at approximately 6/7 m² per litre.

Note: Always maintain wet edges between cutting in and rolling in tight to ensure an even film build is maintained.

5. GENERAL NOTES**Colour:**

Stoanz Limited strongly recommends that the LRV (Light Reflectance Value) of the selected colour be greater than 25%. If a colour is selected outside of this recommendation, the warranty will be affected as darker colours subject the cladding system to additional thermal shock.

6. MAINTENANCE

Refer; Sto Maintenance Schedule for comprehensive guide

The **StoTherm Classic Plaster System** must be cleaned annually by low pressure washing to remove all existing surface contaminants, with special attention to non-rain washed areas. When recoating is required at the 7/8-year period to maintain long-term integrity and a pristine condition, this can be carried out using the appropriate Sto coating over a cleaned surface. Where a colour change is required Stoanz Limited should be consulted for a specific recommendation / specification. Physical damage must be repaired using the appropriate Sto plaster system.

Annual inspections are to be implemented after completion to clearly identify any faults in the cladding, sealant beads, flashings and any other connections. A repair process must be implemented immediately to address any faults so the long-term warranty is not compromised.

7. WARRANTY

The **StoTherm Classic Plaster System** described in this specification is warranted for a period of fifteen (15) years from the date of practical completion. This is to comply with the relevant clauses in the New Zealand Building Code, B1 Structural, B2 Durability, E2 External Moisture and F2 Hazardous Building Material for this type of building element provided normal maintenance requirements as set out in the Sto Maintenance Schedule are followed.

The warranty is supplied by the Sto Applicator with a five (5) year workmanship warranty signed off by the Sto Applicator carrying out the work. The warranty document including the material warranty is issued by Stoanz Limited provided that;

- (a) The approved **Sto Applicator** who must adequately complete the Sto QA Compliance Procedure Form and PS3 Applicator Warranty carries out all specified work.
- (b) All work is carried out in accordance with this Specification or any written amendments thereto issued by Stoanz Limited.
- (c) The warranty does not cover situations where the plaster system is subjected to physical disturbance, chemical spillage or interference.

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BUTYL RUBBER ROOFING

10.01 GENERAL

Refer to the Preliminary and General Section of this Specification that shall apply to this trade section. This Specification shall be read in conjunction with the attached drawings.

10.02 SCOPE

Comprises the laying of 1.5mm light grey Butyl rubber to new link roof area as required. Allow to inspect the existing butynol garage roof and provide a recommendation and cost for repair as a separate Provisional Sum adjustment item.

10.03 WORKMANSHIP AND MATERIALS

The whole of the work shall be carried out by skilled tradesmen conversant with and specializing in the supply and fixing of this material and shall be a firm approved by Ardex using adequate and proper equipment and methods in accordance with best trade practice, and following the specifications methods and recommendations as laid down by the manufacturers.

Apply to deck areas shown on the drawings 1.5mm Light Grey Butyl Rubber membrane sheeting of standard grade. All solvents, primers, adhesives, fibreglass bandage, uncured butyl tape and necessary accessories to form and flash butyl deck membrane over the substrates, shall be materials which are approved and mentioned in the Manufacturers printed specification.

10.04 ADHESIVES AND SOLVENTS FOR USE WITH BUTYNOL

WA98 - The Standard contact brushing, spray grade and rolling adhesive for fixing to the substrate and for laps not subject to periodic ponding.

Note: Temperature and Humidity

The evaporation of any solvent adhesive system causes a drop in temperature at the interface. At times of high humidity this can result in a micro molecular water layer at the interface which will result in a failure to bond, falsely attributed to Adhesive failure. Fixing should not proceed under these circumstances.

Do not apply adhesives in temperatures under 6°C.

Seam Primer - A water resistant primer, used with seam tape for general lap bonding.

Seam tapes shall be 50mm wide seam tape provided by Ardex.

All Plywood joints shall be taped with a 25mm wide pressure sensitive Ardex approved self adhesive tape.

10.05 PREPARATION AND LAYING

Ensure suitability of substrate surfaces to provide the finish required.

Commencement of laying rubber sheet shall be deemed acceptance of the substrate.

Sheet joints and laps shall be straight and even with uniform sheet spacing.

Lap butyl rubber sheets as required to achieve detailed finish.

DO NOT lay butynol until moisture content of the plywood and timber structure has reached a maximum of 20% or less.

Turn sheets up behind wall linings and dress around penetrations, over solar panel plinths etc. At completion sheathing shall adhere continuously to substrate free from buckles and blisters.

All Butynol sheeting shall be laid out on the roof to "relax" the sheeting before fixing. A period of at least 20 minutes is usually required. Do not finally position sheeting with a tension exceeding 2%.

Apply adhesive to the substrate and the underside of the Butynol rubber sheeting by brush, spray or an approved type roller at a spreading rate of generally not less than 2.5 square metres per litre. Leave to tack dry before bonding the two surfaces together.

Lay sheeting by drawing back halfway either longitudinally or transversely.

Thoroughly roll or work over the surface of the sheet to exclude all air and to obtain a full bond.

BUTYL RUBBER ROOFING

All butynol shall be lap bonded. Following laying of the Butynol the laps must be sealed. Roofs with a pitch of less than 5°, all coloured membranes irrespective of pitch and all guttering and areas subjected to periodic ponding require special lap bonding using Ardex seam primer and Ardex seam tape. Laps with pitch 5° and above (on black Butynol only) can be sealed using WA98 adhesive. (Lap areas must be wiped using WA98 solvent prior to applying adhesive.)

1. The top lap is positioned and the bottom sheet marked to indicate the edge of the top sheet.
2. The top sheet is folded back.
3. The Ardex Seam Primer is then applied to the Butynol in the area marked on the bottom sheet and 50mm in from the edge on the top sheet. The Ardex Seam Primer is applied to the mating surfaces using a synthetic scrubbing pad. Scrubbing pads should be replaced as they become dirty. Allow the primer to become 'dry to the touch'.
4. Position and unroll the 50mm Ardex Seam Tape along the seam. The edge of the release paper should be aligned to the mark on the bottom membrane sheet.
5. Roll the length of the seam with the release paper still in place.
6. Remove the release paper from the Ardex Seam Tape by pulling at a 45° angle away from the seam. Keep the release paper low to the roof surface as it is removed.
7. Fold into place the primed edge of the top sheet.
8. Roll the completed seam.

10.06 PROTECTION

The Butynol roofing contractor shall ensure that his fixers only work on the Butynol roofing with soft sole shoes.

The Butynol roofer shall co-ordinate with the main contractor who shall ensure that any other trades who work over the completed roof wear soft sole shoes.

Upon completion of each area the roofer shall get the main contractor to inspect the area and the main contractor will sign off that the area was free from any defects or damage. It is then the responsibility of the main contractor to ensure the Butynol roofing is in no way damaged by other trades.

10.07 COMPLETION & WARANTEES

Clean residual wax and contamination from Butyl rubber surfaces with solvent to approval prior to bonding. Remove all trade waste from the site at completion.

Provide standard manufacturers warranty on materials for 20 years and workmanship for 5 years respectively dated from Contract completion.

11 AUTEX GREENSTUF® THERMAL INSULATION

1. GENERAL

This section relates to Autex GreenStuf® polyester fibre insulation installed, laid, hung or fitted as thermal insulation.

Documents

1.1 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZBC E2	External moisture
NZBC H1/AS1	Energy efficiency, 2.0 Building thermal envelope
NZS 4218	Energy efficiency – Small building envelope
NZS 4243.1	Energy efficiency – Large buildings – Building thermal envelope
NZS 4534	Zinc and zinc/aluminium-alloy coatings on steel wire

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.2 MANUFACTURER'S DOCUMENTS

Autex Insulation documents relating to work in this section are:

Autex Insulation Product Manual, including:

Data sheet GreenStuf® Thermal Insulation – Pad Form
Data sheet GreenStuf® Thermal Insulation – Roll Form

Installation Instructions – GreenStuf® Thermal Insulation

BRANZ Appraisal Certificate 380 – Autex GreenStuf® polyester thermal insulation

Copies of the above literature are available from Autex Insulation

Web: www.autex.co.nz

Telephone: 0800 428 839

Autex Insulation documents are also available on EBOSS

Web: www.eboss.co.nz

1.3 ABBREVIATIONS

The following abbreviations are used throughout this part of the specification:

NZBC New Zealand Building Code

1.4 NO SUBSTITUTIONS

Substitutions are not permitted to any specified **Autex GreenStuf®** insulation, associated products, components or accessories.

1.5 QUALIFICATIONS

Work to be carried out by tradesmen experienced, competent and familiar with Autex Insulation materials and techniques specified.

1.6 COMPLIANCE SCHEDULES

Provide details of inspections, maintenance and reporting procedures required to demonstrate ongoing compliance with NZBC H1/AS1.

1.7 WARRANTY - MANUFACTURERS

Manufacturer's warranty (durability) for Autex polyester thermal and acoustic insulation products under normal environmental and use conditions against failure.

Warranty (durability): 50 years

Provide this warranty on the manufacturer's standard form.

2. PRODUCTS

Materials

2.1 POLYESTER FIBRE THERMAL INSULATING PADS

Autex **GreenStuf® Pad Form** - 100% polyester fibres thermally bonded to form a rectangular insulation pad. Refer SELECTIONS for details.

2.2 POLYESTER FIBRE THERMAL INSULATING ROLLS / BLANKET

Autex **GreenStuf® Roll Form** - 100% polyester fibres thermally bonded to form a flexible insulation blanket/roll. Refer SELECTIONS for details.

2.3	Components TAPES Proprietary plastic tape, stapled across framing to retain insulation in unlined wall and ceiling locations.
3.	EXECUTION
3.1	Conditions STORAGE Accept materials undamaged and dry and store in a location that protects them from the weather and damage. Avoid distortion, stretching, puncturing and damage to insulation and packaging. Do not use damaged materials.
3.2	HANDLING Avoid distortion of rectangular pad form. Maintain full thickness of the insulation unless compression is an installation system requirement.
3.3	INSPECTION Before starting installation of Autex GreenStuf [®] blankets, pads and rolls, check that the location and framing are free from moisture, that the cavities are not interconnected and that mesh, building papers and vapour barriers are in place.
3.4	Application CHECK FOILS Ensure foils are dry, clean, bright, undamaged and free of debris before installing insulation.
3.5	CHECK WALL WRAPS AND ROOF UNDERLAYS Ensure foils are dry, clean, bright, undamaged and free of debris before installing insulation.
3.6	CHECK VAPOUR BARRIERS Ensure vapour barriers form a homogeneous sheet vapour barrier before installing insulation.
3.7	INSTALL INSULATION Lay, install, fit and fix to NZBC H1/AS1: Energy efficiency, Section 2.0 Building Thermal Envelope, and to Autex Insulation requirements as detailed in the Installation Instructions. Install in housing to NZS 4218 and NZS 4246. Install in large buildings to NZS 4243.1.
3.8	FIT POLYESTER FIBRE THERMAL INSULATION PADS Friction fit GreenStuf [®] insulation pads in place to completely fill the whole of the cavities. Slightly oversize length for friction fit and tear by hand across pad and fill cavity. Tear to smaller pieces for smaller spaces and around penetrations. Leave no gaps and maintain full thickness over the whole of the installation. Do not cover vents and leave a 150 mm gap around recessed light fittings and metal flues. Fix in place with plastic tape as necessary.
3.9	FIT POLYESTER FIBRE THERMAL INSULATION ROLLS Friction fit GreenStuf [®] insulation rolls between the studs/joists, or in place to completely fill the whole of the cavities. Slightly oversize length for friction fit and tear by hand across the width of the roll. Tear to smaller pieces for smaller spaces and around penetrations. Leave no gaps and maintain full thickness over the whole of the installation. Do not cover vents and leave a 150 mm gap around recessed light fittings and metal flues. Fix in place with plastic tape as necessary.
3.10	Completion CLEAN UP Clean up as the work proceeds so no spare off-cuts or any other matter or item remain behind claddings or linings.
3.11	LEAVE Leave work to the standard required by following procedures.
3.12	REMOVE Remove debris, unused materials and elements from the site.
4.	SELECTIONS
4.1	POLYESTER FIBRE THERMAL INSULATION – EXTERIOR WALLS Location: Ground and first floor external walls Brand: Autex GreenStuf [®] R Value: R2.5 Wall Pads Thickness: 90 mm

4.2

POLYESTER FIBRE THERMAL INSULATION - CEILING

Location: Ground and first floor roofs

Brand: Autex **GreenStuf**[®]

R Value: R3.4 Ceiling Pads

Thickness: 190 mm

PLUMBING

12.01 GENERAL

Refer to the Preliminary and General Section of this Specification that shall apply to this trade section. This Specification shall be read in conjunction with the attached drawings. The whole of the works shall be carried out in accordance with and shall conform to the By-Laws and Regulations of the Local Authority.

The Contractor shall obtain all permits and pay all inspections and other fees necessary for the carrying out of this contract.

All internal drainage work shall be designed and installed to comply with AS 3500.2: Part of Australian National Plumbing and Drainage Code.

12.02 SCOPE

Comprises the supply and fitting of flashings, spoutings, downpipes, sanitary fixtures and wastes, hot and cold reticulation and drainage as detailed.

Refer to the Plumbing Plans and Schematic on sheets P1.01 and P1.02.

The following standards shall apply:

NZBC G1/AS1 Personal hygiene

2.0 Fixture construction and installation

3.0 Location of sanitary fixtures

NZBC G2/AS1 Laundering facilities

NZBC G3/AS1 Domestic appliances and facilities

NZBC G12/AS1 Water Supplies

AS/NZS 1260

PVC pipes and fittings for drain, waste and vent applications

AS/NZS 3500

National plumbing and drainage code

3500.2: Sanitary plumbing and drainage

3500.2.2: Acceptable solutions

NZS 7641

Unplasticized PVC waste and ventilating pipe, fittings and accessories, 32 mm, 40 mm and 50 mm

Plumbers, Gasfitters and Drainlayers Act 1976

AS/NZS 2642

Polybutylene pipe fittings

2642.2: Polybutylene (PB) pipe for hot and cold water applications

2642.3: Mechanical jointing fittings for use with polybutylene (PB) pipes for hot and cold water applications

NZS 3501

Specification for copper tubes for water, gas and sanitation

NZS 4606

Storage water heaters

4606.3: Specific requirements for water heaters with composite shells

NZS 4607

Installation of thermal storage electric water heaters: valve-vented systems.

BRANZ Bulletin 304: Flashing design.

BRANZ Bulletin 305: Domestic flashing installation.

12.03 WORKMANSHIP AND MATERIALS

All work shall be carried out in accordance with the drawings, specification, Local Authority and Public Health Regulations. All materials shall be the best of their respective kinds.

Water pipes and tubes shall be set out in straight runs of even gradients, avoiding all places where airlocks are likely to occur. Use easy bends and unless unavoidable, elbow fittings are not to be used. Copper or polybutylene tubing is to be secured in position by copper or P.V.C. straps concealed or as detailed.

12.04 FLASHINGS

Flash in 0.45mm aluminium as necessary to render building watertight. All flashings shall accurately fit the work and shall be machine bent and cut in as long lengths as possible with all joints well lapped and soldered, beaded edges and fixed with 19.0mm flat head nails at 75mm centres.

PLUMBING

12.05 SPOUTINGS AND DOWNPIPES

To all fascias at positions required, fit Marley FL2 P.V.C. spouting with falls to outlets in accordance with the manufacturers recommendations.

At positions shown or required fix 65 or 80mm diameter P.V.C. downpipes, sealed into droppers from spouting and into stormwater drains. Fix to walls with purpose made fixing brackets supplied by the manufacturer.

12.06 WASTES AND TRAPS

All sanitary fittings shall be fitted with P.V.C. traps of sizes:
40mm to basins, showers, and sink
100mm to W.C's.

Run from traps to gully traps in P.V.C. wastes of sizes as above in the shortest runs possible.
Turn wastes down at end to discharge into gully traps.
Refer to the Plumbing Plans and Schematic on sheets P1.01 and P1.02.

12.07 TERMINAL VENT, SOIL STACKS AND VENTS

Soil stacks, back vents and terminal vents shall be approved size and quality rigid P.V.C. pipe.
Where required extend vents 600mm above gutter level finishing with slotted P.V.C. cap.

12.08 PIPES

The hot and cold water supplies shall comply with the new Zealand Building Code Clause G12: Water Supplies and in particular G12/AS1 Table 1 Pipe materials for hot and cold water.

The delivered hot water temperature at any new or relocated sanitary fixture used for personal hygiene shall not exceed 55 degrees C.

All pipes for hot and cold reticulation shall be polybutylene well strapped to framework to prevent water hammer. All joints shall be solvent welded.
All hot water pipes shall be thermally insulated with split rubber shielding well strapped on to comply with the requirements of Energy Efficiency H1/AS1 Clause 5.0 Hot Water Systems.

Pipe penetrations in concrete and masonry elements shall be either wrapped with a flexible material or passed through a sleeve or duct to permit free movement for expansion and contraction.

Make connection to existing supplies at most convenient points and run branches to fittings and hot water cylinder / supply tank and exterior hose taps.

Install and position a Rheem mains pressure 180 litre electric hot water cylinder (312180) with a 2 kW element and thermostat.

Provide and fix 2 off seismic restraints to the HWC including tensioning brackets.

Supply and fit an approved cylinder wrap to the hot water cylinder.

As required provide a drip tray and waste to nearest gully trap.

Take 20mm expansion pipe out through roof. The hot water cylinder relief valve shall not discharge into any galvanized steel safe tray or pipework.

Provide permanent unrestricted visual and physical access to the cylinder, the control and relief valves and to the tundish valves for drains.

12.09 TESTING

Before wall linings are fixed, subject all new hot and cold pipe work to the full head of water constituting the normal cold supply. The test shall be not more than 30 minutes duration and leaks if any shall be rectified. All fixtures and fittings shall be left in perfect working order.

PLUMBING

12.10 WC PAN AND CISTERN

Take delivery and fit where shown on the drawings white vitreous china wall faced suite WC pans to be caulked into the soil pipes with approved sleeve properly caulked into place.
Take delivery and fit double flap plastic seats.

Bathroom	Caroma Opal II wall faced suite.
Ensuite	Caroma Opal 2000 wall faced suite.

Make cold water connection with 15mm tube controlled by a ballofix valve.
Connect to the pan with a 40mm PVC flushing pipe and 20mm overflo from cistern as required.

12.11 SHOWER CABINETS

Take delivery and fit where shown on the drawings in Bathroom - 900x900mm – and Ensuite 1000x1000 – Clearlite Enduro acrylic shower trays complete with matching acrylic wall panels and anodised aluminium framed glazed side panels and pivot doors.
Fit supplied Clearlite waste outlet to tray and connect to waste.

Supply and install Methven Georgia shower mixers GORSHCP and Methven Futura FU slide shower FU 2011CP.

12.12 HOSE TAPS

Supply and complete 2 new outlets finished with HMC Kowhai No. 37 threaded hose taps where shown on plumbing plans and relocate one hose tap by water pump.

12.13 SINK AND DISHWASHER

Sink supplied by Joiner. Supply plug to fit outlet.
Connect up to waste and supply and fit with Methven Georgia GORKCP sink mixer.
Provide and install in the under sink cupboard a cold only supply tap for the dishwasher.

12.14 VANITY

Take delivery of and install 2 off 1200 long vanity units.
Connect up to waste and supply and fit with Methven Georgia GORBCP basin mixer.
Supply plug to fit outlet.

12.15 EXHAUST FANS

Supply and install 150mm dia thru wall exhaust fan units (wired by the Electrician) to the Bathroom and Ensuite. Fit inlet and outlet grilles sealed to internal lining and external cladding as detailed.

All fans to meet the following specifications:

- Automatic Shutter to open when power switched on, close when turned off,
- Timer to run for 5 minutes after switch off,
- ~~3 year warranty,~~
- Mechanical ventilation shall provide a minimum air change of 25 litres per second.

To exterior of all fan units provide and install a PVC Manrose cowling / shroud over the exhaust grille.

Install semi rigid Applico RWH150 ducting from the Range hood location connected to fan spigot at bottom end and run in the duct below ceiling to the south wall face.
Fit supplied hooded outlet grille sealed to external cladding as detailed.

DRAINAGE

13.01 GENERAL

Refer to the Preliminary and General Section of this Specification that shall apply to this trade section. This Specification shall be read in conjunction with the attached drawings.

The whole of the works shall be carried out in accordance with and shall conform to the By-laws and Regulations of the Local Authority.

The Contractor shall obtain all permits and pay all inspections and other fees necessary for the carrying out of this contract.

All drains shall be tested and the excavations can only be filled after the work has been passed.

13.02 SCOPE

The following standards shall apply:

NZBC B1/AS1 Structure – general, 6.0 Drains

NZBC E1/AS1 Surface water

3.0 Drainage system materials and construction

NZBC G13/AS2 Foul Water – drainage

AS/NZS 1254 PVC pipes and fittings for storm and surface water applications

AS/NZS 1260 PVC pipes and fittings for drain, waste and vent applications

AS/NZS 1547 On site domestic wastewater management

AS/NZS 4130 Polyethylene pressure pipes (PE)

AS/NZS 4671 Steel reinforcing materials

NZS 3107 Precast concrete drainage and pressure pipes

NZS 3104 Specification for concrete production

NZS 7643 Installation of unplasticised PVC pipe systems

Plumbers, Gasfitters and Drainlayers Act 1976

Comprises the laying of storm water and sanitary sewer drains as required.

Excavate for, provide and backfill drains from the mains and run to fittings and fixtures in accordance with the reticulation required or shown on the plans.

13.03 WORKMANSHIP AND MATERIALS

All work shall be carried out in accordance with the drawings, specification, Local Authority and Public Health Regulations. All materials shall be the best of their respective kinds.

Pipes shall be the sizes shown on the drawings, in approved P.V.C. material.

Pipes shall be true to shape and free from cracks and other defects.

All joints and connections shall be made with approved adhesive.

13.04 LAYING DRAINS

The drains shall be commenced at the point of outfall and worked back to the highest point with at least 300mm cover. The whole of the drains shall be laid in a true and even grade of 1:100.

Test all drains according to the procedure adopted by the local authority.

Backfill in accordance with NZS 7643 by surrounding the pipe in drainage metal, care must be taken to ram carefully the first portion around the drains, the whole trench then to be well filled, rammed and consolidated with water.

Under existing decking drains are to be laid to the approval of the local authority.

13.05 GULLY TRAPS

Where shown on the drawings install gully traps with gratings and set in concrete.

13.06 SEPTIC TANK

The existing septic tank was installed in 1998.

Refer to the Original Effluent Disposal System Percolation Test Report and Engineers acceptance letter dated 21 October 1998 taken from the property file CD provided by KCDC.

ELECTRICIAN

14.01 GENERAL

Refer to the Preliminary and General Section of this Specification that shall apply to this trade section. This Specification shall be read in conjunction with the attached drawings.

The whole of the works shall be carried out in accordance with and shall conform to the Bylaws and Regulations of the Local Authority.

The Contractor shall obtain all permits and pay all inspection and other fees necessary for the carrying out of this contract.

14.02 SCOPE

Provide and install switchboard. Wire to all power and light outlets as shown on the floor plans.

Supply or take delivery of and install fittings as specified.

Allow for earthing the installation in an unobtrusive manner to the satisfaction of the Local Authority.

14.03 WORKMANSHIP

The work shall be carried out in accordance with the regulations governing electrical work and in accordance with the best trade practice and to the satisfaction of the Supply Authority Inspector.

14.04 MAINS

Provide and install a metal meter box on the exterior of the addition where shown on sheet A2.01

Allow to re-direct the main feed cable from the existing meter box position into the new meter box.

14.05 SWITCHBOARD

Where shown on the drawings, supply and fit a flush PVC switchboard box complete with hinged door and hinged composition panel.

Fit terminal box, mains switch, fuses and circuit breakers as required. Wire for circuits as specified.

14.06 WIRING

All wiring shall be T.P.S. plastic cable of approved make with wires of sizes necessary for the maximum possible loadings. Cable shall be securely fixed to the framework with approved clips.

Holes drilled in framing members shall be no larger than necessary and shall be in as straight runs as possible to allow for the withdrawal of cables as required.

Horizontal runs within walls shall not be allowed.

The installation shall be electrically continuous throughout and effectively earthed and all cables shall be concealed in the walls and ceilings. All wiring run in concrete or concrete block work or passing through concrete beams shall be encased in P.V.C. conduit of sizes to suit cable.

14.07 SOCKET (3 PIN) OUTLETS

Wire circuits from 20 Ampere M.C.B.'s at switchboard to outlets split over circuits looped by the most convenient and economical runs.

Finish off outlets with white switched socket units of 10 Ampere capacity fixed flush in the walls in metal outlet boxes.

Socket outlets in Bathroom and Ensuite shall be type fitted with approved earth leakage device OR alternatively wired back to an RCD circuit breaker at the distribution board.

14.08 LIGHT OUTLETS

Wire circuits in twin and earth cable from 10 Ampere M.C.B.'s at switchboard to loop light outlets by the most convenient and economical runs.

Finish light switches with white fixed switchplates flush in the walls in metal outlet boxes.

Fit sets of 2-way switching to outlets as detailed.

Take delivery of and install light fittings as required. Supply lamps to outlets as directed on job.

14.09 WATER HEATER

Wire water heating circuits from the switchboard to hot water cylinder.

Provide control switches, mounted on metal junction boxes and connect to elements and thermostats

ELECTRICIAN

with wiring encased in flexible conduit.

14.10 SMOKE ALARMS

Supply and fit where shown on the drawings smoke alarms as follows:

On all levels and within 3 metres of all sleeping spaces.

If located outside sleeping spaces the smoke alarms shall be audible with the door shut.

The smoke alarms shall have both a hush facility to silence the alarm for a minimum of 60 seconds and a test facility available to all occupants.

The smoke alarms may be battery powered.

14.11 RANGE

Take delivery of and install an underbench electric oven. Hob to be gas fired.

Wire mains from switchboard with flush isolating switch at range position and connect to units with wiring encased in flexible conduit with heavy duty 3 pin plug.

9.12 EXHAUST FAN/LIGHT/HEATER

Plumber to install 2 off 150mm diameter thru wall exhaust fan units and rangehood.

Allow to wire to switchplates.

14.13 HEATED TOWEL WARMERS

Take delivery of and install heated towel warmers in the bathroom and ensuite.

14.14 TELEVISION CABLING

Make allowance for and install television cabling from the Jack points shown on the electrical plans up to the central roof ridge, to terminate at rafter apex level.

Other contractors to provide and install TV aerial.

14.15 TELEPHONE CABLING

Extend the telephone cabling from the existing location at the corner of the garage and run to three new telephone jack points within the addition as shown on the electrical plans.

16 WPS DURO™ DECK & WET AREA MEMBRANE

1. GENERAL

This section relates to the application of Waterproofing Systems Ltd products:
- duroSET® membrane

Documents

1.1 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZBC E2/AS1 External moisture
AS/NZS 2269 Plywood - structural

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.2 MANUFACTURER'S DOCUMENTS

Waterproofing Systems Ltd documents relating to work in this section are:

duro Product Manual (3rd Edition October 2007)

Standard detailed drawings

BRANZ Appraisal Certificate 469 (2005): duroSET® & duroQIK® external waterproofing membranes

For copies of the above documents, or for technical assistance, contact your local Waterproofing Systems Ltd representative:

Wanganui, Taranaki 021- 457 953
Wairarapa, Wellington 021- 402 434

Web: www.waterproofing.co.nz
Telephone: 0-6-357 9148 (Head office)
Facsimile: 0-6-357 9410 (Head office)

1.3 ABBREVIATIONS

The following abbreviations are used throughout this part of the specification:

DFT Dry Film Thickness

Requirements

1.4 NO SUBSTITUTIONS

Substitutions are not permitted to any specified Waterproofing Systems Ltd system, or associated components and products.

1.5 QUALIFICATIONS

Waterproofing work to be carried out by Certified Partners™ or licensed applicators approved by Waterproofing Systems Ltd. Approved applicators may be found at:

Web: www.waterproofing.co.nz
Telephone: 0-6-357 9148

1.6 PROJECT REGISTRATION

Contact Waterproofing Systems Ltd to confirm that the project has been registered.

Web: www.waterproofing.co.nz/register
Telephone: 0-6-357 9184

If the project has not been registered, telephone and provide all required details.

Warranties

1.7 WARRANTY - INSTALLERS

Installer's warranty for the system under normal environmental and use conditions against failure.

Execution warranty: 3 years
Provide this warranty on the installer's standard form.

1.8 WARRANTY - MANUFACTURERS

Manufacturer's material warranty for the system under normal environmental and use conditions against failure.

Material Warranty: 15 years for duroSET® and duroQIK® in tiled applications

From: Date of completion of the application

Performance

1.9 PERFORMANCE

Accept responsibility for the weather-tight performance of the completed membrane system.

1.10 PRE INSTALLATION MEETING

Convene a meeting between the applicator, contractor, all associated consultants and Waterproofing Systems Ltd to ensure all parties know what is required for effective performance of the system.

1.11 SPECIAL DETAILS

Where a standard detail does not exist, or if a standard detail cannot be applied, an approved alternative must be obtained from Waterproofing Systems Ltd before proceeding with the installation.

1.12 QUALITY ASSURANCE

Maintain quality necessary to assure that work is performed in accordance with this specification and the qualifying requirements of Waterproofing Systems Ltd.

Ensure that Waterproofing Systems Ltd's Quality Control sheets are completed fully and faithfully for each installation area.

2. PRODUCTS

Materials

2.1 WATERPROOFING MEMBRANE

duroSET® single component light beige coloured liquid water based flexible rubber membrane in pails marked with the manufacturer's mark.

2.2 TILE ADHESIVE

duroFIX® ceramic tile adhesive for tiling over duroSET® membranes in bags marked with the manufacturer's mark.

2.3 PRIMER

duroPRIME™ general purpose primer or duroPRIME™ Sand/Cement Primer additive in pails marked with the manufacturer's mark, and used in accordance with Waterproofing Systems Ltd technical literature.

Accessories

2.4 REINFORCEMENT

RF fabric tapes, butylFLASH™ tapes or pre-formed Elastofabric tapes and preformed internal and external corners.

2.5 SEALANT

EF polyurethane sealant.

2.6 SUBSTRATE FILLER

duroPRIME™ Sand/Cement Primer combined with duroMIX® to form a repair mortar.

2.7 RAINWATER AND FLOOR WASTE FITTINGS

Use only proprietary fittings.

3. EXECUTION

Conditions

3.1 GENERALLY

Comply with the requirements and instructions of Waterproofing Systems Ltd and the manufacturer's requirements.

3.2 STORAGE

Take delivery of pails of liquid membrane and accessories undamaged. Include for site handling facilities where required. Store, on a level surface, off concrete floors, out of direct sunlight or freezing conditions and with the required accessories under conditions that ensure no deterioration or damage.

- 3.3 **CHECK SUBSTRATE**
Check that the substrate will allow work of the required standard and will comply with the requirements of the NZBC. Complete any remedial work identified before commencing any work.
- 3.4 **CURING OF NEW CONCRETE**
Allow concrete to fully cure before applying membranes.
Maximum moisture content of concrete 75% RH.
- 3.5 **FILM THICKNESS**
Ensure that the dry film thickness specified in the Waterproofing Systems Ltd installation documents is achieved. Film thickness is an important factor to the waterproofing performance of the membrane and its long term durability.
- 3.6 **Application – Preparation - duroSET®**
SUBSTRATE CONDITION
Ensure that the substrate is in a suitable condition to allow work of the required standard and will comply with the requirements of the NZBC E2/AS1 for the relevant substrate and Waterproofing Systems Ltd requirements.
- Ensure that the substrate construction is well braced against movement and deflection and structurally sound. Ensure that the substrate falls to the rainwater/water outlets and water must not pond. Ensure all surfaces are clean, dry and free from dust and dirt, oils or grease with no projections of sharp materials.
- Acid etch and/or diamond grid concrete surfaces as required to achieve a suitable surface.
- 3.7 **SUBSTRATE PREPARATION**
Remove projections and all debris, leaving the surface dust-free, oil-free and clean, with nothing that could diminish the adhesion of primers. Grind off steps or sharp protrusions caused by formwork joints. Ensure there are no concrete additions or release agents could diminish adhesion of membrane.
- 3.8 **PRIME SUBSTRATES**
Prime substrates thoroughly with duroPRIME™ Primer or duroPRIME™ Sand/Cement Primer ensuring a good even coverage and penetration as recommended by Waterproofing Systems Ltd. Where an existing coating is present on the substrate confirm with Waterproofing Systems Ltd technical specification that duroPRIME™ Primer is the most appropriate primer to use for the specific substrate.
- 3.9 **ALLOW PRIMER TO DRY**
Allow the primer to fully dry as recommended by Waterproofing Systems Ltd.
Prevent contamination of the primed surface prior to application of the membrane.
- 3.10 **FILL VOIDS**
Voids and gaps to be filled with mortar incorporating duroPRIME™ Sand/Cement Primer and duroMIX® or EF polyurethane sealant.
-
- 3.11 **Installation – duroSET®**
WEATHER CONDITIONS
Install duroSET® liquid membrane only in fair weather with surface temperature above 10°C and below 35°C
- 3.12 **INSTALL EF POLYURETHANE SEALANT**
Install a 12 mm fillet of EF polyurethane sealant at junctions or substrate abutments before the application of RF fabric reinforcement
- 3.13 **REINFORCEMENT**
Provide reinforcement to the duroSET® membrane with RF tapes, butylFLASH™ or Elastofabric tapes to Waterproofing Systems Ltd specifications. Embed the tapes into a wet coat of the duroSET® and ensure that the reinforcing is completely covered with subsequent coatings of the liquid membrane.

- 3.14 **JUNCTIONS IN SUBSTRATE**
Ensure that all junctions in substrate i.e. wall/floor and wall/wall and substrate abutments are reinforced to waterproofing Systems Ltd specifications. Reinforce over cracks up to 2 mm maximum. Reinforce to enhance seals around penetrations and pipes through the membrane.
- 3.15 **INSTALL duroSET®**
Install the duroSET® membrane to the substrate to Waterproofing Systems Ltd installation specifications. A minimum of two coats to apply a total minimum of 1.5 litres/m² giving a DFT of 1.2 mm is recommended by Waterproofing Systems Ltd. Apply subsequent coats at different directions to the preceding coat. Apply with roller (medium/long nap), long bristle brush or spray.
- 3.16 **PROTECTION**
Do not leave membrane exposed for prolonged periods to UV light and the possibility of mechanical damage. Cover with protection sheeting if required. Apply tiling and/or surface toppings once the duroSET® membrane is fully cured according to Waterproofing Systems Ltd specifications.
- 3.17 **TILING**
duroFIX® ceramic tile adhesive to be used according to Waterproofing Systems Ltd specification.
- 3.18 **Completion - generally**
CLEAN UP
Clean up as the work proceeds.
- 3.19 **ACCEPTANCE**
- Arrange for an inspection of the completed work.
- Complete Waterproofing Systems Ltd Quality Control sheets and provide to them for the issuing of the Materials Warranty.
- Protect the membrane until completion of the contract works.
- 3.20 **LEAVE**
Leave this work in a sound and waterproof condition and free of any defect
- 3.21 **REMOVE**
Remove debris, unused materials and elements from the site.
4. **SELECTIONS**
- 4.1 **DUROSET®**
Location: Bathroom and Ensuite floors
Supplier: Waterproofing Systems Ltd
Brand: duroSET®
DFT: 1.2 mm

TILING

17.1.1 SCOPE

Supply and install floor tiles selected by the Owners to the new Bathroom, Ensuite, Lower Entry and Ground Floor Hall concrete floors.

All Tiling and waterproofing membranes are included in the Tiling Provisional Sum item.

17.1.2 DOCUMENTS

Documents referred to in this section are:

NZBC	D1/AS1	Access Routes 2.1 Slip resistance
AS/NZS 3661		Slip resistance of pedestrian surfaces 3661.1: Requirements
AS 3740/ AS 3958		Waterproofing of wet areas within residential buildings Ceramic tiles Part 1: Guide to the installation of ceramic tiles
BS 6431		Ceramic floor and wall tiles
BRANZ publication: Good Tiling Practice		

17.1.3 QUALIFICATIONS

Carry out all work in this section using competent tiling contractors, experienced with the materials and techniques specified. Ask for list of approved applicators from your nearest Jacobsen's Creative Surfaces representative.

17.1.4 ADHESIVES QUALIFICATION

All suitable adhesives, waterproof membranes and grouts to be selected from the **DuroMEMBRANES** range of products. See Waterproofing Systems Ltd website www.waterproofing.co.nz.

17.1.5 SAMPLES

Submit samples of the tiles specified, sufficient to show the pattern and the range of colour finish.

17.1.6 SLIP RESISTANCE

The owner is to confirm which tiled surfaces are "wet" and which are "dry" for testing and confirmation purposes.

Slip resistance to comply with NZBC acceptable solution D1/AS1, clause 2.1.

All floor tiles: when in place on a level access route, to have a mean coefficient of friction not less than 0.4 when tested in accordance with AS/NZS 3661.1, appendix A and B.
When in place on a sloping access route, to have a coefficient of friction not less than $0.4 \times 0.0125S$ (S = slope of surface expressed as a percentage).

17.2. PRODUCTS

17.2.1 FLOOR TILES

To be selected by the Owners to BS 6431.

17.2.2 WATERPROOFING MEMBRANE

Use Waterproofing Systems Ltd **duroSET Tanking Membrane** liquid rubber membrane on all flat surfaces and **EF Polyurethane sealant** at all Wall/Floor Junctions and internal joints.
Refer to Specification Section 16 WPS Duro Deck & Wet Area membrane.

17.2.3 SCREED

Use **Duro Prime** Screed System in accordance with the Duro Screes system requirements.
Refer to DuroMEMBRANES Product Manual available from Waterproofing Systems Ltd website www.waterproofing.co.nz.

17.2.4 MOVEMENT CONTROL JOINT SEALANT

Brand: **Kerakoll**
Type: **Sigibuild/Sigibuild PU**

17.3. EXECUTION

17.3.1 HANDLING AND STORAGE

Handle tiles with care to avoid chipping, soiling and damage. Store on hard, level standings in non-traffic, non-work areas that are enclosed, clean and dry. Reject all damaged tiles.

TILING

- 17.3.2 SUBSTRATE**
Ensure that all services and accessories are in place and located to suit the tile layout, with the substrate required for tiling work. Commencement of the tile installation means the substrate and environment are accepted by the tile layer as satisfactory.
- 17.3.3 TEMPERATURE**
Do not carry out tiling where the ambient temperature is below 5 degrees C, or onto a substrate with a temperature higher than 40 degrees C.
- 17.3.4 LAYOUT**
Before commencing work, obtain approval for the proposed layout of tiles, expansion joints and other visual considerations of the finished work.
- 17.3.5 GENERALLY**
All surface preparation and tiling work to be in accordance with AS 3958, part 1, as modified by BRANZ "Good Tiling Practice".
- 17.3.6 CONCRETE FLOORS PREPARATION**
Remove from the surfaces all contaminants such as paints, oils, release and curing compounds. Remove all projections, unevenness and loose material to leave a clean, dust and dirt-free surface.
- 17.3.7 WATERPROOFING MEMBRANES**
For Floors:
Refer to clause 17.2.2.
- 17.3.8 TILE FIXING GENERALLY**
Apply adhesive, prepare and fix tiles by the method required by the adhesive manufacturer and tap them firmly into place.
- 17.3.9 TILE FIXING, CONCRETE, CEMENT-BASED ADHESIVE, THIN BED**
Apply a 'skim coat of adhesive to the substrate to achieve 'uniform absorption'.
Apply more adhesive on top of this skim coat and to a minimum 3 mm bed thickness or to the tile manufacturer's requirements.
Press the tile and beat it into the adhesive to obtain adequate 'adhesive transfer' to the back of each tile. There should be a 3-5mm grout joint between the tiles.
- 17.3.10 GROUTING**
Remove spacers. Prepare joints by removing as dust and debris, mix and apply selected proprietary grout and finish off to the grout manufacturer's requirements.
Grout to finish uniform in colour, smooth and without voids, pinholes or low spots.
- 17.3.11 MOVEMENT CONTROL JOINTS**
Minimum width of 6 mm, carried through tile and bedding.
Where substantial movement is anticipated, carry through the rigid sheet to the structure.
Install control joints over: at junctions between different backgrounds, where abutting other materials, ~~at internal corners and at junctions with floors.~~

Ensure joints are clean, formed, filled, and the sealant inserted, all to the sealant manufacturer's requirements.
- 17.3.12 CLEAN**
Upon completion of setting and grouting, thoroughly sponge and wash the tiles to leave clean and free of blemish. Finally polish tiles with a clean dry cloth.
- 17.3.13 REMOVE**
Remove unused materials from the site.
- 17.3.14 PROTECTION**
Protect tiles during installation and ensure all completed tiling is protected from damage.
- 14.4. SCHEDULES**
- 17.4.1 PRIMERS**
Use Kerakoll primers as follows:

TILING

- 17.4.1.1 Concrete and Villa board- Prime with **Kerakoll Primer P4** prior to tile installation.
- 17.4.2 TILE ADHESIVE
Use **Kerakoll** adhesives as follows:
- 17.4.2.1 **H40 Tenax** – for swimming pools, floors and walls interior and exterior large module tiles Ceramic and Porcelain and glass mosaics. Ensure that the substrate is one colour prior to the installation of glass mosaics/tiles as any variation in colour may show through the glass tiles.
- 17.4.2.2 **H40 Flex** – For floors and walls both exterior and interior and for Ceramic and Porcelain tiles up to 400mm x 400mm
- 17.4.2.3 **H40 Flotex** – Rapid setting, self-leveling adhesive for large module ceramic, porcelain and stone tiles- interior and exterior use.
- 17.4.3 GROUT
Kerakoll grout as follows:
- 17.4.3.1 **Porcelana 0-5** –for wall tiles with small grout joints and rectified tiles (0-5mm grout joints)
- 17.4.3.2 **Fugabella Epoxy** – Use for food preparation and wet areas, including kitchens, bathrooms, showers and decks Stain and acid resistant. (2-15mm grout joints).
- 17.5. MOVEMENT CONTROL JOINTS
Ensure all joints are clean and taped prior to silicone installation. Install Kerakoll 6mm Foam Backing Rod. Install silicone and Smooth off using silicone tool.
Brand: **Kerakoll**
Type: **Sigibuild** Acetic cure for Porcelain/Ceramic/Glass
Sigibuild LM Neutral cure for Natural stone
Sigibuild PU for construction joints

PRECAST CONCRETE PAVING

18.01 GENERAL

Refer to the Preliminary and General Section of this Specification that shall apply to this trade section.

This Specification shall be read in conjunction with the attached drawings.

18.02 SCOPE OF WORK

Supply and lay precast concrete paving to areas shown on the drawings.

18.03 DOCUMENTS REFERRED TO

Documents referred to in this section are :

NZS 3108	Concrete production - ordinary grade
NZS 3116	Interlocking concrete block paving

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

18.04 APPLICATOR QUALIFICATION

Carry out all paving work using experienced, competent layers familiar with the materials and techniques specified.

18.05 PRECAST CONCRETE PAVING BLOCKS

To NZS 3116 for materials, design shape and dimensions, skid resistance, physical condition and with a compressive strength of 40 MPa supplied by NZ Paving.

Dimensions: 500mm x 500mm x 40mm thick Ambassador – Sandblast.

Colour: Charcoal

Laying pattern: parallel to building and retaining walls

18.06 BASECOURSE

Lay 80mm of compacted well graded crushed rock basecourse over the area of pavers.

The base preparation should be accurately finished to levels required for a uniform thickness.

Bedding under the pavers to finish 150mm below the final level for 40mm pavers.

18.07 WEED KILLER

Apply a suitable good quality weed killer to the sub-grade prior to laying the tidy slab.

18.08 TIDY SLAB

To the area of pavers lay an 80mm thick concrete tidy slab to fall away from the building to the timber retaining wall to achieve a true and even finish for laying pavers.

18.09 BEDDING / JOINTING MORTAR

A mortar mix suitable for bedding on the tidy slab and jointing the pavers shall be prepared in accordance with standard trade practice.

Mortar in which an initial set has taken place shall be discarded.

18.10 CONCRETE

Ordinary grade to NZS 3108 (except where specified otherwise), with:

a) Tidy Slab concrete 17.5 MPa

b) Infill concrete 25 MPa.

18.11 SEALER

A clear, low viscosity urethane prepolymer liquid recommended by NZ Paving.

18.12 STORAGE

Take delivery of pavers in protected pallets, undamaged and dry.

Store on level hard standings, protect from damage and keep dry until laid.

- 18.13 INSPECTION**
Before starting paving work inspect the area to ensure that edge restraints, drainage, tidy slab and other services are in place to correct falls and to allow work of the required standard.
- 18.14 STARTING WORK**
Starting work is deemed as acceptance that all preceding work is satisfactory and will allow work of the required standard.
- 18.15 SURFACE TOLERANCES**
The final surface of the paving to be within $\pm 10\text{mm}$ of the design level provided that the surface level is 5mm minimum above drainage channels or gully entries and continuously graded towards them. The deviation from a 3 metre straightedge to be 8mm maximum, without ponding.
- 18.16 PROTECTION**
Protect the completed work from damage and from dropping other materials during the remainder of the construction period.
Do not use the completed work as a building platform or for material storage.
- 18.17 EDGE RESTRAINT**
Provide and install H5 treated 150x25 Radiata edging to two unrestrained sides of paved area.
- 18.18 PAVERS**
Set up string lines in 2 directions at 5 metre centres maximum to ensure joint lines are straight and square. Lay whole pavers first within the string line grid with joint widths in the range of 2mm to 4mm over 90% of the work and a minimum/maximum of 1mm to 5mm.
Using a masonry saw cut and lay closures to perimeter areas and around penetrations.
Compact in 2 passes at right angles with a standard plate compactor of 60 to 120 kg static weight and 10 to 24 KN centrifugal force.
- 18.19 CUTTING PAVERS**
All cuts to be neat and tidy and made with a diamond-tipped saw blade.
No paver dimension to be less than half. Adjust pattern to suit as necessary and obtain written clearance before proceeding.
- 18.20 SEALER**
When inspections show no loss or settlement, clean all paving, removing all marks and stains and apply acrylic sealer to the surface to the sealer manufacturer's requirements.
- 18.21 REPLACE**
Replace all damaged, cracked or marked elements.
- 18.22 LEAVE**
Leave all work to the standard required for all following trades.
- 18.23 REMOVE**
Remove all debris, unused materials and elements from the site.
-

1. GENERAL

This section relates to the general matters related to painting work.

This painting specification is written based on information available at the time of writing.

This painting specification assumes that the applicator has the necessary skill, experience and equipment to undertake the work. The applicator remains responsible for ensuring proper completion of the work.

If in the applicator's own expertise and judgement an amendment to this specification is required, or where a substrate preparation, or required painting system is not covered in this specification, this shall be brought to the attention of the principal and any amendment agreed before work proceeds any further.

Related work

1.1 RELATED SECTIONS

Refer to **RESENE INTERIOR PAINTING**

Refer to **RESENE EXTERIOR PAINTING**

Documents

1.2 DOCUMENTS REFERRED TO

Documents referred to in this section are:

Health and Safety in Employment Act 1992

MPNZA Specification manual

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.3 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:

Resene One-Line specifications and product data manual
(hard copy or at www.resene.co.nz)

Resene Putting your safety first

Copies of the above literature are available from **Resene**

Telephone: 0800 **RESENE** (0800 737 363)

1.4 ABBREVIATIONS

The following abbreviations are used throughout this part of the specification:

MPNZA Master Painters New Zealand Association Inc.

Requirements

1.5 NO SUBSTITUTIONS

Substitutions are not permitted to any specified **Resene** coating system, or associated components and products.

1.6 QUALIFICATIONS

Painters to be experienced competent workers, familiar with the materials and the techniques specified and with the **Resene** coating systems and be members of the Master Painters New Zealand Association Inc.

1.7 CONTROL SAMPLES

Prepare samples of the finished work, including the specified preparation. Refer to SELECTIONS for location and type. Obtain approval in writing of the appearance before proceeding. Use the **Resene** Architectural Sample Box as a basis of standard where appropriate.

1.8 SUPERVISED CONTROL SAMPLES

Prepare samples of the finished work including the specified preparation. Refer to SELECTIONS for location and type. Make arrangements for the supervision of the relevant stages. Obtain written approval before proceeding.

Supervised control samples may, after written approval, be used for comparative testing of dry film thicknesses of the complete coating systems.

- 1.9 **HEALTH AND SAFETY**
Refer to and comply with the requirements of the Health and Safety in Employment Act 1992 including the obligation to:
- Eliminate hazards and if hazards cannot be eliminated or isolated, then minimise the hazards in this work by using the proper equipment and techniques as required by the MPNZA Painters hazard handbook and **Resene** Putting your safety first handbook.
 - Supply protective clothing and equipment.
 - Inform the contractor as well as the employees and others on site of those hazards and put in place procedures for dealing with emergencies.
- 1.10 **MATERIAL SAFETY DATA SHEETS**
Obtain from **Resene** (phone 0800 **RESENE**, or www.resene.co.nz) the material safety data sheet for each product used and comply with the required safety procedures. Keep sheets on site.
- Warranties**
- 1.11 **WARRANTY**
Warrant this work under normal conditions of use against failure referring to the Resene Promise of Quality in the **Resene** One-Line specifications and product data manual.
- Performance**
- 1.12 **RESENE INSPECTION**
Permit representatives of **Resene** to inspect the work in progress and to take samples of their products from site if requested. **Resene** will take care when inspecting the work, but does not accept any responsibility for the proper completion of the work before or after such inspection.
- 1.13 **INSPECTION OF THE WORK**
Inspection of the whole of the work at each of the stages set out in SELECTIONS may be made. Agree on a programme that will facilitate such inspection, including notification when each part and stage of the work is ready for inspection.
- 2. PRODUCTS**
- Materials**
- 2.1 **MATERIALS GENERALLY**
Use only **Resene** products (which are guaranteed for consistency and performance under ISO 9001) prepared, mixed and applied as directed in the **Resene** One-Line specifications and product data manual.
- 2.2 **THINNERS/ADDITIVES**
Use only if and when expressly directed by **Resene** for their particular product in a particular application.
- Accessories**
- 2.3 **ACCESSORIES**
Contact your local **Resene ColorShop** for a full range of accessories and usage advice.
- 3. EXECUTION**
- Conditions**
- 3.1 **EXECUTION**
To conform to required trade practice, which shall be deemed to include those methods, practices and techniques contained in the Master Painters New Zealand Association Inc. Specification manual.
- 3.2 **TREATED SURFACES**
Where surfaces have been treated with preservatives or fire retardants, check with the treatment manufacturer that coating materials are compatible with the treatment and do not inhibit its performance. If they are not compatible, obtain instructions before proceeding.
- 3.3 **ANCILLARY SURFACES**
The descriptions of areas in schedules and elsewhere are of necessity simplified. Coat ancillary exposed surfaces to match similar or adjacent materials or areas, except where a fair-faced natural finish is required or items are completely prefinished. In cases of doubt obtain written instructions before proceeding.
- 3.4 **HARDWARE**
Do not paint hinges or hardware that cannot be removed. Before commencing work carefully remove hardware, fixtures and fittings, set aside where they cannot be damaged or misplaced and replace on completion. Refer to SELECTIONS for hardware, fixtures and fittings for removal.

- 3.5 **PROTECTION**
Supply, lay and fix dropsheets, coverings and masking necessary to protect adjoining, fixtures, fittings and spaces from paint drops, spots, spray and damage.
- 3.6 **Application - preparatory work**
SURFACE PREPARATION
Refer to the **Resene** One-Line specifications and product data manual for surface preparation sheets (or obtain them by phoning 0800 **RESENE**, or at www.resene.co.nz) listed in the materials systems schedule clauses. Carry out the preparatory work required by them for each of the substrates.
- 3.7 **LEAD-BASED PAINT, ASBESTOS**
Handle cautiously lead-based paint and asbestos, if present, as outlined in the preamble of the **Resene** One-Line specifications and product data manual and the Putting your safety first brochure.
- 3.8 **SHARP EDGES, CRACKS AND HOLES**
Remove and/or repair sharp edges, cracks and holes if present, as outlined in the preamble of the **Resene** One-Line specifications and product data manual.

Elastomeric sealants, if used, should not be painted.
The paint film will not match the flexibility of the sealant and may severely limit its effectiveness.
- 3.9 **REMEDIAL WORK**
If any substrate or surface, that even with the preparation work called for in this section, cannot be brought up to a standard that will allow painting or clear finishing of the required standard then do not proceed until remedial work is carried out.
- 3.10 **GAP FILLING**
Make good cracks, holes, indented and damaged surfaces. Use suitable gap fillers to match the surface being prepared. Any special priming requirements of the fillers must be satisfied. Allow to dry or set before sanding back level with the surface. Prime or seal timber before using putty.

Exterior and wet areas: Use only Portland cement base or water-insoluble organic base gap fillers.
- 3.11 **OFF-SITE WORK**
Carry out this work under cover in a suitable environment with suitable lighting. Store items, both before and after coating, in a clean, dry area protected from the weather and mechanical damage, properly stacked and spaced to allow air circulation and to prevent sticking.
- 3.12 **PRIMING JOINERY**
Pre-treat any cut surfaces of preservative treated timber before priming. Ensure L.O.S.P. treated joinery has dried sufficiently to lose solvent odour. Pre-treat bare timber with **Resene** TimberLock (see Data Sheet D48) to improve the durability of subsequent coats.

Liberally coat end grain, allow to soak in and then recoat.
- 3.13 **CONCEALED JOINERY SURFACES**
Where off-site coatings are specified they must be applied to surfaces including those concealed when incorporated into the building.
- 3.14 **CONCEALED METAL SURFACES**
Apply primer to suit the coating system to surfaces which will be concealed when incorporated into the building.
- 3.15 **EXTERNAL DOORS**
Prime or seal and paint bottom edges before hanging.
- 3.16 **BEAD GLAZING**
Stained, varnished, or painted joinery to have the first two coats, or the primer and one undercoat, applied to rebates and beads before glazing.
- 3.17 **PUTTY FRONTING**
According to the putty manufacturer's instructions allow putty to set, then prime with **Resene** Wood Primer (see Data Sheet D40). Fully protect the putty by completing the **Resene** coating system as soon as it is sufficiently firm.

Application - generally

- 3.18 **PAINTING GENERALLY**
Comply with the **Resene** One-Line specifications and product data manual data sheets and the additional requirements of this work section.
- 3.19 **MIXING**
Although generally supplied ready-mixed, thoroughly mix paints. Lift any settled pigment and ensure the paint is homogenous.
- 3.20 **ENVIRONMENT**
Defer painting of exterior surfaces until weather conditions are favourable - warm dry days without frost or heavy dews. Avoid painting in direct sunlight any surfaces that absorb heat excessively. As far as possible apply paint in the temperature range 15°C to 25°C. If temperatures fall outside the range of 10°C and 35°C do not paint unless paints with the necessary temperature tolerance have been specified. Do not apply solventborne paint if moisture is present on the surface.
- 3.21 **SEQUENCE OF OPERATIONS**
Painting work to generally follow the following sequences:
 - Complete surface preparation before commencing painting.
 - Apply primers, sealers, stains, undercoats, paints and clear coatings in the sequences laid down by **Resene**.
 - Allow the full drying time between coats laid down by **Resene**.
 - Do not expose primers, undercoats and intermediate coats beyond **Resene's** recommendations before applying the next coat.
 - Finish broad areas before painting trim.
 - Ensure batch numbers of tins are matched for whole areas.
 - Internally, paint ceilings before walls and walls before joinery, trim and other items.
- 3.22 **APPLICATION**
Select brush, roller, or pad and apply coatings to the requirements of **Resene** to obtain a smooth, even coating of the specified thickness, uniform gloss and colour.
- 3.23 **LIGHTLY SAND**
Lightly sand primers, sealers, undercoats and intermediate coats to remove dust pick-up, protruding fibres and coarse particles. Complete by removing dust immediately before applying the next coat.
- 3.24 **DEFECTIVE WORK**
Correct defective work immediately and recoat as required, following precisely the **Resene** system being applied.
- 3.25 **EACH COAT**
Each coat of paint and the completed paint system to have the following qualities and properties:
 - Uniform finish, colour, texture, sheen and hiding power and the proper number of coats applied.
 - No blemishes such as runs, sags, crinkling, fat edges, entrained paint skins, hairs, dust, bare or starved patches, cracks, brush marks, ladder marks and blistering.
 - Proper covering of corners, crannies, thin edges, cracks, end grain and other difficult places of application.
-
- 3.26 **Completion**
CLEAN
Clean adjoining surfaces, glass and fittings of any paint contamination. Clean off glass indicators at the completion of the building works. Clean glass inside and out to a shining finish.
-
- 3.27 **LEAVE**
Leave the whole of this work uniform in gloss and colour, of correct thickness, free from painting defects, clean and unmarked and to the standard required by following procedures.
- 3.28 **REMOVE**
Remove dropsheets, coverings and masking to leave surrounding surfaces and areas clean, tidy and undamaged. Remove debris, unused materials and elements from the site.
- 3.29 **REPLACE**
Replace hardware without damage to it or the adjoining surface and leave hardware properly fitted and in working order.
4. **SELECTIONS**
4.1 **SELECTIONS**
Refer to **RESENE PAINTING EXTERIOR** and **RESENE PAINTING INTERIOR** for selections.

1. GENERAL

This section relates to the surface preparation, painting and clear finishing of new and existing substrates using **Resene** architectural and decorative coating systems.

Allow to paint the exterior of the addition excluding:
 STOTHERM plaster on EPS to ground floor and foundations (see Section 9),
 East Deck posts, bearers, joists and other verandah framing,
 West Deck posts, bearers, joists and pergola frame,
 Lower level deck framing and retaining walls.

Related work

1.1 RELATED SECTIONS

Refer to **RESENE PAINTING GENERAL** for general matters related to painting work.
 Refer to **RESENE PAINTING INTERIOR** for interior paint systems.

2. PRODUCTS

Materials

2.1 PAINT TYPES GENERALLY/ THINNERS AND ADDITIVES
 Refer to **RESENE PAINTING GENERAL** for product clauses.

3. EXECUTION

Conditions

3.1 EXECUTION

Refer to **RESENE PAINTING GENERAL** for execution clauses.

4. SELECTIONS

4.1 CONTROL SAMPLES

<u>Location/substrate</u>	<u>Resene One-Line Spec number/system</u>
Linea Weatherboards	No. 1e 1.3, D83, Waterborne Satin
Villa-board Soffits	No. 1e 1.3, D83, Waterborne Satin
Hardie Titan Panel	No. 1e 1.3, D83, Waterborne Satin
Timber Fascia / Barges	No. 2e 1.1, D82, Waterborne Gloss
Timber entrance doors	No. 2e 3.5, D82, Waterborne Satin
Galvanised Steel	No. 5e 1.3, D89, Waterborne Satin
Cedar Screens, Slats	No. 8e 3.5, D82, Waterborne Stain

4.2 INSPECTION OF WORK

<u>Stage</u>	<u>Resene One-Line Spec number/system</u>
Between Coats & Completion	No. 1e 1.3, D34, Waterborne Satin
Between Coats & Completion	No. 2e 1.1, D82, Waterborne Gloss
Between Coats & Completion	No. 2e 3.5, D82, Waterborne Satin
Between Coats & Completion	No. 5e 1.3, D89, Waterborne Satin
Between Coats & Completion	No. 8e 3.5, D82, Waterborne Stain

4.3 HARDWARE

Hardware for removal: Any exterior timber door hardware etc.

Paint system schedules

4.4 EXTERIOR FINISHES

<u>Substrate</u>	<u>Resene Spec number</u>	<u>Colour</u>
Linea Weatherboards	No. 1e 1.3, D34, Waterborne Satin	To be Advised
Villa-board Soffits	No. 1e 1.3, D83, Waterborne Satin	To be Advised
Hardie Titan Panel	No. 1e 1.3, D83, Waterborne Satin	To be Advised
Timber Fascias/Barges	No. 2e 1.1, Waterborne Gloss	To be Advised
Timber entrance doors	No. 2e 3.5, D82, Waterborne Satin	To be Advised
Galvanised Steel	No. 5e 1.3, D89, Waterborne Satin	To be Advised
Cedar Screens, Slats	No. 8e 3.5, D82, Waterborne Stain	To be Advised

Resene exterior paint systems

4.5 EXTERIOR CEMENTITIOUS SURFACES

Description:	Exterior cementitious surfaces, waterborne satin
System:	Resene One-Line Spec. No. 1e 1.3
Surface prep:	D83
1 st coat:	For thin plaster - Resene Limelock D809 , waterborne cure/seal For sound cementitious surfaces - Resene Concrete Primer D405 , waterborne primer; or For powdery surface - Resene Sureseal D42 , solventborne sealer
2 nd coat:	Self priming - Resene Lumbersider D34 , waterborne satin
3 rd coat:	Resene Lumbersider D34 , waterborne satin
4 th coat:	Resene Multishield+ D54a , waterborne glaze (optional)

4.6 EXTERIOR TIMBERS

Description:	Exterior timbers, waterborne gloss
System:	Resene One-Line Spec. No. 2e 1.1
Surface prep:	D82; and Resene TimberLock D48 , solventborne preserver/conditioner
1 st coat:	For normal recommended system - Resene Quick Dry D45 , waterborne primer/undercoat; or For timber that stains - Resene Wood Primer D40 , solventborne primer; or For hardboard only - Resene Sureseal D42 , solventborne sealer
2 nd coat:	Resene Hi-Glo D31 , waterborne gloss
3 rd coat:	Resene Hi-Glo D31 , waterborne gloss

4.7 EXTERIOR TIMBER, STAINS AND CLEAR FINISHES

Description:	Exterior timbers, stains and clear finishes, waterborne stain
System:	Resene One-Line Spec. No. 2e 3.5
Surface prep:	D82
1 st coat:	Resene Waterborne Woodsman D57a , waterborne stain
2 nd coat:	Resene Waterborne Woodsman D57a , waterborne stain
3 rd coat:	Resene Waterborne Woodsman D57a , waterborne stain (after 3 months)

4.8 EXTERIOR GALVANISED STEEL AND ZINCALUME

Description:	Exterior galvanised steel and Zincalume, waterborne satin
System:	Resene One-Line Spec. No. 5e 1.3
Surface prep:	D89
1 st coat:	For new work - Resene Galvo-Prime D402 , waterborne galvanised iron primer; or For repaint - Resene Galvo One D41 , solventborne galvanised iron primer
2 nd coat:	Resene Lumbersider D34 , waterborne satin
3 rd coat:	Resene Lumbersider D34 , waterborne satin

4.9 EXTERIOR CEDAR

Description:	Exterior cedar, waterborne stain
System:	Resene One-Line Spec. No. 8e 3.5
Surface prep:	D82
1 st coat:	For stained finish - Resene Waterborne Woodsman D57a , waterborne stain
2 nd coat:	Resene Waterborne Woodsman D57a , waterborne stain
3 rd coat:	Resene Waterborne Woodsman D57a , waterborne stain (after 3 months)

1. GENERAL

This section relates to the surface preparation, painting and clear finishing of new and existing substrates using **Resene** architectural and decorative coating systems.

Related work

1.1 RELATED SECTIONS

Refer to PRELIMINARY AND GENERAL.

Refer to **Section 19 PAINTING GENERAL** for general matters related to painting work.

2. PRODUCTS

Materials

2.1 PAINT TYPES GENERALLY/ THINNERS AND ADDITIVES

Refer to **RESENE PAINTING GENERAL** for product clauses.

3. EXECUTION

Conditions

3.1 EXECUTION

Refer to **RESENE PAINTING GENERAL** for execution clauses.

4. SELECTIONS

4.1 CONTROL SAMPLES

Location/substrateResene One-Line Spec number/system

Ceiling-Plasterboard

15i 1.5 SC Level 5– D314 - Waterborne flat

Ceiling - Plasterboard

15i 1.5 Level 5 Ceiling – D305 - Waterborne flat ceiling

Walls - Plasterboard

15i 1.4 SC Level 5 – D311 - Waterborne Low-Sheen

Walls - Plasterboard

15i 1.4 K Level 5 – D311K - Waterborne Low-Sheen enamel

Doors, Reveals & Trims

3i 1.2 – D310 – Waterborne semi-gloss

4.2 INSPECTION OF WORK

StageResene One-Line Spec number/system

Between Coats & Completion

15i 1.5 SC Level 5– D314 - Waterborne flat

Between Coats & Completion

15i 1.5 Level 5 Ceiling – D305 - Waterborne flat ceiling

Between Coats & Completion

15i 1.4 SC Level 5 – D311 - Waterborne Low-Sheen

Between Coats & Completion

15i 1.4 K Level 5 – D311K - Waterborne Low-Sheen enamel

Between Coats & Completion

3i 1.2 – D310 – Waterborne semi-gloss

4.3 HARDWARE

Hardware for removal:

Door handles, locks, latches and recessed pulls.

Towel rails, toilet roll holders, coat hooks, door stops.

Paint system schedules

4.4 INTERIOR FINISHES

Room nameSubstrateRESENE SpecColourNumberTo be advised by Owners

Lounge

Ceiling-Plasterboard

15i 1.5 SC Level 5– D314 - Waterborne flat

Walls - Plasterboard

15i 1.4 SC Level 5 – D311 - Waterborne Low-Sheen

Trim - Timber

3i 1.2 – D310 – Waterborne semi-gloss

Dining

Ceiling - Plasterboard

15i 1.5 SC Level 5– D314 - Waterborne flat

Walls - Plasterboard

15i 1.4 SC Level 5 – D311 - Waterborne Low-Sheen

Trim - Timber

3i 1.2 – D310 – Waterborne semi-gloss

Kitchen

Ceiling - Plasterboard

15i 1.5 SC Level 5– D314 - Waterborne flat

Walls - Plasterboard

15i 1.4 SC Level 5 – D311 - Waterborne Low-Sheen

Trim - Timber

3i 1.2 – D310 – Waterborne semi-gloss

Doors - Paint Finish

3i 1.2 – D310 – Waterborne semi-gloss

Bedrooms

Ceiling - Plasterboard

15i 1.5 Level 5 Ceiling – D305 - Waterborne flat ceiling

Walls - Plasterboard

15i 1.4 SC Level 5 – D311 - Waterborne Low-Sheen

Trim - Timber

3i 1.2 – D310 – Waterborne semi-gloss

Doors - Paint Finish

3i 1.2 – D310 – Waterborne semi-gloss

Bathroom Ensuite	Ceiling - Plasterboard	15i 1.5 SC Level 5– D314 - Waterborne flat
	Walls - Plasterboard	15i 1.4 K Level 5 – D311K - Waterborne Low-Sheen enamel
	Trim - Timber	3i 1.2 – D310 – Waterborne semi-gloss
	Doors - Paint Finish	3i 1.2 – D310 – Waterborne semi-gloss
Hallways Stairwell	Ceiling - Plasterboard	15i 1.5 Level 5 Ceiling – D305 - Waterborne flat ceiling
	Walls - Plasterboard	15i 1.4 SC Level 5 – D311 - Waterborne Low-Sheen
	Trim - Timber	3i 1.2 – D310 – Waterborne semi-gloss
	Doors - Paint Finish	3i 1.2 – D310 – Waterborne semi-gloss
Wardrobes Cupboards	Ceiling - Plasterboard	15i 1.5 Level 5 Ceiling – D305 - Waterborne flat ceiling
	Walls - Plasterboard	15i 1.4 SC Level 5 – D311 - Waterborne Low-Sheen
	Trim - Timber	3i 1.2 – D310 – Waterborne semi-gloss
	Doors - Paint Finish	3i 1.2 – D310 – Waterborne semi-gloss

Resene interior paint systems

4.5 INTERIOR TIMBER

Description:	Interior timber, waterborne semi-gloss
System:	Resene One-Line Spec. No. 3i 1.2
Surface prep:	D82; and Resene TimberLock D48, solventborne preserver/conditioner
1 st coat:	For normal recommended system - Resene Quick Dry D45, waterborne primer/undercoat; or For timber that stains - Resene Wood Primer D40, solventborne primer; or For painting over varnish - Resene Waterborne Smooth Surface Sealer D47a, waterborne sealer
2 nd coat:	Resene Lustacryl D310, waterborne semi-gloss enamel
3 rd coat:	Resene Lustacryl D310, waterborne semi-gloss enamel

4.6 INTERIOR PAPER FACED PLASTER/SOLID PLASTER/FIBROUS PLASTER

Description:	Interior paperfaced plaster/solid plaster/fibrous plaster, waterborne low sheen
System:	Resene One-Line Spec. No. 15i 1.4 SC Level 5
Surface prep:	D84; D85; D87; Resene Broadwall Surface Prep & Seal D807, waterborne prep
1 st coat (if reqd):	For wet area, stained, porous or powdery areas - Resene Sureseal D42, solventborne sealer For new wet areas - Resene Waterborne Smooth Surface Sealer D47a, waterborne sealer
2 nd coat:	Resene SpaceCote Low Sheen D311, waterborne low sheen enamel
3 rd coat:	Resene SpaceCote Low Sheen D311, waterborne low sheen enamel

For Level 5 **Resene** Broadwall 3 in 1 system - **Resene** One-Line Spec. No. 15i 1.41 SC Level 5
Replace **Resene** Broadwall Surface Prep & Seal with **Resene** Broadwall 3 in 1 in the clause above

For Level 4 system - **Resene** One-Line Spec No. 15i 1.4 SC L 4
Remove **Resene** Broadwall Surface Prep & Seal from Surface prep and add 1st coat: **Resene** Broadwall Waterborne Wallboard Sealer D403, waterborne sealer

Description:	Interior paperfaced plaster/solid plaster/fibrous plaster, waterborne low sheen enamel kitchen & bathroom
System:	Resene One-Line Spec. No. 15i 1.4 K Level 5
Surface prep:	D84; D85; D87; Resene Broadwall Surface Prep & Seal D807, waterborne prep
1 st coat (if reqd):	For wet area, stained, porous or powdery areas - Resene Sureseal D42, solventborne sealer; or For new wet areas - Resene Waterborne Smooth Surface Sealer D47a, waterborne sealer
2 nd coat:	Resene SpaceCote Low Sheen Kitchen & Bathroom D311K, waterborne low sheen enamel
3 rd coat:	Resene SpaceCote Low Sheen Kitchen & Bathroom D311K, waterborne low sheen enamel

For Level 5 **Resene** Broadwall 3 in 1 system - **Resene** One-Line Spec. No. 15i 1.41 K L 5
Replace **Resene** Broadwall Surface Prep & Seal with **Resene** Broadwall 3 in 1 in the clause above

For Level 4 system - **Resene** One-Line Spec No. 15i 1.4 K L 4
Remove **Resene** Broadwall Surface Prep & Seal from Surface prep and add 1st coat: **Resene** Broadwall Waterborne Wallboard Sealer D403, waterborne sealer

Description: **Interior paperfaced plaster/solid plaster/fibrous plaster, waterborne flat- ceiling**
System: **Resene One-Line Spec. No. 15i 1.5 Level 5 Ceiling**
Surface prep: D84; D85; D87; **Resene Broadwall Surface Prep & Seal D807**, waterborne prep
1st coat (if reqd): For wet area, stained, porous or powdery areas - **Resene Sureseal D42**, solventborne sealer
2nd coat: **Resene Ceiling Paint D305**, waterborne flat
3rd coat: **Resene Ceiling Paint D305**, waterborne flat

For Level 5 **Resene Broadwall 3 in 1** system - **Resene One-Line Spec. No. 15i 1.51 Level 5 Ceiling**
Replace **Resene Broadwall Surface Prep & Seal** with **Resene Broadwall 3 in 1** in the clause above

For Level 4 system - **Resene One-Line Spec No. 15i 1.5 L 4 Ceiling**
Remove **Resene Broadwall Surface Prep & Seal** from Surface prep and add 1st coat: **Resene Broadwall Waterborne Wallboard Sealer D403**, waterborne sealer

System: **Interior paperfaced plaster/solid plaster/fibrous plaster, waterborne flat**
Description: **Resene One-Line Spec. No. 15i 1.5 SC Level 5**
Surface prep: D84; D85; D87; **Resene Broadwall Surface Prep & Seal D807**, waterborne prep
1st coat (if reqd): For wet area, stained, porous or powdery area, **Resene Sureseal D42**, solventborne sealer; or
For new wet area, **Resene Waterborne Smooth Surface Sealer D47a**, waterborne sealer
2nd coat: **Resene SpaceCote Flat D314**, waterborne flat enamel
3rd coat: **Resene SpaceCote Flat D314**, waterborne flat enamel

For Level 5 **Resene Broadwall 3 in 1** system - **Resene One-Line Spec. No. 15i 1.51 SC L 5**
Replace **Resene Broadwall Surface Prep & Seal** with **Resene Broadwall 3 in 1** in the clause above

For Level 4 system - **Resene One-Line Spec No. 15i 1.5 SC L 4**
Remove **Resene Broadwall Surface Prep & Seal** from Surface prep and add 1st coat: **Resene Broadwall Waterborne Wallboard Sealer D403**, waterborne sealer

SUMS

MONETARY ALLOWANCES

20.1 GENERAL

Refer to the Preliminary and General Section of this Specification that shall apply to this trade section. This Specification shall be read in conjunction with the attached drawings.

20.2 P.C. SUMS

Include in the tender price the following P.C. sums for the supply only (Owner to select):

- a) Hardware to Internal Doors (list in Carpentry) : \$ 1000 : 00

20.3 PROVISIONAL SUMS

Include in the tender price the following Provisional sums for the Materials and Labour:

- a) Unforeseen extra work due to soft ground conditions : \$ 3000 : 00
b) Unforeseen extra work due to garage roof timber work and/or replacement of butynol roofing. : \$ 2000 : 00
c) Kitchen Joinery including insert sink : \$16,500 : 00
d) Tiling complete with waterproofing, adhesives and tiles : \$ 2,500 : 00

OWNER SUPPLY / TO BE ADVISED

21.1 OWNER SUPPLY

The following items shall be selected and supplied by the Owners:

- a) Hardware,
b) Lighting fittings,
c) Vanity Units complete (Tapware by plumber),
d) Kitchen appliances,
e) Floor coverings except tiling.

21.2 TO BE ADVISED

The following items shall be selected and advised by the Owners:

- a) Colorsteel roofing colour,
b) Tiling pattens and colour,
c) Paint colours.

Planning Processing Check Sheet

Building Consent Number: BC 100581 A

Property Information				
Property Address	114 Paetawa Road - Peka Peka			
Legal Description	Lot 1 DP 83749			
Planning Zone	Residential			
Building Project	Extend Deck / Verandah & Various other Internal			
	Present?		Action reqd	Actioned
	Yes	No		
Certificate of Title	✓			
Easements	✓		R.O.W & Services	
Section 221	✓		Include copy	
District Plan Items to Check				
	Complies?		Action Reqd	Actioned
	Yes	No		
Designations	✓		90m 6m Height Coastal Buildline 870m Coastal Buildline	Restriction.
Heritage Register		✓		
Flood Hazards		✓		
Min Floor Level		✓		
Other Hazards		✓		
EQ Faults		✓		
Services		✓		
Eco-site/Native Veg		✓		
Yards (+water bodies)	✓		Neighbours Approval??	
HIRB	✓			
Max Height	✓			
Site Coverage	✓			

Permeable Surface	✓			
Earthworks	✓			
Fences/Retaining Wall				
Parking			NA.	
Water Tank / Siting	✓			
Airport Noise 45dbI				
Other Provisions				
	Yes	No	Action reqd	Actioned
Does the building straddle a Title/cross-lease boundary?		✓		
Existing Resource Consent?	✓		970428, 960355	
Resource Consent Required?		✓	Apply Section 37 and advise Plan Vetting Team.	
DIF Required?		✓	Calculate Fees:	
Section 72 or 77 Required?		✓	Advise Plan Vetting Team and send letters out.	
Section 221 Consent Notice	✓		Advise Plan Vetting Team and send letters out.	

Additional Comments

* ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH RM 960355 & SEC 221 CONSENT NOTICE *

Decision: (delete item that does not apply)

- Application complies with District Plan requirements
- Application does not comply with District Plan – BC to be issued subject to s37

Officer's Name & Signature:

J. Burke

Date: 26.1.11

BC Number: BC 100581A

Planning Processing Check Sheet



Building Consent Number: BC 100581.

Property Information				
Property Address	114 Paetawa Rd Peka Peka.			
Legal Description	Lot 1 DP 83749			
Planning Zone	Residential			
Building Project	Add & Alter			
	Present?		Action reqd	Actioned
	Yes	No		
Certificate of Title	✓			
Easements	✓		Sewage & Stormwater Drainage Rights	
Section 221	✓		P.O.W. & Services & Refer to CT	
			Pedestrian & equestrian access attached	
			Include copy	
District Plan Items to Check				
	Complies?		Action Reqd	Actioned
	Yes	No		
Designations	✓		90m 6m Height (Coastal Build Line Restriction)	
Heritage Register		✓	870m Coastal Build Line Restriction	
Flood Hazards		✓		
Min Floor Level		✓		
Other Hazards		✓		
EQ Faults		✓		
Services		✓		
Eco-site/Native Veg		✓		
Yards (+water bodies)	✓		Neighbours Approval??	
HIRB	✓			
Max Height	✓			
Site Coverage	✓			

Permeable Surface	☒			
Earthworks	☒			
Fences/Retaining Wall	}		N/A.	
Parking				
Water Tank / Siting	☒			
Airport Noise 45dbI	}		N/A.	
Other Provisions				
	Yes	No	Action reqd	Actioned
Does the building straddle a Title/cross-lease boundary?		☒		
Existing Resource Consent?	☒		970428 960355.	
Resource Consent Required?		☒	Apply Section 37 and advise Plan Vetting Team.	
DIF Required?		☒	Calculate Fees:	
Section 72 or 77 Required?		☒	Advise Plan Vetting Team and send letters out.	
Section 221 Consent Notice	☒		Advise Plan Vetting Team and send letters out.	<i>Lee</i>

Additional Comments

* All work shall be carried out in accordance with RM: 960355 & Sect. 221 Consent Notice

Decision: (delete item that does not apply)

- Application complies with District Plan requirements
- Application does not comply with District Plan - BC to be issued subject to s37

Officer's Name & Signature:

Lee

Date: 23.7.18

BC Number: BC 100581



CHECKSHEET (Effective from 31 March 2005)

Single Residential Dwelling and Accessory Building

Use for single stand-alone dwellings, dwelling additions and/or alterations, repiles, garages, decks, gazebos, sheds, retaining walls, etc

For use with applications for building consent

Address

114 Paetawa Road, Pelka Pelka

This checklist shows you the information that has to be supplied with your building consent application. Please attach **2 copies** of the following information (unless otherwise specified) with your completed Building Consent Application form.

Please tick each relevant box in the Customer Use column as you attach the information. If the box is not relevant to your application, write **NA** across the box. Please check each section carefully and complete those sections that are relevant to your project.

A guidance document is available to help complete the section in the application form on 'means of compliance' for each building code clause

Once you have attached all the required information, please check for completeness as an incomplete application or lack of any supporting information will mean that your application cannot be accepted for processing.

Customer
use

1. GENERAL

COMPLETE FOR ALL APPLICATIONS



a Building Consent Application Form (1 copy)

Completed and signed by the owner or by an agent on behalf of the owner.



b Proof of ownership (1 copy)

One recent copy of current certificate/s of title (i.e. not older than 3 months) or one copy of purchase agreement (if recently purchased) or one copy of relevant portions of current lease



c Locality plan (1:500) showing:

Physical location of the subject building in relation to streets or landmarks, north point, name of building and lot and DP number



d Inspections and monitoring

Details of proposed inspection regime including monitoring by council officers and other professionals eg architects, engineers, surveyors and certification to be supplied on completion.



e Application fee

Applications will not be accepted without payment of the appropriate fees. Fees payable are set out in the published fee schedule of the council that has jurisdiction over the project site.

For office use
only



2. DEMOLITION / REMOVAL

COMPLETE FOR ALL PROJECTS INVOLVING DEMOLITION OF SIGNIFICANT PARTS OF BUILDINGS OR THE DEMOLITION OR REMOVAL OF WHOLE BUILDINGS.

Note: Where the project is only for the complete removal or demolition of a building you are not required to complete any further sections

- | | | |
|--------------------------|---|--------------------------|
| ☐ | a Means of barricading the site
Provide details of temporary barriers, gates which swing inwards or other means of restricting public access to the area | ☐ |
| ☐ | b Proposed tipping location for demolition materials (address/landfill) | ☐ |
| ☐ | c Hazardous building materials
Provide safety plan detailing the safe handling and disposal of hazardous materials | ☐ |
| ☐ | d Site management plan covering
management to control silt run off, noise and dust | ☐ |
| ☐ | e Proposed destination for relocated building: | ☐ |
| ☐ | f Access to and from the site including (use of kerb and crossings) | ☐ |
| ☐ | g Specify termination of existing services <ul style="list-style-type: none">• Water• Sewer• Stormwater | ☐ |
| ☐ | h Details about the building such as:
Number of storeys, type of materials the building is constructed of (note: Photographs of the building would be useful) | ☐ |

Note: You will need to contact the relevant service authorities specified below to advise them of the extent of your work:

Electricity, gas, drainage, water, transport, telecommunications, cable television or any other services that may be affected.

Note: Transportation of relocated building -

You will be required to contact and provide details to Council's Transportation and Traffic Department

3. FOUNDATIONS / FLOOR

COMPLETE FOR ALL NEW BUILDINGS, FOR EXISTING BUILDINGS WHERE THE FOOTPRINT OF THE BUILDING WILL CHANGE OR WHERE AN ADDITIONAL STOREY IS BEING ADDED

- | | | |
|-------------------------------------|--|-------------------------------------|
| ☒ | a Site Plan (1:100) showing
Dimensions of all boundaries, north point, finished floor levels, ground contours (extended to boundaries) and/or levels, site area, street name and number, lot and DP number, outline of building and distances to boundaries. Include on the site plan the designated wind zone of the site (e.g. specific design, very high, high, medium or low) | ☒ |
| ☒ | b Foundation plan (1:100/1:50) showing: <ul style="list-style-type: none">• dimensions of all new foundations• sub-floor, including bracing• footing details• if a concrete slab, show basic details including reinforcing and contractions joints• piles and footings• if the addition is an upper storey show details on upgrading existing foundations, joints, piles, etc• indicate ventilation to sub floor spaces | ☒ |
| ☒ | c Subfloor bracing
Provide subfloor bracing plan and calculations for all piled structures. Where the structure is specifically engineered, this should be included with the structural calculations
Subfloor bracing plan and calculations are required where an additional storey is to be added. | ☐ |
| ☒ | d Foundation details
Details including reinforcing and connections | ☒ |

4. CONSTRUCTION

COMPLETE FOR ALL NEW STRUCTURES OR ALTERATIONS TO EXISTING STRUCTURES

- ☒ a **Existing floor plan (1:100/1:50) showing (for additions and alterations only)**
- all levels
 - all designated spaces
 - all removals
 - sanitary fixtures
 - smoke detectors
- ☒ a **Proposed floor plans (1:100/1:50) showing:**
- room dimensions
 - location of partitions
 - all designated spaces
 - all floors (new or altered)
 - location of sanitary fixtures
 - stairs, barriers, handrails, floor joists and beams
 - floor joist layout for each level with timber floors
 - smoke detectors
- ☒ b **Wall bracing plan (1:100/1:50) showing:**
- Bracing details and calculations for wall bracing (also required for existing lower storeys where an additional storey is being added)
- Sub-floor bracing for decks projecting more than 2m from the house
- Location, type and number of bracing elements to indicate compliance with NZS 3604:1900 (include calculations)
- If the bracing was specifically designed by a structural engineer, provide calculations (required for specific design wind zones and lateral distribution of upper floor loads where lower storey bracing is provided in walls beyond the upper storey footprint)
- ☒ c **Sections and details (1:50/1:20/1:10) showing:**
- stairs, handrails, decks and decking
 - insulation systems and materials to floors, walls and roof
 - barriers providing safety from falling. Specific engineering design required where detail does not comply with NZBC B1/AS2
 - framing sizes, beams, lintels, trusses including fixing and other structural items. Lintels carrying point loads, such as from girder trusses, require specific engineering design
 - roof cladding, eaves, fascias, gutters, flashings to openings
 - fire rated systems on all walls - closer than 1 metre to boundary
 - stud heights of rooms and total height from lowest ground floor level to top of ridge
 - truss layout supported by design certificate and design of fixing details and load path to ground
 - retaining wall details e.g. type, height of retained ground, relationship to boundary, waterproof membrane and proposed drainage.
 - truss design details
- ☒ d **Fire report:**
- For domestic dwellings of 4 storeys or more, or buildings providing more than one household unit.

5. STRUCTURAL

COMPLETE FOR ALL PROJECTS INCORPORATING SPECIFIC STRUCTURAL

- ☒ a **Structural calculations**
- If any design work required the services of a structural engineer, attach 2 copies of the calculations with this application along with structural drawings
- The calculations must be prefaced with information explaining the design philosophy and justification of assumptions and methodologies used in analysis
- ☒ b **Producer statements:**
- If this application for consent relies on any producer statements certifying compliance with the New Zealand Building Code, a copy must be attached with this application. (Note all structural producer statements are required to have accompanying calculations)

6. EXTERNAL

COMPLETE FOR NEW BUILDINGS OR EXISTING BUILDINGS WITH ALTERATIONS TO THE EXTERNAL SHELL

- ☒ a **Elevations (1:100/1:50) showing:**
Accurate lines from boundary to boundary on each elevation, relevant District Plan daylight control lines, the maximum height on each elevation, location of door and window openings, fixed and opening sashes, sill heights, floor levels in relation to ground levels, exterior cladding nominated to all elevations, down pipes and spouting, ventilators to sub-floor area (suspended floors only)
- ☒ b **Risk assessment**
(Risk matrix in E2/AS1 may be used)
Consider exposure, design and detailing to support appropriate selection of cladding
- ☒ c **Cladding details (1:50/1:20/1:10)**
Provide details around all penetrations, joinery and other junctions at a level appropriate to the level of risk e.g. roof/wall, balcony/ wall, junction of different types of cladding, backflashing details for cavity systems
- ☒ d **Product certification**
Supply copies of product certificates relied on as compliance documents
- ☒ e **Alternative solutions**
If the proposal uses products or systems that are not covered in the Acceptable Solutions of clause E2 of the building code provide supporting current information including independent test results (full signed reports), case studies, expert opinion (including evidence of experience/qualification, basis for forming opinion, and statement of independence) etc to demonstrate compliance

7. SERVICES

COMPLETE FOR ALL PROJECTS WITH NEW INSTALLATION OR ALTERATION OF PLUMBING OR DRAINAGE SERVICES

- ☒ a **Plumbing and Drainage plan (1:100) showing:**
Note: If you have supplied drainage details for surface water disposal on the site plan, no drainage plan is required
- fixtures and fittings, hotwater system(s)
 - if the building is more than one storey with sanitary fittings on upper floors, provide an isometric layout showing wastes, pipes and falls
 - drainage layout with inspection bends and junctions indicated for both sewer and stormwater
 - any other drainage on site including council mains and retaining wall field drains
 - ventilation of sanitary rooms
 - calculations for sizing of downpipes

8. CHANGE OF USE

COMPLETE FOR ALL EXISTING BUILDINGS WHERE THE PROPOSAL INVOLVES FORMING A HOUSEHOLD UNIT WHERE ONE DID NOT EXIST BEFORE

Example: the conversion of a garage or shed into a residential unit

- ☐ a **Assessment of the building for compliance with the building code**
Section 115(a) of the Building Act 2004 requires that the work comply fully with all clauses of the building code.
- ☐ b **Reasonably practicable**
The above assessment must relate to all building code clauses. If the proposal is for the project to meet anything less than full compliance with any clauses, your application must clearly state your reasoning, with supporting documentation, and show how you will meet the highest level of compliance that can be considered reasonably practicable.

9. SPECIFICATIONS

COMPLETE FOR ALL APPLICATIONS

Note: The specification must be specific to the project and cover all aspects of the proposed work.



a Specification: General

- elements of structure (size, spacing, timber treatment)
- finish of fixings to meet durability requirements
- plumbing and drainage materials and design that installation is to comply with
- wet area surfaces
- ventilation systems
- flooring slip resistance for access routes
- glazing
- type of smoke detectors (including existing smoke detectors where they will remain)



b External claddings

For each of the following claddings provide details of the product name, manufacturer, maintenance requirements and warranties offered

- Building wraps
- Wall claddings
- Roof claddings
- Membranes (roofs and decks)
- Tanking
- Joinery



NOTES

The issue of a building consent does not relieve the owner of any duty or responsibility under any other act

Please check with your local territorial authority regarding the requirement for other approvals required and fees payable. These may include:

- Consents under the Resource Management Act
- Approvals under bylaws including earthworks, vehicle crossings and road openings

Form 436

PROCESSING CHECKLIST

RECEIVED

15 JUL 2015

BC

00043

100581

KAPITI COAST
DISTRICT COUNCIL

No = Plans, specifications & documentation not complying with the
Building Code &/or Bld. Act (The reason specified alongside each prompt)

Yes = Plans, specifications & documentation complying with the
Building Code &/or Bld. Act (The reason specified alongside each prompt)

N/A = Not Applicable to this application. (The deletion of whole sections as N/A is permitted)
For alternatives comment below each section.

Note - The further information requests are identified by hand written numbers and corresponding on FIR letters / e-mails sent

Category: 2

Site Plan (NZS 3604 Sec 3.4, 4.5 Code clB1, B2, E1, E2 F1 & F2 Sect. 72, 75 BA04)

N/A NO YES

Comments

- ☒ ☐ ☐ Wind zone High VI High Specific..... GIS Stamp on Cover
- ☒ ☐ ☐ Flooding / ponding hazardsGIS
- ☒ ☐ ☐ Slippage/ fault line hazardsGIS
- ☒ ☐ ☐ Erosion, river & coastal hazardsGIS
- ☒ ☐ ☒ Subsidence/ soft soil hazards Site inspection notes Refer to Eng tests
- ☒ ☐ ☒ Corrosion zone Sea spray or Zone 1GIS Stamp on Cover
- ☒ ☐ ☐ Soil contaminationGIS
- ☒ ☐ ☒ Distances to boundaries / siting..... District plan
- ☒ ☐ ☒ Floor levels/ contours.....E2/AS1 & NZS 3604 E1
- ☒ ☐ ☐ Two or More Allotments.....Sec 75 - 83 Bld Act
- ☒ ☐ ☐ Noise / sound insulation (airport & highway).....

Specific Design (Verified Online PS2 B1 B2 VM1)

Comments

- ☒ ☐ ☒ PS1 Design Certificate B1 B2 VM1
- ☒ ☐ ☒ PS2 Peer Review..... B1 B2 VM1
- ☒ ☐ ☒ Calculations VM1
- ☒ ☐ ☒ CPeng Verified Online

Hamish Wells

Beams, Posts, Bracing, Fixings (Doven timber pikes - ref
to calculation sheets noted)

Concrete / Foundation Plan (NZS 3604 NZS 4210 & 4229 E2/AS1)

Comments

Layout

- ☒ ☐ ☒ Layout dimensions..... NZS 3604
- ☒ ☐ ☒ Control joints..... NZS 3604
- ☒ ☐ ☒ Slab thickening..... NZS 3604, cl 7.5
- ☒ ☐ ☐ Alternative.....specify reason

Section

- ☒ ☐ ☒ Depth & width..... NZS 3604
- ☒ ☐ ☒ Reinforcement..... NZS 3604; B2
- ☒ ☐ ☒ Plate fixings..... NZS 3604; B2 cl 7.5
- ☒ ☐ ☒ DPM NZS 3604; B2
- ☒ ☐ ☒ Engineer design and Calcs..... B1; B2
- ☒ ☐ ☒ Concrete strength..... B1; B2 cl 4.8.2 clearly stamp
- ☒ ☐ ☐ Alternative.....specify reason

Timber / Subfloor Plan (NZS3604 NZS 3602 & 3640, B1,B2)

Comments

Layout

N/A NO YES

- ☐ ☐ ☒ Layout dimensions.....
- ☐ ☐ ☒ Bearers details.....B1 ; B2.....
- ☐ ☐ ☒ Joist details.....B1:B2.....
- ☐ ☐ ☐ Alternative.....specify reason.....

Section

- ☐ ☐ ☒ Foundation type/size..... NZS 3604;B2.....
- ☐ ☐ ☒ Piles post sizes & treatment NZS 3604;3602;3640;B2..... *Deck*
- ☐ ☐ ☒ Pile c/c..... NZS 3604.....
- ☐ ☐ ☒ Fixing..... NZS 3604;B2.....
- ☐ ☒ ☐ Coatings(durability)..... NZS3604 ;B2..... *Continue with skimp*
- ☐ ☐ ☐ Ventilation & Access to sub floor spaces NZS 3604.....
- ☐ ☐ ☐ Alternative.....specify reason
- *

If the addition is an upper storey show details on upgrading existing foundations, joints, piles, etc (may require Engineer design)

Floor plans / layout (B1, B2, C1-4, D1, E3, F7, G1, G2, G12 G3, G9, G11, G13)

Comments

General

N/A NO YES

- ☐ ☐ ☒ Room dimensions.....
- ☐ ☐ ☒ Sectional lines.....
- ☐ ☐ ☒ Location of partitions.....
- ☐ ☐ ☒ All designated spaces.....
- ☐ ☐ ☒ Lintels..... NZS 3604;B2.....
- ☐ ☐ ☒ Beams..... NZS 3604, B2 by engineer.....
- ☐ ☐ ☒ Point loads by engineer or pre-nailer.....B1 B2.....
- ☐ ☐ ☒ Smoke detectors..... F7.....
- ☐ ☐ ☒ Wet areas / WCs D1, Table 2; B2.....
- ☐ ☐ ☒ Kitchen.....G3, G9,G11.
- ☐ ☐ ☐ Alternative.....specify reason

Changes to existing work requires both an existing floor plan & a proposed floor plans
Facility provided for washing utensils / food G3, Section 1.1 & Figure 1:
Preparation Area and Access to Facility Paragraphs 1.1.2 and 1.5

Wall / Framing B1, B2, E3

Comment

General

- ☐ ☐ ☒ Identify engineering / Structural items/ portals.....B1 B2.....
- ☐ ☐ ☒ By pre-nailer or to NZS 3604.....B1 B2.....
- ☐ ☐ ☒ Fixing types NZS 3604.....B1 B2.....
- ☐ ☒ ☐ Stud c/c as per wind zone.... NZS 3604.....B1 B2.....
- ☐ ☒ ☐ Building wrap..... NZS 3604 *careful*
- ☐ ☒ ☐ Stud heights of rooms..... NZS 3604.....B1 B2.....
- ☐ ☐ ☐ Alternative.....specify reason

~~Wall Framing Legend to layout.~~

OK refer to Specification.

Roof.....NZS 3604,3602 &3640 B1B2E2 E2/AS1

Trussed / by purlin or Framed roof NZS 3604

Comments

N/A NO YES

- ☒ ☐ ☐ Fixing layout & details.....B1 B2.....
- ☐ ☐ ☐ Correct layout.....B1.....
- ☐ ☐ ☒ Max span (12m or Engineer).....B1.....
- ☐ ☐ ☒ Purlin or batten c/c.....B1 B2.....
- ☐ ☐ ☒ Rafters / Beams.....B1 B2.....
- ☐ ☐ ☐ Alternative.....specify reason.....

Roof cladding - Metal ; Profiled Metal; Masonry, Membranes Code E2, E2/AS1 B2

- ☐ ☐ ☒ Pitch / profile.....E2.....
- ☐ ☐ ☒ Underlay.....E2 213.....
- ☐ ☐ ☒ Flashings.....E3;E2.....B1 B2.....
- ☐ ☐ ☒ Parapets.....B1 E2 B2.....
- ☒ ☐ ☐ Membrane Roofs and substrate Code E2/AS1 B2 membrane to continue down slope by gully
- ☐ ☐ ☐ Gutters, Barges & Fascias detail Refer E2, section 8.3, cl 8.3.9.....
- ☐ ☐ ☐ Alternative.....specify reason.....

Installation of profiled metal roof cladding shall be by trained installers, approved by the tile manufacturer or NZ agent. In some cases experienced builders undertake installation, refer E2, section 8.4, cl 8.4.2 'General'.

Duration of exposed
sunray zone.
250 PFC Galv beam in East

Claddings CodeB1 & B2 E2/AS1, Branz good practice Guides & Weather tightness Vol 12&3

Comments

- ☐ ☐ ☒ Risk matrix Cavity or direct.....E2.....
- ☒ ☐ ☐ Brick Veneer.....E2 "The brick book" Branz Masonry Guide ; B2.....
- ☒ ☐ ☐ Timber WeatherboardE2 Branz Timber Guide Vol 1&2; B2.....
- ☒ ☐ ☐ StuccoB1 NZS 3604 Branz good practice guide; B2.....
- ☒ ☐ ☐ Profiled Metal.....E2 Metal Roofing Practice; B2.....
- ☒ ☐ ☐ PlywoodE2 ; B2.....
- ☒ ☐ ☒ Fiber Cement W/b.....E2; B2 linear upstair
- ☒ ☐ ☐ Board & Batten..... Branz good practice guide; B2.....
- ☒ ☐ ☐ Fiber Cement Sheet.....E2; B2.....
- ☐ ☐ ☐ Weathertightness details.....E2 ; B2.....
- ☒ ☐ ☐ Alternative.....specify reason.....

Sto Therm Chlorine Plaster System over 60mm poly on cavity.

Bracing NZS 3604 B1, B2, E3

Comments

N/A NO YES

- ☒ ☐ ☐ Subfloor bracing B1& NZS 3604.....
- ☐ ☐ ☒ Wall bracing..... B1 & NZS 3604.....
- ☐ ☐ ☒ Roof bracing..... B1& NZS 3604.....
- ☐ ☐ ☒ Bracing calculations..... B1 & NZS 3604.....
- ☐ ☐ ☒ Provide bracing plan layout..... B1 & NZS 3604.....
- ☒ ☐ ☐ Double top plate (if > 5m)..... B1 & NZS 3604.....
- ☒ ☐ ☐ Indicate dragon tie (if > 6m)..... B1.& NZS 3604.....
- ☐ ☐ ☒ Diaphragm ceilings (if > 7.5m)..... B1 & NZS 3604.....
- ☐ ☐ ☒ Check for distribution B1 & NZS 3604.....
- ☐ ☐ ☐ Alternative.....specify reason.....

Light & Ventilation *B1 G4, Clause 1.2 ; G4, clause 1.3 G7,G9 F2*

General

Comments

N/A NO YES

- ☐ ☐ ☒ Vent 5%.....G4
- ☐ ☐ ☒ Light 10%.....G7
- ☐ ☐ ☒ Electrical.....G9
- ☒ ☐ ☐ Mechanical ventilation.....G4
- ☐ ☐ ☒ Exterior space for awareness.....G7

Glazing

- ☐ ☐ ☒ Safety glass.....F2
- ☐ ☐ ☒ Wind zone..... B1. NZS 3604..... Stamp
- ☒ ☐ ☐ Alternative.....specify reason

Insulation *BRANZ Home Insulation Guide, NZS 4218, AS/NZS 2918*

Comments

- ☐ ☐ ☒ FloorH1
- ☐ ☐ ☒ Wall..... H1
- ☐ ☐ ☒ Roof..... H1..... Calculator provided.
- ☐ ☐ ☒ Windows / glazing..... H1
- ☐ ☐ ☐ Alternative.....specify reason

Stairs / Landings / Handrails *D1, sec 4*

Comments

- ☐ ☐ ☒ Stair tread & risers.....D1..... 180 x 300
- ☐ ☐ ☒ Landing size.....D1.....
- ☐ ☒ ☐ Handrail.....D1..... Exterior stairs
- ☐ ☐ ☒ Riser opening (min) where children.....D1
- ☒ ☐ ☐ Residential Accessibility.....D1
- ☒ ☐ ☐ Alternative.....specify reason

Stair type

Minor Private: Max rise 220mm/Min tread 220mm,

Secondary Private: Max rise 200mm/Min tread 250mm,

Main Private: Max rise 190mm/Min tread 280mm. (Main private includes exterior stairs)

Decks / Balconies / Barriers *D1, F4 & NZS 3604, Section 6 & 7,*

Comments

- ☐ ☐ ☒ Barrier & deck fixing durability.....D1 B1 B2
- ☐ ☐ ☒ Top rails, balusters, bottom rails, palings.....D1 B1
- ☐ ☐ ☒ If Engineer then calculations required.....B1 B2
- ☐ ☐ ☒ Max 3m height or Engineer.....B1 B2
- ☐ ☐ ☒ Deck joist sizes, grade, treatment, span & spacing.....D1 B1 B2
- ☐ ☐ ☒ Piles & bearers the correct grade, treatment, size, spacing & span.....D1 B1 B2..... Potentially King
- ☒ ☐ ☐ Slip resistanceD1
- ☐ ☐ ☒ Appropriate waterproofing membrane..... B1 B2
- ☐ ☐ ☒ Stringer size & connectionsD1 B1 B2
- ☐ ☐ ☒ Thresholds.....D1 E2
- ☒ ☐ ☐ Alternative.....specify reason

N/A NO YES

- ☐ ☐ ☒ Travel distances max 24m.....C3.15.....
☐ ☐ ☒ Smoke detectors.....F7.....
☒ ☐ ☐ Wood burnersF7.....
☒ ☐ ☐ Garage fire wall detailsC7 (C7.10 C7.8)
☒ ☐ ☐ Alternative.....specify reason

Swimming Pool & Fencing *Fencing of Swimming Pools Act 1987*

Comments

- ☐ ☐ ☐ Refer to Compliance for sign off.....
☐ ☐ ☐ Specific Engineering Design
☐ ☐ ☐ Proprietary system/design.....
☐ ☐ ☐ Section/construction
☐ ☐ ☐ Pool backwash discharging the sewer.....
☐ ☐ ☐ Fence height
☐ ☐ ☐ Gate(s) / door(s) open outward.....

Ambiguity / Contradictions

Comments

- ☐ ☐ ☐ Manufacturers Specs
☐ ☐ ☐ Engineer compared with Designer/Architect
☐ ☐ ☐ Any Other contradictions

Alternative Solutions

Record assessment, decision and reasons for decisions below. Has the designer substantiated why they believe the proposal complies with the building code? Is there a determination on a similar proposal? Has corroborative evidence been provided (peer review, appraisal or determination)? Include reference to comparison with acceptable solutions, other documents / standards / best practice guides / publications, expert opinion, determinations, in-service history, product certification, professional judgment, building code objectives. Refer BRANZ Bulletin # 456 (Dec 2004). List any conditions / communications / actions:

This sheet relevant to plumbing & drainage only

General

Comments

N/A NO YES

- ☐ ☐ ☒ Kitchen area.....G3/AS1
- ☒ ☐ ☐ Laundry.....no change
- ☐ ☐ ☒ Bathrooms.....
- ☐ ☐ ☒ Location of sanitary fixtures.....
- ☐ ☐ ☒ Plumbing layout.....

Plumber's Reg no.....T.B.A.....

Drainlayers Reg no.....T.B.A.....

Effluent Disposal Systems

Comments

- ☐ ☐ ☐ Engineering Site Investigation
- ☐ ☐ ☐ Design Specification & Producer Statement

(The design criteria should include; Capacity based on bedroom numbers, Loading calculation, site evaluation, soil profile, site characteristics.)

existing system in place

Water Supplies

Comments

- ☐ ☐ ☒ G 12
- ☐ ☐ ☒ Town supply.....
- ☐ ☒ ☐ Private scheme.....
- ☐ ☐ ☒ Type & location.....Restricted Supply
- ☒ ☐ ☐ Alternative.....specify reason.....

Sanitary Drainage

Comments

- ☐ ☐ ☒ G13.....
- ☐ ☐ ☒ Layout
- ☐ ☒ ☐ Council availability or
- ☒ ☐ ☐ Septic tank design & calcs.....existing system
- ☒ ☐ ☐ Alternative.....specify reason

Stormwater Drainage

Comments

- ☐ ☐ ☒ E1
- ☐ ☐ ☒ Layout
- ☐ ☒ ☐ Council availability
- ☒ ☐ ☐ Alternative.....specify reason

Sanitary Plumbing

Comments

- ☐ ☐ ☒ G13 N2/AS 2500
- ☐ ☐ ☒ Layout
- ☒ ☐ ☐ Alternative.....specify reason

Accessibility D1 ; NZS 4121

Comments

N/A NO YES

- ☐ ☐ ☐ Car parks
- ☐ ☐ ☐ Projections
- ☐ ☐ ☐ Kerb Ramps.....
- ☐ ☐ ☐ Footpaths/Ramps / Landings
- ☐ ☐ ☐ Entrances.....
- ☐ ☐ ☐ Public Facilities.....
- ☐ ☐ ☐ Lifts.....
- ☐ ☐ ☐ Stairs.....
- ☐ ☐ ☐ Stair / handrails.....
- ☐ ☐ ☐ Doorways/Doors/Corridors/ Lobbies.....
- ☐ ☐ ☐ Controls.....
- ☐ ☐ ☐ Places of assembly/entertainment/Recreation.....
- ☐ ☐ ☐ Warning Systems.....
- ☐ ☐ ☐ Toilet Facilities / Laundering
- ☐ ☐ ☐ Food preparation / accommodation.....
- ☐ ☐ ☐ Signs.....

Fire report C1,C2, C3, C4

Comments

- ☐ ☐ ☐ Purpose group FHC
- ☐ ☐ ☐ Fire cell separation /use of building
- ☐ ☐ ☐ f- rating
- ☐ ☐ ☐ s- rating
- ☐ ☐ ☐ Occupancy numbers
- ☐ ☐ ☐ Means of escape
- ☐ ☐ ☐ Travel distances
- ☐ ☐ ☐ External walls/unprotected areas
- ☐ ☐ ☐ Fire resistance to supporting elements/floors/ walls.
- ☐ ☐ ☐ Risks to/below escape routes
- ☐ ☐ ☐ Fire safety precautions
- ☐ ☐ ☐ SFI's / SDI's
- ☐ ☐ ☐ Alternatives
- ☐ ☐ ☐ Referral to DRU
- ☐ ☐ ☐ Alternative.....specify reason

Solid waste G15

Comments

- ☐ ☐ ☐ Waste bin area
- ☐ ☐ ☐ Environmental health referral
- ☐ ☐ ☐ Alternative.....specify reason

Hazardous Agents, Materials & substances F1 - F3

Comments

- ☐ ☐ ☐ Waste bin
- ☐ ☐ ☐ Environmental health referral

- ① Remove Sealant to vent cover
So as to allow moisture to drain.
- ② Butyro to carry on down into gutter
- 3 Durability of

All FIR item returned after hours on
10/8/10 received 11/8/10.

Items checked & SORC, the provisions
of the NZBC have been met

Granted on day 19 not 20

As stated by applicant *[Signature]*

General stamp prompts

Wind Zone
Corrosion
Cladding
Electrical
Bracing Highlighted
Boundary setting out
Engineers design

Set Status
Complete checklist
Addenda
Section 72 / ponding
Set inspections

List further information requested , info received , records / reference of communication etc. via Phone
/ Email / letter / counter / fax

List further information requested , info received , records / reference of communication etc. via Phone
/ Email / letter / counter / fax

[illegible]

Change Of Use – Sec 114: (record decisions and basis for decisions – confirm whether sec 115 applies)		
Date		
Alteration to Existing Building – Sec 112: (record decisions and basis for decisions – confirm whether sec 118 applies and if so, has it been complied with?). List conditions / communications / actions:		
Date		
Hazards – Sec 71-74 : (record decisions and basis for decisions – see under "site plan above already done")		
Date:		
Compliance Schedule – Sec 100 - 107: (record if new / amended compliance schedule required, and attach copy of replica compliance schedule. Ensure that note is recorded on building consent that new / amended compliance schedule will be issued).		
Date		

<i>Note :- Refer to the associate code clause along side each prompt above for compliance or reason of decision</i> Plan checked yet Unsatisfactory (request for further information- see attached copy)	I am satisfied on reasonable grounds that the provisions of the Building Code are met and the Building consent may be granted (refer Bld Act Sec 49(1)) All previous Further Information Requests now satisfactory.
Signature, name & date Bldg..... <i>[Signature]</i> 10 Aug '10 Plumbing..... <i>[Signature]</i> Fire..... <i>[Signature]</i>	Signature, name & date Bldg..... <i>[Signature]</i> 13 Aug '10 (for all pages except those listed below) Plumbing..... <i>[Signature]</i> 30/7/2010 (For pages 6 of 11 unless otherwise listed) Fire..... <i>[Signature]</i> (As listed on page 7 of 11)

Addenda to Form 436

Allocation of work to approvals officer outside current competency

Building Category	Circle appropriate category 0 1 2 3			

1) Authorized by Team leader or delegate	Level of supervision reqd	Reason for decision
Name, Signature & date	Coaching Mentoring Peer review on completion	In training Vetting one level above competency Other
2) Approval Officer undertaking training	Record of Learning	Decision
Name, Signature & date		I am satisfied on reasonable grounds that the provisions of the Building Code are met and the building consent may be granted (refer Bld Act 49(1))
Current competency level Category 0,1 or 2		
3) Coach/Mentor/Peer reviewer	Training needs identified	Comments
Name, Signature & date		I am satisfied on reasonable grounds that the provisions of the Building Code are met and the building consent may be granted (refer Bld Act 49(1))
Current competency level Category 1,2 or 3		

Allocation notes

- Categories of building are determined on receipt of application
- All applications are re assessed for the category and allocated to each appropriate Officer at the earliest opportunity and then placed in processing shelves accordingly
- Approvals staff are aware of their own competency level and check the allocation of work.
- Approvals staff may select, for training purpose, a consent 1 (one) category higher than their current competency for the purpose of increasing their skill level provided they gain approval from the Team Leader Building Consent Approvals. Once approval is given the Team Leader Building Consent Approvals will arrange for the appropriate supervision and final peer review.



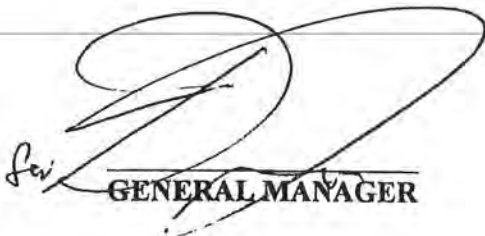
**KAPITI COAST DISTRICT COUNCIL
CONSENT NOTICE PURSUANT TO SECTION 221
OF THE RESOURCE MANAGEMENT ACT 1991
FOR THE DEPOSIT OF LAND TRANSFER PLAN 83749
THE SUBDIVISION OF LOT 3 DP 77725,
PAETAWA ROAD, PEKA PEKA
FOR SLOAN FARM PARTNERSHIP**

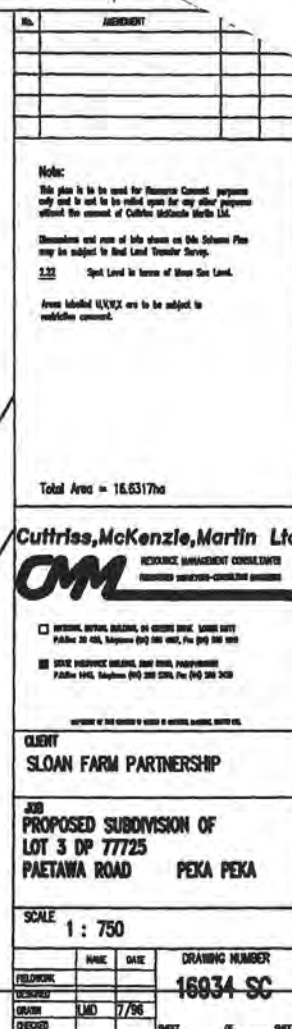
The District Land Registrar at Wellington

PURSUANT to Section 221 of the Resource Management Act 1991 the Kapiti Coast District Council hereby gives notice that it has consented to the subdivision on the following conditions to be complied with on a continuing basis:

- I. That specific foundation design by a registered engineer will be required for any new dwelling on lots 1 and 3 in accordance with the recommendations of the Soil Report prepared by Cuttriss McKenzie Martin dated June 1997 and available in Councils Planning office.

Dated at Paraparaumu this 12th day of June 1997.


GENERAL MANAGER



MEMORANDUM OF EXISTING EASEMENTS				
Purpose	Servient Tenement	Shown	Dominant Tenement	Grantee
Right of Way (Pedestrian & Equestrian Access only)	Lot 1	B,C,D,E	Lot 2 & Lot 1,2,4,5 DP 77725	
	Lot 1	C,D,E,F,G,H		Kapiti Coast District Council
				Kapiti Coast District Council



COMPUTER FREEHOLD REGISTER UNDER LAND TRANSFER ACT 1952

Search Copy



Identifier **WN50D/648**
Land Registration District **Wellington**
Date Issued **22 July 1997**

Prior References

WN44B/98

Estate	Fee Simple
Area	4731 square metres more or less
Legal Description	Lot 1 Deposited Plan 83749

Proprietors

Cathryn Ashley-Jones and John Renwick Harkness as to a 1/2 share
John Rogers and John Renwick Harkness as to a 1/2 share

Interests

B361688.3 Consent Notice pursuant to Section 221(1) Resource Management Act 1991 by The Kapiti Coast District Council - 14.3.1994 at 2.57 pm
Fencing Covenant in Transfer B361688.5 - 24.5.1994 at 2.57 pm
Subject to stormwater drainage rights (in gross) over parts marked H, I, J, K, L & M on DP 83749 in favour of The Kapiti Coast District Council created by Transfer B361688.5 - 24.5.1994 at 2.57 pm
The easement created by Transfer B361688.5 is subject to Section 243 (a) Resource Management Act 1991
Subject to a right of way (pedestrian equestrian access only) over parts marked G, H, I and J on DP 83749 specified in Easement Certificate B367919.1 - 29.6.1994 at 2.54 pm
B608607.2 Consent Notice pursuant to Section 221(1) Resource Management Act 1991 by The Kapiti Coast District Council - 22.7.1997 at 3.00 pm
Appurtenant hereto is a right of way and sewage & stormwater drainage, water, gas & electricity supply and telephone transmission rights specified in Easement Certificate B608607.5 - 22.7.1997 at 3.00 pm
Subject to a pedestrian and equestrian right of way over parts marked G, H, I and J on DP 83749 specified in Easement Certificate B608607.5 - 22.7.1997 at 3.00 pm
Some of the easements specified in Easement Certificate B608607.5 are subject to Section 243 (a) Resource Management Act 1991 (see DP 83749)

SCHEDULE OF EXISTING EASEMENTS				
Purpose	Servient Tenement	Shown	Overlaid Tenement	Specified in
PEDESTRIAN AND EQUESTRIAN RIGHT OF WAY	LOT 2	A, C, F	LOTS 1, 2, 4 & 5 DP 77725	E.C. 2. 30/9/18.1
	LOT 1	G, H, I, J	LOTS 1, 2, 4 & 5 DP 77725	
Purpose	Servient Tenement	Shown	Overlaid Tenement	Created by
SEWAGE & STORMWATER DRAINAGE	LOT 1	K, L, M, N	KAPITI COAST DISTRICT COUNCIL	2. 30/9/18.5
	LOT 2	N		

MEMORANDUM OF EASEMENTS				
Purpose	Servient Tenement	Shown	Overlaid Tenement	Specified in
RIGHT OF WAY	LOT 2	A, B, C, D	LOTS 1 & 3	
SEWAGE & STORMWATER DRAINAGE, WATER, GAS & ELECTRICITY SUPPLY, TELEPHONE TRANSMISSION	LOT 2	A, B, C, D, E, F, G, H, I, J	LOTS 1 & 3	

SCHEDULE OF EASEMENTS				
Purpose	Servient Tenement	Shown	Overlaid Tenement	Specified in
PEDESTRIAN AND EQUESTRIAN RIGHT OF WAY	LOT 1	C, H, I, J	LOTS 2 & 3	
	LOT 2	B, D	LOT 3	

LAND DISTRICT WELLINGTON
SURVEY BLK & DIST V KAITAWA
NZMS 261 SHT RECORD MAP No.

LOTS 1 - 3 BEING A SUBDIVISION OF LOT 3 DP 77725

TERRITORIAL AUTHORITY KAPITI COAST DISTRICT
Surveyed by CUTTRISS MCKENZIE MARTIN LTD
Scale 1 : 750 JANUARY 1997

Approvals

REGISTERED PROPRIETORS

APPROVED PURSUANT TO SECTION 223 OF THE RESOURCE MANAGEMENT ACT 1991 ON THE 27 DAY OF February 1997 SUBJECT TO THE GRANTING OR RESERVING OF THE EASEMENTS SET OUT IN THE MEMORANDUM HEREON

THE COMMON SEAL OF THE KAPITI COAST DISTRICT COUNCIL IS ATTACHED HERETO IN THE PRESENCE OF:

[Signature]
MAYOR

[Signature]
GENERAL MANAGER

MEASUREMENTS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

BC

VEHICLE CROSSING
INSPECTION FORM

Date:

To: **Building Inspectors**

Owner:

Address:

**Can you please inspect the above Vehicle Crossing, footpath and
berm and return the completed form to me signed.**

Thank you

Inspected by:		
Date Inspected:		
Approved:	YES	NO

Comments:



Alan Craig Design Ltd.

ACD

34 County Road, Otaki

P 06 364 7488

F 06 364 7487

M 027 68 44 217

alan@alancraigdesign.co.nz

A D N Z Architectural Designers NZ Inc

Professional Member

Regional Award Winner 2007

Memorandum

Project House Additions and Alterations

114 Paetawa Road, Peka Peka

746 ACD Job No

To Kapiti Coast District Council

12 July 2010 Date

Attention

From Alan Craig

746-MS-1 Our ref

Re Inspections and Monitoring

Copies To

Inspections and Monitoring

Kapiti Coast District Council

As per Building Consent Inspection List

Building Inspections

Plumbing Inspections

Final Inspections – Code Compliance (Building & Plumbing)

Structural

Hamish Wells Ltd

Civil Engineering Consultants

06 364 6728

027 445 9757

PS1 supplied with Building Consent Application

PS4 to be supplied at completion of Contract

New driven timber piles, concrete footings, blockwork

foundations, concrete floor, structural steel work.

Architectural

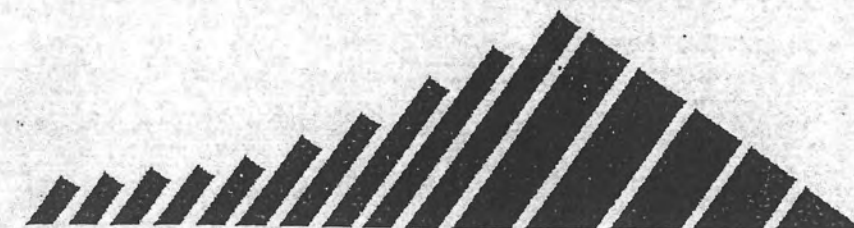
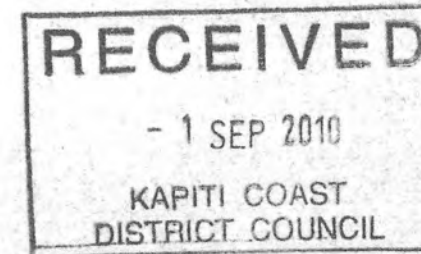
Alan Craig Design Ltd

34 County Road, Otaki 5512

06 364 7488

027 68 44 217

As required or requested by Owner or Builder.



KAPITI COAST
DISTRICT COUNCIL

Amended BC Application

Building Consent No....100581A....

Building Project.....Various Changes internal/external

DEPARTMENT	TICK FOR REFERRAL	COMMENTS	APPROVING OFFICER DATE
Planning	✓		
Plumbing and Drainage	✓		
Building	✓	Shunt 14-12-10	8/9/2010
Fire Design			
Compliance Schedule			
Structural			
Hazardous Substances			
Environmental Health			
NOTES:			

2hrs

CONSENT DATA INPUT REQUIREMENTS

REQUIRED INSPECTIONS						
Foundation/Piles	32	✓	Lapse and cancellation after 12mths of consent	23		Installation of solid fuel appliance (wood burner) comply and secured
Block	2	✓	Engineer design specific components	23A		Second hand wood burner certified
Pre-Slab (Plumbing)	3		Foundations to solid bearing of 200mm	25		Contractor to leave site clean and clear
Pre-Slab (Building)	4		NZS3604 as acceptable solution in terms of NZ Building Code	30		To comply with Food Hygiene Regulations 1974
Sub-Floor	6		Not approved as Habitable Room	31		As in CCZ, all fixings need to be stainless steel
Drainage	9	✓	Note and comply with all endorsements on approved plans	33		Approval only given for relocation purposes
Pre-Wrap	10		Names and Registration of plumber and drain-layer required	34		If cladding to have pre-finished colour coating, to be appropriate for coastal conditions
Weathertightness	11		Concealed soil and TV pipes and gas flues only allowed in ducts or minimum framed	38		Window sashes on upper levels less than 760mm above floor to have stays fixed
Pre-lining (Building)	12		Hot & Cold water pipes tested to 1500kPa	39		Construction of playground to comply with NZS5828
✓ Wet areas - membrane	13		Roof stormwater to be connected to existing	40		Fencing, gates, doors directly leading to swimming pool to comply with Pool Act 1987
Post Lining	14		Copper water pipes not permitted	43		Textured systems should be applied by licensed, trained applicators - supply warranty
Brick Veneer	15		Owner/builder to ensure prop foundation height will allow satisfactory connection	44	✓	Exterior cladding system to be completed and inspected prior to internal lining
Retaining Wall	21		Minimum FFL to comply with NZS3604			
Final (Dwelling)						
Final (Commercial & Multi-resd)						

STANDARD CONSENT CONDITIONS		
37		
72		
80		

NON-STANDARD ADDENDA

GST 51-860-608

Received with thanks by 36/01
KAPITI COAST DISTRICT COUNCIL

1-09-10 9:44 Receipt no.352678

COPY *COPY* *COPY*

DR BC100581A
ALAN CRAIG DESIGN LT 190.00-
Alan Craig Design Ltd - Alan Craig::34
CQ N
Alan Craig Design Lt 190.00

Alan Craig Design Ltd.

ACD

34 County Road, Otaki

P 06 364 7488

F 06 364 7487

M 027 68 44 217

alan@alancraigdesign.co.nz

A D N Z Architectural Designers NZ Inc

Professional Member

Regional Award Winner 2007

30 August 2010

Kapiti Coast District Council
Building Consents
Rimu Road, Private Bag 601,
Paraparaumu 5254

Re: **Building Consent Application No. BC100581**
114 Paetawa Road, Peka Peka – Building Consent Amendment Change Summary

Our Ref 746-bca1-cs

Dear Sir,

Please refer to the Building Consent Amendment Application, the revised drawings and specification. The following list of drawings and specification sections summarises the changes made to each drawing and specification section.

A2.01 Rev 3 Ground Floor Plan

East deck extended – new post positions.

Entry external concrete slab extend extended.

Titan board in water pump enclosure changed to Rockcote Integra cladding.

A2.02 Rev 2 First Floor Plan

East deck extended.

Kitchen wing walls added.

Kitchen window width reduced.

East deck verandah roof extended, sliding panel deleted, fixed glass panel added.

A2.03 Rev 2 Slab, Floor & Roof Framing Plans

East deck extended – new post positions, new joist set out.

Tiled shower base set downs added to slab plan.

A2.05 Rev 2 First Floor Bracing Plan

Kitchen wing walls added.

Bracing panels revised - B3 added, C1 length revised, C3 renamed as C2, previous C2 deleted.

A3.01 Rev 3 North & West Elevations

East deck extended – new post positions.

STO cladding changed to Rockcote Integra cladding.

East deck verandah roof extended, sliding panel deleted, fixed glass panel added.

A3.02 Rev 3 East & South Elevations

East deck extended – new post positions.

STO cladding changed to Rockcote Integra cladding.

Titan board in water pump enclosure changed to Rockcote Integra cladding.
East deck verandah roof extended.

A4.01 Rev 3 Cross Section A-A

STO cladding changed to Rockcote Integra cladding.

A4.02 Rev 3 Cross Section B-B

Lower stair changed to insitu concrete.

STO cladding changed to Rockcote Integra cladding.

East deck verandah roof extended, sliding panel deleted, fixed glass panel added.

A4.03 Rev 2 Cross Section C-C

East deck extended – new post positions.

STO cladding changed to Rockcote Integra cladding.

East deck verandah roof extended, sliding panel deleted, fixed glass panel added.

A4.04 Rev 3 Cross Section D-D

STO cladding changed to Rockcote Integra cladding.

A4.05 Rev 2 Cross Section E-E

East deck section J-J added

STO cladding changed to Rockcote Integra cladding.

Entry external concrete slab extend extended.

East deck verandah roof extended, roof drainage plan revised.

A5.01 Rev 1 Cross Section A-A

STO cladding changed to Rockcote Integra cladding.

A5.02 Rev 1 Cross Section A-A

W13 width reduced.

W16 head height raised to 2400 above floor level.

W17 changed from Atlantic to Pacific series.

A5.03 Rev 2 Cross Section A-A

D10 cavity slider reduced to 1050 wide.

A5.04 Rev 1 W17 Details

W17 changed from Atlantic to Pacific series.

Architraves added in lieu of slimline.

A5.05 Rev 1 W15 Details

Architraves added in lieu of slimline.

A5.06 Rev 1 W7 Details

STO cladding changed to Rockcote Integra cladding.

Architraves added in lieu of slimline.

A5.07 Rev 1 Windows in Rockcote

STO cladding changed to Rockcote Integra cladding.

Architraves added in lieu of slimline.

A5.08 Rev 1 Windows in Weatherboard

Architraves added in lieu of slimline.

A6.01 Rev 1 West Deck & Pergola

STO cladding changed to Rockcote Integra cladding.

Architraves added in lieu of slimline.

Pergola beam R.L.'s raised.

A6.02 Rev 1 West Deck & Pergola

East deck verandah roof extended, fixed glass panel added.

A6.04 Rev 2 Lower Infill Roof

STO cladding changed to Rockcote Integra cladding.
Detail 6 - 9mm Decorative ply sheeting.

A6.05 Rev 1 West Deck & Pergola

STO cladding changed to Rockcote Integra cladding.
West deck sliding timber screen head beam revised, East deck sliding screen detail deleted.

A6.06 Rev 1 Wall Cladding Junctions

STO cladding changed to Rockcote Integra cladding.
Detail 1 deleted.
East deck fixed glass panel details 4 & 5 added.

A6.08 Rev 1 East Deck Post Fixing

Detail 1 revised.
Detail 3 & 4 changed.

A6.09 Rev 1 West Deck & Pergola

STO cladding changed to Rockcote Integra cladding.
MS sealant changed to AF sealant.

E1.02 Rev 1 First Floor Electrical Plan

Power and lights in Kitchen revised.

Please do not hesitate to contact the writer should you wish to discuss any of the revisions listed above.

Yours sincerely

Alan Craig

Alan Craig

Architectural Designer

cc: John Rogers

2.4.1.3 INSTALLATION INFORMATION

2.4.1.3.1 HANDLING AND STORAGE

Dimond Natural Lighting sheets are delivered to the site in bundles which should remain strapped together and stored where damage will not occur. Ensure the product remains clean and dry. Edges of bundles must be protected during craning. Sheets must be lifted into place, not dragged.

Durolite and Maxilite® sheets have a thin plastic film laminated to each surface. As these films are critical to the products' long term performance, it is highly important that damage to sheet surfaces is avoided during handling, installation and subsequent use. Durolite GC has a 100 micron integral gel coat top surface which is less likely to suffer damage during handling that will affect long term performance.

2.4.1.3.2 SHEET LAYOUT AND FASTENERS

a) Supporting Structure

Before installation is commenced, the supporting structure must be free of sharp protrusions, or abrasive surfaces that may come into contact with the sheets. Ensure the purlin spacing is not greater than the span limitations for the selected profile as detailed in Section 2.4.1.5. A pliable, non-abrasive separation layer such as Tesa EPDM self-adhesive closed cell foam 50mm x 3.2mm must be placed between the sheet underside and the wire netting / purlin surface.

b) Mid-Span Support

In instances where single Dimond Natural Lighting sheets are to be used as skylights and placed between adjacent metal sheet, they may be installed on purlin spacings that exceeds the maximum span limitation for the sheet thickness chosen provided a mid span support member is incorporated to enable extra fastening to reduce sheet flutter in high winds. Where two or more Dimond Natural Lighting sheets are laid side by side purlin spacings must be reduced to suit the maximum span of the Natural Lighting material. (For decking profile refer to paragraph e below).

c) Layout

Sidelaps are designed for both edges of the Natural Lighting sheets to overlap the adjoining metal sheets. All sidelaps must be a minimum of one profile rib. It is preferred that the sheets are run from ridges to eaves without end laps. Where end laps are necessary, they should be a minimum of 300mm and fully sealed at both edges of the lap with a neutral cure silicone sealant. Laps must be positioned on a purlin in such a manner that the overlapping sheet edge is firmly fastened against the underlapping sheet.

d) Fastening

Dimond Natural Lighting sheets will undergo movement at the fastener position. To correctly allow for this, the sheets should be pre-drilled through the crest of the rib or corrugation with a hole diameter at least 2mm greater than the screw. Larger pre-drilled holes will be required if the sheet length is greater than 6m and allowance for thermal expansion is required-see section 2.1.3.4.

Screw fasteners must be tightened sufficiently to prevent the sheet lifting from the framing but not overtight so as to cause rib deformation. To control sheet flutter in high winds side lap stitching is required and should be completed at spacings that achieve the side lap fastening required in Table 2.4M

Table 2.4M

Profile Rib Height	Max. Side Lap Fixing Centres mm
30mm or less	450
Greater than 30mm	600
Dimondek 630	900

Continued on next page ...

Dimond

2.4.1.3 Continued

e) DD400 Decking Profile

Where one sheet of Natural Lighting DD400 or decking profile is used in conjunction with the metal decking, the sheets are laid using the under/over method. The sheets are held in position by galvanised bolts, which are located through each rib. The bolts must also pass through the rib of the metal decking and the deck clip to ensure correct hold down is achieved. If purlin spacings are greater than 1200mm centres or in high wind areas additional bolts must be placed through the sheet edge laps at 600mm centres. Where two or more Natural Lighting sheets are laid side by side, deck clips are replaced by Dimond Tee Rails manufactured from .55mm G550 Z450 Galvanised Steel or AZ150 Zinalume. These are located at every side lap. Fixings are placed through ribs and Tee Rails at 600mm centres ensuring that a fastener is immediately adjacent to the purlin. The Tee Rail must be fixed to the purlin through both flangers.

f) Dimondek 630 Profile

Where one sheet of natural lighting is fixed between metal Dimondek 630, the sheets are laid over using the following method. The centre support rib of the metal strip clip is required to be removed and the tabs knocked down flush on the strip clip. If the spans of the natural lighting are greater than 900mm, span breakers are required, up to a maximum of 900mm centre modules. Span breakers can only be installed 1 way around with the larger rib on the span breaker clipping and snapping up into the underside of the overlap rib of the metal Dimondek 630 when installed from above. The span breakers are then positioned in their correct positions and the sheets are placed over, before a 10mm clearance hole is drilled through the natural lighting. The position of the hole is in the horizontal area adjacent to the side lap at both the purlin and mid span supports, using the side lap clips as a template. On top of each metal rib, either side of the natural lighting a continuous side lap 6mm thick x 15mm wide EPDM foam seal is adhered to run the full length of the natural lighting sheet. Then the sheet is held in position by fixing a 12g x 65mm tek screws through the side lap clip and natural lighting sheet into the span breaker. This allows the natural lighting sheet to expand and contract without being connected to the metal sheet.

A centre fixing using a 14g x 95mm long tek through a 10mm clearance hole and a Dimondek 630 profiled washer with 36 diameter EPDM seal is required on the purlin line only.

2.4.1.3.3. FLASHINGS AND STOP ENDS

In addition to normal requirements (refer sections 2.2.4 and 2.3.3) stop ends must be provided at the top end of all Natural Lighting sheet installations to provide a water tight seal under all over flashings, including immediately below any roof penetration. Sheet stop ends can be achieved by using either:

- a. Compressible Closed - Cell Foam Strip to match the profiles. Use if roof pitch is greater than 15 degrees.
- b. Metal angle folded to the height of the profile rib and fastened to the end of the sheet with rivets. Neutral curing sealant is then applied to the intersection of the sheet and metal angle.

2.4.1.3.4. GENERAL WORKMANSHIP

In addition to normal requirements (refer section 2.3.4) note the following:

1. Sheeting Cutting

Natural Lighting sheets can be supplied cut to custom lengths. Where onsite cutting is necessary a fine tooth handsaw or an electric saw fitted with a fibre disc must be used. Breathing protection must be worn to prevent inhalation of glass fibres and resin dust. To resist cracking, the sheets must be firmly supported during cutting operations.

2. Water Run Off

Dimond Natural Lighting sheets, as with any other plastic or prepainted metal roofing materials, act as inert catchment areas for rainwater, and run-off from these areas onto unpainted galvanised surfaces may cause accelerated corrosion of the galvanised steel and too a lesser extent on Zinalume older than 5 to 7 years.

2.4.1.3 INSTALLATION INFORMATION

2.4.1.3.1 HANDLING AND STORAGE

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GIB® EzyBrace™ FP for GIB® EzyBrace™ Systems, 2009



GIB® Wall Bracing Calculation Sheet B Single or Upper Walls Along V03/09

Along		Bracing Elements provided						Wind	Earthq.
1	2	3	4	6	5	7	8	9W	10EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	BUs Achieved	BUs Achieved
A	156	1	1.3		2.85	BL1(10)	GIB®	131	115
	OK	2	1.3		2.4	BL1(10)	GIB®	156	137
line totals		3							
W	287	4							
EQ	252	5							
B	156	1	0.8		2.9	BL1(10)	GIB®	79	73
	OK	2	1.4		2.4	GS1(10)	GIB®	97	77
line totals		3	0.7		2.4	GS1(10)	GIB®	46	39
W	222	4							
EQ	189	5							
C	156	1	3.4		2.8	GS1(10)	GIB®	201	160
	OK	2	1.4		3.9	GS1(10)	GIB®	59	47
line totals		3							
W	261	4							
EQ	208	5							
D	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
E	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
F	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
G	enter	1							
		2							
line totals		3							
W		4							
EQ		5							
H	enter	1							
		2							
line totals		3							
W		4							
EQ		5							

RECEIVED

- 1 SEP 2010

KAPITI COAST
DISTRICT COUNCIL

©Winstone Wallboards Limited, 1999-2009. All rights reserved.

		Wind			Earthq.	
Totals Achieved	Achieved/Demand	W	123%	EQ	179%	
Timber Floor, design limit of 120 BU/m			accepted		OK	OK
Totals Required (from Demand)					624	363

28 September 2010

Emailed to Agent

Alan Craig Design Ltd - Alan Craig
34 County Road
Otaki 5512

Building Consent: 100581A

Dear Sir/Madam

Request for further information

Description: *East deck & roof extended, sto changed to rockcote cladding, east deck sliding screen changed to fixed glass panel*
Location: 114 Paetawa Road, Peka Peka
Legal Description: LOT 1 DP 83749-INT IN ROW

Following checking of your *Building Consent* it is apparent that further information is required.

Information Needed:

- 1) Engineer endorsement for the proposed deck alteration. ✓
- 2) Technical spec for AF sealant. ✓

We have suspended your application and will not proceed any further with its processing until the above information is received.

Please contact me if you would like to discuss this matter.

Yours faithfully

Stuart Nepia
CONSENTS
Direct line tel. no. (04) 296 4



CODE COMPLIANCE CERTIFICATE

SECTION 95, BUILDING ACT 2004

THE OWNER

Ashley-Jones Cathryn & Harkness John Renwick	No.	110390
142A Upland Road	Issue date	6/12/11
Kelburn	Application date	5/07/11
Wellington 6012		

THE BUILDING

Street Address	114 Paetawa Road, Peka Peka
Valuation No.	1489009806
Legal Description	LOT 1 DP 83749-INT IN ROW
Intended Use	Residential dwelling
Intended Life	Indefinite, but not less than 50 years
Current Use	Dwelling
Proposal	Remove lounge door, reinstall on face of building. New overlay garage concrete floor. Plaster coating to blockwork.
Estimated Value	\$18,000

Code Compliance

The building consent authority named below is satisfied, on reasonable grounds, that –

- The building work complies with the building consent; and
- The property owner must follow and carry out the manufacturers prescribed maintenance procedures.

Signed for and on behalf of the Kapiti Coast District Council:

Signature:

Date:

6/12/11

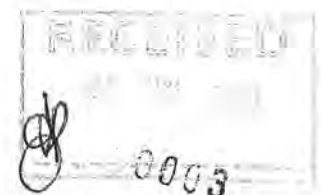
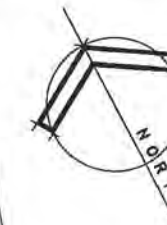
BC 110390

MAIN CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK. DO NOT SCALE OFF DRAWINGS. IF IN DOUBT ASK.
THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT DOCUMENTS.
REPRODUCTION OF THE WHOLE OR PART OF THIS DOCUMENT CONSTITUTES AN INFRINGEMENT OF COPYRIGHT WITHOUT APPROPRIATE PERMISSION.

No. REVISION DATE
0 FOR TENDER & BUILDING CONSENT 30/06/2011

LEGEND

DB Distribution Board
MB Meter Box
hwc hot water cylinder
DP Downpipe
RWH rain water head
TV Terminal Vent
van. Vanity
Sh Shower
TR Towel Rail
wc Toilet Pan
S Sink
Fr Fridge
Wm Washing machine
Dr Dryer



Section F7 of the New Zealand Building Code requires the installation of an approved smoke alarm system for detection and warning of fire.

Soakpit - Existing

Side yard setback - 3000

DECK R.L. 0.55

DECK R.L. 0.55

STUDIO F.L. 0.56

GARAGE F.L. 0.00

DECK R.L. 1.36

LOBBY F.L. 1.36

ENTRY F.L. 0.26

Existing concrete parking slab

A G301

A G301

GARAGE ALTERATIONS

J. & C. ROGERS
114 PAETAWA ROAD, PEKA PEKA
LOT 1 DP 83749

EXISTING GROUND FLOOR PLAN

DRAWING No.	REVISION
G1.02	0
DATE 24/05/2011	SCALE AT A3 1:100
CAD FILE REFERENCE ACD-746-Rogers Garage Source	DRAWN A.T.CRAIG
JOB NUMBER 746	

Alan Craig Design Ltd.

Architectural Designer N.Z.C.D. (Arch)
34 County Road, Otaki
P 06 364 7488 M 027 68 44 217 F 06 364 7487
E alan@alancraigdesign.co.nz



NOTES:

- The main contractor shall verify all dimensions on site before commencing work.
- Do not scale off drawings. If in doubt ask.
- The drawings shall be read in conjunction with the relevant specifications.
- All carpentry work shall comply with NZS 3604:2011.

EXISTING GROUND FLOOR PLAN SCALE 1:100

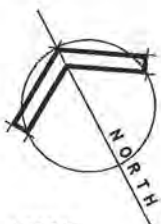
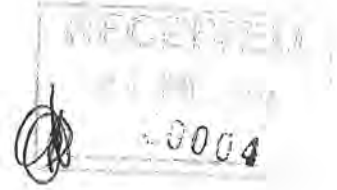
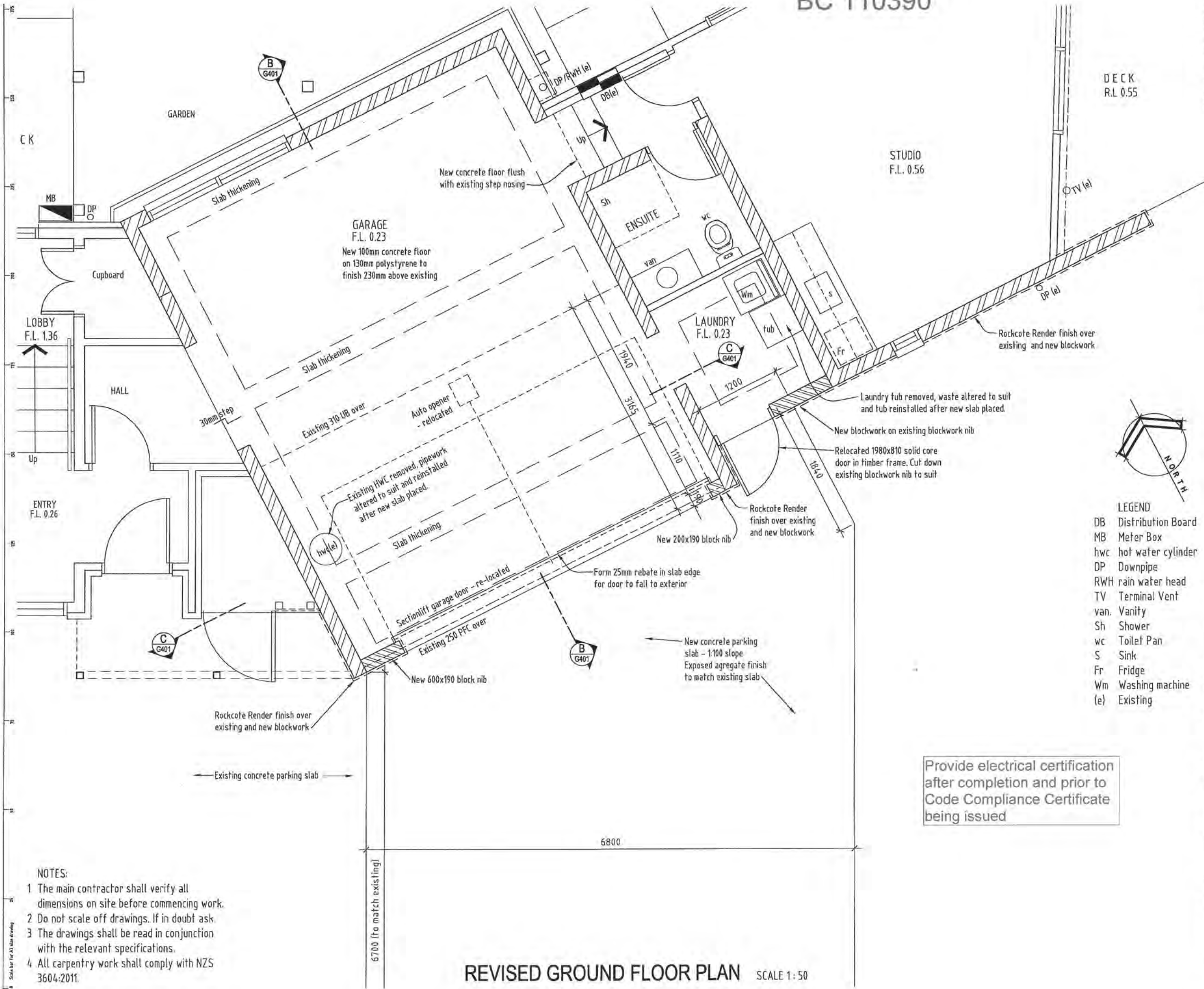
Scale bar for A3 size drawing

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No.	REVISION	DATE
0	FOR TENDER & BUILDING CONSENT	30/06/2011



- LEGEND
- DB Distribution Board
 - MB Meter Box
 - hwc hot water cylinder
 - DP Downpipe
 - RWH rain water head
 - TV Terminal Vent
 - van. Vanity
 - Sh Shower
 - wc Toilet Pan
 - S Sink
 - Fr Fridge
 - Wm Washing machine
 - (e) Existing

CHECKED BY
PLUMBING AND DRAINAGE
11/7/2011

GARAGE ALTERATIONS

J. & C. ROGERS
114 PAETAWA ROAD, PEKA PEKA
LOT 1 DP 83749
DRAWING TITLE
REVISED GROUND FLOOR PLAN

Provide electrical certification after completion and prior to Code Compliance Certificate being issued

- NOTES:
- 1 The main contractor shall verify all dimensions on site before commencing work.
 - 2 Do not scale off drawings. If in doubt ask.
 - 3 The drawings shall be read in conjunction with the relevant specifications.
 - 4 All carpentry work shall comply with NZS 3604:2011.

REVISED GROUND FLOOR PLAN SCALE 1:50

DRAWING No. **G2.01** REVISION **A**

DATE 24/05/2011 SCALE AS SHOWN

CAD FILE REFERENCE: ACD-746-Rogers Garage Source DRAWN A.T.CRAIG

JOB NUMBER 746

Alan Craig Design Ltd.
Architectural Designer | N.Z.C.D. (Arch)

34 County Road, Otaki
P 06 364 7488 M 027 68 44 217 F 06 364 7487
E alan@alancraigdesign.co.nz

A D N Z
ARCHITECTURAL DESIGNERS NZ INC
PROFESSIONAL MEMBER

SCOPE OF INSPECTION SHEET

Date 2.12.2011 SR or BCA 110390 Inspection No. 3

Time Documents on site YES / NO (YES)

Owner Name Project Description alts

Site Address 114 Paetonga Rd

☒ Building ☐ Plumbing

Circle appropriate Type & Inspection Other

Site Found Piles PreSlab Subfloor Drainage PreWrap PreClad Weathertight PreLine PostLine Block Brick Ret.Wall Final

Engineer Supervision Yes No n/a - Name

Notes Diagram (if necessary)

* nobody on site
* all information completed and received.
* OK to issue cll

Photo's Taken - Nos. saved / scanned? Y / N

Site instruction issued

Result: Pass Part pass Fail

Confirmation of inspection by person on site

Person on site: Builder ☐ Owner ☐ Other ☐ No One on site ☐

Your next inspection will be
(Guidance notes for inspection on the rear of this sheet)

Agreed, Sign Date 1/1/

Officer Name Anderson Sign O.A. Date 2.12.2011

Additional Insp. Sheet No.

Information entered into data base ☐ Initial Date 1/1/

SCOPE OF INSPECTION

Inspections are made in conjunction with, and with the cooperation of, the owner/owner's agent to ensure that the building work complies with the provisions of the Building Act and NZ Building Code. The inspection is general in nature and involves an audit of the following aspects:

Engineer – Civil/Structural/Fire/Geotechnical: An engineer has been engaged to carry out inspections on behalf of the owner. Please ensure those inspections are carried out. A Certificate of Expert Opinion is required to be supplied to Council.

Site: A surveyor's report, or visible boundary markers provided, so that the set out of the project can be clearly identified.

Foundation: When all formwork has been completed, footings have been excavated and reinforcement is in place.

Piles: When all holes are excavated prior to installation.

Pre-slab plumbing (concrete slab): When all plumbing and drainage pipes have been installed, prior to backfilling.

Pre-slab building (concrete slab): When DPM has been placed with all laps and penetrations sealed, reinforcing in place and in position with chairs as appropriate.

Sub-floor (timber suspended floor): When all sub-floor connections, joists and required blocking, and any suspended plumbing pipe work have been completed, but before any flooring or base boards have been fitted. Relocated dwellings require a sub-floor inspection prior to the base boards being fitted.

Drainage: When all drainage works is completed and is under test, before backfilling occurs. As laid drainage plan is required at time of inspection.

Pre-wrap: When all roof and wall framing is complete, including any exterior sheet bracing, but before building wrap has been installed.

Pre-clad: When building wrap and window and door flexible flashing tape has been installed, cavity battens (cavity systems), cavity closers and all flashing systems are in place, but before joinery has been installed.

Weathertightness: When exterior cladding has been installed, flashings in place, air seals fitted to openings, but before any coating system have been applied.

Pre-line (plumbing): When all internal plumbing is complete and plumbing pipe work is under test pressure.

Pre-line (building): When the exterior of the building is weather tight, all structural components (including bracing) have been completed and wall insulation is in place.

Wet area membranes, decks, roofs and shower area: Pre application of wet area membrane, when all outlets and flashings have been installed, ready for membrane installation.
Post application of wet area membrane.

Post-line: When all interior linings have been installed, but before skirting, Scotia or plastering stopping. Installation details of screws check of wall bracing element.

Block: When all masonry block work including block foundations for slab floors, is completed, reinforcing in place and washout openings in place.

Brick Veneer: When veneer is at half height and all flashings are in place.

Retaining wall: Pre application of waterproof membrane system.

Post application of waterproof membrane system.

Protection installed for membrane system and installation of perforated drainage system before back filling.

Final: Final inspections are carried out at the completion of the project and may include entire project, plumbing, drainage and storm water. The Code Compliance Certificate is issued if the building work complies with the approved building consent.

Free Standing Fireplace: Final inspection required only.

In Built Fireplace: Inspection required before installation and after installation.

PRIVACY STATEMENT

1. The information contained on the Building Inspection Report Sheet is held by the Kapiti Coast District Council, whose address is Private Bag 601, Paraparaumu.
2. The information is available for public inspection as part of the Building Record of the property concerned.
3. You have the right under the Privacy Act 1993 to obtain access to, and to request correction of any personal information held by Council concerning you.

Council has a Privacy Officer. If you have any concerns regarding privacy issues please telephone (04) 296 4700

SCOPE OF INSPECTION SHEET

Date 2.12.2011 SR or BCA 110390 Inspection No. 3

Time Documents on site YES / NO YES

Owner Name Project Description alts

Site Address 114 Paetawa Rd

Building Plumbing

Circle appropriate Type & Inspection Other

Site Found Piles PreSlab Subfloor Drainage PreWrap PreClad Weathertight PreLine PostLine Block Brick Ret.Wall Final

Engineer Supervision Yes No n/a - Name

Notes Diagram (if necessary)

* nobody on site
* all information completed
and received.
* ok to issue CCL

Photo's Taken - Nos. saved / scanned? Y / N

Site instruction issued

Result: Pass Part pass Fail

Confirmation of inspection by person on site

Person on site: Builder ☐ Owner ☐ Other ☐ No One on site ☐

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(Guidance notes for inspection on the rear of this sheet)

Agreed, Sign Date 1/1/11

Officer Name Anderson Sign A.A. Date 2.12.2011

Additional Insp. Sheet No.

Information entered into data base ☐ Initial Date 1/1/11

FINAL INSPECTION

Date 2-12-2011 SR or BCA 110390 Inspection No. 3

Time Documents on site YES / NO YES

Owner Name Project Description 2115

Site Address 114 Puketapu Rd

All inspections are carried out with strict reference to the building consent granted.

P = Pass F = Fail NA = Non-Applicable

Inspection decisions are based on the extent of work inspected at the time of inspection.

Please refer to the related scope sheet for definition of the inspections extent.

Applicable to all inspections

Sighted previous inspection notes	<u>Y</u>	N	NA	Conforms with approved drawings	<u>Y</u>	N	NA	Confirm Additional information/amended plan	Y	<u>N</u>	NA
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FINAL – Exterior

Sub-floor ventilation	P	F	<u>NA</u>	Roof fixings	P	F	<u>NA</u>	Spouting + Down-pipes	P	F	<u>NA</u>
Deck Structure	P	F	<u>NA</u>	Flashings – Roof	P	F	<u>NA</u>	Penetrations – Flashings	P	F	<u>NA</u>
Barriers	P	F	<u>NA</u>	Gully Dishes	P	F	<u>NA</u>	Storm-water + site drainage	P	F	<u>NA</u>
Handrails	P	F	<u>NA</u>	Wastes to gully	P	F	<u>NA</u>	Fixings – Durability	P	F	<u>NA</u>
Steps/Stairs	P	F	<u>NA</u>	Terminal vents/AAV's	P	F	<u>NA</u>	Cladding painted/sealed	<u>P</u>	F	<u>NA</u>
Flashings – Windows/Doors	P	F	<u>NA</u>	Cladding Ground Clearance	P	F	<u>NA</u>		P	F	<u>NA</u>

FINAL – Interior

Service areas – floors/walls	P	F	<u>NA</u>	Food storage/preparation	P	F	<u>NA</u>	Hot water temp	P	F	<u>NA</u>
Stair design	P	F	<u>NA</u>	Ventilation	P	F	<u>NA</u>	Solid fuel heater	P	F	<u>NA</u>
Handrails	P	F	<u>NA</u>	Insulation + clearance	P	F	<u>NA</u>	Water supply tank	P	F	<u>NA</u>
Balustrades	P	F	<u>NA</u>	HWC flues	P	F	<u>NA</u>	Trap seals + AAV's	P	F	<u>NA</u>
Lightings	P	F	<u>NA</u>	HWC valves	P	F	<u>NA</u>	Cistern flushing	P	F	<u>NA</u>
Laundering	P	F	<u>NA</u>	HWC restraint	P	F	<u>NA</u>	WC pan connection	P	F	<u>NA</u>
Cooking facilities	P	F	<u>NA</u>	Tempering valve	P	F	<u>NA</u>	Septic tank	P	F	<u>NA</u>
Smoke detectors	P	F	<u>NA</u>	Glazing – Human Impact	P	F	<u>NA</u>	Window labels	P	F	<u>NA</u>

FINAL – Intertenancy/Commercial

Fire/Life systems sighted	P	F	<u>NA</u>	Guarantees/Warranties/Certificates/Expert Opinion	<u>P</u>	F	<u>NA</u>	Intertenancy STC	P	F	<u>NA</u>
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All Inspections

Road Crossing Complete	P	F	<u>NA</u>	Energy Certificates supplied	<u>P</u>	F	<u>NA</u>	Final Check Complete	<u>Y</u>	<u>N</u>	
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Name: Andrew Officer Sign: A.A. Date: 2/12/2011

SCOPE OF INSPECTION SHEET

Date 5-10-11 SR or BCA 110390 Inspection No. 2

Time Documents on site YES / NO

Owner Name Project Description alts

Site Address 114 Paetawa Rd

☒ Building ☐ Plumbing

Circle appropriate Type & Inspection Other

Site Found Piles PreSlab Subfloor Drainage PreWrap PreClad Weathertight PreLine PostLine Block Brick Ret.Wall ☒ Final

Engineer Supervision Yes No n/a - Name

Notes * work all completed as consent Diagram (if necessary)

* smoke detectors placed.
* existing roof material
* no block inspection asked for as carried out, minor work, 600mm and 200mm partitions.
* engineer has inspected and provided ps4 for their design
* pre wrap and pre slab inspection in minor work, checked at final and all appears to comply.

Photo's Taken - Nos. saved / scanned? Y / N

Site instruction issued (1) elec cert
(2) cladding warranty (texture)
(3) letter stating steel work to block walls
(4) complete painting to garage head + fascia

Result: ☒ Pass ☐ Part pass ☒ Fail

Confirmation of inspection by person on site

Person on site: Builder ☒ Owner ☐ Other ☐ No One on site ☐

Your next inspection will be
(Guidance notes for inspection on the rear of this sheet)

Agreed, Matthew Dixon (Print Name) Sign Matthew Dixon Date 5/10/2011

Officer Name Andrew Sign Andrew Date 5/10/2011

Additional Insp. Sheet No.

Information entered into data base ☐ Initial Date 1/1/11

FINAL INSPECTION

Date SR or BCA Inspection No.

Time Documents on site YES / NO

Owner Name Project Description

Site Address

All inspections are carried out with strict reference to the building consent granted.

P = Pass F = Fail NA = Non-Applicable

Inspection decisions are based on the extent of work inspected at the time of inspection.

Please refer to the related scope sheet for definition of the inspections extent.

Applicable to all inspections

Sighted previous inspection notes	☒ Y	☐ N	☐ NA	Conforms with approved drawings	☒ Y	☐ N	☐ NA	Confirm Additional information/amended plan	☒ Y	☐ N	☐ NA
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FINAL – Exterior

Sub-floor ventilation	P	F	NA	Roof fixings	P	F	NA	Spouting + Down-pipes	P	F	NA
Deck Structure	P	F	NA	Flashings – Roof	P	F	NA	Penetrations – Flashings	P	F	NA
Barriers	P	F	NA	Gully Dishes	P	F	NA	Storm-water + site drainage	P	F	NA
Handrails	P	F	NA	Wastes to gully	P	F	NA	Fixings – Durability	☒ P	F	NA
Steps/Stairs	P	F	NA	Terminal vents/AAV's	P	F	NA	Cladding painted/sealed	P	F	NA
Flashings – Windows/Doors	☒ P	F	NA	Cladding Ground Clearance	P	F	NA	<i>in the process of completing</i>	P	F	NA

FINAL – Interior

Service areas – floors/walls	P	F	NA	Food storage/preparation	P	F	NA	Hot water temp	P	F	NA
Stair design	P	F	NA	Ventilation	P	F	NA	Solid fuel heater	P	F	NA
Handrails	P	F	NA	Insulation + clearance	P	F	NA	Water supply tank	P	F	NA
Balustrades	P	F	NA	HWC flues	P	F	NA	Trap seals + AAV's	P	F	NA
Lightings	P	F	NA	HWC valves	P	F	NA	Cistern flushing	P	F	NA
Laundrying	P	F	NA	HWC restraint	☒ P	F	NA	WC pan connection	P	F	NA
Cooking facilities	P	F	NA	Tempering valve	☒ P	F	NA	Septic tank	P	F	NA
Smoke detectors	☒ P	F	NA	Glazing – Human Impact	P	F	NA	Window labels	P	F	NA

FINAL – Intertenancy/Commercial

Fire/Life systems sighted	P	F	NA	Guarantees/Warranties/Certificates/Expert Opinion	P	☒ F	NA	Intertenancy STC	P	F	☒ NA
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All Inspections

Road Crossing Complete	P	F	NA	Energy Certificates supplied	P	☒ F	NA	Final Check Complete	Y	N
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Name: Andrew Officer Sign: [Signature] Date: 5/10/2011

SCOPE OF INSPECTION SHEET

Date 8/8/11 SR or BCA 110390 Inspection No. 1

Time 11.30 Documents on site YES / NO

Owner Name Konsol Project Description ADD 2 ALTS.

Site Address 114 BETAWA

☒ Building ☐ Plumbing Circle appropriate Type & Inspection Other

Site Found Piles ☒ PreSlab ☐ Subfloor ☐ Drainage ☐ PreWrap ☐ PreClad ☐ Weathertight ☐ PreLine ☐ PostLine ☐ Block ☐ Brick ☐ Ret.Wall ☐ Final

Engineer Supervision Yes No n/a - Name

Notes Diagram (if necessary)

130 PLY.
ALL STEEL AS PER ENGINEER DESIGN
Air Term
BAR CHAIR

Photo's Taken - Nos. saved / scanned? Y / N

Site instruction issued

PS4 ENGINEER
OK TO POUR AFTER ENGINEER INSPECTED

Result: ☒ Pass ☐ Part pass ☐ Fail

Confirmation of inspection by person on site

Person on site: Builder ☐ Owner ☐ Other ☐ No One on site ☐

Your next inspection will be
(Guidance notes for inspection on the rear of this sheet)

Agreed, Matthew Dixon Sign [Signature] Date 8/8/11
(Print Name)

Officer Name Alan Sign [Signature] Date 8/8/11

Additional Insp. Sheet No.

Information entered into data base ☐ Initial Date 1/1/11

SITE / FOUNDATIONS / PILES / PRE SLAB / SUBFLOOR / DRAINAGE

Date 8/8/11 SR or BCA 110 390 Inspection No. 1

Time 11.30 Documents on site YES / NO

Owner Name Kongor Project Description ADD ARTS

Site Address 114 BETAWA

All inspections are carried out with strict reference to the building consent granted.

P = Pass F = Fail NA = Non-Applicable

Inspection decisions are based on the extent of work inspected at the time of inspection.

Please refer to the related scope sheet for definition of the inspections extent.

SITE

Conforms with approved drawings	<u>Y</u>	N	NA	Checked driveway	Y	N	NA	Engineer supervision required	<u>Y</u>	N	NA
Scope of Resource consent granted?	Y	N	<u>NA</u>	Checked position off relevant boundaries and datum height	Y	N	<u>NA</u>		Y	N	NA
Expert Opinion (Producer statement) required	Y	N	<u>NA</u>	Name of Surveyor				Name of Engineer			
				Company				Company	<u>H W BULLS</u>		

FOUNDATIONS

PILES

SUBFLOOR

Footings Depth	<u>P</u>	F	NA	Pile size	P	F	NA	Pile/Bearer/Joist Fixings	P	F	NA
Good bearing (NZS 3604)	<u>P</u>	F	NA	Pile layout is to plan	P	F	NA	Notching, Holes, etc	P	F	NA
Reinforcing	<u>P</u>	F	NA	Special piles - point load	P	F	NA	Solid Blocking	P	F	NA
Siting	P	F	NA	Timber Treatment	P	F	NA	Joists	P	F	NA
Sub-floor vents	P	F	NA	Hole depth	P	F	NA	Beams/Bearers	P	F	NA

PRE SLAB

Rebate for brick veneer	P	F	<u>NA</u>	Sand blinding	P	F	<u>NA</u>	Steel reinforcing	<u>P</u>	F	NA
Ground clearance	<u>P</u>	F	NA	Slab thickenings	<u>P</u>	F	NA	Bar chairs	<u>P</u>	F	NA
Concrete Cover	<u>P</u>	F	NA	Vapour barrier (DPC)	P	F	<u>NA</u>	DPC penetrations taped	P	F	<u>NA</u>
Driveway s/w control	P	F	<u>NA</u>	Bottom plate fixings	P	F	<u>NA</u>	Minimum Floor Level	<u>P</u>	F	NA
Secondary flow path	P	F	NA	TPR line	P	F	NA	Wastes and drains - size / fall	P	F	NA
Pipe material	P	F	<u>NA</u>	Plumbing layout	P	F	NA	Test - Water / Air	P	F	NA
Pipe protection	P	F	<u>NA</u>	Pipes supported	P	F	NA	Visual leak check	P	F	NA

DRAINAGE

Pipe diameter	P	F	NA	Connections/Angles	P	F	NA	Holding water	P	F	NA
Bedding material	P	F	NA	Branch length	P	F	NA	Terminal vent	P	F	NA
Gully trap(s)	P	F	NA	Direction/Fall	P	F	NA	LBP/Registration No:			

Officer Name: ALB Sign: [Signature] Date: 8/8/11



Site Inspection Report - New BC Applications

BC Application number: 110390 Lot 1 DP 03749

Site Address: 114 Paetawa Rd.

Building Project: add + alt to garage

Check NCS status is currently "To Site Inspection"

Item to be checked	Decision	Record any relevant information	Action required
Contours match application?	Yes / No		
Datum point identified?	Yes / No		
Boundaries identified?	Yes / No		
Check ground conditions OK?	Yes / No	existing slab, internal work.	
Check path , kerb & channel, grass berm, note existence/damage.	Yes / No	NA	
Vehicle entrance crossing installed (describe condition)	Yes / No		
Photos taken? (Save & link to NCS)	Yes / No		
Dogs on property?	Yes / No		
Is there a requirement for further foundation investigation e.g Engineers design	Yes / No		Referred to Approvals T/L Yes / No
Record all decisions in accordance with KCDC Policy 007. Circle Yes or No in each case.			
PS supplied by engineer.			

Note: if there is a requirement for further information or some areas which do not appear to comply refer file to Team Leader Consent Approvals for action.

Inspecting Officer: Name Andrew Signature A.H.

Date Inspected: 7/7/2011

Unless further foundation information required, change NCS status to "To Plumbing & Drainage" and place file in P&D shelf area for Approvals. If further information is required, then Status change to "To Senior Building Inspector" and hand to Team Leader Consent Approvals for action.

FOR COUNCIL USE:

DEPARTMENT	TICK FOR REFERRAL	COMMENTS	APPROVING OFFICER/ DATE
Site Inspection	✓	Refer to Form 241 for completion of site inspection & sign off this form when completed.	
Resource Consents (refer PIM Sheet)	✓		
Plumbing and Drainage	✓		8/11/7/2011
Building	✓		25/7/11
Fire Design			
Compliance Schedule			
Environmental Health			
Other.....			
NOTES:			



Building Consent No.

110390

Building Project

Adds & Alts to garage
114 Pactawa Road
PEKA PEKA

Location (Site Address)

Building Category

Circle appropriate category

0 1 2 3

Application workflow checklist

	Name & Signature	Date
RECEIVED 05 JUL 2011	Note # A signature confirms that the application contains sufficient information to enable compliance with the building code to be assessed	
# Note: Checked, date stamped and initialled by TO/BCO. Select and circle appropriate category above & identify allocation to appropriate technical groups and if required to go to "site inspection" AP-WI-001	Taken by STUART N	
Payment taken and receipted (details entered inside this cover sheet) by CSO CS-WI-008	JP Palmer	3/7/11
Data entered and invoiced by CSO CS-WI-008	Barbara	5/7/11
Pages numbered by CSO CS-WI-008	JP Palmer	5/7/11
BC Application and documentation scanned, checked & status update by CSO CS-WI-009	Barbara	6/7/11
BC Application signed over to BC CS-WI-009	Barbara	6/7/11
Application reviewed by Technical Officers who sign off at back of this form AP-WI-026 & AP-WI-009	Simon Cogh J Shuloch	11/7/2011 25/7/11
Once Technical review complete, passed to CS for Plan Production and Invoicing AP-WI-009	J Shuloch	25/7/11
CSO checks data entry input, including required inspections CS-WI-012		
BC, plans and other appropriate paperwork produced by CSO CS-WI-012		
BC, Approved plans and appropriate paperwork sent to applicant or agent with receipt by CSO CS-WI-012	Angie	26/7/11
Inspection envelope prepared by CSO with endorsed plans and other appropriate paperwork and filed to cabinet. CS-WI-012		