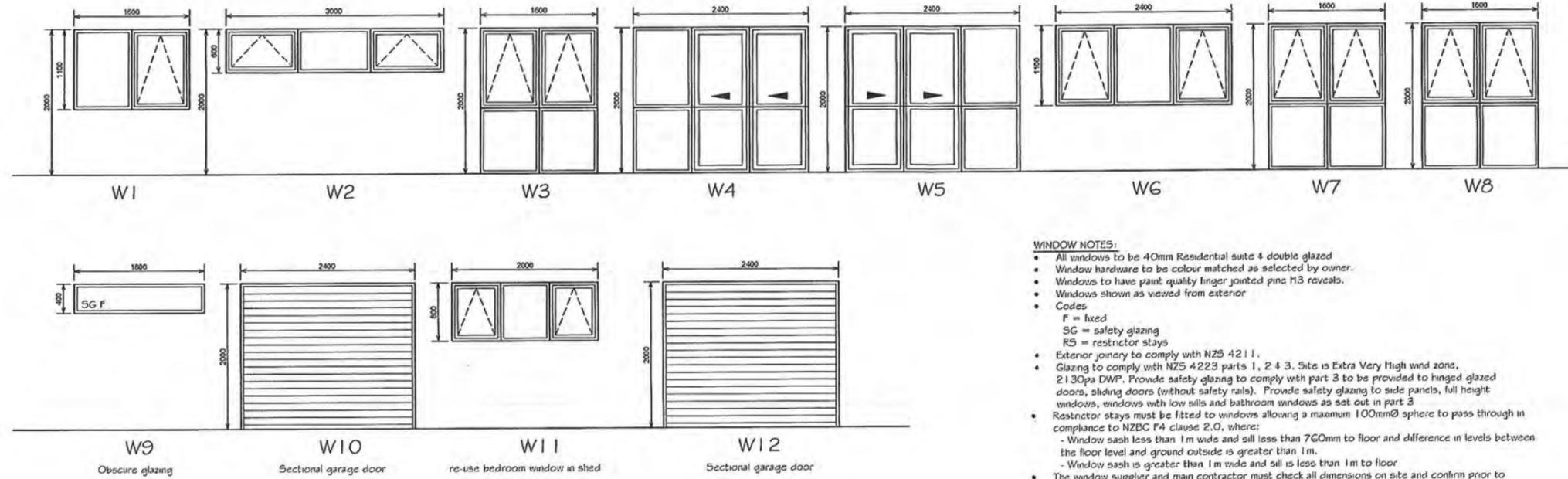


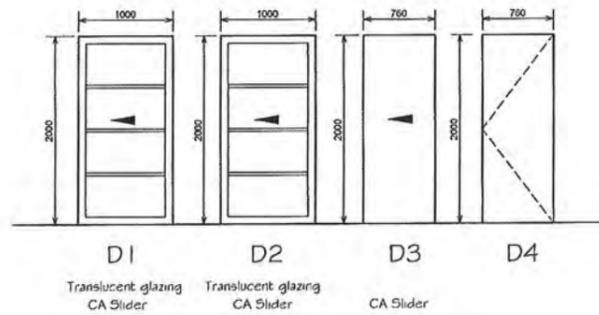
EXTRA HIGH WIND ZONE



Extra Very High Wind Zone
WINDOW SCHEDULE
 Scale 1:50

- WINDOW NOTES:**
- All windows to be 40mm Residential suite & double glazed
 - Window hardware to be colour matched as selected by owner.
 - Windows to have paint quality finger jointed pine H3 reveals.
 - Windows shown as viewed from exterior
 - Codes
 - F = fixed
 - SG = safety glazing
 - R5 = restrictor stays
 - Exterior joinery to comply with NZS 4211.
 - Glazing to comply with NZS 4223 parts 1, 2 & 3. Site is Extra Very High wind zone, 2130pa DWP. Provide safety glazing to comply with part 3 to be provided to hinged glazed doors, sliding doors (without safety rails). Provide safety glazing to side panels, full height windows, windows with low sills and bathroom windows as set out in part 3
 - Restrictor stays must be fitted to windows allowing a maximum 100mmØ sphere to pass through in compliance to NZBC F4 clause 2.0, where:
 - Window sash less than 1m wide and sill less than 760mm to floor and difference in levels between the floor level and ground outside is greater than 1m.
 - Window sash is greater than 1m wide and sill is less than 1m to floor
 - The window supplier and main contractor must check all dimensions on site and confirm prior to manufacture.
 - Site window openings to be 20mm larger than window sizes (allows for 10mm tolerance each side)
 - Provide WANZ window sill support brackets as required for cavity cladding systems to all window or doors.
 - Suitable head & sill flashings to be installed to all openings.
 - Building wrap to be returned into window openings and openings to be fitted with Thermakraft Alluband system.
 - Install foam sealant air seal with PEF backing rod to all sides of windows

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DOOR SCHEDULE
 Scale 1:50

- DOOR NOTES:**
- Door swings as viewed from hinge side. (i.e. pulling door towards you)
 - Doors to be hollow core paint quality T & G
 - Doors to be prehung in radiata pine paint quality finger jointed slimline jambs
 - Door hardware to be confirmed by owner
 - Doors to be hung and installed plumb to best trade practice
 - Install door stops as selected by owner to adjoining walls

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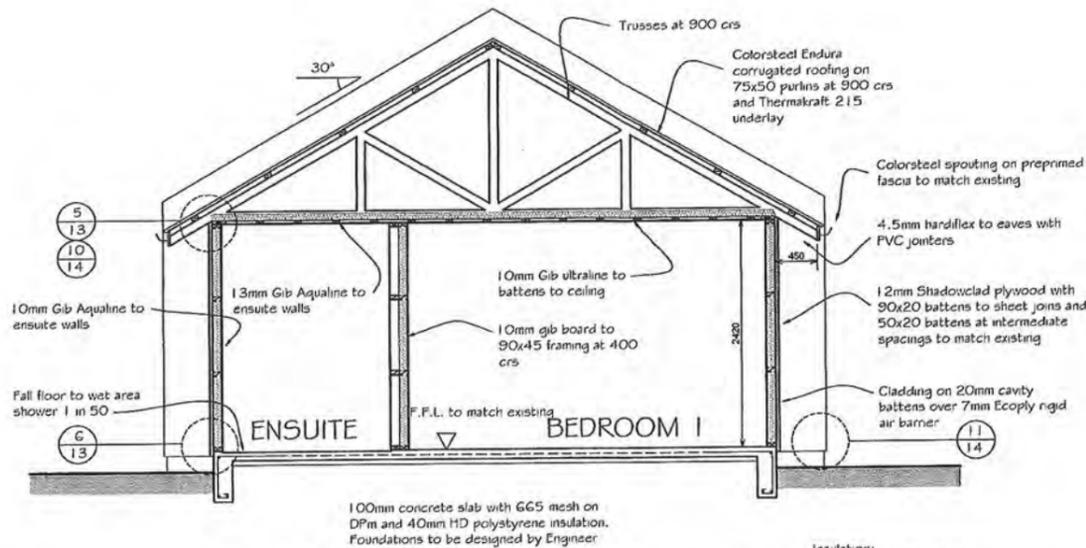
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**Proposed Addition & Garage
 For Mr & Mrs Fawcett
 At 91 Aston Road
 Waikanae Downs
 BUILDING CONSENT**

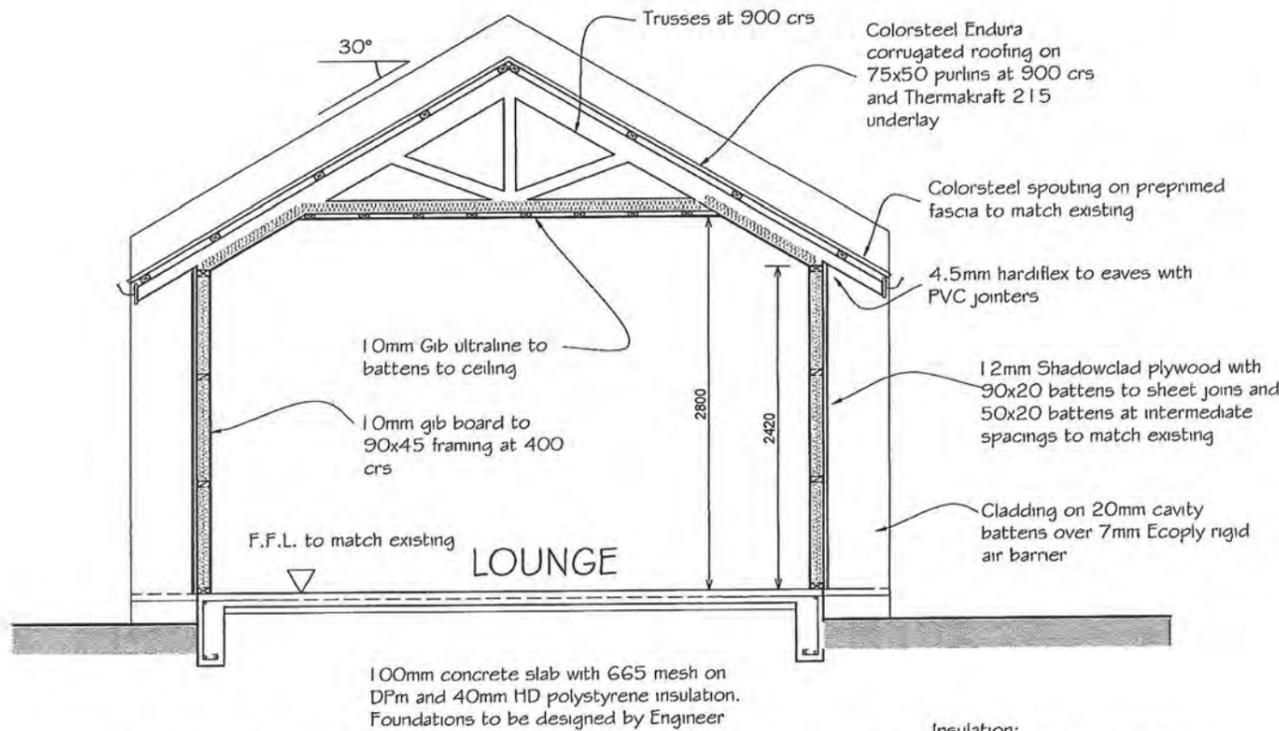
Revisions:
 A 15/03/13 Building consent

Designer: R Dennis	Project Number: 294
Date: October 2012	Drawing Number: 9
Scale: 1:50	Of 17
Revision: A	(A2 Original)



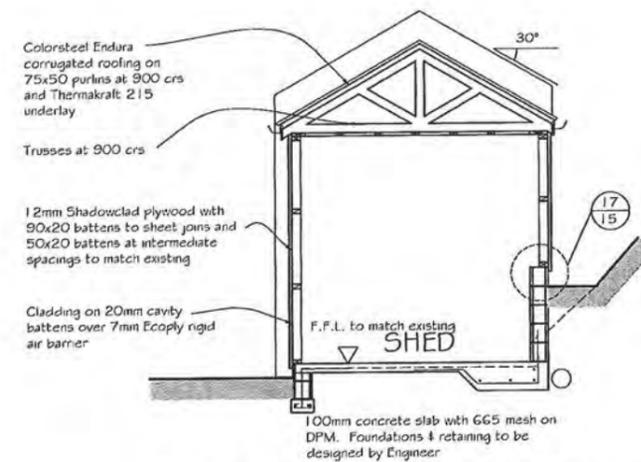
CROSS SECTION A-A
Scale 1:50

Insulation:
Floor - 50mm HD polystyrene
Walls - R2.4 batts
Ceiling - R3.2 batts



CROSS SECTION B-B
Scale 1:50

Insulation:
Floor - 50mm HD polystyrene
Walls - R2.4 batts
Ceiling - R3.2 batts



CROSS SECTION C-C
Scale 1:50

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**Proposed Addition & Garage
For Mr & Mrs Fawcett
At 91 Aston Road
Waikanae Downs
BUILDING CONSENT**

Revisions:
A 15/03/13 Building consent.

Designer:
R Dennis
Date:
October 2012
Scale:
1:50
Revision: A

Project Number:
294
Drawing Number:
10
Of 17
(A2 Original)

ELECTRICAL KEY

-  Recessed downlight
-  Over mirror wall light
-  Extract fan vented to exterior
-  Smoke detector
-  Soft mounted exterior light
-  Wall mounted exterior light
-  Fluorescent light
-  One way switch
-  Multi way switch
-  Single power point
-  Double power point
-  Telephone point
-  TV Television/Data point
-  MTR Heated towel rail point
-  GD Ceiling mounted point for garage door opener
-  Sub board

Electrical Notes

All switches, power points etc to be PDL - owner to confirm series.

Recessed downlights shall be installed to prevent transfer of moisture into ceiling space and maintain minimum clearances from insulation as required by NZECP 54:2001

All power circuits to have RCD at switchboard

TV aerial wiring to be suitable for Sky Digital and for Telstra Clear Cable TV

Phone line wiring to be suitable for internet broadband and jetstream connections

All light fittings to be fitted with long life bulbs

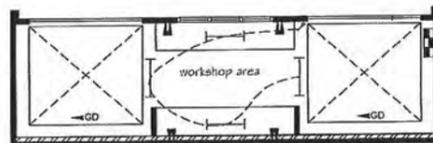
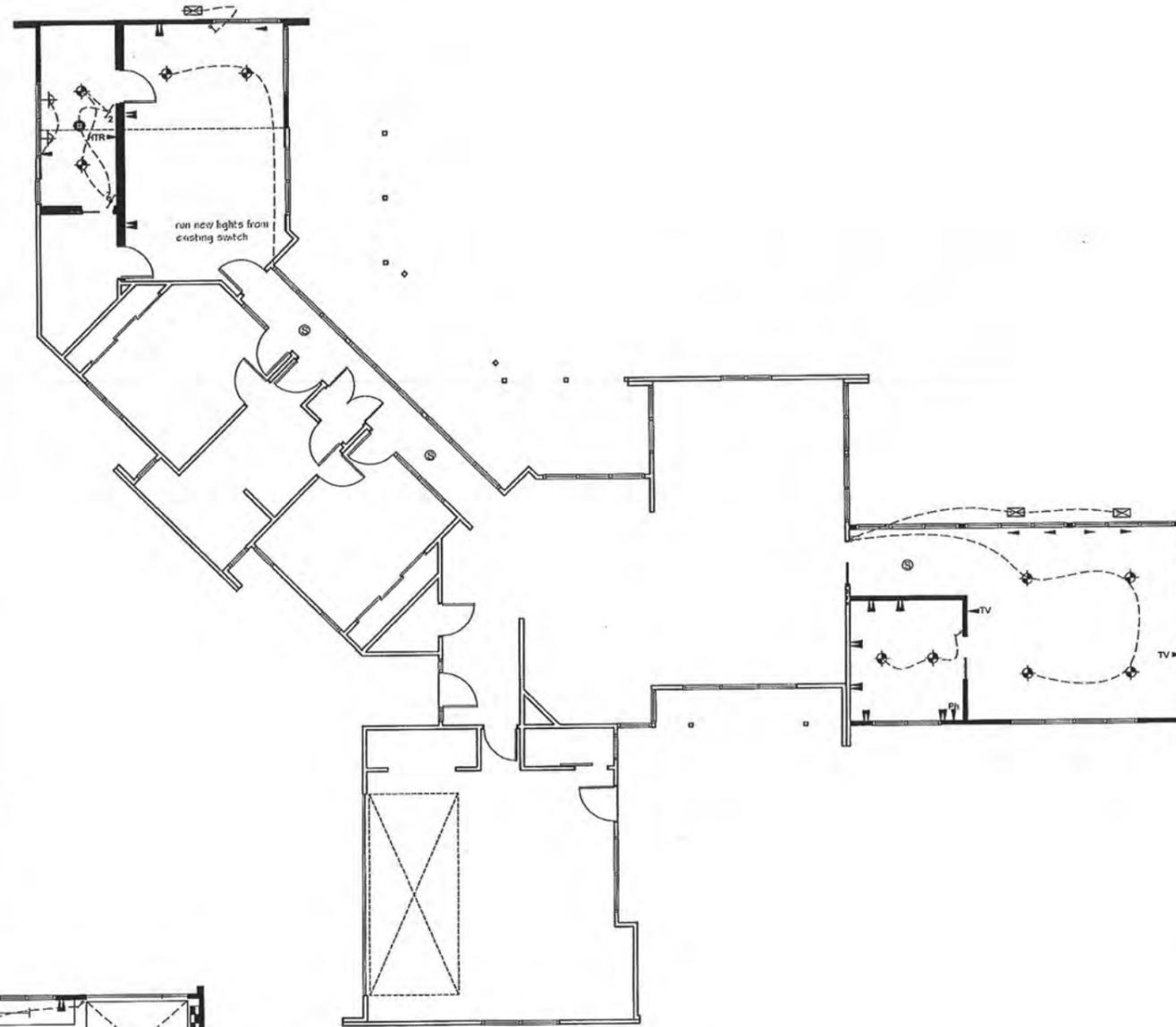
Allow for undertile heating to tiled bathrooms

Provide Electrical Certifications after completion and prior to Code of Compliance Certificate being issued

Install approved smoke alarm system as required by NZBC Clause F7

Allow for power for pump in water tank

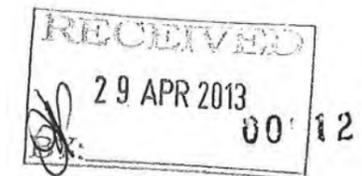
Allow Wicon domestic earthing system to concrete floors & walls containing a bath or shower to comply with clause 5.6.2.5. AS/NZS 3000



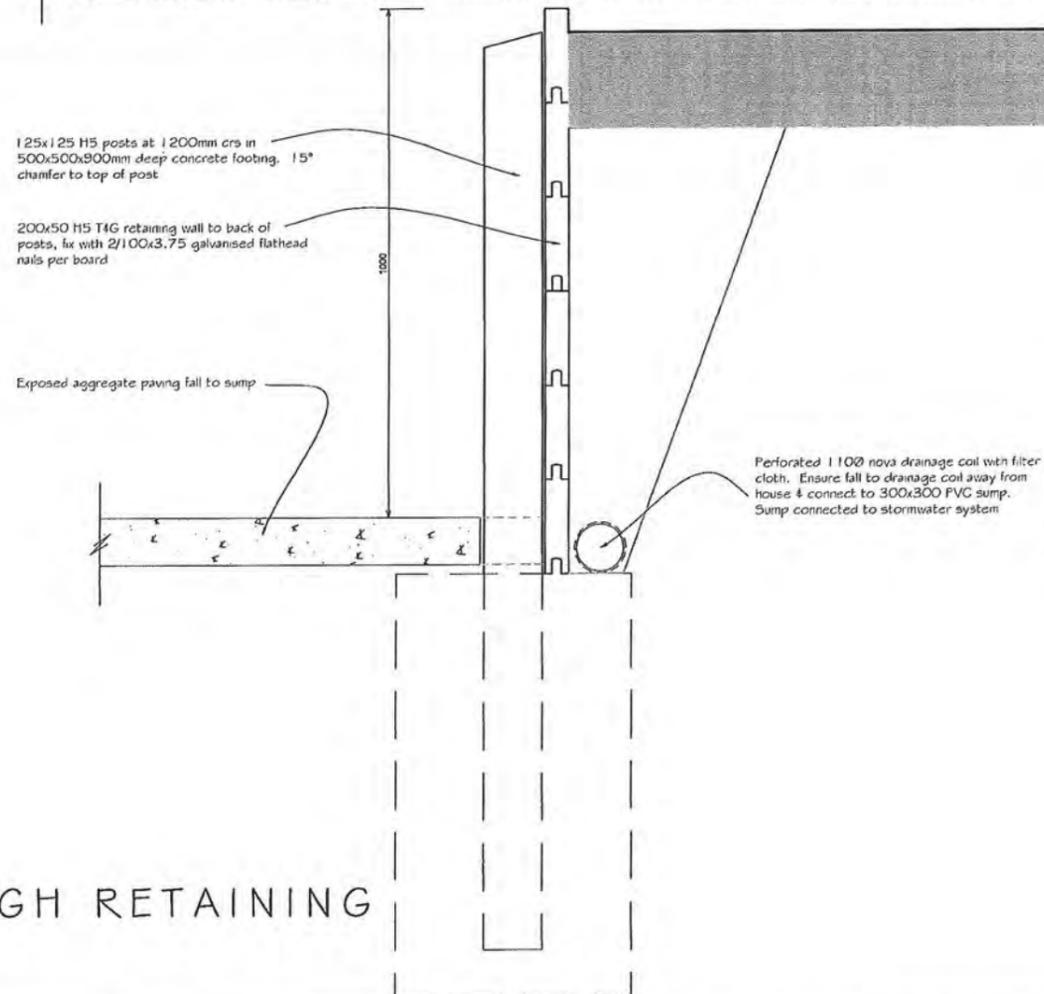
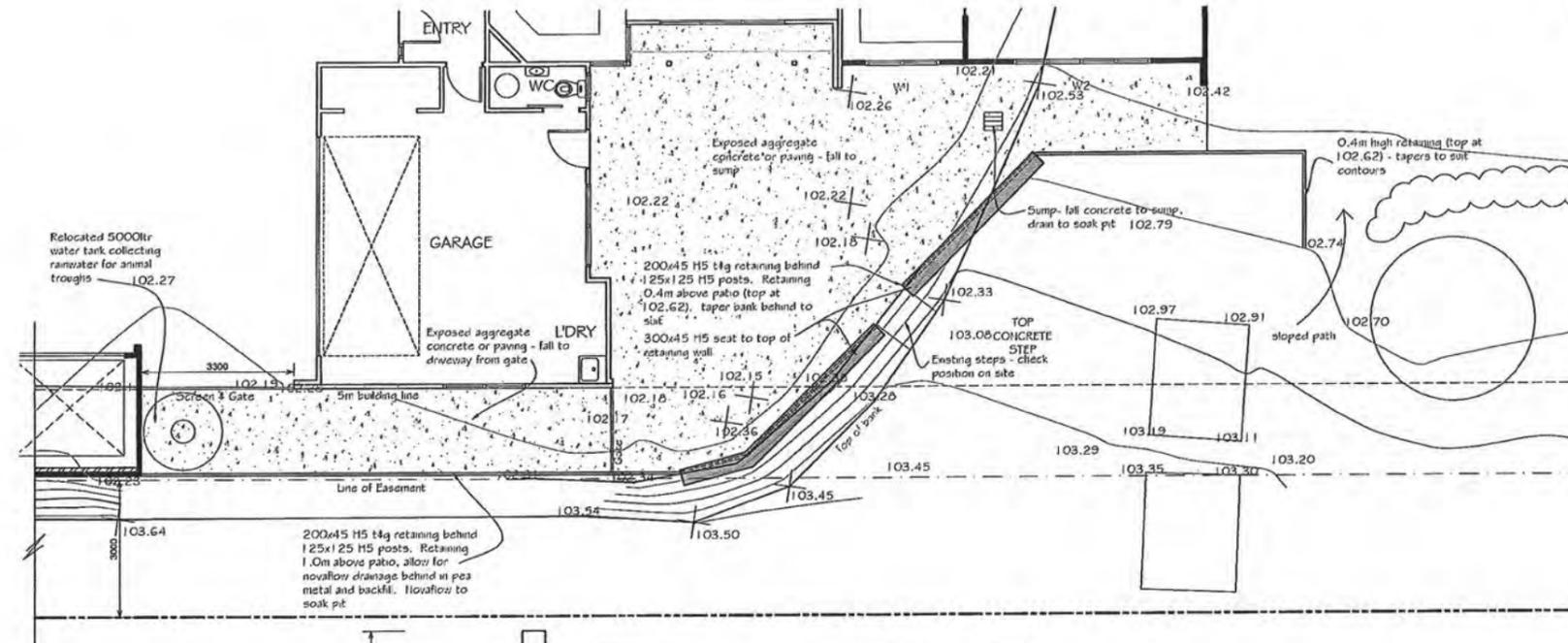
ELECTRICAL PLAN

Scale 1:100

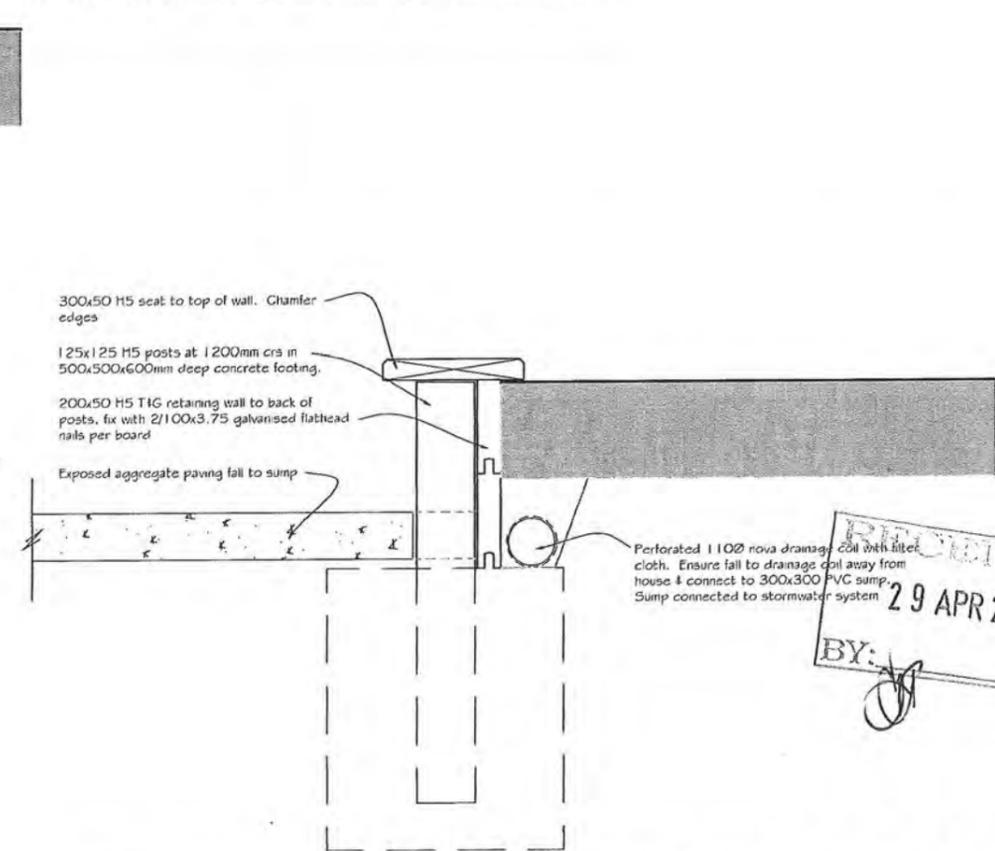
Confirm Layout with Owners on site



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1.0M HIGH RETAINING



0.4M HIGH RETAINING WITH SEAT

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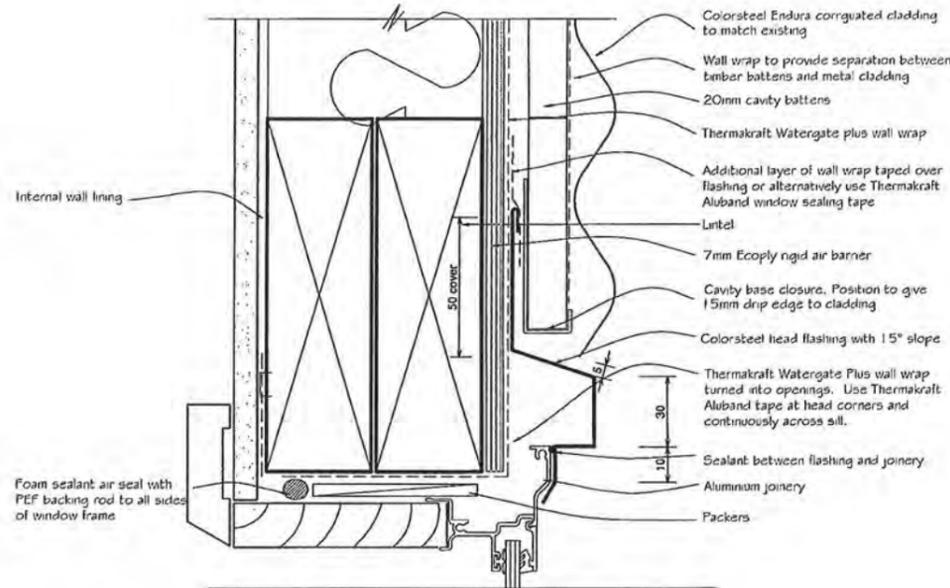
**Proposed Addition & Garage
 For Mr & Mrs Fawcett
 At 91 Aston Road
 Waikanae Downs
 BUILDING CONSENT**

Revisions:
 A 15/03/13 Building consent

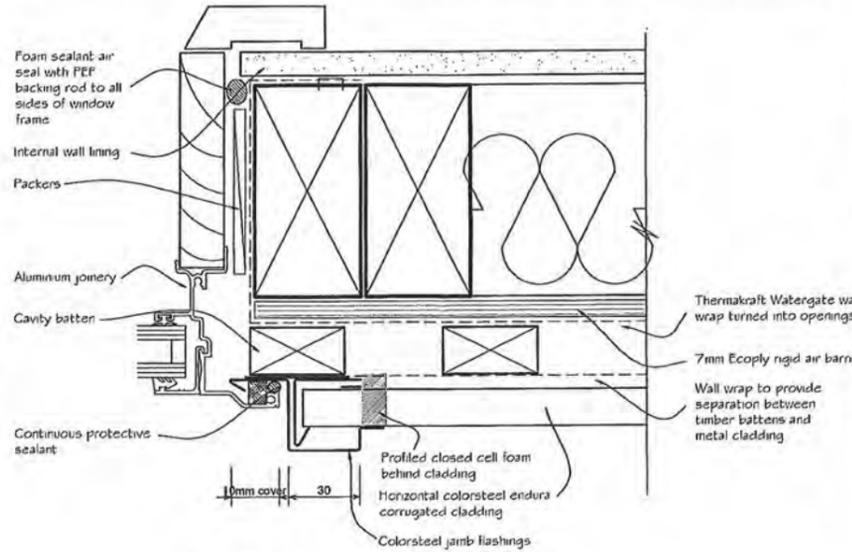
Designer: R Dennis	Project Number: 294
Date: October 2012	Drawing Number: 12
Scale: 1:100; 1:10	Of 17
Revision: A	(A2 Original)

EXTRA HIGH WIND ZONE

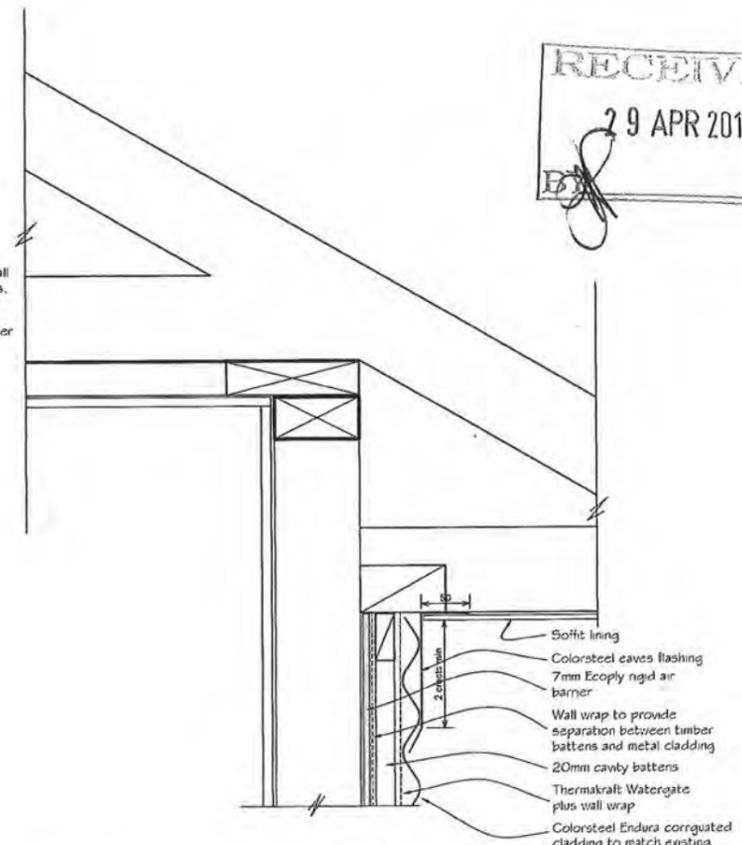
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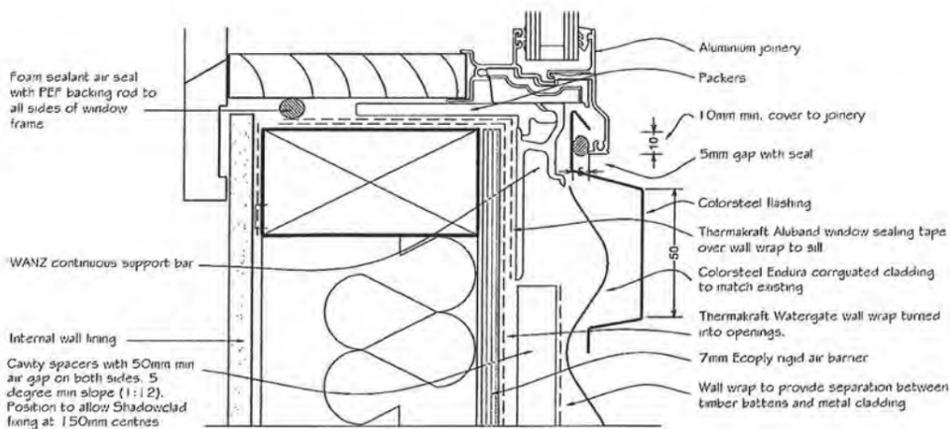
1. WINDOW HEAD
Scale 1:2



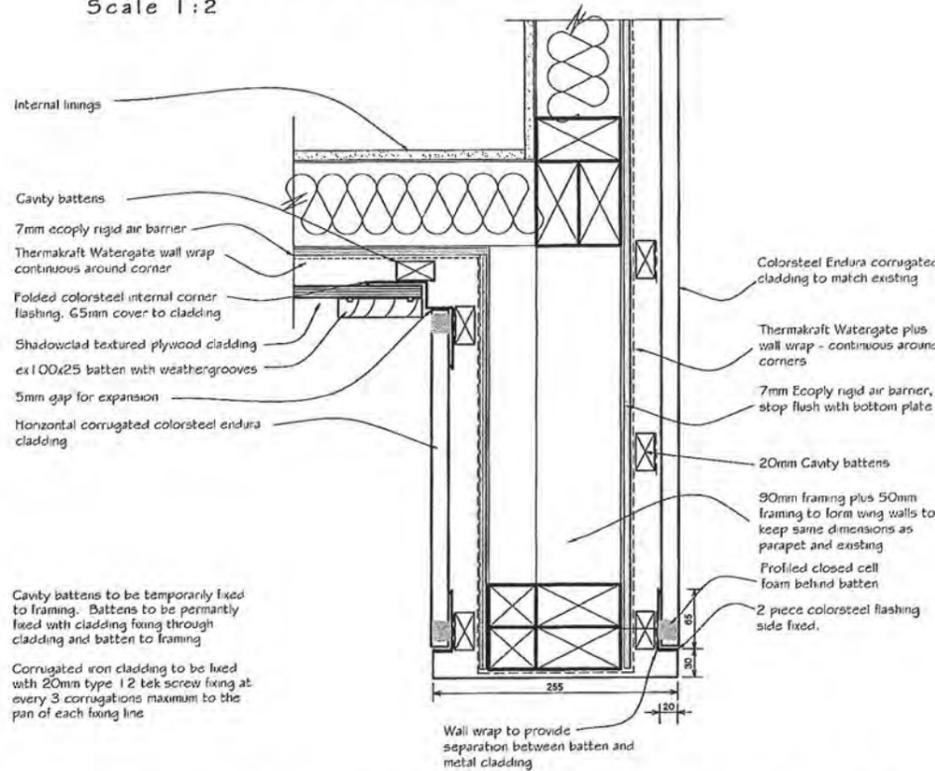
3. WINDOW JAMB
Scale 1:2



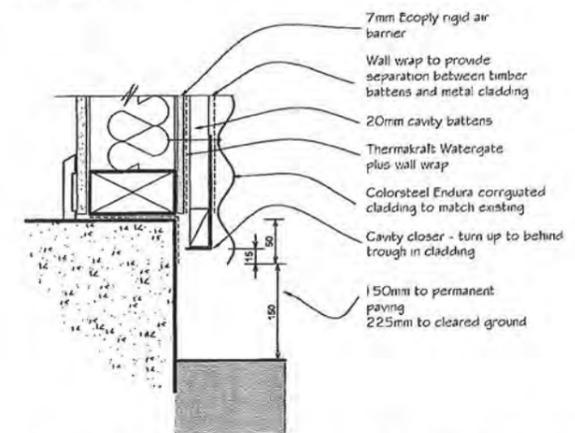
5. EAVES DETAIL
Scale 1:5



2. WINDOW SILL
Scale 1:2



4. INTERNAL CORNER/WING WALLS
Scale 1:5



6. FOUNDATION DETAIL
Scale 1:5

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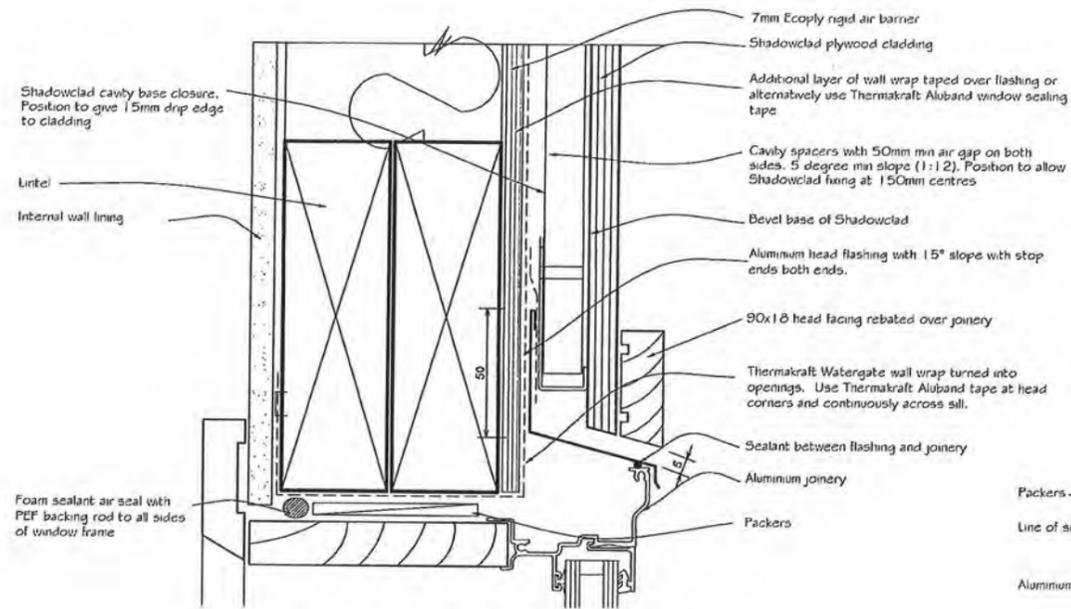
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Waikanae Downs
BUILDING CONSENT**

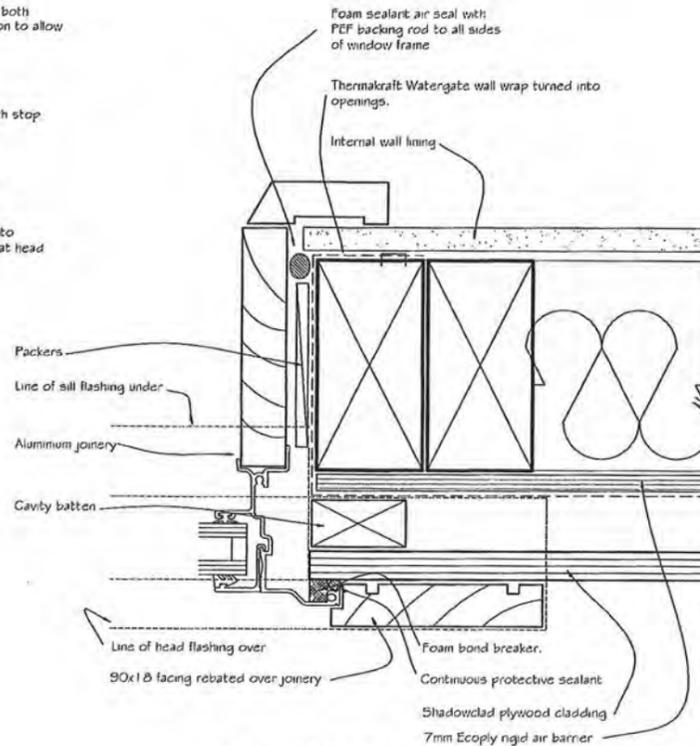
Revisions:
A 15/03/13 Building consent

Designer: R Dennis	Project Number: 294
Date: October 2012	Drawing Number: 13 Of 17
Scale: 1:2; 1:5	(A2 Original)
Revision: A	

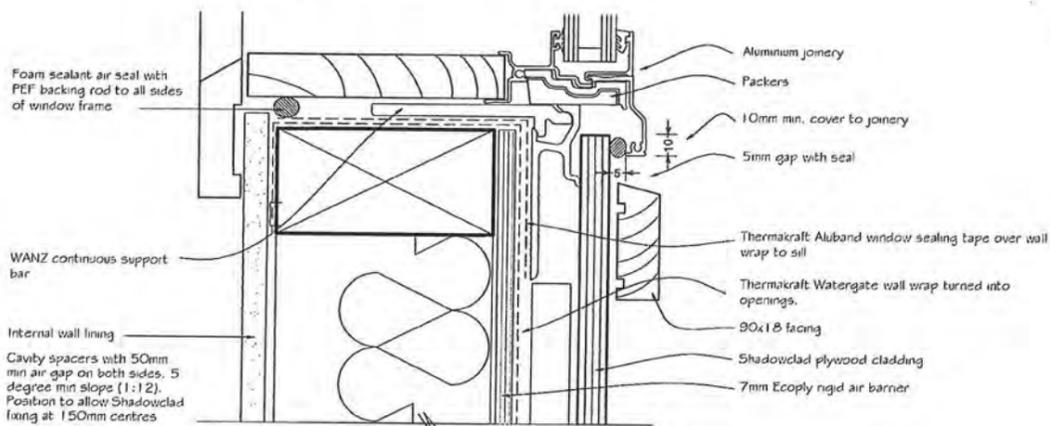
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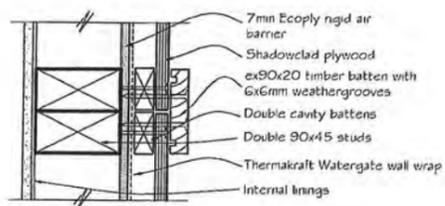
7. WINDOW HEAD
Scale 1:2



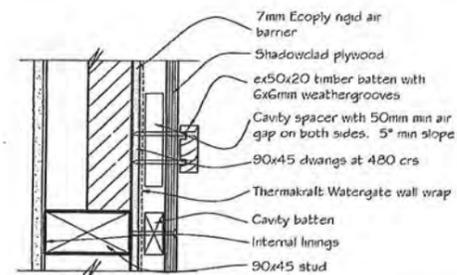
9. WINDOW JAMB
Scale 1:2



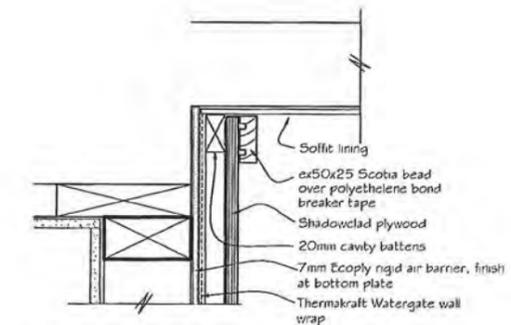
8. WINDOW SILL
Scale 1:2



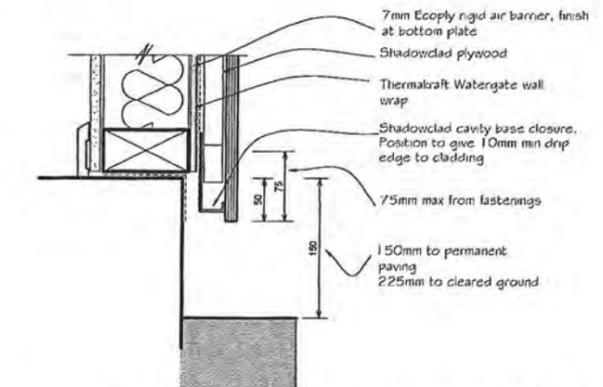
12. VERTICAL JOINT on stud
Scale 1:5



13. VERTICAL BATTEN intermediate battens
Scale 1:5



10. SOFFIT DETAIL
Scale 1:5



11. FOUNDATION DETAIL
Scale 1:5

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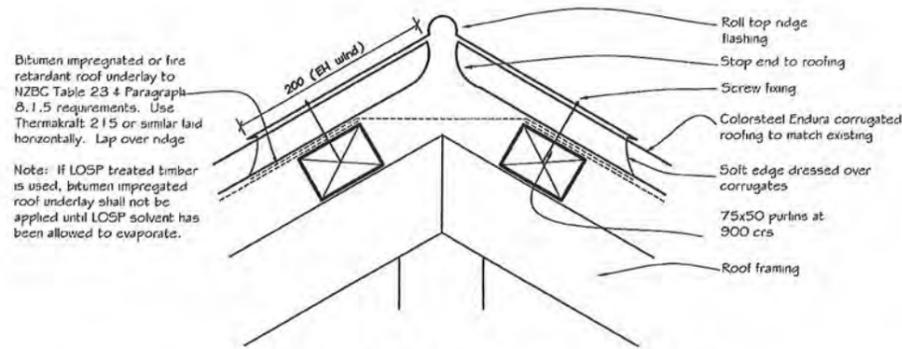
**Proposed Addition & Garage
For Mr & Mrs Fawcett
At 91 Aston Road
Waikanae Downs**

BUILDING CONSENT

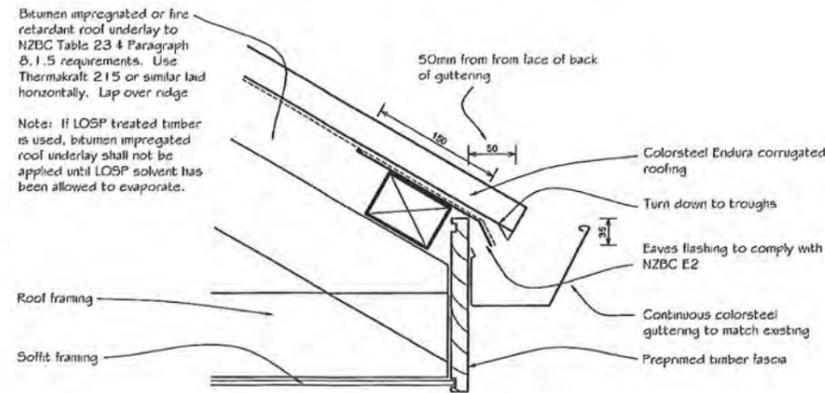
Revisions:
A 15/03/13 Building consent

Designer:
R Dennis
Date:
October 2012
Scale:
1:2; 1:5
Revision: A

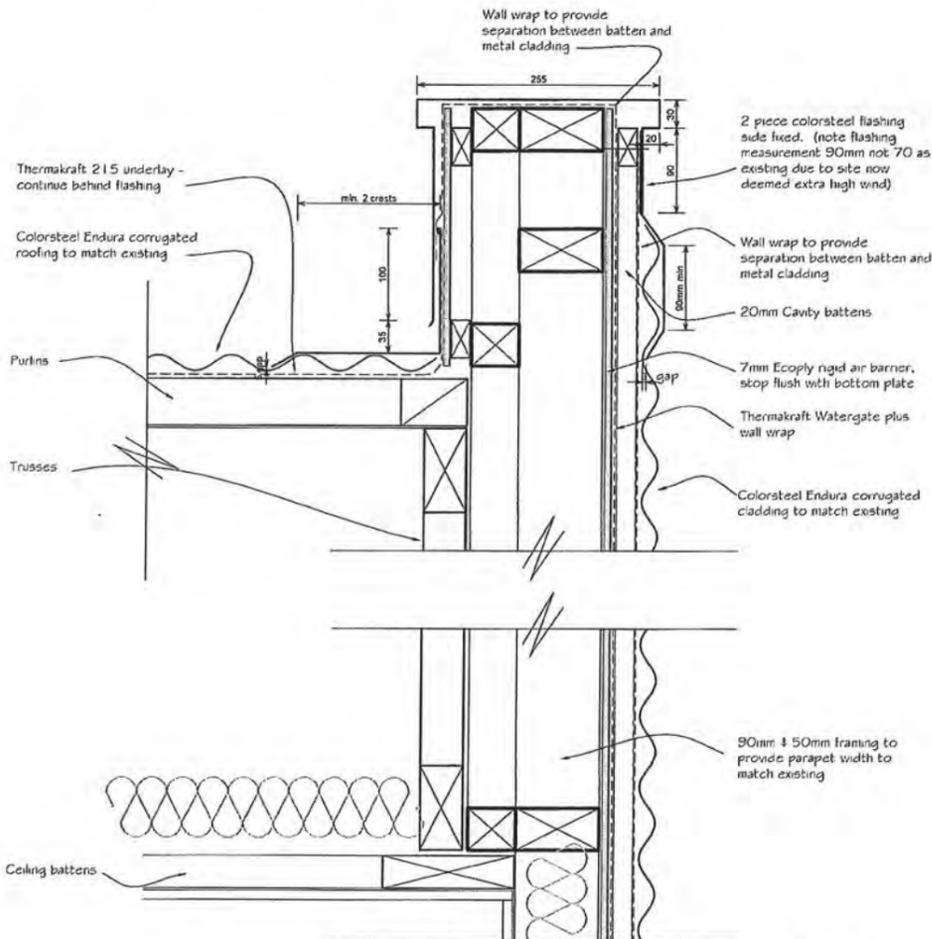
Project Number:
294
Drawing Number:
14
Of 17
(A2 Original)



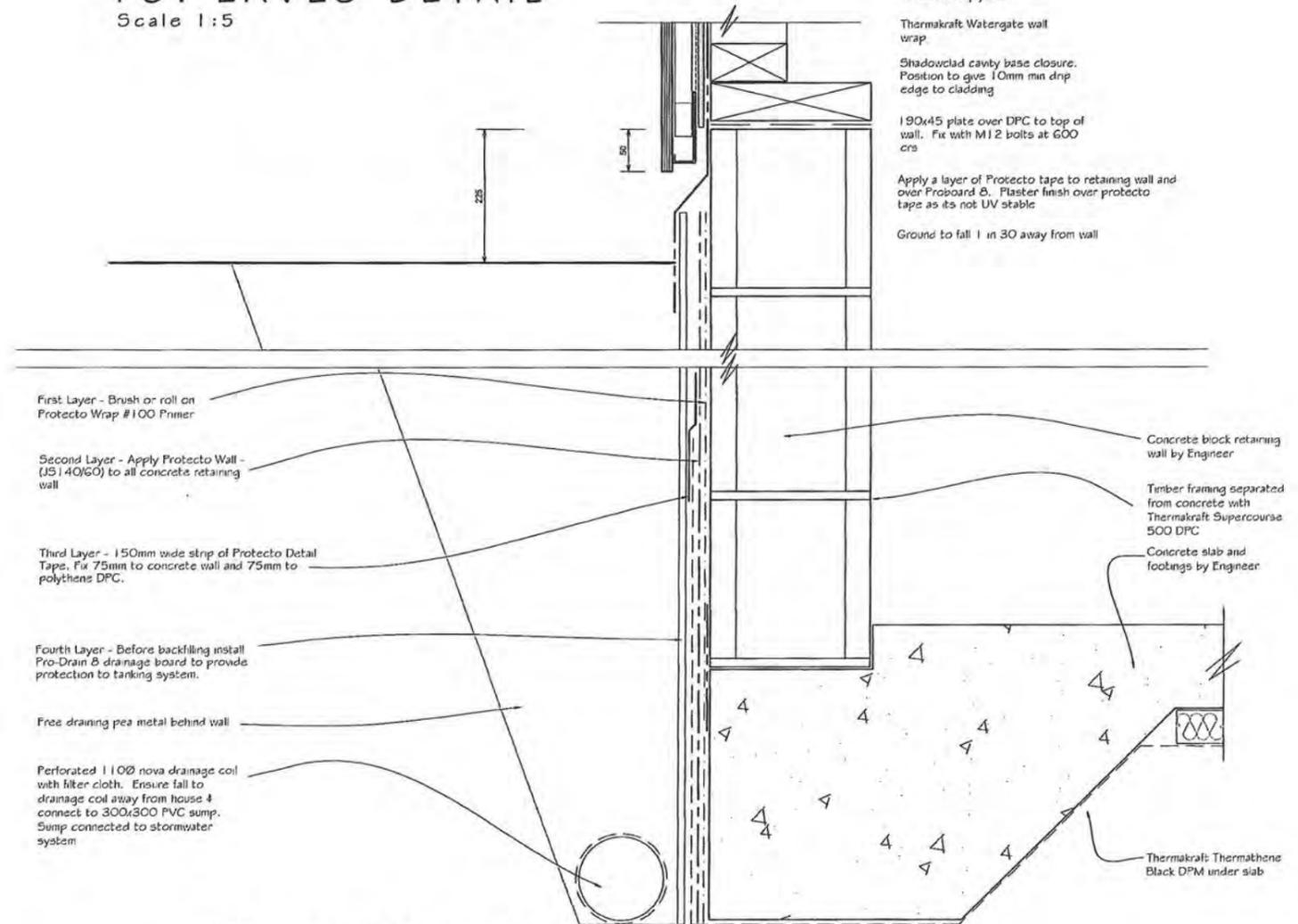
14. RIDGE DETAIL
Scale 1:5



15. EAVES DETAIL
Scale 1:5



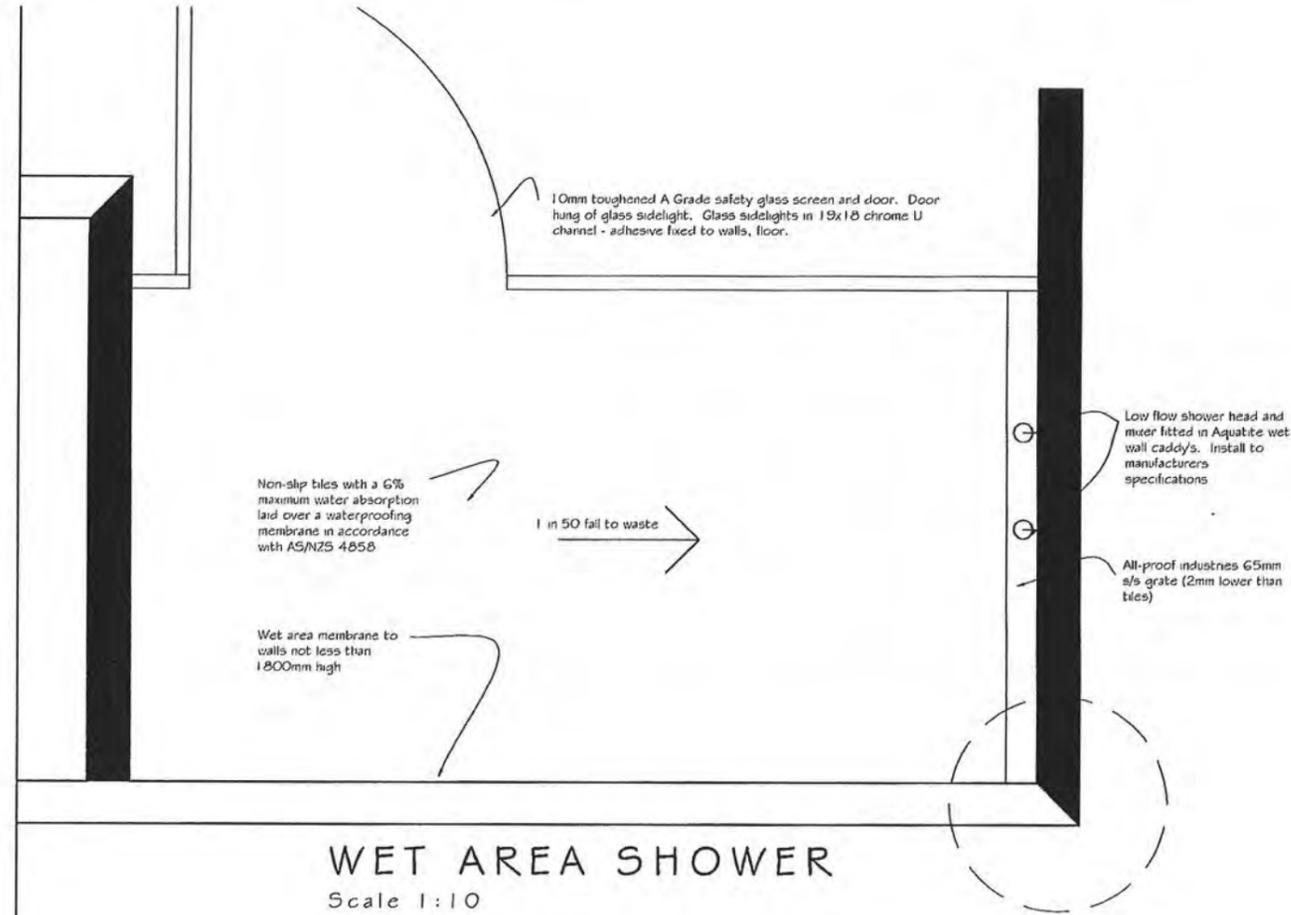
16. PARAPET DETAIL
Scale 1:5



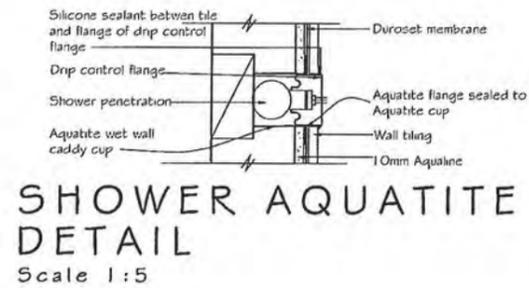
17. SHED RETAINING DETAIL
Scale 1:5

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			<p>Date: October 2012</p>	<p>Scale: 1:5</p>	<p>Drawing Number: 15 Of 18 (A2 Original)</p>
			<p>Revision: A</p>		

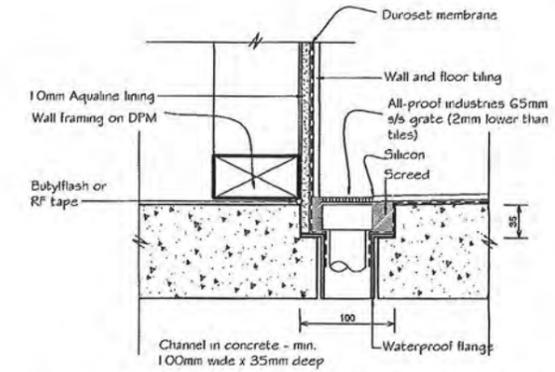
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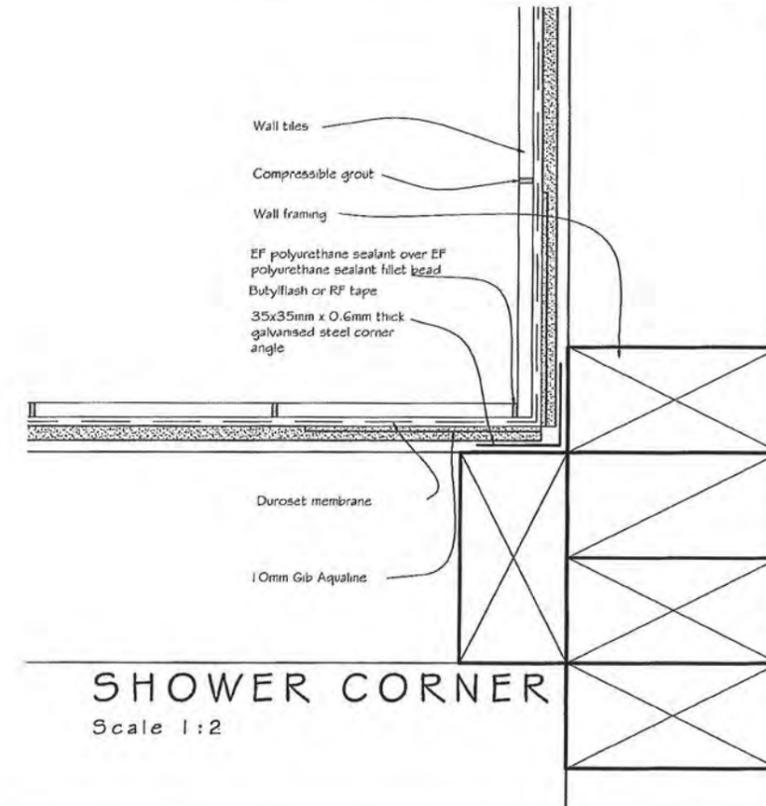
WET AREA SHOWER
Scale 1:10



SHOWER AQUATITE DETAIL
Scale 1:5



SHOWER CHANNEL DRAIN DETAIL
Scale 1:5



SHOWER CORNER
Scale 1:2

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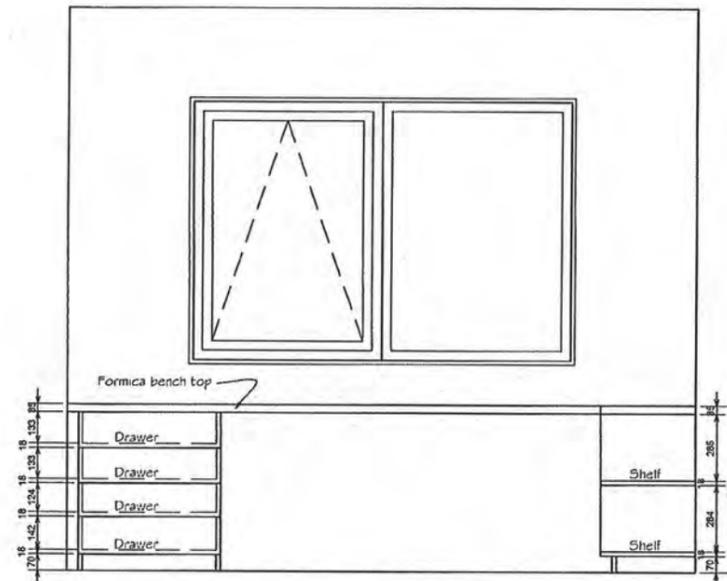
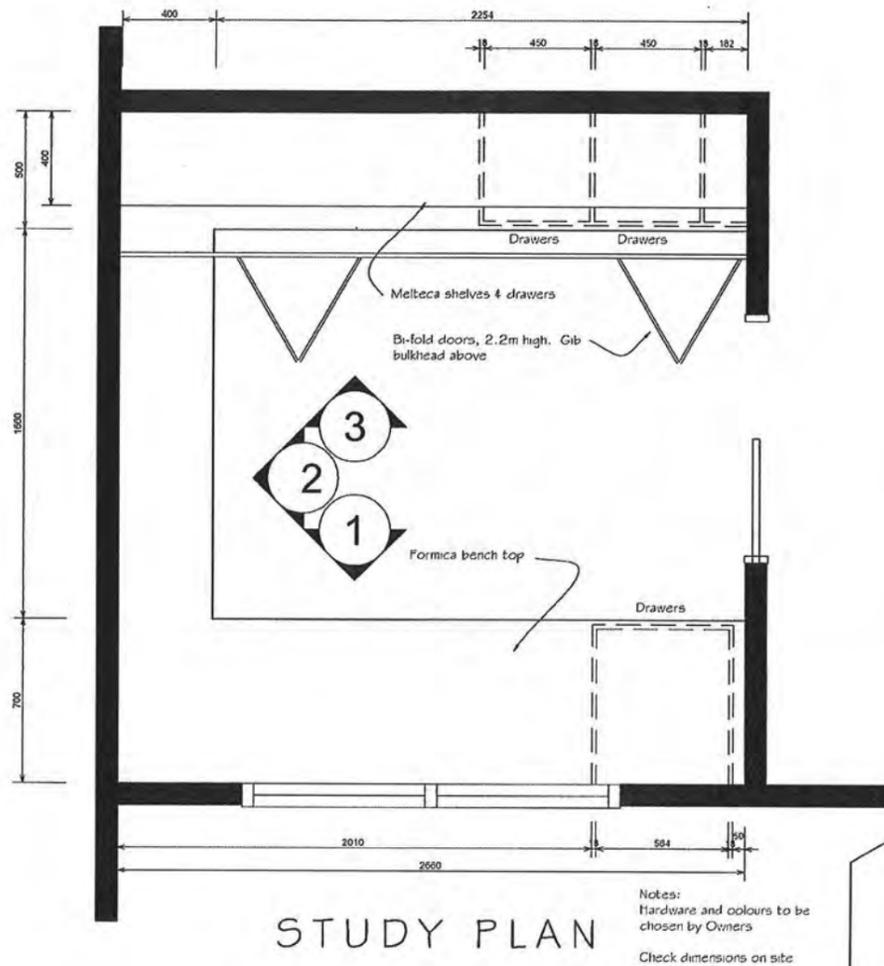
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At 91 Aston Road
Waikanae Downs
BUILDING CONSENT**

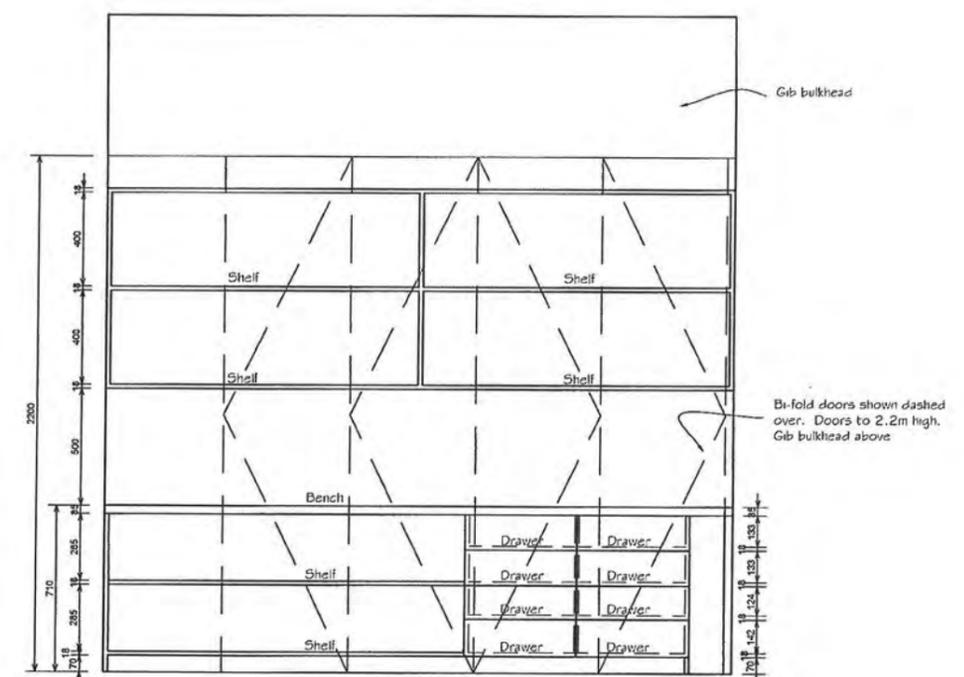
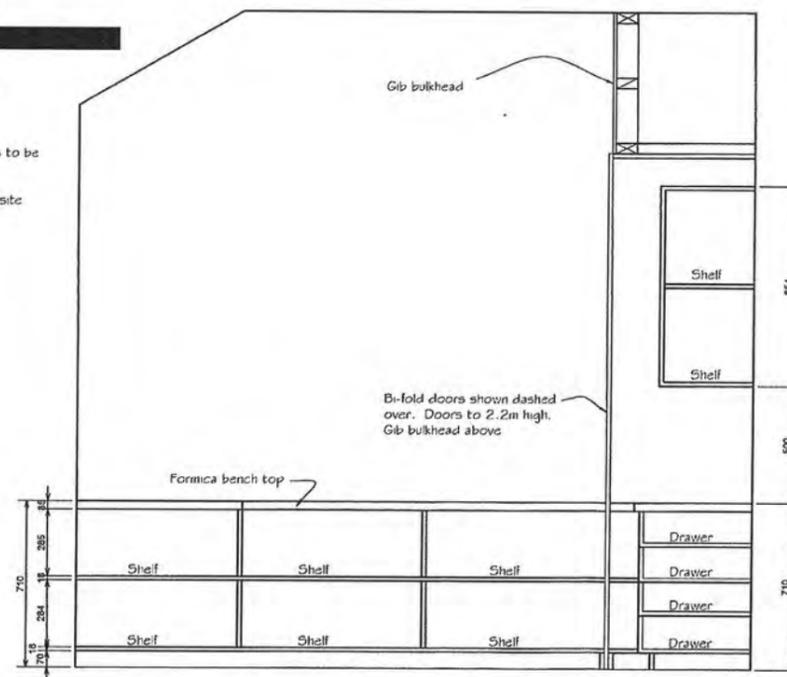
Revisions:
A 15/03/13 Building consent

Designer:
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Date:
October 2012
Scale:
1:10; 1:5; 1:2
Revision: A

Project Number:
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Drawing Number:
16
Of 17
(A2 Original)



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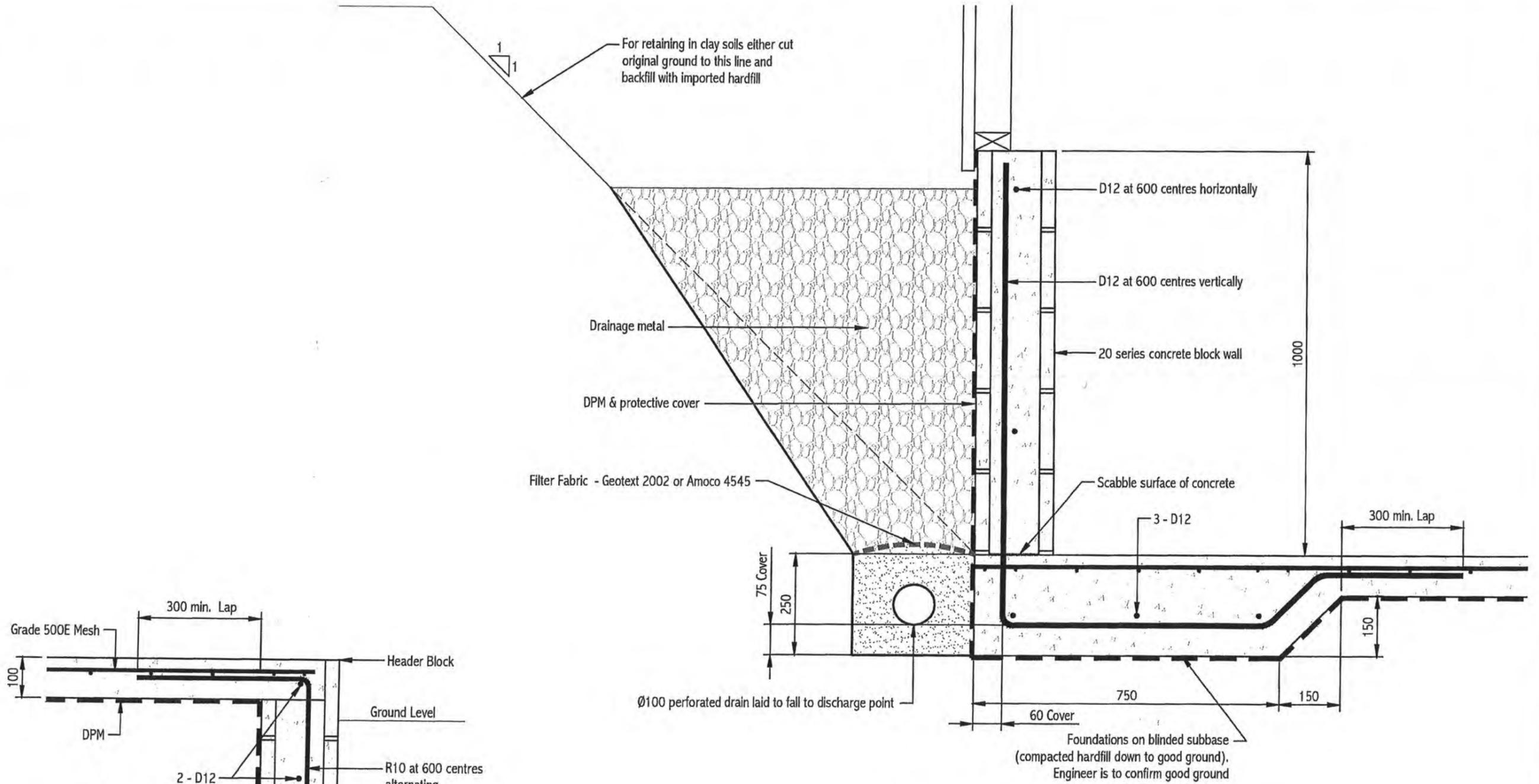
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BUILDING CONSENT**

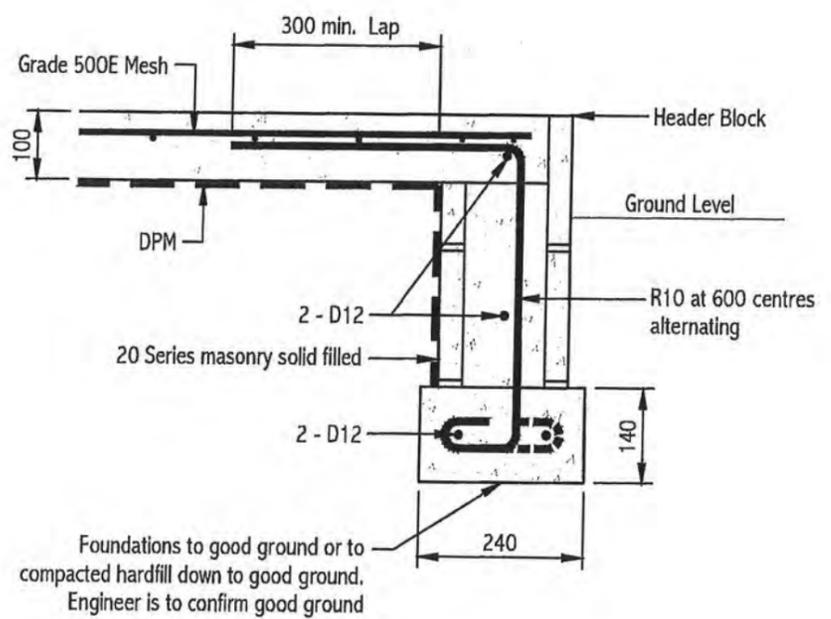
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A 15/03/13 Building consent

Designer:
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Date:
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Revision: A

Project Number:
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Drawing Number:
17
Of 17
(A2 Original)

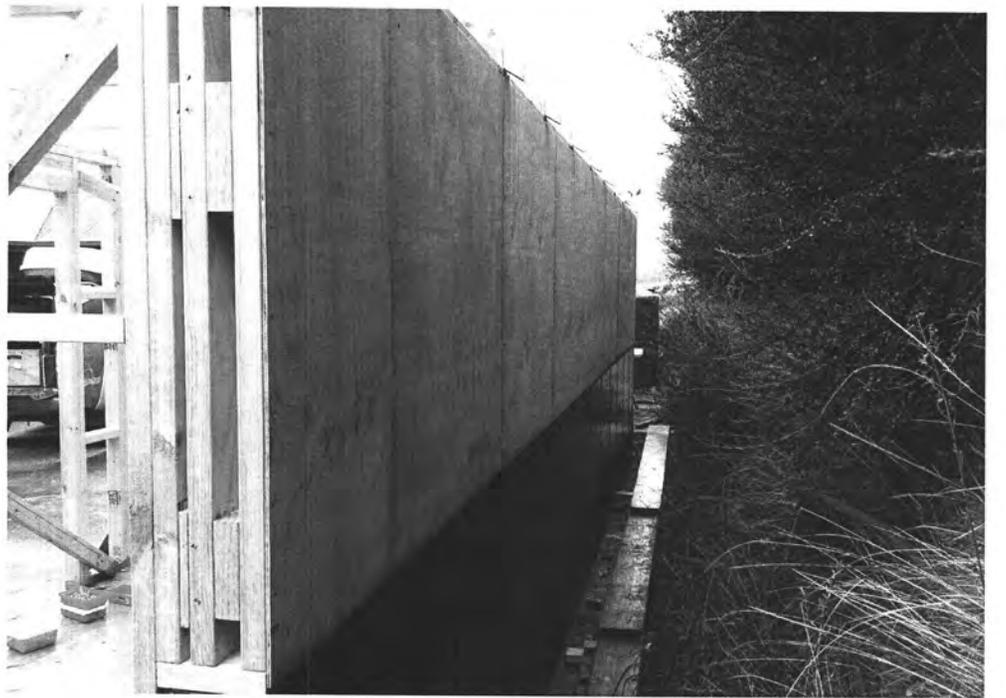


Shed Rear Foundation & Retaining Wall
Scale 1:10

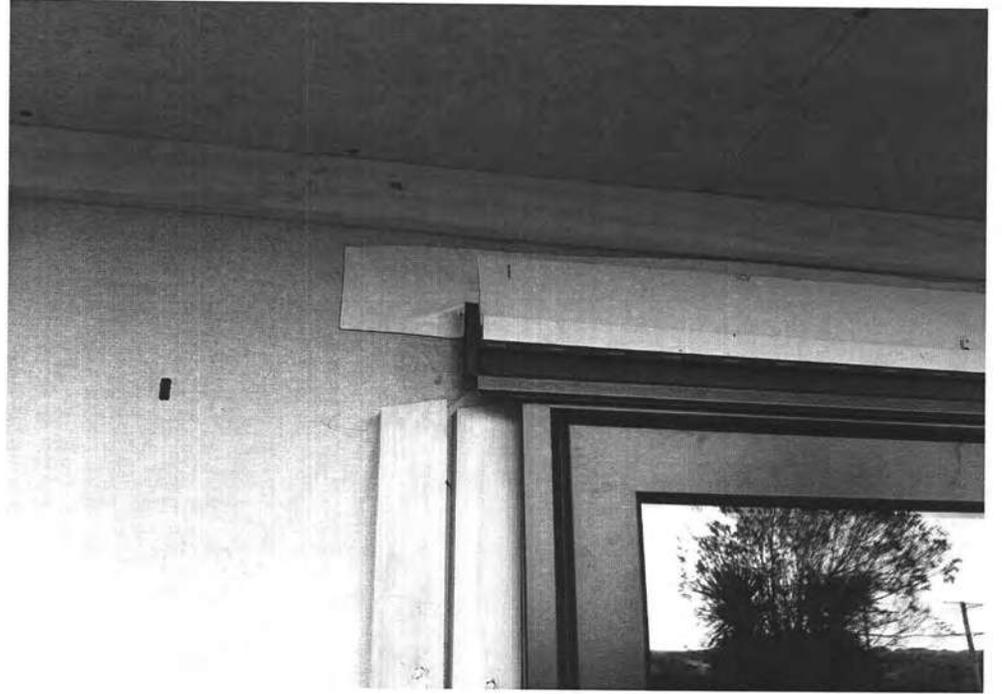


Shed Front & Side Foundation
Scale 1:10

Client: C A & JM Fawcett Lot 7 DP 84600 91 Aston Road, Waikanae Downs	 EASTERN CONSULTING LIMITED	
	16 PERRY ST PO BOX 246, MASTERTON PH: (06) 370 0007 FAX: (06) 370 0810 EMAIL: george@ece.co.nz	34 MAIN STREET PO BOX 40-554, UPPER HUTT PH: (04) 524-9010 FAX: (04) 524-9011 EMAIL: peter@ece.co.nz
Project: Proposed Extension to Existing House & New Shed	Date: 23 April 2013	
Drg Title: New Shed Foundations	SCALES: As Shown	
	Job No. F120041	Sheet No. 4 of 4

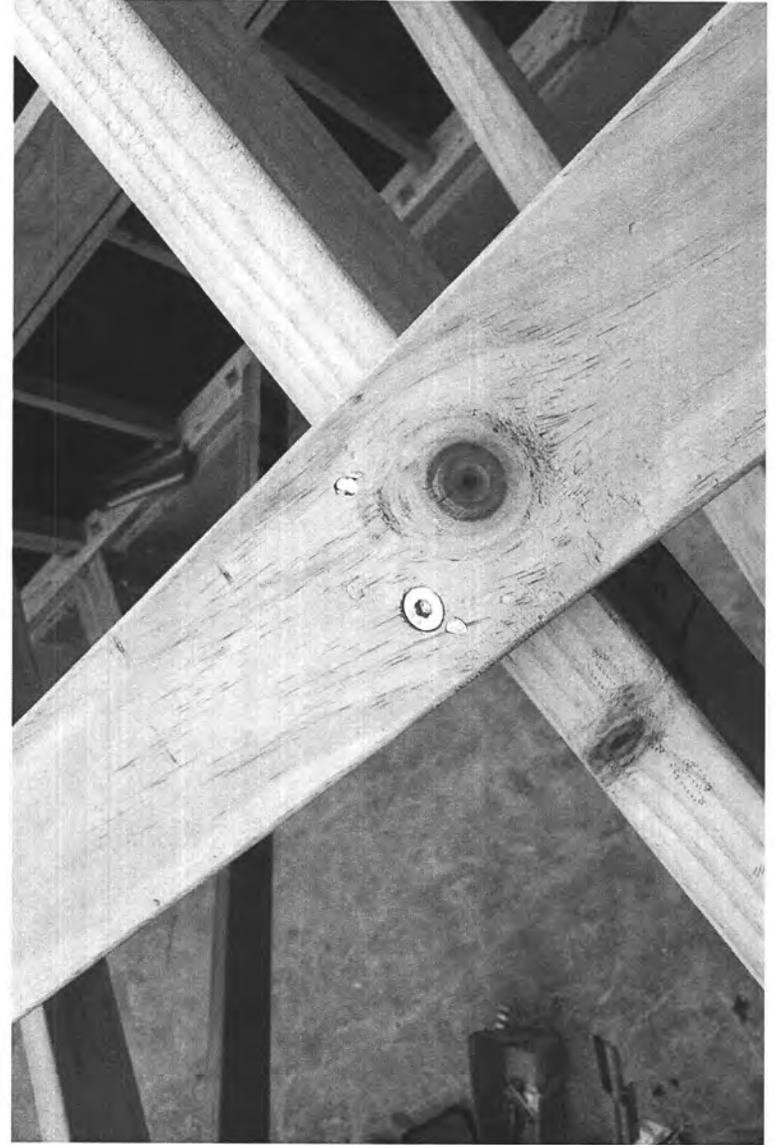


BL 130 237



BC 130 237

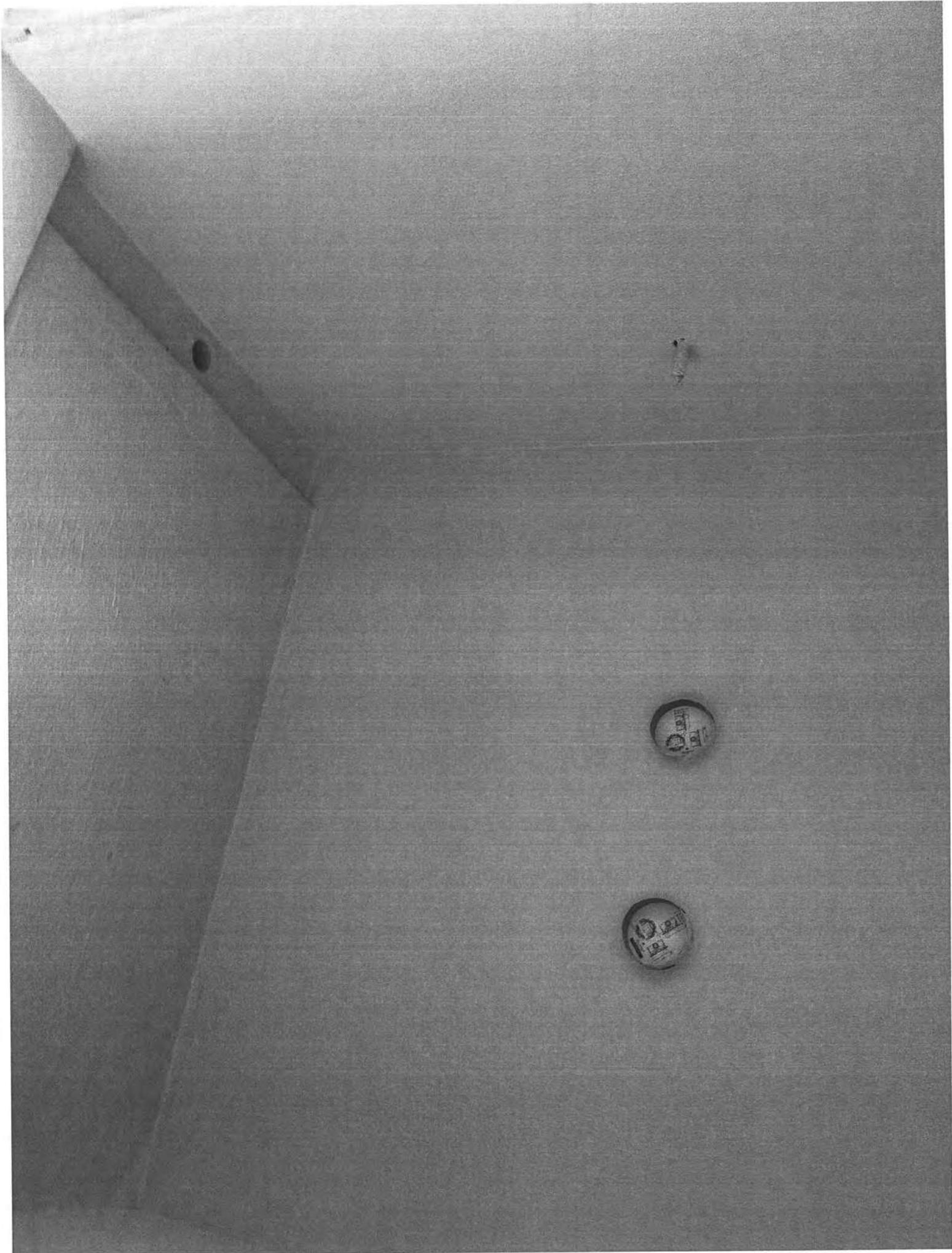
BK130 237



BC130237



BC 130 237



BL 130 237





NEW ZEALAND INSTITUTE OF ARCHITECTS INCORPORATED



Building Code Clause(s)

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: Eastern Consulting Limited

TO: C & J Fawcett (Construction Review Firm)

TO BE SUPPLIED TO: Kapiti Coast District Council (Owner/Developer)

IN RESPECT OF: alteration to residence (Building Consent Authority)

AT: 91 Aston Road, Waikaroro (Description of Building Work)

LOT 7 DP 84600 SO (Address)

Eastern Consulting Limited (Construction Review Firm) has been engaged by owner

to provide CM1 CM2 CM3 CM4 CM5 (Engineering Categories) or OOL1 OOL2 OOL3 OOL4 (Architectural Categories)

observation or other monitor specific design structural items - foundations & wall services (Extent of Engagement)

in respect of clause(s) B.1-Structure of the Building Code for the building work described in

documents relating to Building Consent No. 130237 and those relating to

Building Consent Amendment(s) Nos. 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. (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) B.1-Structure of the Building Regulations.

I, Peter Davenport am: CPEng No. 35198

(Name of Construction Review Professional) Reg Arch No.

I am a Member of: IPENZ NZIA and hold the following qualifications: BE(hons), PhD, MIPENZ, CPEng

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: Peter Davenport ON BEHALF OF Eastern Consulting Limited

Date: 16 Oct 2013 Signature: P Davenport

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.

Calcs for BC application show brace line on inner walls of shed. Now proposed to leave unlined. Outer cladding is plywood & this was not considered in broving calcs at all. Now check this.

refer to broving calculations 9/04/2013 for shed.

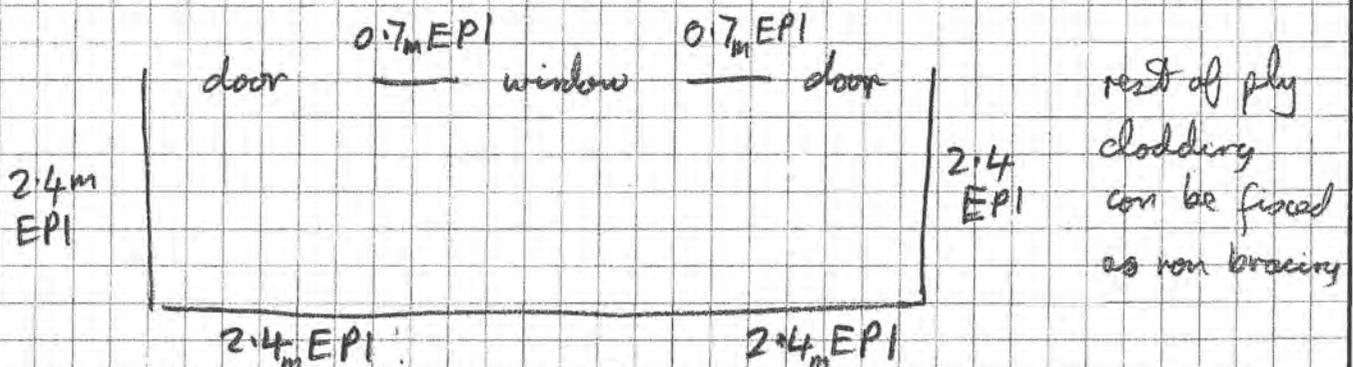
		wind	seismic
across	required	576 BU	146 BU
	achieved (with BL-H 12)	600	504
along	required	207	146
	achieved (with BL-H 12)	933	833

using ply 7mm, designation EPI on one side
 rating 125 BU/m for wind } wind across
 130 BU/m for seismic } is critical one

required length for 576 BU wind is $\frac{576}{125} = 4.6 \text{ m}$

use 2.4 m on each side wall, total 4.8 m

use 4.8 m on rear wall & short lengths on front wall - more than required in this direction.



F/20041

Fawcett house alterations
91 Aston Rd, Waikarae

Construction observations
contractor JCK Development
Jerome Wagg ph 021 500 844

Thurs 29 Aug 2013, ~4pm, Digger on site finishing off
last few pile holes with auger. Upper layers were
soft (as expected), then firmer layer below. Change
in colour & texture readily recognized. Depth varies
1.4m to 1.9m. Yet to place ϕ D12 bar in each
hole. Concrete scheduled for Friday morning. Holes
dry when inspected. Photos.

Thurs 5 Sep 2013. Reviewed photos by contractor. Shows
mesh in place, footings with reinforcing, chains to
position reinforcing, polystyrene, pile tops. Ready
to place floor slab & perimeter footing.

Fri 13 Sep 2013. Inspected excavations for shed slab
and footings. Whole slab area down to same level as
base of rear wall footings. This means slab will be
thicker but not a problem here - easier to form footings.
Mesh must be in upper part near slab surface & support
discussed with contractor. Photos.

Wed 18 Sep 2013. Inspection by Ashley (surveyor) of shed
slab & footing reinforcement. Checked position & type of
steel, cover to sides & base. Satisfactory for concrete
Photos.

Fawcett house alterations

F-120041

Thur 26 Sep 2013. Review photos by contractor. Shed rear wall in blocks. Photos of reinforcing - longitudinal bars & vertical (previously inspected as part of slab/footing) & construction joint in long wall. Satisfactory for grouting.

Fri 4 Oct 2013. Inspected frame & bracing to lounge extension. Discussed changes to bracing, as ply linings not considered in brace calculations & with appropriate fixings will provide substantial amount of bracing. Need to check coils to confirm details. Specific structural design elements of foundations & shed wall have now been completed & an issue PS4 for these.



NEW ZEALAND INSTITUTE OF ARCHITECTS INCORPORATED



Building Code Clause(s)

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

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

ISSUED BY: Eastern Consulting Limited

TO: C & J Fawcett (Construction Review Firm)

TO BE SUPPLIED TO: Kapiti Coast District Council (Owner/Developer)

IN RESPECT OF: alteration to residence (Building Consent Authority)

AT: 91 Aston Road, Waikaroro (Description of Building Work)

LOT 7 DP 84600 SO

Eastern Consulting Limited (Construction Review Firm) has been engaged by owner

to provide CM1 CM2 CM3 CM4 CM5 (Engineering Categories) or OOL1 OOL2 OOL3 OOL4 (Architectural Categories)

observation or other monitor specific design structural items - foundations & wall services (Extent of Engagement)

in respect of clause(s) B1-Structure of the Building Code for the building work described in

documents relating to Building Consent No. 130237

and those relating to Building Consent Amendment(s) Nos. 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. (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-Structure of the Building Regulations.

I, Peter Davenport (Name of Construction Review Professional) am: CPEng No. 35198

I am a Member of: IPENZ NZIA and hold the following qualifications: BE(hons), PhD, MIPENZ, CPEng

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 Peter Davenport ON BEHALF OF Eastern Consulting Limited

Date: 16 Oct 2013 Signature: P Davenport

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.

**CONSTRUCTION
CHEMICALS**

Dribond

Date 24 1 10 13

Applicator # NZ 162

THIS AREA HAS BEEN WATERPROOFED WITH

- HYDRATHANE**
- LIQUID FLASH 2-Pack**
- LIQUID FLASH**
- FLEXIBLE SEALER**

Approved Applicator

M J DOWN

Contact No.

0274 479162

RECOMMENDED ADHESIVES

~~GRIPFLEX~~ • ~~MONOFLEX~~ • ULTIMA • MOSAICBOND •
• KEMFLEX 2 to 1 • KEMGRIP with ELASTACRETE •

Refer to our website selection guide for preferred
adhesive/substrate specifications

www.constructionchemicals.com.au

DAMAGE

**PLEASE NOTIFY THE
APPLICATOR OF ANY
DAMAGE PRIOR TO
TILING**

**REPAIRS MUST BE
COMPLETED
BEFORE TILING
COMMENCES**

- ✓ • Floors and walls primed
- ✓ • Bond breaker tape applied to all corner junctions
- ✓ • 140mm-reinforcing cloth applied to all corner junctions
- ✓ • 3 coats of Liquid Flash applied to walls
- ✗ • 2mm glass reinforced matting applied to floor with Liquid Flash

APPLICATOR'S PRODUCER STATEMENT

I/We MATTHEW DOWN.

Of MJ DOWN TILING + PAVING. (Address)

Being an Applicator OF WATERPROOF MEMBRANES # NZ 162

Confirm that we have applied 3 COATS OF LIQUID FLASH. (Product)

At 91 ASTON RD WAIKANAE DOWNES.

Completed 29 10 - 13. for JCK DEVELOPMENTS.

in accordance with the manufacturers written application instructions, AS3740-2004 and clauses E2, E3 and B2 of the current NZ Building Code.

I/We are satisfied that the substrate over which this system has been applied has been suitably prepared, and the materials have been correctly installed, including 50mm wide Bond Breaking Tape or Neutral-Cure Silicone, Reinforcing Tape 140mm minimum and Reinforcing Matting 970mm as required.

This work has been certified by MATTHEW DOWN

Signed



Date

29-10-13

Manufacturer's 15 year Guarantee

- **Construction Chemicals manufactures products throughout Australia, Asia and New Zealand and has over 30 years of manufacturing experience.**
- **We maintain a Research and development laboratory that maintains and develops leading edge technology.**
- **We guarantee our tile adhesives and grout; Waterproof membranes are guaranteed when applied by an Accredited Applicator.**

"When tiles are installed in accordance with AS 3958 Part 1- guide to the installation of ceramic tiles, and waterproofing is installed in accordance with AS 3740 -2004, Waterproofing of wet areas within residential areas, in conjunction with our written instructions, good trade practise and any relevant local requirement, Construction Chemicals guarantees the performance of the products mentioned on the guarantee when applied to structurally sound surfaces"

This guarantee is for a fifteen (15) year period from the time of the original installation and covers only the cost of materials and labour of the original installation when the product is proven and acknowledged to be faulty.

**CONSTRUCTION
CHEMICALS**

Adelaide, Brisbane
Melbourne, Sydney, Perth
Auckland & Kuala Lumpur

Dribond

Construction Chemicals (NZ) Ltd
16 Carpenter Road
East Tamaki
Auckland

Signed on behalf of Construction Chemicals (NZ) Ltd
S. Plester
Steve Plester
NZ Representative (Adhesives)

Dribond

WATERPROOFING & REPAIR PRODUCTS
FOR CONCRETE AND MASONRY

NZ162

Certificate of Proficiency
For the Installation of
Waterproofing

This certificate is to confirm that
On 28th February 2005

Matthew Down

*Has been instructed by Construction Chemicals (NZ) Ltd in the application of our
waterproofing membranes and is hereby classed as an approved applicator.*

*All waterproofing must be installed according to A.S.3740-2004
Construction Chemicals written instructions and good trade practices and any
relevant local requirements under Sections B2, E2 and E3 of the NZBC*

Authorized by

Steve Plester

Technical Manager

**CONSTRUCTION
CHEMICALS**

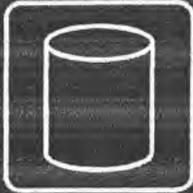
Adelaide
467-469 South Road, Regency Park
Brisbane, Melbourne, Sydney, Perth, Auckland, Kuala Lumpur

CONSTRUCTION
CHEMICALS

LIQUID FLASH

MICROFIBRE REINFORCED WATERPROOFING MEMBRANE

PACKAGING



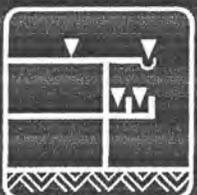
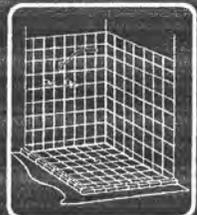
MIXING



APPLICATION



USES



SUBSTRATES

PIPES –
METAL/PLASTIC
ROOFS – METAL,
CONCRETE,
BRICK, BLOCK,
CEMENT RENDER

DESCRIPTION

LIQUID FLASH I is a premixed one pack, grey, waterbased, microfibre reinforced acrylic flexible waterproofing membrane that is easily applied with a brush to form a resilient waterproof/flashing membrane between different building surfaces. LIQUID FLASH I will remain pliable and elastic and will bridge cracks and smooth irregular surfaces. The cured membrane is resistant to UV and mild chemical attack.

LIQUID FLASH conforms to AS/NZS 4858. Class 3 membrane for use in internal wet areas.

Internal wet areas must be waterproofed in accordance with AS3740 and local regulations.

USES

A waterproof membrane for roofs, balconies, retaining walls, planter boxes, internal wet areas (eg bathrooms, kitchens, laundries and toilets). A flashing material for roof vent pipes, parapet walls and roof sheeting/tiles. For use on cement render, concrete, brick, block and building boards such as gypsum and cement sheeting on walls and compressed cement sheeting on floors, roof and gutter repairs.

FEATURES

- Easy to apply – apply straight from the bucket.
- Permanently flexible microfibre reinforced membrane.
- Excellent UV Light resistance.
- Excellent adhesion to correctly prepared surfaces.
- Bridges cracks
- Colour – Grey and can be overpainted with waterbased acrylic paints to colour match surroundings.

COVERAGE (approximate)

Two coats give a final coverage of 2L/m² (dry film thickness of 1.5mm).

PERFORMANCE DATA

Conforms to AS/NZS 4858 Class 3 membrane

Weather Resistance Slight chalking after over 5000 hours QUV

Moisture Vapour Transmission 0.001 perms-cm when tested in accordance with ASTM: E96-66

Tensile Strength (AS/NZS 4858) 1.50Mpa

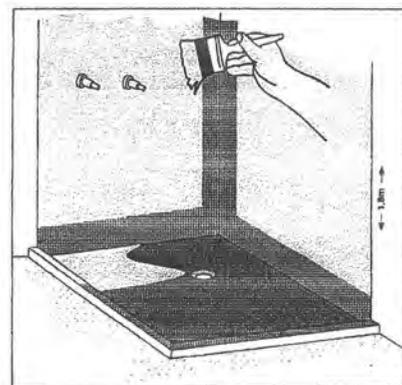
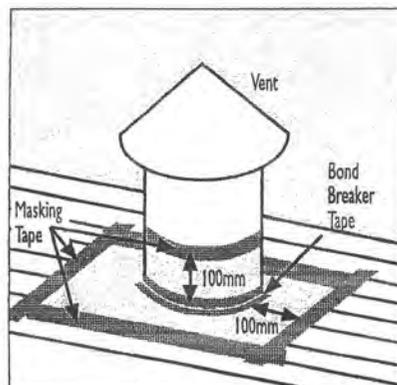
Elongation (AS/NZS 4858) 600%

Adhesion to Substrates Aluminium 4.75N/mm²

(AS1526J) Mortar 0.57N/mm²

Glass 0.69N/mm²

Exceeds SISIR (Singapore) requirements for rooftop waterproofing.



**CONSTRUCTION
CHEMICALS**

LIQUID FLASH
FLEXIBLE SEALER

KEMSCREED
LIQUID FLASH II

ADHERING TILES

Tiling on Waterproof Membranes

BATHROOMS, KITCHENS, LAUNDRIES, FLAT ROOFS & BALCONIES

Tests conducted on direct adhesive fixing of ceramic tiles to the following membranes result in adhesion falling the requirements of AS2358 or BS5385 in the short or long term.

- URETHANE OR POLYURETHANE
- POLYESTER RESIN (FIBREGLASS)
- BUTANOL
- TORCH ON OR HOT MELT MEMBRANES
- EPOXY RESIN MEMBRANES
- BITUMEN & BITUMEN COMPOUND

Construction Chemicals therefore does not guarantee direct fixing adhesives to these membranes.

Construction Chemicals manufactures membranes compatible with ceramic tile adhesives (listed below) where the adhesion performance exceed the requirements of the standards. The membrane and the adhesive are compatible and the system is guaranteed.

WATERPROOF MEMBRANES

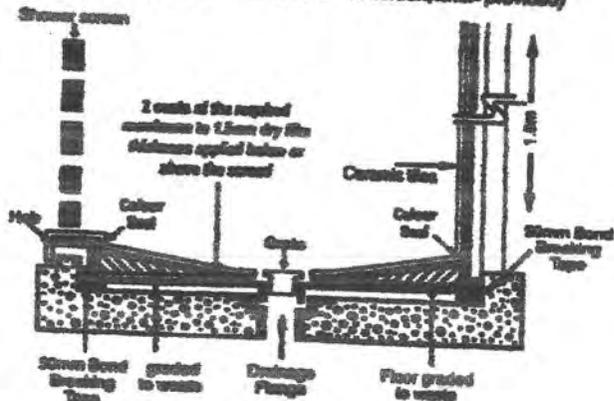
PRODUCT	DESCRIPTION
Flexible Sealer	A premixed acrylic waterproof membrane.
Liquid Flash	A premixed fibre reinforced acrylic membrane.
Kemseal	A two pack fast setting acrylic water proofing membrane.
Liquid Flash II	A two pack fast setting acrylic reinforced membrane.

CERAMIC TILE ADHESIVES

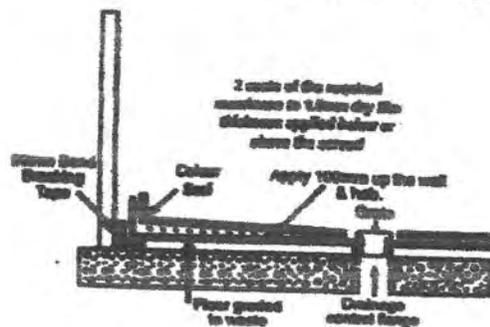
PRODUCT	DESCRIPTION
Kemflex mixed with Kemseal	A cement based adhesive mixed with a flexible resin additive.
Flexbond	A polymer modified rubber cement based adhesive.
Griflex	A white polymer modified cement based adhesive.
Kemflex	A two pack flexible cement / rubber adhesive.

WATERPROOFING SHOWERS

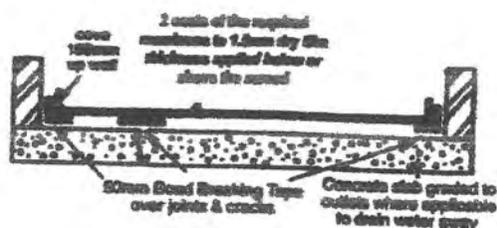
Waterproof 1.5m up the wall and 1.5m in a horizontal radius from the rosette. (Waterproofing is ceased at shower screen, when provided)



WATERPROOFING WET AREA FLOORS (BATHROOMS, LAUNDRIES, etc.)



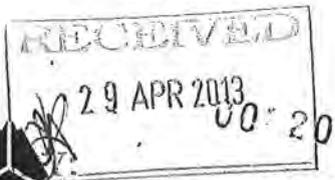
WATERPROOFING FLAT ROOFS / BALCONIES



CONSTRUCTION CHEMICALS

- ADELAIDE 457 - 480 SOUTH RD REGENCY PARK SA10 Pk (08) 8346 8915 FAX (08) 8346 2882
- BENDONG 48 COLSON ST WAGGL 4878 Pk (07) 3271 2846 FAX (07) 3271 2882
- BIRKENHEAD 1 / 10 GERRIELE CT BRIDGEMAN NORTH 3150 Pk (03) 9781 4711 FAX (03) 9781 4746
- BUNBURY 81 DUND ST WELSHPOOL 6108 Pk (08) 9386 6483 FAX (08) 9386 6483
- BUNBURY 27 21-23 NEWTON RD WETHERILL PARK 2184 Pk (02) 9758 3888 FAX (02) 9758 3834
- CAROLINE 16 CARPENTER RD EAST TAMMAM Pk (08) 273 5444 FAX (08) 268 288
- KUALA LUMPUR LOT 2 JALAN KEDAPU 302 ELITE INDUSTRIAL ESTATE OFF JALAN BUNTI KEMUNING Pk (03) 822 2822 FAX (03) 822 2828

"The information contained in this editorial publication is based on our current knowledge and experience and is provided as a guide only. In view of the many factors that may affect application it is the users sole responsibility to ensure suitability for a specific purpose."



Building Code Clause(s)

PRODUCER STATEMENT – PS1 – DESIGN

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

ISSUED BY: Eastern Consulting Limited.....

TO: Mr & Mrs Fawcett (Design Firm)

TO BE SUPPLIED TO: Kapiti Coast District Council (Owner/Developer)

IN RESPECT OF: addition to house (Building Consent Authority)

AT: 91 Aston Road, Waikonae Downs (Description of Building Work)

LOT DP SO

We have been engaged by the owner/developer referred to above to provide specific design of foundation services in respect of the requirements of Clause(s) B1-Structure of the Building Code for All or Part only (as specified in the attachment to this statement), of the proposed building work.

The design carried out by us has been prepared in accordance with: [X] Compliance Documents issued by Department of Building & Housing verification B1/VM1 (verification method / acceptable solution)

[] Alternative solution as per the attached schedule OR

The proposed building work covered by this producer statement is described on the drawings titled 91 Aston Rd, Paraparaumu and numbered F120041, pages 1-4 together with the specification, and other documents set out in the schedule attached to this statement.

On behalf of the Design Firm, and subject to:

- (i) Site verification of the following design assumptions bearing capacity of piles is satisfactory
(ii) All proprietary products meeting their performance specification requirements;

I believe on reasonable grounds the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the attached schedule, will comply with the relevant provisions of the Building Code.

I, Peter Davenport am: [X] CPEng register number 35198 # [] Reg Arch #

I am a Member of: [X] IPENZ [] NZIA and hold the following qualifications: BE(hons), PhD, MIPENZ, CPEng.....

The Design Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than \$200,000*. The Design Firm is a member of ACENZ [X] YES [] NO

SIGNED BY Peter Davenport ON BEHALF OF Eastern Consulting Limited (Design Firm)

Date 5 Apr 2013 (signature) PDavenport

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

This form is to accompany Form 2 of the Building (Forms) Regulations 2004 for the application of a Building Consent.

Memorandum from licensed building practitioner: Certificate of design work

Section 45 and section 30C, Building Act 2004

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

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

THE BUILDING	
Street address:	91 Aston Road
Suburb:	
Town/City:	Paraparaumu
	Postcode:

THE OWNER(S)	
Name(s):	Mr & Mrs Fawcett
Mailing address:	
Suburb:	PO Box/Private Bag:
Town/City:	Postcode:
Phone number:	Email address:

BASIS FOR PROVIDING THIS MEMORANDUM

I am providing this memorandum in my role as the: Please tick the option that applies

- sole** designer of all of the RBW design outlined in this memorandum – I carried out all of the RBW design work myself – no other person will be providing any additional memoranda for the project
- lead** designer who carried out some of the RBW design myself but also supervised other designers – this memorandum covers their RBW design work as well as mine, and no other person will be providing any additional memoranda for the project
- lead** designer for all but specific elements of RBW – this memorandum only covers the RBW design work that I carried out or supervised and the other designers will provide their own memorandum relating to their specific RBW design
- specialist** designer who carried out specific elements of RBW design work as outlined in this memorandum – other designers will be providing a memorandum covering the remaining RBW design work

IDENTIFICATION OF DESIGN WORK THAT IS RESTRICTED BUILDING WORK (RBW)

I _____ carried out / supervised the following design work that is restricted building work

PRIMARY STRUCTURE: B1

Design work that is RBW	Description of RBW	Carried out or supervised	Reference to plans and specifications
Tick <input checked="" type="checkbox"/> if included. Cross <input checked="" type="checkbox"/> if excluded	If appropriate, provide details of the RBW	Tick <input checked="" type="checkbox"/> whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
All RBW design work relating to B1 <input checked="" type="checkbox"/>		<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised	
Foundations and subfloor framing <input checked="" type="checkbox"/>	<i>piles under slab foundation on soft soil</i>	<input checked="" type="checkbox"/> Carried out <input type="checkbox"/> Supervised	<i>calculations sketches & PSI</i>

Design work that is RBW	Description of RBW	Carried out or supervised	Reference to plans and specifications
Tick <input checked="" type="checkbox"/> if included. Cross <input checked="" type="checkbox"/> if excluded	If appropriate, provide details of the RBW	Tick <input checked="" type="checkbox"/> whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
Walls	 	<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised	
Roof	 	<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised	
Columns and beams	 	<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised	
Other	 	<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised	

ISSUED BY

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

Name: P. DavenportLBP or Registration number: 35198The practitioner is a: Design LBP Registered architect Chartered professional engineerDesign Entity or Company (optional): Eastern Consulting Ltd

Mailing address (if different from below):

Street address/~~Registered office~~: 34 Main St

Suburb:

Town/City: Upper Hutt

PO Box/Private Bag:

Postcode:

Phone number: (04) 524 9010

Mobile:

After hours:

Fax:

Email address: petend@eastern.co.nz Website: www.eastern.co.nz**DECLARATION**

I, Peter Davenport LBP, state that I have applied the skill and care reasonably required of a competent design professional in carrying out or supervising the Restricted Building Work (RBW) described in this form, and that based on this, I also state that the RBW:

- Complies with the building code, or
- Complies with the building code subject to any waiver or modification of the building code recorded on this form

Signature: P. DavenportDate: 5 April - 2013



PROJECT: House Extension & Garage

CLIENT: Fawcett

APPELATION: Lot 7 DP 84600

ADDRESS: 91 Aston Road, Waikanae Downs

SPECIFICATIONS

DATE: April 2013

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1. GENERAL

All workmanship and materials are to comply with the following New Zealand Standards association standards. This specification shall be read in conjunction with the following Standards or Codes of Practice which are deemed to form part of this specification. In the event of this specification being at variance with any provisions of these standards, the requirements of this specification have precedence over the provisions of the Standard. Reference to any Standard shall include any amendments thereto and any standards in substitution thereof.

NZS 3101:2006	Concrete Structures
NZS 3102:1983	Concrete Masonry Units
NZS 3104:2003	Specification for Concrete Production
NZS 3109:1997	Concrete Construction
NZS 3114:1987	Concrete surface finishes
NZS 3604:1999	Timber Framed Buildings
NZS 4210	Code of Practice for Masonry Buildings Materials and Workmanship
NZS 4229:1999	Concrete Masonry Buildings
AS/NZS 4671:2001	Steel Reinforcing Materials
AS/NZS 1554.3:2008	Structural Steel Welding
AS/NZS 2311:2000	Guide to Painting of Buildings
AS/NZS 2312:2002	Guide to Protection Of Structural Steel. Welding of Reinforcing Steel

2. EARTHWORKS

2.1. Excavation

All excavations for foundations and site development are to be done in dry weather conditions and provision made to temporarily support cut banks. Surplus excavation is to be disposed of offsite. Suitable and adequate drainage of the site must be provided at all times.

2.2. Fill

Any material used for filling must be dry granular fill, placed on properly stripped and prepared surfaces and compacted in layers not exceeding 150mm in depth. Fill material should be rounded gravel, crushed rock, or scoria material.

The material shall be properly graded to allow adequate compaction. If filling greater than 200mm a grade granular fill with a maximum stone size of 200mm may be used. If filling between 200 - 100mm, a maximum stone size of 40mm shall be used. If filling less than 100mm a maximum stone size of 20mm shall be used.

If a sand/crusher dust blinding layer is placed on gravel fill, its thickness shall be 10mm±5mm.

3. CONCRETE

3.1. Supply

All concrete shall be from a concrete plant meeting the requirements of NZS 3104:2003 or be able to supply test and performance records to the Engineer sufficient to show that it produces concrete of consistent strength and quality.

Unless noted otherwise, minimum concrete strengths shall be:

Foundations - 17.5MPa

Floors and slabs - 20MPa

Slump shall not exceed 100mm unless approved.

3.2.Placement

Prior to placement all dirt, sawdust and other debris shall be removed from the pour area. The inside of timber forms shall be wetted with clean water immediately prior to placing the concrete unless the forms have been coated in form oil. Surplus water shall be removed before concrete is placed.

All concrete shall be compacted with a vibrator or vibrating screed. At least one additional vibrator should be available for emergency use. When the concrete is vibrated 'bubbles' of entrapped air should be seen and the concrete should visibly settle. Vibration shall not be used to transport concrete along the forms.

3.3.Curing

The curing period for concrete is 7 days except where otherwise noted. Protecting unformed concrete surfaces during the curing stage should be done as soon as it is possible without damaging the surface of the concrete. This should be done by using one of the following methods:

- Ponding or continuous sprinkling.
- Application of absorptive mats or a layer of sand and keeping it continuously wet.
- Continuous application of mist spray.
- Application of a membrane forming curing compound conforming to AS 3799 or ASTM C309.
- Covering with an impermeable sheet such as polyethylene to prevent too much loss of water from the concrete.

3.4.Cover

Cover is measured from the outside of the reinforcing bar to the exterior surface of the concrete. Minimum concrete cover to the steel reinforcement should be:

- 75mm when the concrete is placed directly on or against the ground.
- 50mm in situation where the concrete is placed in formwork.
- 30mm from the top of a floor or wall slab which is a closed area or 50mm if the top of the wall or floor slab is exposed.

3.5.Construction Joints

Construction joints shall be formed in locations as shown on the drawings, or where locations are not defined, as approved by the engineer.

For horizontal construction joints the surface of the concrete shall be prepared by green cutting to remove all laitance and inferior surface concrete. A surface retarder may be used to extend the time during which green cutting is feasible.

4. REINFORCING

Bars denoted "D" and suffixed "H" are deformed high tensile (500MPa) steel bars. Bars denoted "D" only are deformed mild steel (300MPa). Bars denoted "R" are plain round mild steel (300MPa).

Reinforcing mesh shall be Grade 500E reinforcing mesh fabric which conforms with AS/NZS4671.

Lap bars as detailed or 40 diameters.

Any welding of reinforcing bars shall be carried out by qualified welders in strict accordance with AS/NZS 1554.3:2008 Structural Steel Welding – Welding of Reinforcing Steel. Only grade 300MPa bars may be welded. Welding of grade 500MPa bars will only be permitted with the

Engineers prior approval and for this approval the Contractor will be required to supply full details and certification of the procedure.

All reinforcing is to be securely tied and blocked prior to pouring concrete. Reinforcing must not have any surface material that may reduce the overall performance of the reinforced concrete (i.e. rust, dirt, etc.) when concrete is poured.

5. BLOCKWORK

Only qualified blocklayers are to be used and all work is to be in accordance with NZS 4210.

Blockwork materials are to be as per the following, unless noted otherwise;

Blocks: Firth series 20.00 (or equivalent)

Footings: 17.5MPa

Bedding mortar: Sand cement mortar containing 4 parts sand to 1 part cement by weight with waterproofing additive

Infill grout: Infill grout shall comply with NZS 4210, having a minimum compressive strength of 17.5MPa at 28 days and a spread within the range 450 to 530mm when tested in accordance with the appropriate test requirements of NZS 3112: Part 1.

Concave point all blockwork where blockwork is to be exposed.

Blockwork walls are subject to a prepour inspection by the Designer.

6. TIMBER

Timber shall be of the following grade and treatment:

Poles: Building quality standard poles treated H5

Exterior Decking & Exposed Timber: Sawn timber meeting VSG 8 or MSG 8 grade treated to H4 standard

House & Roof Framing: Grade VSG 8 or MSG 8 timber treated H1 or H3 as required by NZS3604:1999

7. STEELWORK

7.1. Standard Specification

This specification shall be read in conjunction with the following Standards or Codes of Practice, which are deemed to form part of this specification.

- NZS 3404:1997 - Code for Design of Steel Structures
- AS 1111: 1972 - ISO Metric Hexagon Commercial Bolts and Screws
- AS 1237: 1973 - ISO metric Washers
- AS 1250: 1981 - SAA Steel Structures Code
- AS 1553: - Low Carbon Steel electrodes for Manual Metal Arc Welding
- AS 1554: 1980 - SAA Structural Welding Code
- BS 729: 1971 - Hot Dip Galvanised Coatings on Iron and Steel
- BS 1387: 1967 - Steel Tubes and Tubular suitable for screwing to BS 21 Pipe Threads
- BS 4360: 1979 - Weldable Structural Steels

7.2. Inspections

Before commencing fabrication or galvanising, the Contractor shall contact the Engineer who will establish any necessary inspection program. The Contractor is required to give 24 hour minimum notification to the Engineer of any inspection being required. The Engineer shall have access at all reasonable times to all places where work is being carried out and the Contractor shall co-operate with the Engineer in arranging inspections and in keeping the Engineer informed of all states of work.

7.3. Materials

7.3.1. Steel

Steel for plate, rolled sections, flat bars, round bars and square bars shall comply with BS 4360 Grade 43A. Steel for tubes shall comply with BS 1387.

7.3.2. Black Bolts

Black bolts and nuts shall comply with AS 1111: 1972. and Nuts

7.3.3. Washers

Flat metal washers shall comply with AS 1237:1973.

7.3.4. Electrodes

All electrodes shall comply with the appropriate requirements of AS 1553. The preferred electrode for welding Grade 43A steel to BS 4360 shall be electrode E41.

7.4. Fabrication and Erection

7.4.1. General

All structural steelwork shall be fabricated and erected in accordance with AS 1250 Section 11. All metalwork delivered to the site shall be stored and handled so that member is not subjected to excessive stresses or damage. The steel shall be protected so that any surface finishes are not damaged during transportation and handling.

7.4.2. Dimensions and Tolerances

Before fabricating metalwork the Contractor shall check and verify all dimensions shown on the Drawings and also check the location and level of fixing bolts by site measurement.

Fabrication tolerances shall not exceed those given below. The component parts shall be assembled in such a manner that they are neither twisted nor otherwise damaged.

- Straightness: $\pm 5\text{mm}$
- Plan position of structural members: $\pm 5\text{mm}$
- Level of structural members: $\pm 5\text{mm}$

Where the tolerance of the fabricated item does not comply with the specified clause, no correction shall be made without prior approval by the Engineer of the method to be used. Where the tolerance is considered by the Engineer to be of particular importance to the Works, the Contractor may be ordered to re-fabricate the item to an acceptable standard.

Notwithstanding the above, fabrication shall be carried out in such a way as to ensure that structural members will fit together or be attached to cast in items as shown on the Drawings.

7.4.3. Cutting

Steel may be cut by shearing, cropping, sawing or machine flame cutting. Hand flame cutting may be permitted subject to approval. The cut edges shall be free of gouges, burrs and other defects which in the opinion of the Engineer could adversely affect the serviceability of the member or its protective coatings.

7.4.4. Bolting

Holes – Flame cutting of bolt holes will not be permitted.

Minimum Edge Distances – Unless otherwise detailed, the minimum edge distance from the centre of a fastener to the edge of a plate shall be in accordance with the following table:

Nominal Diameter of Fastener	Sheared or hand flame cut edge	Rolled plate, flat bar or section: machine flame cut, sawn or planed edge	Rolled edge of a rolled flat bar or section
mm	mm	mm	mm
10	18	15	13
12	21	18	15
16	28	24	20
20	35	30	25
24	42	36	30

Bolts – Bolts in their final position shall be perpendicular to the assembled members. Where necessary, washers shall be tapered or otherwise suitably shaped to ensure the heads and nuts of bolts have complete bearing. The threaded portion of each bolt shall project through the nut at least one complete thread.

Washers – Each bolt shall be provided with a flat washer under the nut. The washer shall be of a sufficient thickness to avoid any threaded portion of the bolt being within the thickness of the parts bolted together.

Nuts – Nuts shall be tightened sufficiently to draw the members firmly together.

7.4.5. Welding

General – All welding shall be carried out in accordance with NZS 3404:1997 and AS 1554, as appropriate.

Qualification and Testing of Welders – For welding of any particular type of joint, welders shall give evidence acceptable to the Engineer of having satisfactorily completed the appropriate tests as specified in NZS:4711

Testing of Welds – The Engineer may, at his discretion, have welds tested by radiographic or other means. Should any weld prove defective then it shall be repaired and retested. The cost of such repair and retesting along with the cost of proof-testing all similar joints shall be borne by the Contractor.

7.5. Paint

All structural steelwork is to be prepared and painted in accordance with the requirements of NZS 2312 and NZS 2311.

7.5.1. Surface Preparation

If oil and grease are present on the steel then the removal of these contaminants should be done before any preparation.

The surface of the steel should be cleaned using one of the following methods;

1. Abrasive Blast Cleaning - should be done to a grade and using an abrasive specified by the designer.
2. Power/Hand Tool Cleaning – should be done to remove all rust and millscale without removing too much of the parent material (i.e. the steel the section is made of).
3. Pressure Cleaning – should be done to a grade specified by the designer.

When salt is present the steel should be initially water blasted to remove salt deposits on the surface of the steel. This will ensure that rust will not appear once the protective layer of paint has been applied.

7.5.2. Paint Application

Prior to the application of paint all sharp edges should be rounded to ensure even paint distribution over the whole section. Two approaches for the application of paint can be used depending on the location of the member.

7.5.2.1. Interior Members

Minimum required paint application system for an interior steel member is 1 coat metal primer and 2 coats of solvent-borne paint, semi-gloss or full gloss. Where required solvent-borne topcoats may be replaced by equivalent latex topcoats, however, the supervising engineer should be informed in this situation.

7.5.2.2. Exterior Members

The minimum required paint application systems for an exterior steel member is either:

1. 1 or 2 coats of metal primer and two coats of solvent-borne paint (full gloss).
2. 1 or two coats of metal primer and two coats of latex paint.

8. SUBSOIL DRAINAGE

Drains must have adequate fall throughout their length and are to discharge into inspection chambers once clear of the building and are to be piped from these chambers in solid PVC drain pipe to the stormwater disposal system.

9. STORMWATER DISPOSAL

All stormwater from the roof, yard and water tank overflows is to be collected and piped to disposal into soak pits. Soak pits should be located a minimum of 4m away from the house foundations.

Fawcett - 91 Aston Rd, Paraparaumu

Perimeter test 26 Nov 2012

Review BC document

Code Compliance 9/05/2001 new dwellings

inspector sheet

BC issues 9/11/2000

- plan showing house location & fill. p 29 (& p 53)
- Remedial work on piles/foundations by #Burd. p 42 - 48 (& copies at 65-7)
- p 76
- letter from KCDC p 86
- site plan p 95
- " " p 99



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Scala Penetrometer Test Result Sheet
 (Spreadsheet by G. Evans)

Job: Fawcett house extension

Site Location: 91 Aston Road, Waikanae Downs

Date done: 26 November 2012

Level Book: Number

Page: Number

Blows	Staff Reading m.	Depth per Blow mm.	Depth m.	Blows	Staff Reading m.	Depth per Blow mm.	Depth m.	Blows	Staff Reading m.	Depth per Blow mm.	Depth m.
#1 Test Location 1				#2 Test Location 2				#3 Test Location 3			
0	2.720	0	0.00	0	2.720	0	0.00	0	2.720	0	0.00
2	2.700	10	-0.02	2	2.680	20	-0.04	2	2.670	25	-0.05
5	2.660	13	-0.06	5	2.630	17	-0.09	5	2.610	20	-0.11
10	2.620	8	-0.10	10	2.540	18	-0.18	10	2.510	20	-0.21
15	2.580	8	-0.14	15	2.440	20	-0.28	15	2.410	20	-0.31
20	2.530	10	-0.19	20	2.340	20	-0.38	20	2.290	24	-0.43
25	2.480	10	-0.24	25	2.180	32	-0.54	25	2.160	26	-0.56
30	2.400	16	-0.32	30	1.910	54	-0.81	30	2.030	26	-0.69
35	2.240	32	-0.48	35	1.800	22	-0.92	35	1.840	38	-0.88
40	1.930	62	-0.79	40	1.700	20	-1.02	40	1.740	20	-0.98
45	1.760	34	-0.96	45	1.600	20	-1.12	45	1.670	14	-1.05
50	1.660	20	-1.06	50	1.500	20	-1.22	50	1.610	12	-1.11
55	1.560	20	-1.16	55	1.400	20	-1.32	55	1.540	14	-1.18
60	1.400	32	-1.32	60	1.310	18	-1.41	60	1.460	16	-1.26
65	1.340	12	-1.38	65	1.200	22	-1.52	65	1.380	16	-1.34
70	1.190	30	-1.53	70	1.090	22	-1.63	70	1.320	12	-1.40
75	1.080	22	-1.64	75	1.010	16	-1.71	75	1.260	12	-1.46
80	0.980	20	-1.74	80	0.940	14	-1.78	80	1.210	10	-1.51
85	0.910	14	-1.81	85	0.870	14	-1.85	85	1.150	12	-1.57
90	0.840	14	-1.88	90	0.800	14	-1.92	90	1.080	14	-1.64
95	0.780	12	-1.94	95	0.730	14	-1.99	95	1.010	14	-1.71
100	0.720	12	-2.00	100	0.660	14	-2.06	100	0.940	14	-1.78
105	0.650	14	-2.07	105	0.590	14	-2.13	105	0.880	12	-1.84
110	0.600	10	-2.12	110	0.540	10	-2.18	110	0.830	10	-1.89
115	0.540	12	-2.18	115	0.400	28	-2.32	115	0.770	12	-1.95
120	0.500	8	-2.22	120	0.440	28	-2.28	120	0.710	12	-2.01
125	0.450	10	-2.27	125	0.390	10	-2.33	125	0.650	12	-2.07
130	0.410	8	-2.31	130	0.340	10	-2.38	130	0.590	12	-2.13
135	0.370	8	-2.35	135	0.280	12	-2.44	135	0.530	12	-2.19
140	0.330	8	-2.39					140	0.490	8	-2.23
								145	0.450	8	-2.27
								150	0.400	10	-2.32

miskey

TYPICAL ALLOWABLE BEARING PRESSURES:

Source: Stockwell - NZ Engineering
 Vol 32 No 6
 June 1977

PENETROMETER - mm/blow	150	100	90	80	70	60
ALLOWABLE BEARING - kPa	25	36	40	45	50	58
EQUIVALENT CBR VALUE -	2	2.5			3	
PENETROMETER - mm/blow	50	40	33	20	15	
ALLOWABLE BEARING - kPa	68	83	100	150	200	
EQUIVALENT CBR VALUE -	4	5.5	7.5	12	18	



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Scala Penetrometer Test Result Sheet
(Spreadsheet by G. Evans)

Job: Fawcatt house extension

Site Location: 91 Aston Road, Waikanae Downs

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Blows	Staff Reading m.	Depth per Blow mm.	Depth m.	Blows	Staff Reading m.	Depth per Blow mm.	Depth m.	Blows	Staff Reading m.	Depth per Blow mm.	Depth m.
#1 Test Location 4				#2 Test Location 2				#3 Test Location 3			
0	2.720	0	0.00	0		0		0		0	
2	2.630	45	-0.09	2				2			
5	2.500	43	-0.22	5				5			
10	2.300	40	-0.42								
15	2.140	32	-0.58								
20	1.960	36	-0.76								
25	1.820	28	-0.90								
30	1.700	24	-1.02								
35	1.580	24	-1.14								
40	1.490	18	-1.23								
45	1.430	12	-1.29								
50	1.370	12	-1.35								
55	1.310	12	-1.41								
60	1.250	12	-1.47								
65	1.190	12	-1.53								
70	1.120	14	-1.60								
75	1.060	12	-1.66								
80	1.000	12	-1.72								
85	0.940	12	-1.78								
90	0.870	14	-1.85								
95	0.820	10	-1.90								
100	0.770	10	-1.95								
105	0.720	10	-2.00								
110	0.670	10	-2.05								

TYPICAL ALLOWABLE BEARING PRESSURES:

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ALLOWABLE BEARING - kPa	68	83	100	150	200	
EQUIVALENT CBR VALUE -	4	5.5	7.5	12	18	

91 Aston Road - Fawcett
 Waikanae Downs

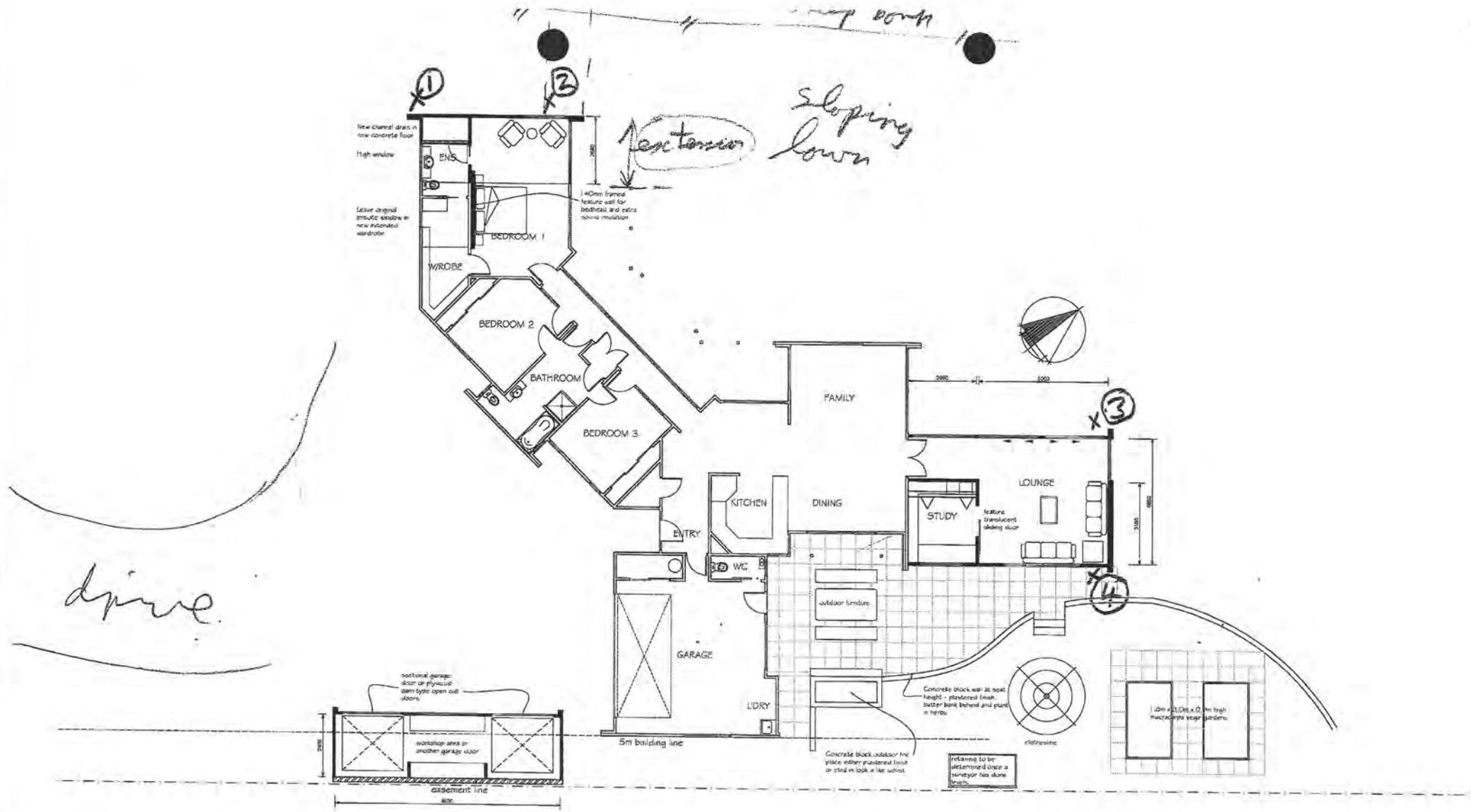
F120041
 25-Nov-2012

①
 0 1.72
 2 1.70
 5 1.66 40
 0 1.62 40
 5 1.58 50
 20 1.53 50
 5 1.48 80
 0 1.40 160
 5 1.24 310
 0 0.93 170
 5 0.760 100
 0 0.660 100
 15 0.580 100
 0 0.460 120
 5 0.340 150
 0 0.190 / 1.19
 5 1.08 110
 0 0.98 100
 5 0.91 70
 0 0.84 60
 5 0.78 60
 20 0.72 70
 05 0.65 50
 10 0.60 60
 15 0.54 40
 20 0.50 50
 125 0.45 40
 130 0.41 40
 135 0.37 40
 140 0.33

②
 0 1.72 40
 2 1.68 50
 5 1.63 90
 10 1.54 80
 15 1.46 120
 20 1.34 160
 25 1.18 290
 30 0.91 110
 35 0.80 100
 40 0.70 100
 45 0.60 100
 50 0.50 100
 55 0.40 90
 60 0.31 / 1.31
 65 1.20 110
 70 1.09 80
 75 1.01 70
 80 0.94 70
 85 0.87 70
 90 0.80 70
 95 0.73 70
 100 0.66 70
 105 0.59 50
 110 0.54 50
 115 0.49 50
 120 0.44 50
 125 0.39 50
 130 0.34 60
 135 0.28
 140

③
 0 1.72 50
 2 1.67 60
 5 1.61 100
 10 1.51 100
 15 1.41 120
 20 1.29 130
 25 1.16 130
 30 1.03 190
 35 0.84 100
 40 0.74 70
 45 0.67 60
 50 0.61 70
 55 0.54 80
 60 0.46 80
 65 0.38 60
 70 0.32 / 1.32
 75 1.26 50
 80 1.21 60
 85 1.15 70
 90 1.08 90
 95 1.01 70
 100 0.94 60
 105 0.88 50
 110 0.83 60
 115 0.77 60
 120 0.71 60
 125 0.65 60
 130 0.59 60
 135 0.53 40
 140 0.49 40
 145 0.45 50
 150 0.40 50
 155 0.35

④
 0 1.72 90
 2 1.63 130
 5 1.50 200
 10 1.30 160
 15 1.14 180
 20 0.96 140
 25 0.82 120
 30 0.70 120
 35 0.58 90
 40 0.49 60
 45 0.43 60
 50 0.37 60
 55 0.31 / 1.31
 60 0.25 60
 65 1.19 70
 70 1.02 60
 75 1.06 80
 80 0.90 60
 85 0.94 70
 90 0.87 50
 95 0.82 50
 100 0.77 60
 105 0.72 50
 110 0.67
 115
 120



PROPOSED FLOOR PLAN

 <p>KAPITI ARCHITECTURAL DESIGN LTD</p> <p>Phone: (04) 905 7380 Mobile: 0275 114 744 Email: rochelle@kapitidesign.co.nz P O Box 296, Waikanae 5036 www.kapitidesign.co.nz</p>	<p>DO NOT SCALE OF DRAWINGS</p> <p>These drawings are copyright.</p> <p>Drawings are to be read in conjunction with specification, contract documentation & other consultants drawings and specifications.</p> <p>Contractor to verify all dimensions on site prior to commencing work.</p> <p>Contact designer if in doubt.</p>	<p>Proposed Addition & Garage For Mr & Mrs Fawcett At 91 Aston Road Waikanae Downs DESIGN STAGE</p>	<p>Revisions: A 4/10/12 Design Stage</p>	<p>Designer: R Dennis</p>	<p>Project Number: 294</p>
			<p>Date: October 2012</p>	<p>Scale: 1:100</p>	<p>Drawing Number: 1 Of 2 (A2 Original)</p>
			<p>Revision: A</p>		

Penetrometer tests carried out on this site show soft soil at upper level & sats factory bearing lower down. This is very similar to situation found when original house was constructed.

Review of prior details show that what was used then would be appropriate to use again.

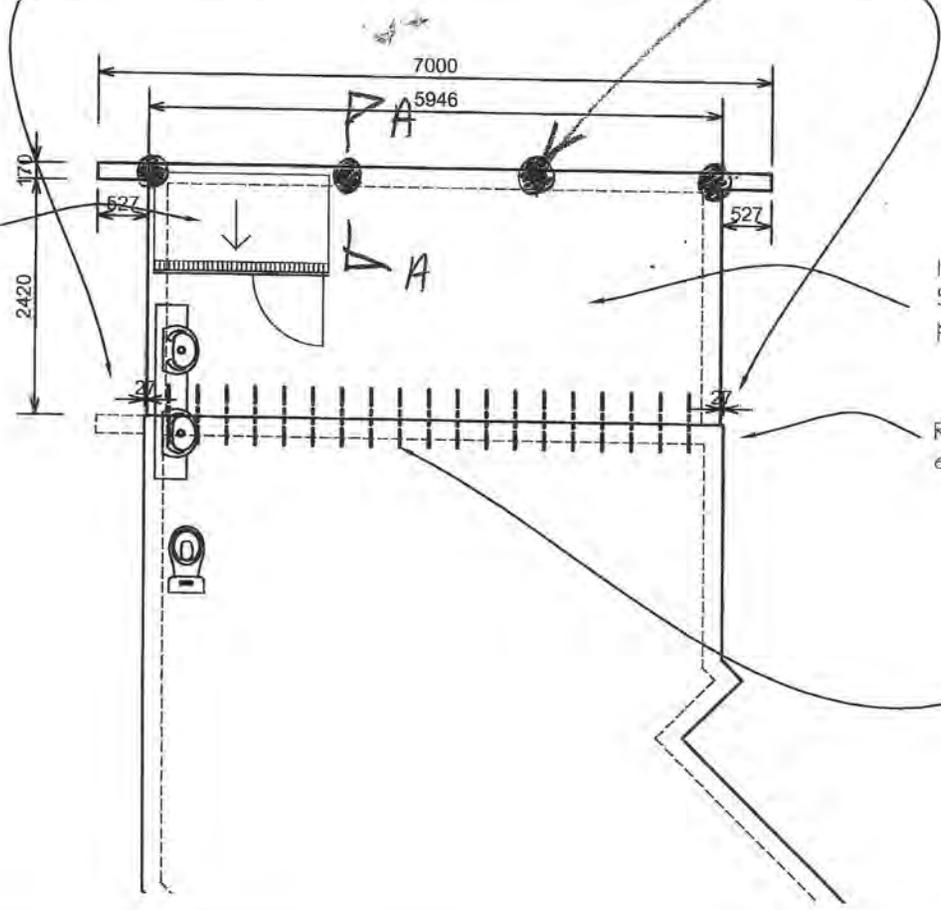
● Use 300 diam pile at spacing ~ 2m along wall supports, can be further apart under slab. See sketch for pile location and details. Depth of pile to sats factory ground - minimum of 1200 below existing ground but may need to be greater. Engineer to check during construction.

●

Offset new foundation line by 27mm each side to allow exterior cladding to line through with existing. Check on site that existing cladding is direct fixed as site is now deemed to be Extra High wind zone the claddings to the extension are to be installed on 7mm Ecoply rigid air barrier plus 20mm cavity battens

300 diameter concrete pile refer to sketches for pile details

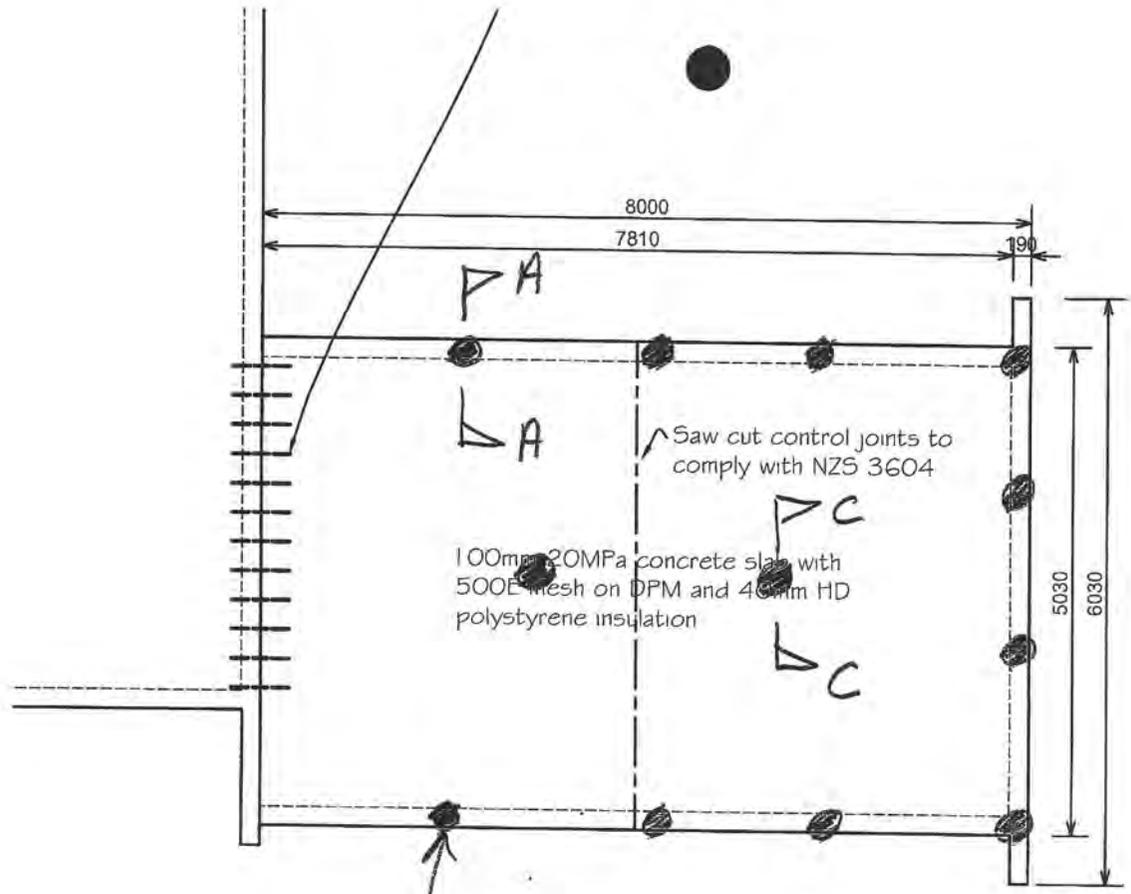
v for 1 in 50 fall shower to inlet drain



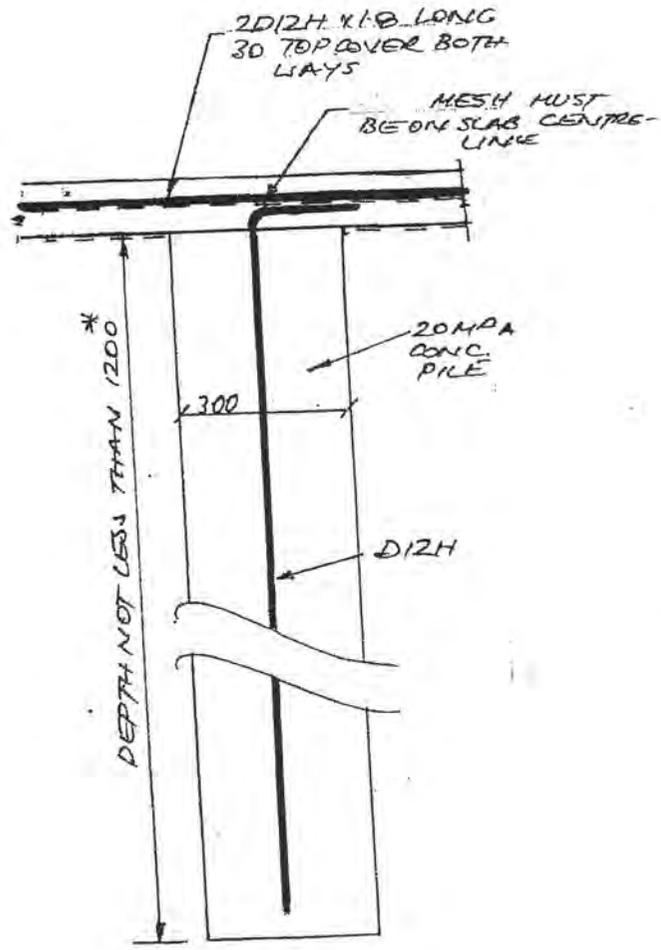
100mm 20MPa concrete slab with 500E mesh on DPM and 40mm HD polystyrene insulation

Remove foundation under existing wing walls

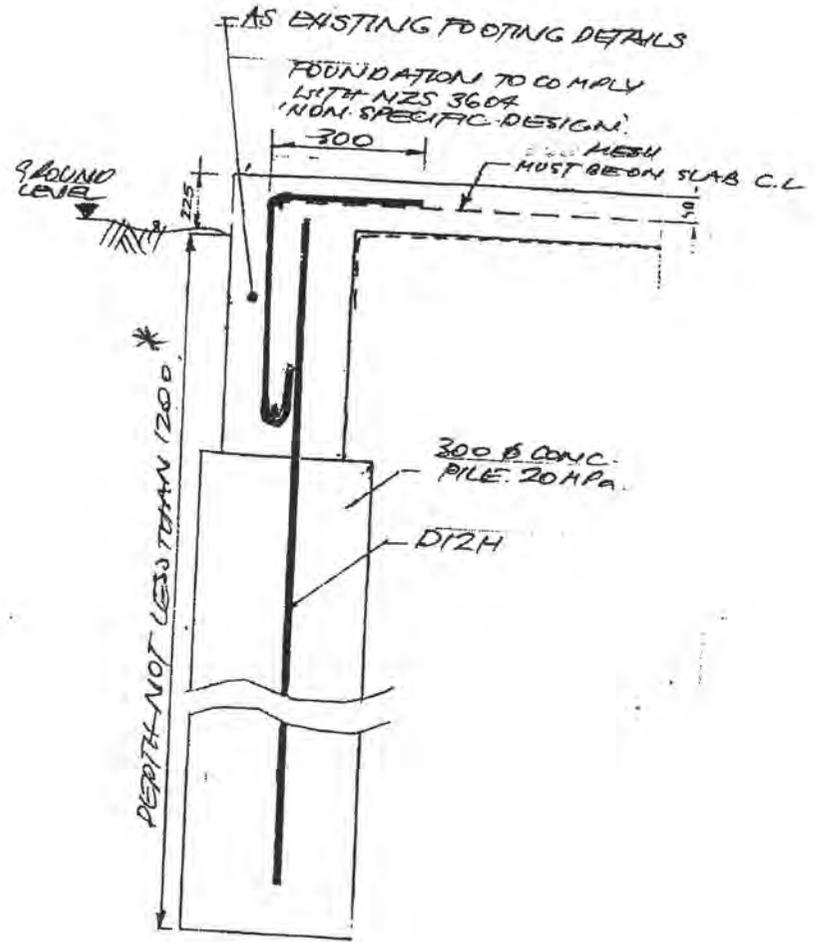
Free joint:
There shall be no bonding between vertical concrete (prevented by using building paper or a bituminous c R12 dowel bars, 600mm long shall be placed at 300 along the free joint and lapped 300mm with slab re both sides of the joint. All dowel bars on one side have a bond breaker applied. e.g. by wrapping dow 300mm with petrolatum tape. Joint dowel bars must be in a single planes, in true alignment and parallel



300 diameter
concrete piles
refer to sketches for
pile details



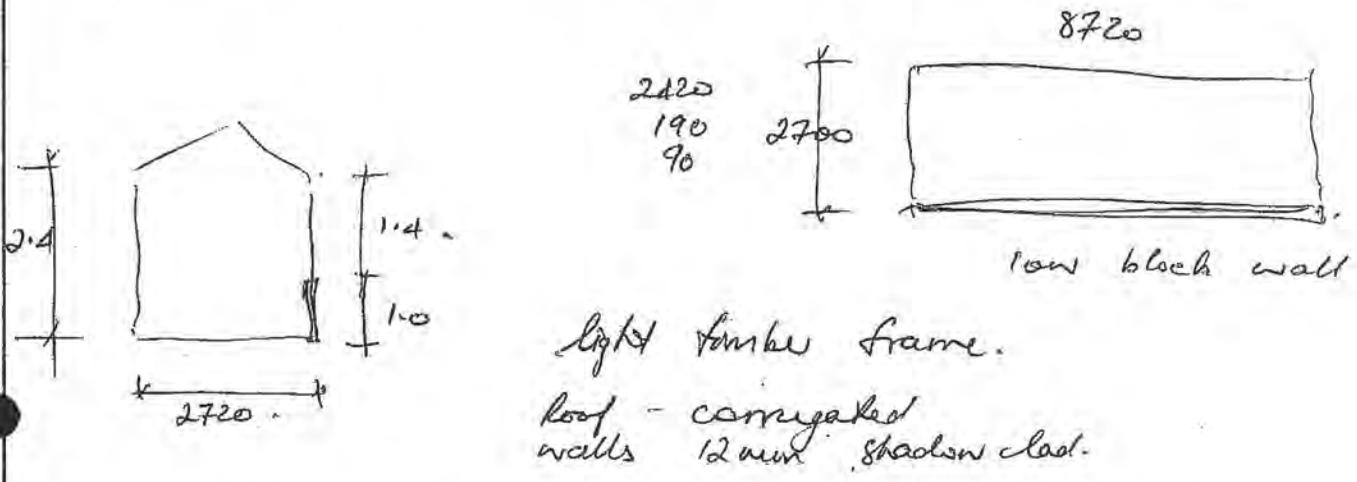
SLAB PILE SECTION C-C



EDGE PILE SECTION A-A

* Depth to be confirmed on site by engineer.

Required to detail foundation for proposed garage.



Detail small block wall using N75 S229, App. C.
Require to determine line load along wall (masonry)

loads.

C1: roof. corr
trusses
battens, p.p.s. 0.06 kPa.
0.10 kPa. C.A = 2720/2 = 1.36 m
0.04 kPa.

$$0.20 \text{ kPa} \times 1.36 = 0.27 \text{ kN/m}$$

wall. cladding
Framing/battens. 0.07 kPa. C.A = 1.4 m
0.15 kPa.

$$0.22 \text{ kPa} \times 1.4 = 0.31 \text{ kN/m}$$

Q1: roof 0.25 kPa. $\times 1.36 = 0.34 \text{ kN/m}$.

$$\rightarrow \text{line load: } 1.2G + 1.5Q$$

$$= 1.2 \times (0.27 + 0.31) \times 1.5 + 0.34 = 1.21 \text{ kN/m}$$

Fig C.1.1. okay for line loads 0-50 kN/m.

$$>> 1.21 \text{ kN/m}$$

∴ ✓.



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**WALL BRACING CALCULATION SHEET
(for use with NZS 3604:2011)**

Name: C A & J M Fawcett **Job:** E120041
Part: Lounge Extension **Printed:** 23/04/2013 16:43
Address: 91 Aston Road, Waikanae Downs
Lot & D.P. No.: Lot 7 DP 84600
Territorial Authority: KAPITI COAST DISTRICT COUNCIL

Wind Demand			
Site Wind Region:	A	Building Wind Zone:	Extra High (55m/sec)
Lee Zone:	No	Height GL to Apex H=	4.528 m Length Across
Ground Roughness:	Open	Roof above eaves h=	2.13 m
Site Exposure:	Exposed	Ground FL to Apex H=	1.307 m
Topographic Class:	11	First FL to Apex H=	m
Zone	Exposure	Ground Stud Height:	2.42 m
Gradient	Gentle (<=20)	First Stud Height:	m Length Along
Crest/Outer	Outer	Wind Zone Multiplier:	1.0
Hipped Roof:	No		
		Sub	Across Length Demand
		Along	m m BU/m
			BU/m
		Ground	Across 7.0 m 44 BU/m
		Along	5.7 m 49 BU/m
		First	Across m BU/m
		Along	m BU/m

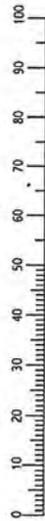
Earthquake Demand			
Earthquake Zone:	3	Site Subsoil Classification:	D D & E - Deep to Very Soft
Storey in Roof Space:	No	Soil Class Multiplier:	1.0
Sub Floor Cladding:	Ceramic		
Lower Wall Cladding Weight:	Light		
Upper Wall Cladding Weight:	Light	Sub Floor	m ² BU/m ²
Roof Cladding Weight:	Light	Ground Floor	38.0 m ² 6.0 BU/m ²
Average Roof Slope:	20-45	First Floor	m ² BU/m ²

Total Earthquake Demand	
Sub Floor	BU
Ground Floor	228 BU
First Floor	BU

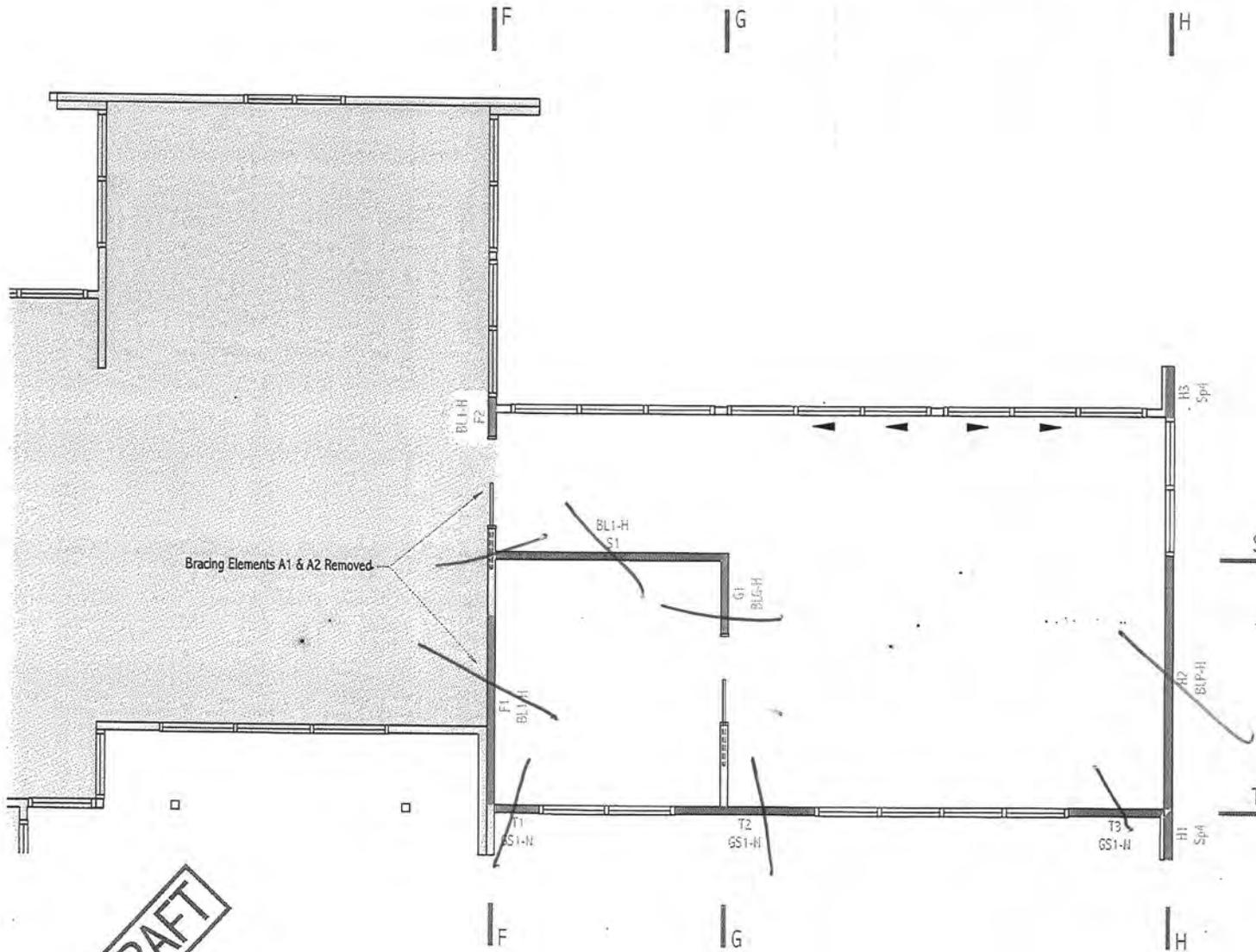
Total Wind Demand		
Sub	Across	BU
	Along	BU
Ground	Across	493 BU
	Along	449 BU
First	Across	BU
	Along	BU

This Box would contain Anchor Pile details if they were needed

DO NOT SCALE - IF IN DOUBT, ASK



ORIGINAL SIZE A3



DRAFT

EASTERN CONSULTING LIMITED

14 FERRY CT
PO BOX 246, PATERSON
PH: (06) 378 0007
FAX: (06) 378 0010
EMAIL: info@ecol.co.nz

24 MAIN STREET
PO BOX 40, SEAVIEW HORT
PH: (04) 524 9010
FAX: (04) 524 9010
EMAIL: info@ecol.co.nz

Client:
C A & J M Fawcett
Lot 7 DP 84600
91 Aston Road, Waikanae Downs

Project:
Proposed Extension to Existing House
& New Shed

Design Title:
New Lounge & Study Extension
Bracing

Date: 10 April 2013		
SCALE: 1:50		
Job No. F120041	Sheet No. 2 of 3	Revision



**EASTERN CONSULTING LIMITED
CONSULTING CIVIL & STRUCTURAL ENGINEERS**

16 Perry St.
P O Box 246 - MASTERTON
Ph: (06) 370-0007
Fax: (06) 370-0810
george@eastern.co.nz

243 Main St.
P O Box 40-083 - UPPER HUTT
Ph: (04) 524-9010
Fax: (04) 524-9011
peterd@eastern.co.nz

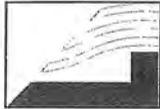
Name: C A & J M Fawcett
Part: Bedroom Extension
Address: 91 Aston Road, Walkanae Downs
Lot & D.P. No. Lot 7 DP 84600
Territorial Authority: KAPITI COAST DISTRICT COUNCIL

Job: F120041
Printed: 23/04/2013 16:42

GROUND FLOOR

ACROSS										ALONG									
TOTAL REQUIRED =				WIND			EARTHQUAKE			TOTAL REQUIRED =				WIND			EARTHQUAKE		
TOTAL ACHIEVED =				229 BUs			94 BUs			TOTAL ACHIEVED =				616 BUs			94 BUs		
249 BUs				231 BUs			698 BUs				636 BUs								
#	Element Details			Rating (BU/m)			Rating (BU/m)			#	Element Details			Rating (BU/m)			Rating (BU/m)		
	Type	Length m	Height m	Base	Net	Line Total	Base	Net	Line Total		Type	Length m	Height m	Base	Net	Line Total	Base	Net	Line Total
Q 1	BL1-H 1.2	2.1	2.42	125	264	264	105	222	222	H 1	BL1-H 0.4	0.5	2.42	90	45	45	100	50	50
R 1	BL1-H 0.4	0.9	2.42	90	84		100	94		I 1	Br1a	1.9	2.42	70	91		60	78	
R 2	Br4	1.0	2.42	100	69	153	85	58	152	I 2	BL-G-H 1.2	3.4	2.42	150	500		145	483	
M 1	Br4	-1.7	2.42	100	-169	-169	85	-143	-143	I 3	BL1-H 0.4	1.1	2.42	90	95	686	100	105	667
										J 1	Br4	1.0	2.42	100	69		85	58	
										J 2	BL1-H 1.2	1.3	2.42	125	156	225	105	131	190
										E 2	CS	-1.7	2.42	100	-169		115	-194	
										E 3	Br4	-0.9	2.42	100	-89	-258	85	-76	-270

Indicates walls at 45° to bracing line and bracing value at 0.7x
Indicates bracing unit to be removed from existing bracing plan



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Fax: (06) 370-0810
george@eastern.co.nz

34 Main St.
P O Box 40-554 - UPPER HUTT
Ph: (04) 524-9010
Fax: (04) 524-9011
peterd@eastern.co.nz

**WALL BRACING CALCULATION SHEET
(for use with NZS 3604:2011)**

Name: C A & J M Fawcett **Job:** F120041
Part: Shed **Printed:** 23/04/2013 16:44
Address: 91 Aston Road, Waikanae Downs
Lot & D.P. No. Lot 7 DP 84600
Territorial Authority: KAPITI COAST DISTRICT COUNCIL

Wind Demand			
Site Wind Region:	A	Building Wind Zone:	Extra High (55m/sec)
Lee Zone:	No	Height GL to Apex H=	3.892 m Length Across
Ground Roughness:	Open	Roof above eaves h=	1.419 m
Site Exposure:	Exposed	Ground FL to Apex H=	3.742 m
Topographic Class:	T1	First FL to Apex H=	m
Zone	Escarpment	Ground Stud Height:	2.42 m Length Along
Gradient	Gentle (<1:20)	First Stud Height:	m
Forest/Outer	Outer	Wind Zone Multiplier:	1.6
Hipped Roof:	No		
		Sub	Across Length Demand
			m BU/m
		Along	m BU/m
		Ground	Across 9.0 m 40 BU/m
		Along	2.9 m 45 BU/m
		First	Across m BU/m
		Along	m BU/m

Earthquake Demand			
Earthquake Zone:	3	Site Subsoil Classification:	D D & E - Deep to Very Soft
Storey in Roof Space:	No	Soil Class Multiplier:	1.0
Sub Floor Cladding:	Concrete		
Lower Wall Cladding Weight:	Light	Sub Floor	Area Demand
Upper Wall Cladding Weight:	Light		m ² BU/m ²
Roof Cladding Weight:	Light	Ground Floor	24.4 m ² 6.0 BU/m ²
Average Roof Slope:	26 - 45	First Floor	m ² BU/m ²

Total Earthquake Demand	
Sub Floor	BU
Ground Floor	146 BU
First Floor	BU

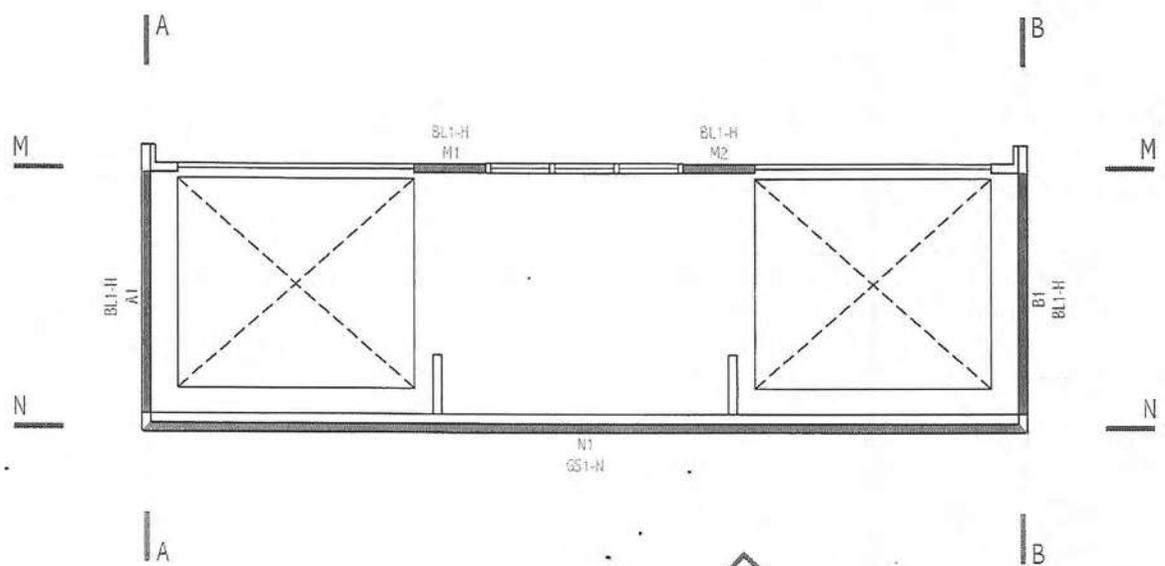
Total Wind Demand		
Sub	Across	BU
	Along	BU
Ground	Across	576 BU
	Along	207 BU
First	Across	BU
	Along	BU

This Box would contain Anchor Pile details if they were needed

DO NOT SCALE - IF IN DOUBT, ASK

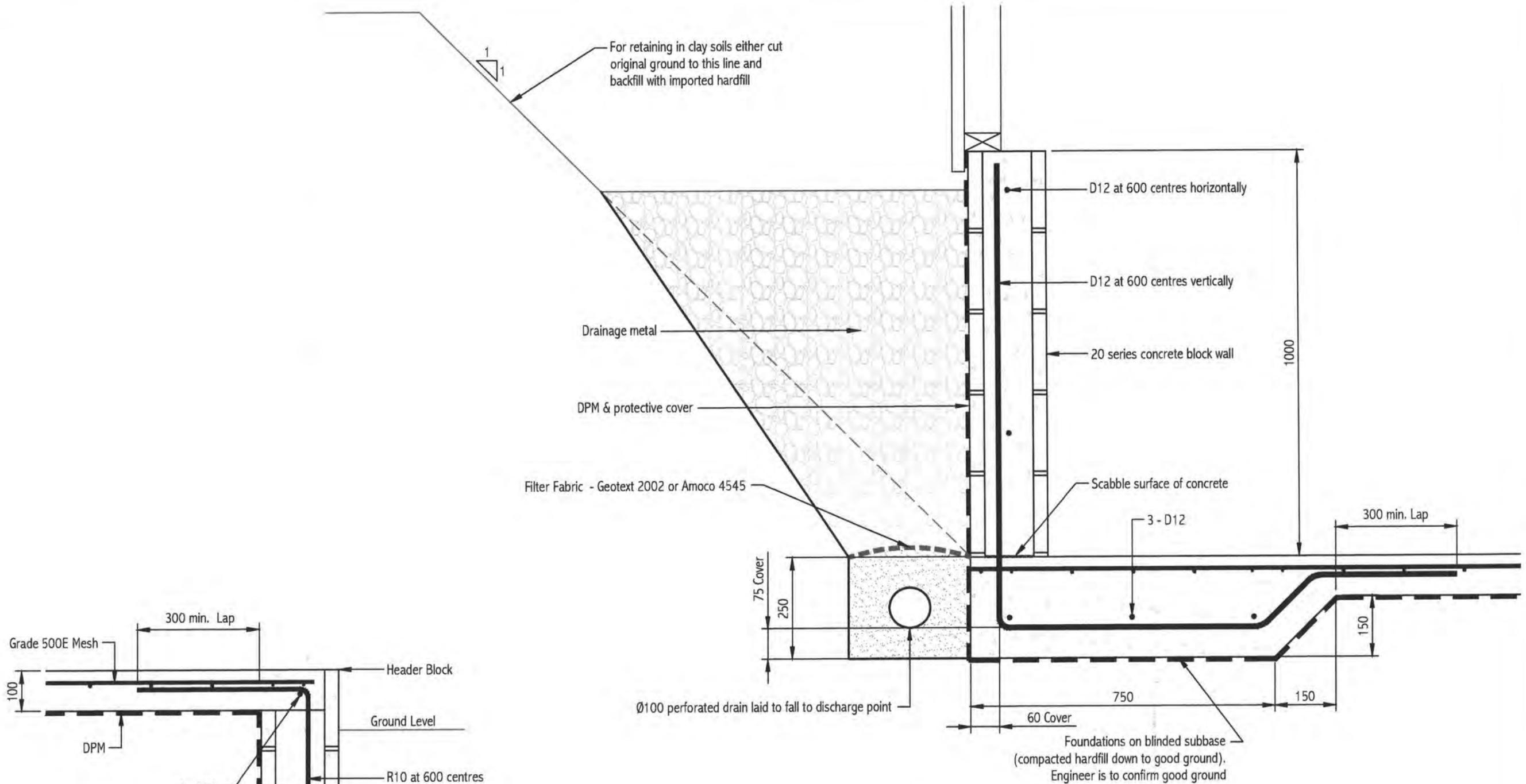


ORIGINAL SIZE A3

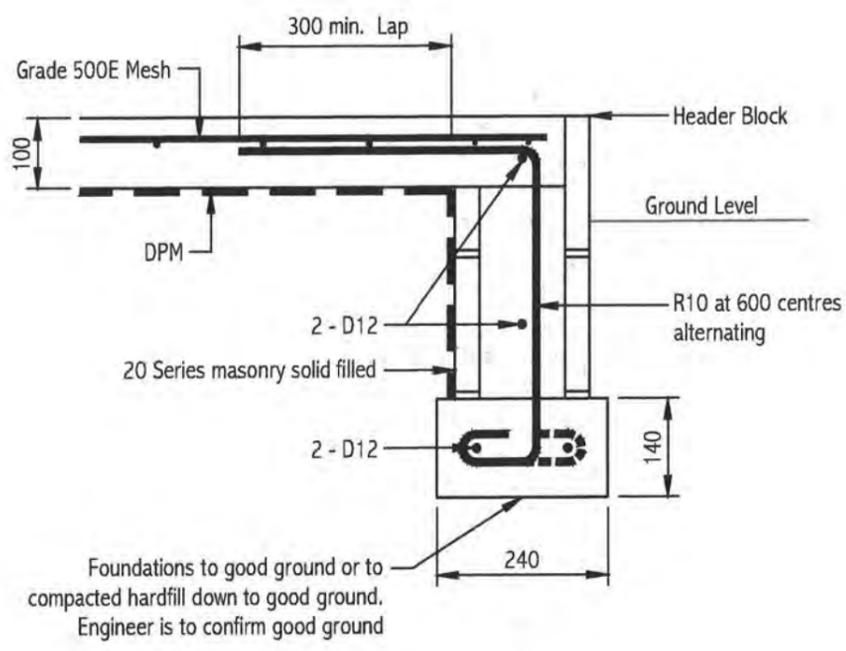


DRAFT

Client:	C A & J M Fawcett Lot 7 DP 84600 91 Aston Road, Waikanae Downs		 EASTERN CONSULTING LIMITED <small>16 PERRY ST PO BOX 246, HASTINGS PH: (04) 370 0037 FAX: (04) 370 0810 EMAIL: gary@ecol.co.nz</small>	<small>34 MAIN STREET PO BOX 40-054, UPPER HUTT PH: (04) 524-9519 FAX: (04) 524-9511 EMAIL: info@ecol.co.nz</small>
	Project:	Proposed Extension to Existing House & New Shed		
Date:	9 April 2013			
Scale:	1:50			
Job No.:	808	Sheet No.:	3 of 3	
	F120041	Revision:		
Drawn By:	Shed Bracing			



Shed Rear Foundation & Retaining Wall
Scale 1:10



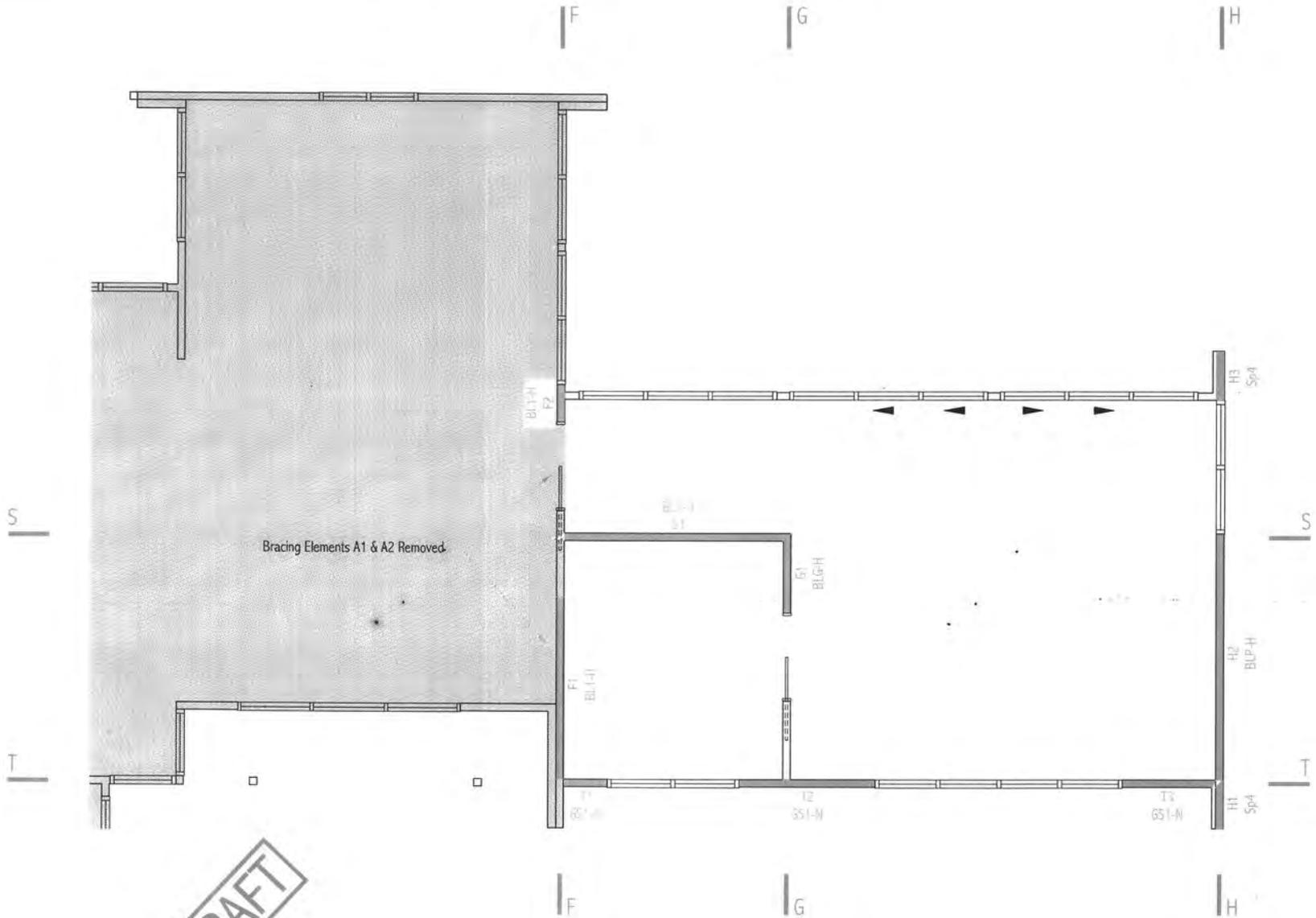
Shed Front & Side Foundation
Scale 1:10

Client:	C A & JM Fawcett Lot 7 DP 84600 91 Aston Road, Waikanae Downs	 16 PERRY ST PO BOX 246, MASTERTON PH: (06) 370 0007 FAX: (06) 370 0810 EMAIL: george@eccl.co.nz	34 MAIN STREET PO BOX 40-554, UPPER HUTT PH: (04) 524-9010 FAX: (04) 524-9011 EMAIL: peter@eccl.co.nz
Project:	Proposed Extension to Existing House & New Shed		
Date:	23 April 2013		
Scale:	As Shown		
Job No.	F120041	Sheet No.	4 of 4
Revision			

DO NOT SCALE - IF IN DOUBT, ASK



ORIGINAL SIZE A3



DRAFT

EASTERN CONSULTING LIMITED

16 PERRY ST
PO BOX 246, PASTERTON
PH: (06) 370 0500
FAX: (06) 370 0810
EMAIL: georg@eccl.co.nz

34 MAIN STREET
PO BOX 40 554, UPPER HUTT
PH: (04) 524 9010
FAX: (04) 524 9010
EMAIL: peter@eccl.co.nz

Client:
C A & J M Fawcett
Lot 7 DP 84600
91 Aston Road, Waikanae Downs

Project:
Proposed Extension to Existing House & New Shed

Big Title:
New Lounge & Study Extension
Bracing

Date: 10 April 2013	
SCALES: 1:50	
Job No. F120041	Sheet No. 2 of 3
Revision	



**EASTERN CONSULTING LIMITED
CONSULTING CIVIL & STRUCTURAL ENGINEERS**

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243 Main St.
P O Box 40-083 - UPPER HUTT
Ph: (04) 524-9010
Fax: (04) 524-9011
peterd@eastern.co.nz

Name: C A & J M Fawcett
Part: Bedroom Extension
Address: 91 Aston Road, Waikanae Downs
Lot & D.P. No. Lot 7 DP 84600
Territorial Authority: KAPITI COAST DISTRICT COUNCIL

Job: F120041
Printed: 23/04/2013 16:42

GROUND FLOOR

ACROSS											ALONG										
		WIND			EARTHQUAKE					WIND			EARTHQUAKE								
TOTAL REQUIRED =		229 BU's			94 BU's					616 BU's			94 BU's								
TOTAL ACHIEVED =		249 BU's			231 BU's					698 BU's			636 BU's								
Element Details																					
#	Type	Length m	Height m	Rating (BU/m)		Line		Rating (BU/m)		Line		#	Type	Length m	Height m	Rating (BU/m)		Line			
				Base	Net	Total	Base	Net	Total	Base	Net	Total				Base	Net	Total			
Q 1	BL-1-1.2	2.1	2.42	125	264	264	105	222	222	H 1	BL-1-1.2	0.5	2.42	90	45	45	100	50	50		
R 1	BL-1-1.2	0.9	2.42	90	84		100	94		I 1	BL-1-1.2	1.0	2.42	70	91		60	78			
R 2	BL-1-1.2	1.0	2.42	100	69	153	85	58	152	I 2	BL-1-1.2	3.4	2.42	150	500		145	483			
M 1	BL-1-1.2	1.7	2.42	100	-169	-169	85	-143	-143	I 3	BL-1-1.2	1.1	2.42	90	95	686	100	105	667		
										J 1	BL-1-1.2	1.0	2.42	100	69		85	58			
										J 2	BL-1-1.2	1.3	2.42	125	156	225	105	131	190		
										E 2	BL-1-1.2	1.1	2.42	100	-169		115	-194			
										E 3	BL-1-1.2	0.5	2.42	100	-89	-258	85	-76	-270		

Indicates walls at 45° to bracing line and bracing value at 0.7x

Indicates bracing unit to be removed from existing bracing plan



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Ph: (04) 524-9010
Fax: (04) 524-9011
peterd@eastern.co.nz

**WALL BRACING CALCULATION SHEET
(for use with NZS 3604:2011)**

Name: C A & J M Fawcett **Job:** F120041
Part: Shed **Printed:** 23/04/2013 16:44
Address: 91 Aston Road, Waikanae Downs
Lot & D.P. No. Lot 7 DP 84600
Territorial Authority: KAPITI COAST DISTRICT COUNCIL

Wind Demand			
Site Wind Region:	A	Building Wind Zone:	Extra High (55m/sec)
Lee Zone:	No	Height GL to Apex H=	3.892 m Length Across
Ground Roughness:	Open	Roof above eaves h=	1.419 m
Site Exposure:	Exposed	Ground FL to Apex H=	3.742 m
		First FL to Apex H=	m
		Ground Stud Height:	2.42 m
Topographic Class:	II	First Stud Height:	m Length Along
		Wind Zone Multiplier:	1.0
Zone	Escarpment	Sub	Across m Demand BU/m
Gradient	Gentle (<1:20)	Along	m BU/m
Crest/Outer	Outer	Ground	Across 9.0 m 40 BU/m
Hipped Roof:	No	Along	2.9 m 45 BU/m
		First	Across m BU/m
		Along	m BU/m

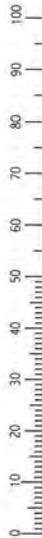
Earthquake Demand			
Earthquake Zone:	5	Site Subsoil Classification:	D D & E Deep to Very Soft
Storey in Roof Space:	No	Soil Class Multiplier:	1.0
Sub Floor Cladding:	Concrete	Sub Floor m ² Demand BU/m ²	Ground Floor 24.4 m ² 0.0 BU/m ²
Lower Wall Cladding Weight:	Light		
Upper Wall Cladding Weight:	Light		
Roof Cladding Weight:	Light		
Average Roof Slope:	20-45	First Floor m ² Demand BU/m ²	

Total Earthquake Demand	
Sub Floor	BU
Ground Floor	146 BU
First Floor	BU

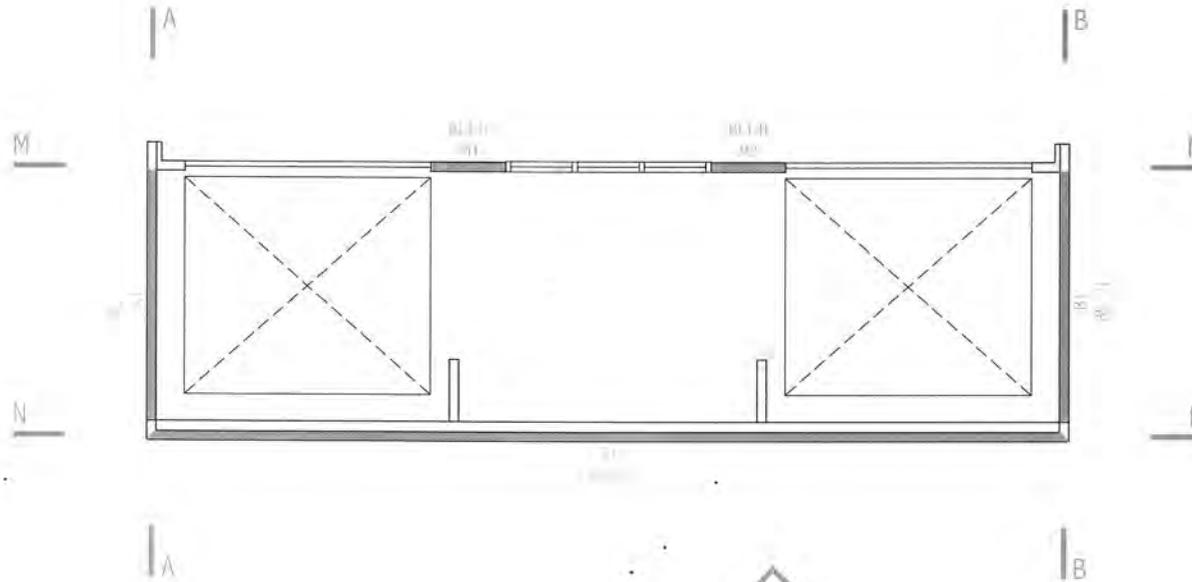
Total Wind Demand		
Sub	Across	BU
	Along	BU
Ground	Across	576 BU
	Along	207 BU
First	Across	BU
	Along	BU

This Box would contain Anchor Pile details if they were needed

DO NOT SCALE - IF IN DOUBT, ASK



ORIGINAL SIZE A3



DRAFT

Client: C A & J M Fawcett Lot 7 DP 84600 91 Aston Road, Waikanae Downs	 EASTERN CONSULTING LIMITED	
	<small>18 PERRY ST PO BOX 746, MASTERTON PH: (06) 370 0007 FAX: (06) 370 0810 EMAIL: george@eastern.co.nz</small>	<small>34 MAIN STREET PO BOX 40-554, UPPER HUTT PH: (04) 524-9010 FAX: (04) 524-9011 EMAIL: peter@eastern.co.nz</small>
Project: Proposed Extension to Existing House & New Shed	Date: 9 April 2013	
Des Title: Shed Bracing	SCALES: 1:50	
	Job No: F120041	Sheet No: 3 of 3

Received by
Kāpiti Coast District Council
at Paraparaumu

26 AUG 2013



Building Act 2004, section 87

Advice of licensed building practitioner(s)

Owner must notify names of licensed building practitioners before restricted building work commences

Send or deliver this form to:

Building Control, Kapiti Coast District Council, Private Bag 60-601, Paraparaumu 5254.
For enquiries, phone (04)296 4700. eMail: kapiti.council@kapiticoast.govt.nz

Council use only:
BC Application #

The building (project location)

Building name (if applicable)	
Building street address	91 ASTON ROAD WAIKANAЕ DOWNS

The project

Building consent number	BC 130237
-------------------------	-----------

The owner (must be completed and all details must be the owner's)

Owner's name (for individuals, state the preferred form of title, e.g. Mr, Mrs, Ms, Miss, Dr. For companies, trusts and other organisations provide a contact person's name)	MR & MRS C FAWCETT		
Address	91 ASTON ROAD WAIKANAЕ	Date:	26/08/2013
Owner's contact details	Landline: 2935114 Mobile: 021388663 After hours:	Fax:	Email:

Licensed building practitioners engaged to carry out/supervise restricted building work

Particular work to be carried out or supervised	Name	Licensing class	Licensed building practitioner number (or registration number if treated as being licensed under section 291 of Act)
CARPENTRY	JEROME WAGG	CARPENTRY	103923
ROOFING	TOM REID	PROFILED METAL	106266
WALL CLADDING	TOM REID	PROFILED METAL	106266

Note: Continue over page if necessary

Palmerston North
Phone: 06-356 7649
Fax: 06-355 3193
Email: quins.pn@xtra.co.nz
Hawkes Bay
Phone: 06-870 0599
Fax: 06-870 0190
Email: quins.hb@xtra.co.nz

QUIN

ROOFING LTD & BUILDINGS

We're Strong on Construction. Selection to Customer Care.

Levin Head Office and
Manufacturing Plant
20-30 Coventry Street,
PO Box 1087, LEVIN
Phone: 06-367 9480
Fax: 06-367 0795
Email: quins.levin@xtra.co.nz
www.quinbuildings.co.nz

Dear Roofing Direct Ltd

WARRANTY 12 Victor Grove, Waikanae on Invoice 70279

Date of Supply: 14.05.2013

Warranty Terms;

Colorcote ZMX pre-painted metal products used for Residential Buildings will perform as follows.

1. Resistance to flaking, peeling and excessive fade. ZMX 10 years.

2. Will not perforate as a result of corrosion ZMX 15 years.

Colourcote products will inevitably weather, chalk and fade over time as a result of normal wear and tear.

If the product fails to perform as warranted we will, at our sole option, repair or replace the affected material.

Please note this warranty is subject to the following terms and conditions:

- This warranty will not apply to weathering, chalking or fading over time as a result of normal wear and tear.
- If inappropriate fastenings are used this warranty will not apply.
- Defects caused by faulty design, or method of manufacture of Residential Buildings are not covered by the warranty.
- We must be given the opportunity for inspection on site prior to any remedial action being offered or taken.
- Damage or corrosion resulting from the following are not covered by this warranty:
 - 1) Damage sustained during storage, handling, or installation.
 - 2) Damage sustained after installation.
 - 3) Causes after the product has left our control.
 - 4) Failure to remove debris leading to the accumulation of moisture retaining matter in gutters and downpipes.

Our liability under this warranty shall in all cases be limited to replacing or repairing the defective product as specified above excluding labour. Any repaired or replaced product will be covered by this warranty up to the unexpired portion of the warranty of the original product. Quin Roofing Ltd will not be liable for consequential loss or damage. All claims must be made promptly in writing and accompanied by the original warranty document. This warranty does not in any way affect the rights of a consumer under the Consumer Guarantees Act.

MINIMUM MAINTENANCE REQUIREMENTS – www.colorcote.co.nz

1. Washing of Naturally Unwashed Areas every 6 months –e.g –Wall Cladding.
2. Removal of Debris from gutters every 6 months.
3. Any noticeable buildup of salt deposits and/or other contaminants are removed when identified.
4. When considering overpainting, please consult with your local distributor to ensure correct procedures are undertaken.
5. Inspection of the roof, including fasteners, repair any damage every 6 months

Regular Washing of Colorcote@ZMX™ products increases the durability by reducing attack from airborne salts and pollutants. Colorcote@ZMX™ products should be washed manually with water and a sponge or a soft nylon-bristled brush. For large areas it may be appropriate to use water blasting at pressures up to 20mpa.

This roof was installed by: *Roofing Direct*

Signature of Installer: *[Signature]*

And carries a workmanship warranty for : 5 years

Signature of property owner or agent:

Date: *5-6-2013*

PLEASE RETURN A SIGNED COPY OF THE WARRANTY TO THE ROOFING MANUFACTURER
This warranty is issued by (the roofing manufacturer):

Yours faithfully

pp [Signature]
Bruce Love
Roofing Manager
Quin Roofing Ltd

For all roofing enquiries and sales contact our Levin factory on 0800 QUINS LEVIN - 0800 784 675

Manufacturers and suppliers in Zincalume and Coloursteel of:
Corrugate Mini Corrugate
Trimline Weatherboard
6 Rib Custom Flashings to 6.5m

Clearlite
Ridge
Barge
Nails

Screws
Building Papers
Netting
Sealfoam

Sectional Doors
Roller Doors
Tilta Doors
Automatic Openers

For all garage enquiries and sales contact our agent in your area on 0800 GARAGE - 0800 427 243

Memorandum from licensed building practitioner: Record of building work

Section 88, Building Act 2004

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

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

THE BUILDING	
Street address:	91 ASTON ROAD
Suburb:	
Town/City:	WAIKANAÉ
Postcode:	

THE PROJECT
Building consent number:

THE OWNER(S)	
Name(s):	
Mailing address:	
Suburb:	PO Box/Private Bag:
Town/City:	Postcode:
Phone number:	Email address:

RECORD OF WORK THAT IS RESTRICTED BUILDING WORK

PRIMARY STRUCTURE

Work that is restricted building work	Description of restricted building work	Carried out or supervised
Tick <input checked="" type="checkbox"/>	If necessary, describe the restricted building work.	Tick <input checked="" type="checkbox"/> whether you carried out the restricted building work or supervised someone else carrying out the restricted building work.
Foundations and subfloor framing <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Walls <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Roof <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Columns and beams <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Bracing <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Other <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised

RECORD OF WORK THAT IS RESTRICTED BUILDING WORK

PRIMARY STRUCTURE

Work that is restricted building work	Description of restricted building work	Carried out or supervised
Tick <input checked="" type="checkbox"/>	If necessary, describe the restricted building work.	Tick <input checked="" type="checkbox"/> whether you carried out the restricted building work or supervised someone else carrying out the restricted building work.
Foundations and subfloor framing <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Walls <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Roof <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Columns and beams <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Bracing <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Other <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised

EXTERNAL MOISTURE MANAGEMENT SYSTEMS

Work that is restricted building work	Description of restricted building work	Carried out or supervised
Tick <input checked="" type="checkbox"/>	If necessary, describe the restricted building work.	Tick <input checked="" type="checkbox"/> whether you carried out the restricted building work or supervised someone else carrying out the restricted building work.
Damp proofing <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Roof cladding or roof cladding system	install Colorcote Corrugate 2mx, flashings & underlay to New roof area.	<input checked="" type="radio"/> Carried out <input type="radio"/> Supervised
Ventilation system (for example, subfloor or cavity) <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Wall cladding or wall cladding system	install Colorcote Corrugate 2mx, flashing & 215 underlay to "chimney" 3 sides only.	<input checked="" type="radio"/> Carried out <input type="radio"/> Supervised
Waterproofing <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Other <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised

ISSUED BY:

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

Name: **Tom Reid** LBP number: **106266**

Class(es) licensed in:

R2 R3 R4

Plumbers, Gasfitters and Drainlayers registration number (if applicable):

Mailing address (if different from below):

Street address/Registered office: **29 Quadrant Hts**

Suburb: Town/City: **Paraparaumu**

PO Box/Private Bag Postcode: **5032**

Phone number: **04 298 7663** Mobile: **021 453 439**

After hours: Fax: **2987663**

Email address: **roofingdirect@xtra.co.nz** Website:

DECLARATION

I **Tom Reid** carried out or supervised the restricted building work recorded on this form.

Signature: *Tom Reid*

Date: 20/6/13

Validity authenticated

27 JUN 2014

Signature: _____

Fabricator / Designer Statement

Job Ref: 5694T

This statement may be used by the Building Consent Authority for compliance purposes and is issued by a licensed truss fabricator using the Pryda Build software.

CLIENT Name: Mr & Mrs Fawcett

SITE Details:

Address : 91 Aston Road Waikanae
City:
Post Code:



Nominal Design Criteria:

Design working life: 50 years
Building importance: Residential
Roofing: Longrun (6.0 kg/sq.m)
Ceiling: 10mm Gib-board (6.8 kg/sq.m)
Top chord purlins: 900 mm

BC restraints: Battens at 600 mm
Standard truss spacing: 900 mm
Standard roof pitch: 30.00 deg.
Ult. design wind speed: 50 m/s (wind classification = Very high)

Design roof snow load: 0 Pa
(incl. probability factor)
Ground snow load: 0 Pa
Location: Region N1 - lower Nth Island
Altitude above sea level: 100 m

Max. eaves height: 3 m
Max. ridge height: 8 m

Int pressure coeff. up: 0.2
Overhang Condition: Metal fascia

The correctness of the Design Criteria used by the Pryda Build truss design software is the responsibility of the fabricator.

Note : A structural fascia beam is required at all hip and dutch hip corners to support the short creeper/rafter overhangs, as shown in AS4440-2004

Note: The external wind pressure coefficients for the standard trusses in this job have allowed for proximity to a gable end.

All truss designs and their connections have been designed using Pryda design software. Additional items such as roof/ceiling plane bracing, special notes, supplementary timber, etc., which may be shown on the plan drawings are the responsibility of others.

All trusses shall be manufactured in accordance with the fabrication specifications provided by Pryda, and installed, connected and braced in accordance with the recommendations given in -: AS4440:2004 "Installation of nailplated timber roof trusses" and any other supplementary details that may be provided, such as the Pryda Installation Guides.

Timber verification and grading values are in accordance with clause B1 and timber treatment in accordance with clause B2 of the New Zealand Building Code.

I/we confirm that the trusses for this project have been manufactured in accordance with the fabrication specifications provided by Pryda New Zealand

Name: Lyall Gray

Position: Detailer

Signed: [Signature]

Date: 25-09-2013

Fabricator / Designer Statement

Job Ref: 5694T

Note 1: All timber framing nails are machine-driven, glue coated, or annular/helical deformed shank.
Use specified fixings with Pryda connectors as noted.

Tie-downs to walls/beams:

All trusses need to be fixed at each timber support with 2 / 90x3.15 dia Skew Nail
All additional tie-downs are as follows:

<i>Truss Mark</i>	<i>Support No.</i>	<i>Distance</i>	<i>Fixing</i>	<i>Jt Grp</i>	<i>Support Width</i>	<i>Truss Jt Grp</i>	<i>Uplift (kN)</i>
S1	1	-	2/MGL	JD5	90	JD5	-3.47
	7	5950	2/MGL	JD5	90	JD5	-3.47
S2	15	-	2/Z	JD5	90	JD5	-3.07
	9	4730	2/Z	JD5	90	JD5	-3.07

Secondary fixings (hip & gable ends, valleys):

All trusses are to be fixed at each support with the following:

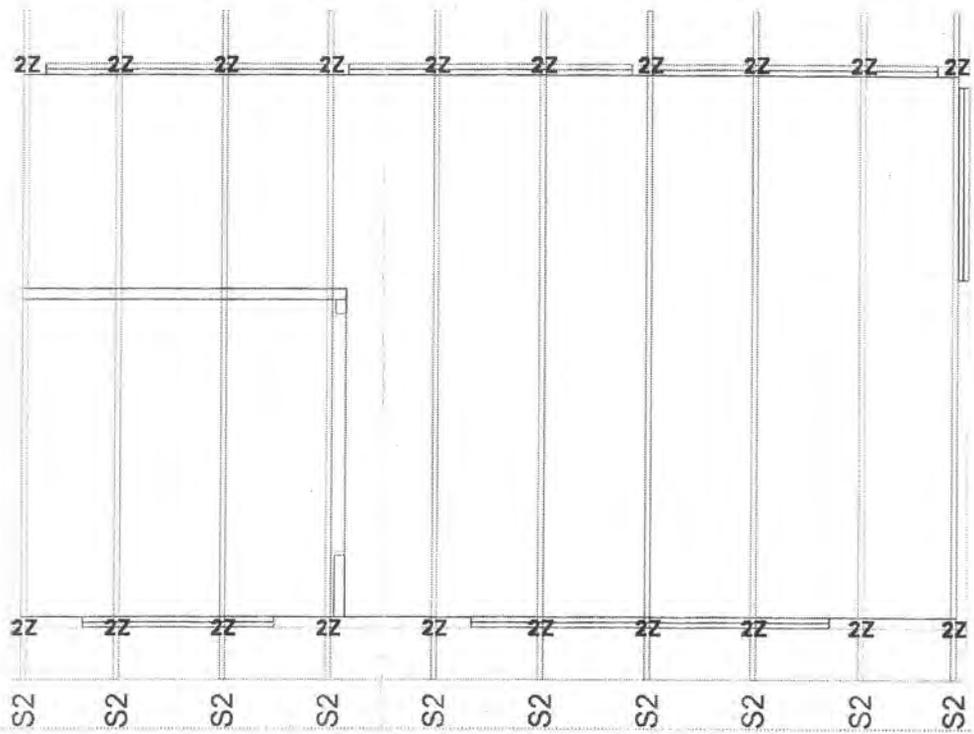
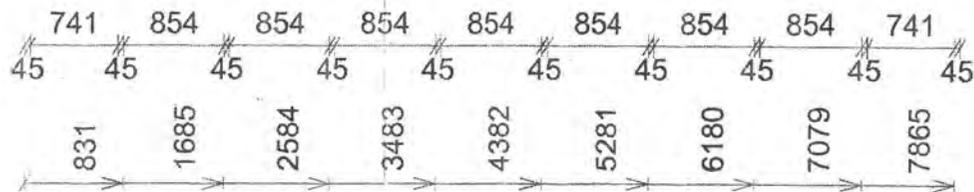
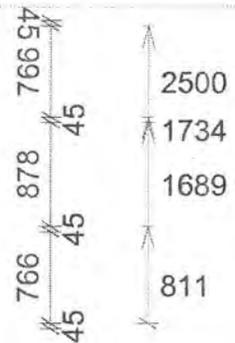
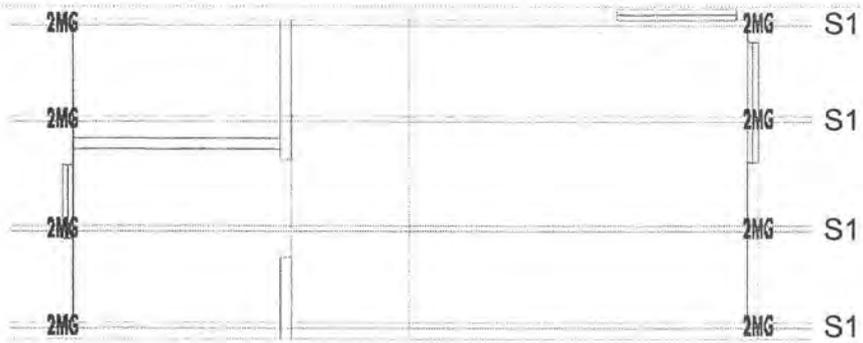
Hip truss to truncated girder	3 face nails, bottom chords
Jack truss to truncated girder	3 skew nails or back face nails, bottom chords
Creeper truss to hip truss	3 face nails, top and bottom chords
Top chord extensions	2 skew nails
Valley trusses	1 skew nail
Outriggers	2 skew nails

All additional connections are as follows:

<i>Supporting Truss</i>	<i>Supported Truss</i>	<i>Top Chord</i>	<i>Bottom Chord</i>
-------------------------	------------------------	------------------	---------------------

Fixing Summary:

<i>Connector</i>	<i>Description</i>	<i>Total</i>	<i>Fixing Method (per connector)</i>	
			<i>Support</i>	<i>Truss</i>
MGL	Multigrip (long)	16	6/30x3.15d nails	4/30x3.15d nails
Z	Z nail	40		



Truss Connections

* All tie-downs use 2/90x3.15 dia Skew Nails unless otherwise noted.

- 2MG 8 x 2/MGL Multigrip (long)
- 2Z 20 x 2/Z Z nail



Customer : Mr & Mrs Fawcett
 Site Address : 91 Aston Road
 : Waikanae

Flooring : 19mm particleboard
 Floor Spacing : 400

Job Ref 56941
 Scale
 Level



Compliance and Electrical Safety Certificate

This form has been issued by the Electrical Workers Registration Board



Safety • Competency

Unique ID: 01442

This form has been designed to be used by licensed electrical workers to certify low voltage installations or part installations that comply with Part 2 of AS/NZS 3000 and are safe to be connected to a 230/400 volt multiple earth neutral (MEN) system of electrical supply.

(1) Location of installation

Address: 91 ASTON ROAD, WAIKANAЕ

(2) Customer Information

Name: MRT MRS FAWCETT

Postal Address: 91 ASTON ROAD, WAIKANAЕ

Phone and Email: 04-293-5114

(3) Electrical Worker Information

Name: SHAWN O'LEARY Registration/Practising Licence Number: E17118

Organisation: OLEARY ELECTRICAL Telephone Number: 027-2755400

Email: 0.4.5 @ paradise.net.nz

Name of person(s) being supervised: _____

(4) Work Details

The work is (circle) additions alterations | new work

The prescribed electrical work is: High Risk General Low Risk The homeowner has undertaken part of the electrical installation work.
(Please tick (✓) as appropriate)

Indicate the number of each item installed or altered:

Validity authenticated

Other Work?

Tick (✓) if work includes:

Number of lighting outlets: 39

Number of socket outlets: 22

Number of ranges: _____

Number of water heaters: _____

27 JUN 2014

Mains

MEN switchboard closest to point of supply

Main Earthing System

Electric Lines

Signature: [Signature]

(5) Certification of Work

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

- has been installed in accordance with a certified design
- has an earthing system that is correctly rated
- contains fittings which are safe to connect to a power supply
- relies on supplier's Declaration of Conformity (attach or reference¹)
- relies on manufacturer's instructions (attach or reference¹)
- has been satisfactorily tested in accordance with Electricity (Safety) Regulations 2010
- is safe to connect

Electronic reference: www.stewarts.co.nz

Electrical Worker's Signature: [Signature]

Date: 26-1-14

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

Test Results:

	Electrical Worker	Inspector
Polarity (independent earth):		
Insulation resistance:		
Earth continuity:		
Bonding:		
Other (specify):		

(6) Electrical Safety Certificate

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

Name: _____ Registration/Practising Licence Number: _____

Signature: _____ Date: _____
(if certifier is different from electrical worker)

O'LEARY ELECTRICAL LTD
PO BOX 2167 RAUMATI

C.O.C # 01442

ADDRESS: 91 Aston Rd, Waikanae.

- GENERAL CABLE <http://www.generalcable.co.nz/>
- SCHNEIDER DATA <http://www.schneider-electric.com/>
- UTILUX <http://www.utilux.co.au/WebSiteUtilux/Default.asp>
- MERLIN GERIN <http://www.schneider-electric.com/>
- MARLEY <http://www.marley.co.nz/>
- HPM <http://www.hpm.co.nz>
- TEUBEL <http://www.teubels.co.nz/>
- GENERAL ELECTRIC <http://www.ge.com/nz/>
- DYNAMIX <http://www.dynamix.co.nz/>
- MANROSE <http://www.simx.co.nz/>
- SIMX <http://www.simx.co.nz/>
- PDL <http://www.pdl.co.nz>
- PHILIPS <http://www.philips.co.nz/>
- VYNCO <http://www.vynco.co.nz/>
- LORETTO <http://www.globelink.co.nz/>
- SWITCH LIGHTING <http://www.switch-lighting.co.nz/>
- PRISMA <http://www.rexel-lighting.co.nz/>
- SG (JUPITER) <http://www.sg-as.no/>

- MICRON <http://www.micronsecurity.com/>
- WEISS <http://www.weiss.co.nz/>
- GOLDAIR <http://www.goldair.co.nz/>
- HUGO <http://www.hugolighting.com/>
- FUJITSU <http://www.fujitsu.com/nz/>
- HOME DOWNLIGHTS <http://www.homedownlights.co.nz/>
- HALCYON LIGHTING <http://halcyonlights.co.nz/>

- SUPERLUX <http://www.superlux.com.au/>

Codes for BC applications show brace line on inner walls of shed. Now proposed to leave unlined. Outer cladding is plywood & this was not considered in bracing codes at all. Now check this.

refer to bracing calculations 9/04/2013 for shed.

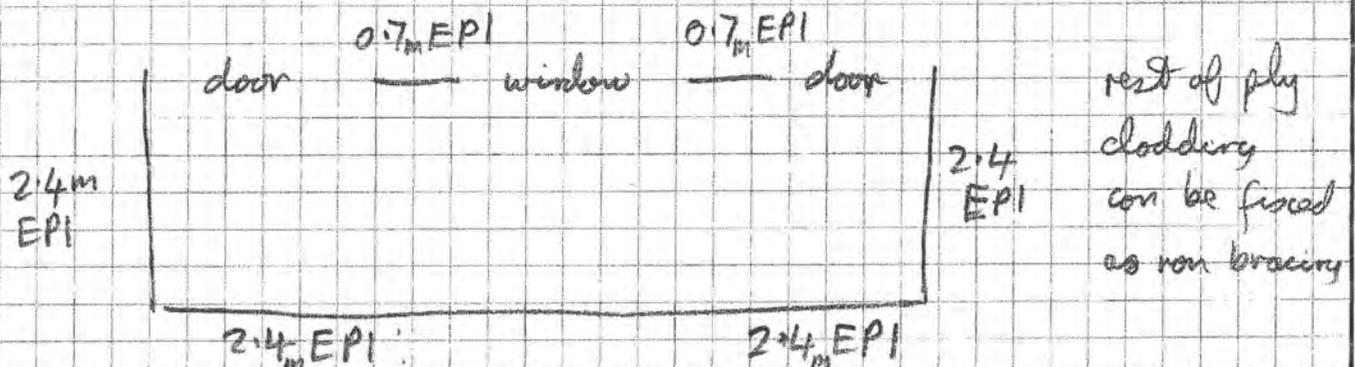
		wind	seismic
across	required	576 BU	146 BU
	achieved (with BLH 12)	600	504
along	required	207	146
	achieved (with BLH 12)	933	833

using ply 7mm, designation EPI on one side
 rating 125 BU/m for wind } wind across is critical one
 130 BU/m for seismic }

required length for 576 BU wind is $\frac{576}{125} = 4.6 \text{ m}$

use 2.4 m on each side wall, total 4.8 m.

use 4.8 m on rear wall & short lengths on front wall - more than required in this direction.



F120041

Fawcett house alterations
91 Aston Rd, Waikarae

Construction observations

contractor JCK Development

Jerome Wagg ph 021 500 844

Thurs 29 Aug 2013, ~4pm, Digger on site finishing off last few pile holes with auger. Upper layers were soft (as expected), then firmer layer below. Change in colour & texture readily recognized. Depth varies 1.4m to 1.9m. Yet to place ϕ 12 bar in each hole. Concrete scheduled for Friday morning. Holes dry when inspected. Photos.

Thurs 5 Sep 2013, Reviewed photos by contractor. Shows mesh in place, footings with reinforcing, chains to position reinforcing, polystyrene, pile tops. Ready to place floor slab & perimeter footing.

Fri 13 Sep 2013, Inspected excavations for shed slab and footings. Whole slab area down to same level as base of rear wall footings. This means slab will be thicker but not a problem here - easier to form footings. Mesh must be in upper part near slab surface & support discussed with contractor. Photos.

Wed 18 Sep 2013. Inspection by Ashley (surveyor) of shed slab & footing reinforcement. Checked position & type of steel, cover to sides & base. Satisfactory for concrete. Photos.

Fawcett house alterations

F120041

Thur 26 Sep 2013. Review photos by contractor. Shed rear wall in blocks. Photos of reinforcing - longitudinal bars & vertical (previously inspected as part of slab/footing) & construction joint in long wall. Satisfactory for grouting.

Fri 4 Oct 2013. Inspected frame & bracing to lounge extension. Discussed changes to bracing as ply linings not considered in brace calculations & with appropriate fixings will provide substantial amount of bracing. Need to check coils to confirm details. Specific structural design elements of foundations & shed wall have now been completed & an issue PS4 for these.

***J.C.K Developments Ltd
Building Contractors
Certified Builder***

Jerome Wagg
PO Box 2082
Raumati Beach
Phone (04) 904 2288
Mobile (021) 500 844
Fax (04) 904 2258

RE Fawcett Inspections- 91 Aston Road Waikanae

Inspections covered either visited or sited through photos by Peter Davenport of Eastern Consulting, at 91 Aston Road Waikanae

Pile depth Inspection

Pre Foundation /Slab alterations to house

Ground check new shed

Pre foundation/slab to new shed

Pre block wall fill to new shed

Alterations to exterior bracing elements to be incorporated into revised bracing schedule, to be supplied at council preline inspection.

Jerome Wagg

From: "Peter Davenport" <peterd@eastern.co.nz>
Date: 18 September 2013 5:51 p.m.
To: "Jerome Wagg" <jckdevelopments@xtra.co.nz>
Subject: RE: Fawcett slab inspection

Jerome,

Ashley has now looked at the shed floor slab reinforcing for me. I will compile the site reports from these inspections. I usually attach these to the PS4 that I complete at the end of the project.

regards,
 Peter

Dr Peter Davenport
 Engineer



34 Main St, PO Box 40 554,
 Upper Hutt 5140, New Zealand
 Tel: +64 4 524 9010
 Mobile: 027 4787803
 Fax: +64 4 524 9011
 Email: PeterD@Eastern.co.nz

2013 17:25

To: peterd@eastern.co.nz
Subject: Re: Fawcett slab inspection

Hi Peter

Had the council up and no problem...the new regs for them is they need site notes from the engineer to say they have inspected. Could I get you to forward me a letter covering pile, slabs house, ground at shed and shed steel inspections.

Thanks very much

Regards Jerome

From: Peter Davenport
Sent: Thursday, September 05, 2013 7:10 PM
To: 'Jerome Wagg'
Subject: RE: Fawcett slab inspection

Jerome,

Thanks for the building consent papers.

Let me know when the shed foundation needs to be inspected.

regards,
 Peter

Dr Peter Davenport
 Engineer



34 Main St, PO Box 40 554,
 Upper Hutt 5140, New Zealand
 Tel: +64 4 524 9010
 Mobile: 027 4787803
 Fax: +64 4 524 9011
 Email: mailto:AshleyH@Eastern.co.nz

2013 18:34

To: peterd@eastern.co.nz
Subject: Re: Fawcett slab inspection

Hi Peter

Please find attached consent docs as discussed

Thanks Jerome

From: Peter Davenport
Sent: Thursday, September 05, 2013 3:16 PM
To: 'jckdevelopments'
Subject: RE: Fawcett slab inspection

26/09/2013

Jerome Wagg

From: "Peter Davenport" <peterd@eastern.co.nz>
Date: 5 September 2013 3:16 p.m.
To: "jckdevelopments" <jckdevelopments@xtra.co.nz>
Subject: RE: Fawcett slab inspection

Jerome,

Thank you for the photographs. These look fine, and I will not need to inspect again before you place the concrete.

regards,
Peter

Dr Peter Davenport
Engineer

 **EASTERN**
CONSULTING LTD

34 Main St, PO Box 40 554,
Upper Hutt 5140, New Zealand
Tel: +64 4 524 9010
Mobile: 027 4787803
Fax: +64 4 524 9011
Email: PeterD@Eastern.co.nz

15:02

To: PeterD@fosterandcompany.co.nz

Subject: Fawcett slab inspection

Hi peter please find photos attached thanks jerome
Sent from Samsung Mobile

--

This message has been scanned for viruses and dangerous content by **MailScanner**, and is believed to be clean.

--

This message has been scanned for viruses and dangerous content by **MailScanner**, and is believed to be clean.

RBW

KAPITI ARCHITECTURAL DESIGN LTD

Phone: (04) 905 7380 Mobile: 0275 114 744 Email: rochelle@kapitidesign.co.nz
www.kapitidesign.co.nz

PROPOSED ADDITION & GARAGE

For

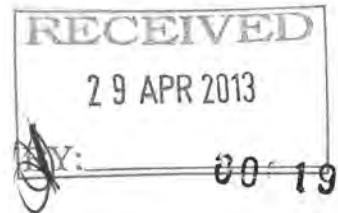
Mr & Mrs Fawcett

At

91 Aston Road

Waikanae Downs

H1 Calculations
Risk Matrix
Truss PS1



Dated: April 2013



Design Navigator H1 Compliance Report

Project Summary

H1 Report created by: kapiti architectural design limited
 Project Name: Fawcett Lounge
 Client: _____
 Lot No: _____
 Comment: _____
 Project Id: 47102
 Report Date: 03/04/2013

Compliance Result

This building does neither comply with the Schedule nor the Calculation Method in NZS4218:2004 (Sept 2008 R-value), nor with the BPI Method. It may comply with H1 via the NZS4218:2004 Modelling Method

H1 Compliance Details

Compliance with Clause E3

This building complies with the R-value targets in NZBC Clause E3

<i>Component</i>	<i>Minimum R-value</i>	<i>Project R-value</i>
Framed wall constructions with cavities	1.5	2.05
Single skin masonry wall without a cavity	0.6	_____
Solid timber wall no less than 60 mm thick	0.6	_____
Roof or ceilings	1.5	2.67

Design Details

Building Dimensions

Floor Area	<u>38</u>
Gross Wall Area	<u>51.6</u>
Net Wall Area	<u>32.6</u>
Wall (North) Area	<u>10</u>
Wall (East, South and West) Area	<u>22.6</u>
Gross Roof Area	<u>38</u>
Net Roof Area	<u>38</u>
Glazing Area	<u>19</u>
Window (North) Area	<u>3.2</u>
Window (East, South and West) Area	<u>15.8</u>
Skylight Area	<u>0</u>

Glazing Area Percentages

Total Glazing Percentage	<u>36.8%</u>
East, South and West Window Percentage	<u>41.1%</u>
Total over 30%	<u>yes</u>
East, South and West over 30%	<u>yes</u>
Total over 50%	<u>no</u>

Information required for BPI calculation

Living Floor Area	<u>0</u>	Note: This includes also internal floors.
Average Room Height	<u>0</u>	
Thermal Mass Level	<u>Light weight</u>	<u>Suspended timber floor with timber framed walls or a heavily carpeted slab floor with timber framed walls.</u>

Climate

Location	<u>Paraparaumu</u>
Climate Zone	<u>2</u>

Heat Loss Details

	ID	Orient.	Width	Height	Gross Area	Net Area	R-value*	Heat Loss	Shad. Coeff.**	Solid Wall***
<u>Floors</u>										
Floor 1	1				38.0	38.0	0.95	40.0		
<u>Walls</u>										
Wall 1	1	E	8.0	2.4	19.2	15.6	2.06	7.6		C
Window 1-1	W1		1.6	1.1		1.8	0.26	6.8	0.00	
Window 1-2	W2		3.0	0.6		1.8	0.26	6.9	0.00	
Wall 2	2	N	4.7	2.8	13.2	10.0	2.05	4.9		C
Window 2-1	W3		1.6	2.0		3.2	0.26	12.3	0.00	
Wall 3	3	W	8.0	2.4	19.2	7.0	2.06	3.4		C
Window 3-1	W4		2.4	2.0		4.8	0.26	18.5	0.00	
Window 3-2	W5		2.4	2.0		4.8	0.26	18.5	0.00	
Window 3-3	W6		2.4	1.1		2.6	0.26	10.2	0.00	
<u>Roofs</u>										
Roof 1	1				38.0	38.0	2.67	14.2		
<u>Total Heat Loss</u>								143.1		

* Any concrete slab-on-ground floor regardless of its dimensions can be assumed to have an R-value of at least R-1.3 (H1/VM1 and H1/AS1, Replacement Table 1, Note (4)).

** The Shading Coefficient is only required for BPI calculations.

*** C: Cavity Construction (any construction that is not solid), T: Solid Timber, S: Other Solid Construction (Note that the use of solid timber and other solid construction types is discretionary, i.e. solid timber walls and other solid walls can be treated as if they are non-solid (NZS4218:2004 section 3.1.4.)).

Floor Construction Details

1: Slab floor

internal surface 0.09	
Flooring	none (Example: polished surface of a concrete floor) <input type="text"/>
<i>R-value: 0</i>	
Insulation value of the slabfloor	
Slab floor area [m²]:	<input type="text" value="38"/>
Perimeter length [m]:	<input type="text" value="25.5"/>
External wall thickness [mm]:	<input type="text" value="90"/> <input type="button" value="i"/>
Soil conductivity [W/m C]:	<input type="text" value="1.2"/> <input type="button" value="i"/>
Underslab insulation:	<input type="text" value="none"/> <input type="button" value="v"/> Expol Thermaslab (H) R-1.3 Concrete Slab: <input type="text" value="1.3"/> <input type="button" value="i"/>
Piles Footings:	Number: <input type="text"/> Penetration Diameter: <input type="text"/> mm
Slab edge insulation:	<input type="text" value="none"/> <input type="button" value="v"/> Insulation: <input type="text"/> <input type="button" value="i"/>
<i>R-value: 0.86</i>	
Construction R-value:	<input type="text" value="0.95"/> m²K/W.

Wall Construction Details

1: Timber frame with vented cavity

external surface 0.03	
Cladding <input type="text" value="Plywood 12mm"/> R-value: 0.09	
Air Barrier <input type="text" value="Plywood 7.5mm"/> R-value: 0.06	
Timber Frame & Cavity <input type="text" value="90mm, studs @ 400mm, dwangs @ 800mm"/> Frame Area: 18.7% Cavity Area: 81.3%	
15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08	15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08
Timber Frame R-value: 0.75	Pink®Batts® R2.4 Wall <input type="text" value="2.4"/>
	still Airgap <input type="text" value="none"/> R-value: 0
Wall Lining <input type="text" value="Gypsum plasterboard 10mm"/> R-value: 0.04	
internal surface 0.09	

Construction R-value: m²K/W.

2: Timber frame with vented cavity

external surface 0.03	
Cladding <input type="text" value="Metal weatherboard (corr. iron)"/> R-value: 0.08	
Air Barrier <input type="text" value="Plywood 7.5mm"/> R-value: 0.06	
Timber Frame & Cavity <input type="text" value="90mm, studs @ 400mm, dwangs @ 800mm"/> Frame Area: 18.7% Cavity Area: 81.3%	
15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08	15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08
Timber Frame R-value: 0.75	Pink®Batts® R2.4 Wall <input type="text" value="2.4"/>
	still Airgap <input type="text" value="none"/> R-value: 0
Wall Lining <input type="text" value="Gypsum plasterboard 10mm"/> R-value: 0.04	
internal surface 0.09	

Construction R-value: m²K/W.

Roof Construction Details

1: Timber framed roof, direct fixed or battened flat ceiling

external surface 0.03	
Roofing	Corrugate iron with building paper
R-value: 0.01	
Insulation	
Timber Frame & Cavity	
94mm rafters or joists @ 900mm, blocking @ 900mm	
Frame Area: 10%	Cavity Area: 90%
Roof space (still air) 0.11	Roof space (still air) 0.11
Trusses and dwangs R-value: 0.78	Pink®Batts® R3.2 Ceiling 3.2
Ceiling Lining	
Gypsum plasterboard 10mm	
R-value: 0.04	
internal surface 0.09	
Recessed downlights	
Ceiling area [m²]: 38	Number of downlights: 6
Clearance from lamp holder side [m]: 0.05	
Construction R-value: 2.67 m²K/W.	



This tool was created by [Design Navigator Ltd.](http://www.designnavigator.co.nz)



Design Navigator H1 Compliance Report

Project Summary

H1 Report created by:	kapiti architectural design limited
Project Name:	Fawcett Bedroom
Client:	
Lot No:	91 Aston Road
Comment:	
Project Id:	47101
Report Date:	03/04/2013

Compliance Result

This building **complies with H1 via the following methods** :

- the Calculation Method in NZS4218:2004 (Sept 2008 R-values)

H1 Compliance Details

NZS4218:2004 Calculation Method Compliance

The use of the Calculation Method is **permitted**.

In order to comply the Actual Heat Loss must be the same or smaller than the Reference Heat Loss AND all component R-values must be the same or larger than 60% of the R-values in the '60% Rule' table below. This design **complies** with the NZS4218:2004 Calculation Method.

HeatLoss:

<i>Reference building</i>	<i>Proposed building</i>
57	54

Minimum R-values ("60% rule"):

	<i>Permitted Minimum</i>	<i>Proposed Minimum</i>
Floor:	0.8	1.31
Non-solid Walls:	1.1	2.05
Glazing in Non-solid Walls:	0.15	0.26
Roof:	1.7	2.63
Skylights:	0.15	

The Reference building has the following areas and R-values.

		Non-solid	Solid Timber	Other Solid
Floor:	Area: 15.5 m ² R-values:	100.0%	0.0%	0.0%
Walls excl. glazing:	Area: 18.5 m ² R-values:	1.3	1.3	1.5
Glazing (up to 30%):	Area: 7.9 m ² R-values:	1.9	1.2	1
Glazing (surplus of 30%):	Area: 0 m ² R-values:	0.26	0.26	0.26
Roof:	Area: 15.5 m ² R-values:	0.31	0.31	0.31
Skylights:	Area: 0 m ² R-values:	2.9	3.5	3.5
Heat Loss:		0.31	0.31	0.31
		57	62	64

For mixed constructions the heat loss of the reference building is calculated as the sum of the heat losses for each type of wall construction multiplied by the fraction of the wall area of each type. This approach is based on clause 4.2.6 of NZS4218:2009 because NZS4218:2004 has no clear guidance on mixed constructions. Note that all other requirements (window area (30%) and skylight area (1.2m²) threshold for

Schedule Method, maximum R-value tradeoff (40%), etc.) are still using NZS4218:2004 including the 2007 H1 amendments because this is the Acceptable Solution for Clause H1.

Compliance with Clause E3

This building **complies with the R-value targets in NZBC Clause E3**.

<i>Component</i>	<i>Minimum R-value</i>	<i>Project R-value</i>
Framed wall constructions with cavities	1.5	2.05
Single skin masonry wall without a cavity	0.6	
Solid timber wall no less than 60 mm thick	0.6	
Roof or ceilings	1.5	2.63

Design DetailsBuilding Dimensions

Floor Area	15.5
Gross Wall Area	26.4
Net Wall Area	19.3
Wall (North) Area	2.8
Wall (East, South and West) Area	16.5
Gross Roof Area	15.5
Net Roof Area	15.5
Glazing Area	7.1
Window (North) Area	3.2
Window (East, South and West) Area	3.9
Skylight Area	0

Glazing Area Percentages

Total Glazing Percentage	26.9%
East, South and West Window Percentage	19.2%
Total over 30%	no
East, South and West over 30%	no
Total over 50%	no

Information required for BPI calculation

Living Floor Area	0	Note: This includes also internal floors.
Average Room Height	0	
Thermal Mass Level	Light weight	<u>Suspended timber floor with timber framed walls or a heavily carpeted slab floor with timber framed walls.</u>

Climate

Location	Paraparaumu
Climate Zone	2

Heat Loss Details

	ID	Orient.	Width	Height	Gross Area	Net Area	R-value*	Heat Loss	Shad. Coeff.**	Solid Wall***
<u>Floors</u>										
Floor 1	1				15.5	15.5	1.31	11.8		
<u>Walls</u>										
Wall 1	1	N	2.5	2.4	6.0	2.8	2.06	1.4		C
Window 1-1	W7		1.6	2.0		3.2	0.26	12.3	0.00	
Wall 2	2	W	6.0	2.4	14.4	11.2	2.05	5.5		C
Window 2-1	W8		1.6	2.0		3.2	0.26	12.3	0.00	
Wall 3	3	S	2.5	2.4	6.0	5.3	2.06	2.6		C
Window 3-1	W9		1.8	0.4		0.7	0.26	2.8	0.00	
<u>Roofs</u>										
Roof 1	1				15.5	15.5	2.63	5.9		
<u>Total Heat Loss</u>								54.5		

* Any concrete slab-on-ground floor regardless of its dimensions can be assumed to have an R-value of at least R-1.3 (H1/VM1 and H1/AS1, Replacement Table 1, Note (4)).

** The Shading Coefficient is only required for BPI calculations.

*** C: Cavity Construction (any construction that is not solid), T: Solid Timber, S: Other Solid Construction (Note that the use of solid timber and other solid construction types is discretionary, i.e. solid timber walls and other solid walls can be treated as if they are non-solid (NZS4218:2004 section 3.1.4.))

Floor Construction Details

1: Slab floor

internal surface 0.09	
Flooring	none (Example: polished surface of a concrete floor) <input type="button" value="i"/>
<i>R-value: 0</i>	
Insulation value of the slabfloor	
Slab floor area [m ²]:	<input type="text" value="15.5"/>
Perimeter length [m]:	<input type="text" value="17"/>
External wall thickness [mm]:	<input type="text" value="90"/> <input type="button" value="i"/>
Soil conductivity [W/m C]:	<input type="text" value="1.2"/> <input type="button" value="i"/>
Underslab insulation:	<input type="text" value="Total slab"/> Expol Thermaslab (H) R-1.3 Concrete Slab: <input type="text" value="1.3"/> <input type="button" value="i"/>
Piles Footings:	Number: <input type="text"/> Penetration Diameter: <input type="text"/> mm
Slab edge insulation:	<input type="text" value="none"/> <input type="button" value="i"/> Insulation: <input type="text"/> <input type="button" value="i"/>
<i>R-value: 1.22</i>	
Construction R-value:	<input type="text" value="1.31"/> m ² K/W.

Wall Construction Details

1: Timber frame with vented cavity

external surface 0.03	
Cladding	Plywood 12mm <i>R-value: 0.09</i>
Air Barrier	Plywood 7.5mm <i>R-value: 0.06</i>
Timber Frame & Cavity	90mm, studs @ 400mm, dwangs @ 800mm <i>Frame Area: 18.7%</i> <i>Cavity Area: 81.3%</i>
15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08	15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08
Timber Frame <i>R-value: 0.75</i>	Pink®Batts® R2.4 Wall 2.4
	still Airgap none <i>R-value: 0</i>
Wall Lining	Gypsum plasterboard 10mm <i>R-value: 0.04</i>
internal surface 0.09	

Construction R-value: **2.06** m²KW.

2: Timber frame with vented cavity

external surface 0.03	
Cladding	Metal weatherboard (corr. iron) <i>R-value: 0.08</i>
Air Barrier	Plywood 7.5mm <i>R-value: 0.06</i>
Timber Frame & Cavity	90mm, studs @ 400mm, dwangs @ 800mm <i>Frame Area: 18.7%</i> <i>Cavity Area: 81.3%</i>
15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08	15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08
Timber Frame <i>R-value: 0.75</i>	Pink®Batts® R2.4 Wall 2.4
	still Airgap none <i>R-value: 0</i>
Wall Lining	Gypsum plasterboard 10mm <i>R-value: 0.04</i>
internal surface 0.09	

Construction R-value: **2.05** m²KW.

Roof Construction Details

1: Timber framed roof, direct fixed or battened flat ceiling

external surface 0.03	
Roofing	Corrugate iron with building paper <i>R-value: 0.01</i>
Insulation	
Timber Frame & Cavity	
94mm rafters or joists @ 900mm, blocking @ 900mm	
Frame Area: 10%	Cavity Area: 90%
Roof space (still air) 0.11	Roof space (still air) 0.11
Trusses and dwangs <i>R-value: 0.78</i>	Pink@Batts@ R3.2 Ceiling 3.2
Ceiling Lining Gypsum plasterboard 13mm <i>R-value: 0.06</i>	
internal surface 0.09	
Recessed downlights	
Ceiling area [m ²]: 15.5	Number of downlights: 4
Clearance from lamp holder side [m]: 0.05	

Construction R-value: **2.63** m²K/W.



This tool was created by [Design Navigator Ltd.](http://www.designnavigator.co.nz)

E2/AS1 : Building Envelope Risk Matrix.

Project Details.

Name NAME Fawcett
 Street/No. STREET 91 Aston Road
 Lot/DP/No. LOT
 City/Town/District. CITY Waikanae

Definition of Risk [table 1 from E2/AS1]

Factor	Risk	Detail
A Wind Zone	LOW	LOW wind zone as described by NZS 3604
	MEDIUM	MEDIUM wind zone as described by NZS 3604
	HIGH	HIGH wind zone as described by NZS 3604
	V.HIGH	VERY HIGH wind zone as described by NZS 3604
B No. of storeys	LOW	One storey
	MEDIUM	Two storey in part
	HIGH	Two storey's
	V.HIGH	More than two storey's
C Roof / Wall intersection Design.	LOW	Roof / wall intersection - Fully protected. [eg. hip / gable roof with eaves.]
	MEDIUM	Roof / wall intersection - Partly exposed. [eg. hip / gable roof with NO eaves.]
	HIGH	Roof / wall intersection - Fully exposed. [eg. Parapets or eaves greater than 90° vertical with/soffit linings.]
	V.HIGH	Roof elements finished within the boundaries formed by exterior walls [eg. lower ends of aprons, chimney's etc.]
D Eaves width (1.)	LOW	Greater than 600mm at first floor level.
	MEDIUM	450 - 600mm at first floor level, or 600mm at second floor level
	HIGH	100-450mm at first floor level, or 450-600mm at second floor level
	V.HIGH	0 - 100mm at first floor level, or 100-450mm at second floor level or 450 - 600mm at third floor level
E Envelope Complexity	LOW	Simple rectangular, L, T, or boomerang shape with single cladding type
	MEDIUM	Complex angular or curved shape [eg. Y or arrow head] with single cladding type.
	HIGH	Moderately complex angular or curved shape [eg. Y or arrow head] with no more than 2 cladding types.
	V.HIGH	As for high risk, but with junctions not covered in C or F on this Table [eg. box windows, pergola's, multi storey re-entrant shapes etc.]
F Deck design.	LOW	None or timber slat deck or porch at ground level
	MEDIUM	Fully covered in plan by roof, or timber slat deck attached at first or second floor level.
	HIGH	Enclosed deck exposed in plan or cantilevered at first floor level
	V.HIGH	Enclosed deck exposed in plan or cantilevered at second floor level or above.

NOTES

1. Eaves width measured from external face of the wall cladding to outer edge of overhang including gutters and fascias
2. Balustrades and parapets count as 0 mm eaves.

Risk Severity by Face

RISK FACTOR	LOW	Score	MED	Score	HIGH	Score	V.HIGH	Score	Sub totals for each risk factor.
Wind Zone as NZS 3604	0		0		1		2	✓	2
No. of storey's	0	✓	1		2		4	✓	0
Roof / Wall intersection	0		1		3	✓	5		3
Eaves width	0		1		2	✓	5		2
Envelope Complexity	0		1	✓	3		6		1
Deck design.	0	✓	2		4		6		0
Total Risk Score for this Elevation									8

RISK FACTOR	LOW	Score	MED	Score	HIGH	Score	V.HIGH	Score	Sub totals for each risk factor.
Wind Zone as NZS 3604	0		0		1		2	✓	2
No. of storey's	0	✓	1		2		4		0
Roof / Wall intersection	0		1		3	✓	5		3
Eaves width	0		1		2	✓	5		2
Envelope Complexity	0		1	✓	3		6		1
Deck design.	0	✓	2		4		6		0
Total Risk Score for this Elevation									8

RISK FACTOR	LOW	Score	MED	Score	HIGH	Score	V.HIGH	Score	Sub totals for each risk factor.
Wind Zone as NZS 3604	0		0		1		2	✓	2
No. of storey's	0	✓	1		2		4	✓	0
Roof / Wall intersection	0		1		3	✓	5		3
Eaves width	0		1		2	✓	5		2
Envelope Complexity	0		1	✓	3		6		1
Deck design.	0	✓	2		4		6		0
Total Risk Score for this Elevation									8

RISK FACTOR	LOW	Score	MED	Score	HIGH	Score	V.HIGH	Score	Sub totals for each risk factor.
Wind Zone as NZS 3604	0		0		1		2	✓	2
No. of storey's	0	✓	1		2		4		0
Roof / Wall intersection	0		1		3	✓	5		3
Eaves width	0		1		2	✓	5		2
Envelope Complexity	0		1	✓	3		6		1
Deck design.	0	✓	2		4		6		0
Total Risk Score for this Elevation									8

Selected Cladding Resulting from Risk Assessment

	Risk score from tables above.	Cladding Selected from table 3 [from tables on page 30 E2/AS1]	TICK SELECTED OPTION	
			DIRECT FIXED	DRAINED CAVITY
North Elevation	8	Corrugated Iron - horizontal Shadowclad plywood with battens	✓	✓
South Elevation	8	Corrugated Iron - horizontal Shadowclad plywood with battens	✓	✓
West Elevation	8	Corrugated Iron - horizontal Shadowclad plywood with battens	✓	✓
East Elevation	8	Corrugated Iron - horizontal Shadowclad plywood with battens	✓	✓

Date: 25/4/2013

Fabricator: Wellington Frame & Truss

Job Name: Fawcett
91 Aston Road
Waikanae Downs

Building Consent No: _____
(to be provided by the City / District Council)

Attn: City / District Council

We have been engaged to provide the trusses for the above project and have enclosed the truss layout and Producer Statement to allow completion of the consent application. On advice from the building project owner, the structure will be designed under the following parameters:

Wind Zone Very High

Snow Load N/A

Earthquake Zone 3

Roof Material Light

Treatment Definition	External walls	<u>H1.2</u>	Trusses	<u>H1.2</u>
	Internal walls	<u>H1.2</u>		

We can advise that the following will be provided, at the time of truss manufacture to both the building owner and your office:

1. A full as-built truss layout and Producer Statement
2. Specific truss / truss and truss / top plate fixing details indicated on the truss layout.
3. All lintel sizes outside NZS3604: 2011 will be indicated on the frame layout.
(all timbers to be SG8 unless otherwise stated on layouts)
4. Top plate to stud connections will be indicated on the frame layout.

Acknowledgement of this letter, along with the Building Consent number, by fax to our office, would be appreciated.



MiTek New Zealand Limited

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

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

MiTek 20/20 Engineering 4.6.6.148

www.mitek.nz.co.nz

Printed: 12:43:40 25 Apr 2013

PRODUCER STATEMENT for MiTek 20/20[®] TRUSS DESIGN - Version 4.6

ISSUED BY: **MiTek New Zealand Limited**

TO: **PLACEMAKERS - W.F.T.**

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

This producer statement covers the MiTek 20/20[®] truss design and the structural performance of the GANG-NAIL[®] connector plate for the job reference **45605** and may be used by a Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

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

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

- i) All proprietary products meeting their performance specification requirements
- ii) The provision of adequate roof bracing and overall building stability
- iii) Correct selection and placement of GANG-NAIL connector plates
- iv) Correct input of Truss Design Data as shown in the Fabricator Design Statement for this job
- v) The design being undertaken by the accredited fabricator under the terms of the software licence

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

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

On behalf of MiTek New Zealand Limited,

Date: Thursday, 25 April 2013

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

Job: 45605

Client: Placemakers Paraparaumu
Phone:

Site: FAWCETT
91 ASTON ROAD
WAIKANAE DOWNS

Description:
Building Consent No.:
MiTek 20/20 Engineering 4.6.8.148

MiTek New Zealand Limited

Phone:

Printed: 12:43:40 25 Apr 2013

MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator PLACEMAKERS - W.F.T., being licensed to use the MiTek 20/20[®] software, to the client listed above and may be used by the Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

MITEK 20/20[®] TRUSS DESIGN DATA

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

Job Details

Roof Truss

Timber Group: MSGx45 H1.2
Roof
Material: Galv Iron .5mm
Dead Load: 0.210 kPa
Restraints: 900 mm centres
Live Load: Q_r = 0.250 kPa
Q_c = 1.100 kN

Importance Level: 2

Pitch: 25.000 deg
Ceiling
Material: Standard
Dead Load: 0.200 kPa
Restraints: 400 mm centres
Live Load: Q_c = 1.400 kN

Design Working Life: 50 years

Nominal Overhang: 450 mm
Wind
Area: Very High (50.0 m/s)
Pressure Coeff: C_{pe} = varies; C_{pi} = -0.30, 0.20

The timber for these MiTek[®] trusses shall be treated to the requirements of NZS 3602:2003 and shall be graded to the requirements of NZS 3603:1993. Unless otherwise noted, this design assumes that the steel fixings and timber connectors proposed are located in a "closed environment", as defined by NZS3604:2011 Section 4.

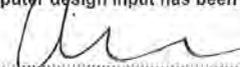
MiTek[®] Truss List

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

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
T1	4	5946	25.000	802
T2	10	4730	25.000	868
T3	11	2700	25.000	868

Total quantity: 25

The computer design input has been carried out by:

Signed: 

Name of Detailer: M. J. TAYLOR

On behalf of: PLACEMAKERS - W.F.T.

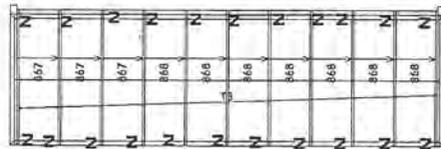
Date: Thursday, 25 April 2013

Qualifications and Title: C.O.C 1990 + 2006
DETAILING MANAGER

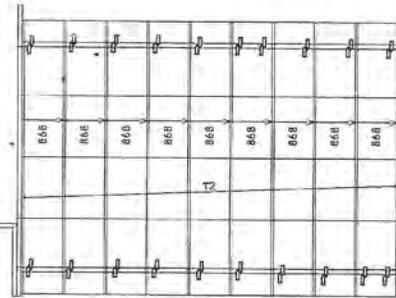




Bedroom addition



New Shed



Living addition

Design wind speed category: Very High
Pressure Coeff: C _{pe} = varies; C _{pi} = -30.0, 020
Timber size and grades: 90x35 MSGS & MSG10 (H1.2)
Roof Weight & Type: Light (Longrun Iron)
Roof Pitch: 25 Degrees
Roof Dead Load: 0.210 kPa
Roof Restraints: 900mm centres
Roof Live Load: Q _{ur} = 0.250 kPa; Q _c = 1.100 kN
Ceiling Material: 10mm Gb Board
Ceiling Dead Load: 0.210 kPa
Ceiling Restraints: 400mm centres
Ceiling Live Load: Q _c = 1.400kN
Earthquake Zone: A / Snow Zone: 1

If Rumble battens on clips are used then the bottom chords of the trusses must be restrained @ 1800 c/s max.

No. off	Fixing description
1 pairs	⌋ "Z" nails (1 pair)
1	⊠ JH37 x 96
1	⊗ JH37 x 120
1	○ JH47 x 96
1	● JH47 x 120
1	▲ JH47 x 190
1	⊠ JH70 x 120
1	⊠ JH95 x 165
1 pairs	⌋ CPC 88 (75mm Hex screws)
1	⌋ 290x100x10mm Nail on plate.
1	⌋ 320x100x10mm Nail on plate.
1 pairs	⌋ Multi-Grips (pair)
1 pairs	⌋ CT200 (pair)
1	⌋ CT400 (cyclone ties)

NOTE : Where no fixings have been indicated use 2 / 90 x 3.33mm (driven) skew nails.

Truss to Truss Fixings.

(In all other situations use 2 / 100mm skew nails)

⊠	JH70 x 180	Fill all holes with Product nails 30x3.15mm
⊗	JH95 x 165	Fill all holes with Product nails 30x3.15mm
○	CPC 80	8 x Product nails 30x3.15mm / 4 x Type 17, 35mm screws
●	200x100x10mm Nail on plate.	(Fill all holes to within 10mm of the timber edge)
▲	320x100x10mm Nail on plate.	(Fill all holes to within 10mm of the timber edge)

Truss to Top Plate Fixings.

⌋	CPC 80	Fill all holes with Product nails 30x3.15mm
⊠	CT200 (pair)	Fill all holes with Product nails 30x3.15mm
⊗	CT400 (cyclone ties)	8 x Product nails 30x3.15mm / 4 x Type 17, 35mm screws
⌋	"Z" nails (pair)	
⌋	Multi-Grip (pair)	Fill all holes with Product nails 30x3.15mm

TRUSS LAYOUT FOR : FAWCETT
91 ASTON ROAD, WAIKANAE DOWNS

JOB # 45605

WELLINGTON FRAME & TRUSS

Drawn by: Matt Taylor
PHONE (04) 298 5567 - FAX (04) 298 5488
E-MAIL: mtaylor@placemakers.co.nz

Version	Issue Date

RBW



00121

SPECIFICATION

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

Proposed Additions & Garage

For

Mr & Mrs Fawcett

At

91 Aston Road

Waikanae Downs

Job Number: 294

Date: April 2013

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1212 COMPLIANCE

1. GENERAL

1.1 SITE DATA

Soil type:	~ (to NZS 3604, 3.2 Soil types)
Exposure zone:	Zone ~ (to NZS 3604, 4.2 Exposure zones or E2/AS1 Zone E severe marine)
Wind zone:	~ (to NZS 3604, table 5.4 Determination of Wind Zone)
Earthquake zone:	Zone ~ (to NZS 3604, figure 5.4 Earthquake zones)

1.2 BUILDING DATA

Building classification:	~ Importance Level (to NZS 3604, table 1.1 Classification of buildings)
Floor live load:	~ KPa (to NZS 3604, table 1.2 Imposed floor live load reference values)
Overall height:	~ metres (in accordance with NZS 3604, Fig 1.2 Buildings covered by this Standard)
Risk assessment:	~ Total Risk Score (to NZBC E2/AS1, 3.1 Establishing the risk)

1.3 PRODUCER STATEMENTS

Provide Producer Statements for the following

- Truss design
- Wet area interior waterproofing
- Aluminium joinery
- Glazing
- Fireplace

Provide Producer Statements in the required form. Where no form is specified provide in the industry/trade standard form. Provide all Producer Statements before the Building Consent Authority carries out the final inspection.

1.4 RECORDS OF WORK

Provide Records of Work for Restricted Building Work:

- Structural masonry
- Carpentry
- Roofing
- Foundations

Refer to the Building Consent for specific requirements. Provide Records of Work in the required form. Provide all Records of Work before the Building Consent Authority carries out the final inspection.

1220 GENERAL REQUIREMENTS

1. GENERAL

1.1 THE WORKS

The works are as described in this specification and shown on the drawings.

1.2 PERSONNEL

Owner: The person defined as "owner" in the New Zealand Building Code.

Contractor: The person contracted by the owner to carry out the contract.

1.3 THE SITE

The site of the works, the site address and the legal description are listed under the sections 1210 PROJECT. Confine access and work to the area of site indicated on the drawings.

1.4 SPECIFICATION SECTIONS

Sections are for reference and convenience only and do not constitute individual trade sections or work elements. Read all sections together and read this section with all other sections.

1.5 INTERPRETATIONS

Required: Required by the documents, or by a statutory authority.

Proprietary: Identifiable by naming the manufacturer, supplier, installer, trade name, brand name, catalogue or reference number.

Approval: Approval in writing.

Direction: Direction in writing.

Notified: Notified in writing.

1.6 ABBREVIATIONS

The following abbreviations are commonly used throughout the specification:

AS	Australian Standard
AS/NZS	Joint Australian/New Zealand Standard
BCA	Building Consent Authority
BRANZ	Building Research Association of New Zealand
LBP	Licensed Building Practitioner
NZBC	New Zealand Building Code
NZS	New Zealand Standard
NZS/AS	Joint New Zealand/Australian Standard
NUO	Network Utility Operator
OSH	Occupational Safety and Health
RBW	Restricted Building Work
TA	Territorial Authority

1.7 INCONSISTENCIES

If there are any inconsistencies, errors or omissions in or between documents, the contractor must seek direction in resolving it. Figured dimensions take precedence over scaled dimensions; drawings to a larger scale take precedence over drawings to a smaller scale and drawings take precedence over specification.

1.8 SUBSTITUTIONS

A substitution may be proposed where specified products are not available, or if substitute products are brought to the attention of and are considered by the owner as equivalent or superior to those specified. Except where a specified product is not available, the owner is not bound to accept any substitutions.

Notify proposed substitution of specified products. Include sufficient information to allow the owner to confirm that the substitution is equivalent or superior to that specified. Advise the owner whether an amendment will or may be required to the Building Consent and the expected costs of such amendment.

1.9 THE WORDS "PROVIDE" OR "FIX"

The words "provide" (or "supply") or "fix" if used separately mean "provide and fix" unless explicitly stated otherwise.

1.10 MANUFACTURERS AND SUPPLIERS

Manufacturers and suppliers requirements, instructions, specifications or details are those issued by them for their particular material, product or component and are the latest edition.

1.11 REFERENCED DOCUMENTS

Reference is made to various New Zealand Building Code (NZBC) acceptable solutions (AS) and verification methods (VM) for criteria and/or methods used to establish compliance with the Building Act 2004. Reference is also made to various Standards produced by Standards New Zealand

(NZS, AS/NZS) and to listed Acts, Regulations and various industry codes of practice and practice guides. The latest edition (including amendments and provisional editions) at the date of this specification applies unless stated otherwise. Documents cited both directly and within other cited publications are part of this specification.

- 1.12 **PRECEDENCE OF REFERENCED DOCUMENTS**
This specification takes precedence in the event of it being at variance with and requiring a higher standard than, the cited documents. Resolution of any variance must be confirmed in writing and where Building Consent is affected, the change notified to the BCA for advice as to whether an amendment is required to the Building Consent Authority.
- 1.13 **BUILDING CONSENT COMPLIANCE**
It is an offence under the Building Act 2004 to carry out any work not in accordance with the Building Consent. Refer the resolution of matters concerning compliance to the owner for a direction. Where Building Consent is affected refer any change to the BCA for advice as to whether an amendment is required to the Building Consent.
- 1.14 **STATUTORY OBLIGATIONS**
Comply with all statutory obligations and regulations of regulatory bodies controlling execution of the works.
- 1.15 **BUILDING CONSENT**
Obtain the original or copies of the Building Consent form and documents from the owner and keep on site. Liaise with the BCA and/or the building certifier for all required notices and all inspections required during construction to ensure compliance. Return the consent form and documents to the owner on completion.
- 1.16 **INSPECTIONS**
Do not proceed with work noted on the Building Consent for inspection until it has been inspected and passed by the BCA inspector.
- 1.17 **KEY PERSONNEL**
Provide names and contact detail of LBP's/ key personnel. Prior to Restricted Building Work being carried out, provide names, registrations numbers (where appropriate) and contact detail of LBP's that are required for RBW by the Building Consent Authority as part of the Building Consent.
- Include the following as applicable:
- Person with the appropriate site license
 - Carpenter
 - Registered drainlayer
 - Registered plumber
 - Registered electrician
 - Roofer
 - Block layer
 - External window manufacturer
 - Waterproof membrane applicator
- 1.18 **PRODUCER STATEMENTS AND LBP DOCUMENTATION**
When Records of Work or producer statements verifying construction are required, for the application for the Code Compliance Certificate, provide copies to both the BCA and the owner. Provide LBP documents and producer statements in the form required by the BCA.
- 1.19 **CERTIFICATE OF COMPLIANCE**
Provide Certificates of Compliance for electrical and gas work carried out.
- 1.20 **CODE COMPLIANCE CERTIFICATE**
Provide documentation that the Owner requires in order to obtain a Code Compliance Certificate for the consented work.
- 1.21 **TRADE GUARANTEES AND WARRANTIES**
Where specific trade guarantees/warranties are offered covering materials and/or execution of proprietary products or complete installations, or are required as a condition of Building Consent, provide guarantees/warranties to the owner.
- 1.22 **SITE ACCOMMODATION**
Provide, erect and maintain scaffolding, sheds, toilets, water, power and hoardings. Allow for cartage, craneage, plant hire and storage. Arrange for temporary works and services necessary for the completion of the works.

- 1.23 HEALTH AND SAFETY
Make the works safe and provide and maintain a safe working environment. Ensure that all those working on or visiting the site are aware of the rules governing site safety, are properly supervised and are not unnecessarily exposed to hazards.
- 1.24 PROTECT THE WORKS
Protect parts of the work liable to damage until completion of the works. Take all precautions necessary to protect the works from damage by unauthorised entry or inclement weather. Brace and support all parts of the works against damage during construction.
- 1.25 STORAGE AND PROTECTION
Provide temporary storage areas and protective covers and screens. Fillet stack and protect all framing and structural members from moisture and contamination. Completely protect finishing materials from the weather and damage and store in accordance with the manufacturer's requirements. Protect fabricated elements from the weather and damage, and store in accordance with suppliers requirements.
- 1.26 ANTIQUITIES AND ITEMS OF VALUE AND INTEREST
Report immediately the finding of any fossils, antiquities, pre-1900 items, or objects of value. Ensure they remain undisturbed until approval is given for their removal.
- 1.27 MEANS OF COMMUNICATION
All directions and approvals in writing.
- 1.28 PROGRAMME
Provide a programme for the contract works, including the work of separate contractors being carried out concurrently with this contract. Form of programme: A dated bar chart, identifying the contract work's critical path and all key dates for the provision of labour, materials and elements. Supply a copy of the programme, and any updates to the owner.
- 1.29 WORKING HOURS
Work on site is restricted to between 0800 to 1800, Monday to Friday, excluding statutory holidays. Work outside these hours may be permitted, with prior approval in writing by the owner.
- 1.30 RESTRICTIONS
Do not:
- smoke on site
- light rubbish fires on the site
- bring dogs on to or near the site
- bring radios/audio players on to the site.
- 1.31 QUALITY ASSURANCE
Carry out and record regular checks of material quality and accuracy. Provide all necessary materials, equipment, plant, attendances, supervision, inspections and programming to ensure required standards are met.
- 1.32 DAMAGE AND NUISANCE
Prevent damage and nuisance from water, fire, smoke, vehicles, dust, rubbish, noise and other causes resulting from the contract works. Comply with the requirements of the TA and relevant Acts and Standards.
- 1.33 SET-OUT AND DATUM
Set out the works to conform with the drawings. Establish a permanent site datum to confirm the existing ground floor level and its relationship to other existing and new building levels.
- 1.34 EXECUTION OF THE WORK
Conform to the requirements of this specification. Ensure work is level, plumb, and true to line and face. Employ only experienced workers familiar with the materials and techniques specified.
- 1.35 MATERIALS AND PRODUCTS
Use only new materials and products, unless stated otherwise, of the specified quality and complying with cited documents.
- 1.36 COMPATIBILITY
Ensure all parts of a construction or finish are compatible and their individual use approved by the manufacturers and suppliers of other parts of the system. Source all parts of a system from a single manufacturer or supplier.

- 1.37 COMPLETE ALL SERVICES
Ensure completed building services are operational, with temporary labelling removed, required labelling fixed and service instructions provided.
- 1.38 CLEAR AWAY
Regularly clear away trade debris, unused materials and elements from the site. On completion of the work leave the building clean and ready for occupancy, with all services operating and mechanical parts in good working order. Remove temporary markings, coverings and protective wrappings.
- 1.39 CLEAN
Clean and wash down external surfaces to remove dirt, debris and marking. Clean interior surfaces including floors, glass, cabinetwork, joinery, sanitary and hardware items.

- 2100 DEMOLITION WORK.**
- 1. GENERAL**
Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.
- 1.1 QUALIFICATIONS**
Carry out work using persons competent and experienced in the trade.
- 1.2 SURVEY EXISTING BUILDING**
Carry out a thorough survey and examination of the building to ensure the extent, sequence, technique and method of demolition proposed can be safely and efficiently carried out.
- 1.3 HEALTH AND SAFETY**
Conform with the Health and Safety in Employment Act 1992 and the NZDAA **Best Practice Guideline for Demolition in New Zealand.**
- 1.4 NUISANCE**
Take all precautions necessary to minimise nuisance caused by dust, dirt, rubbish and water.
- 1.5 NOISE**
Refer to NZS 6803, table 2, **Recommended upper limits for construction noise...** for the allowable upper limits of construction work noise in residential areas over the various time periods. Use silenced and noise insulated plant to ensure compliance.
- 2. PRODUCTS**
- 2.1 MATERIAL FROM DEMOLITION**
Material from the demolition becomes the property of the contractor except for items designated for reuse or removal by others. Remove redundant materials from the site as work proceeds.
- 3. EXECUTION**
- 3.1 DISCONNECT SERVICES**
Before commencing demolition, disconnect services and remove associated fittings and equipment.
- 3.2 PROTECTION**
Protect retained parts of existing buildings, site and site structures, trees and shrubs.
- 3.3 SUPPORT**
Support and brace the existing structure during the cutting of new openings or the replacement of structural parts. Prevent debris from overloading any part of the structure. Do not remove supports until the new work is strong enough to support the existing structure. Ensure all work remains structurally stable and sound.
- 3.4 TEMPORARY SCREENS**
Erect screens to maintain security and to prevent penetration of weather, dust and dirt.
- 3.5 SITE SAFETY**
Prevent access by unauthorised persons. Illuminate and protect all holes, unsafe buildings and other hazards. Leave site and buildings safe at the close of each day's work.
- 3.6 ASBESTOS**
Where demolition work includes contact with or removal of material containing asbestos, conform with the NZDAA New Zealand Guidelines for the Management and Removal of Asbestos.
- 3.7 SALVAGE ITEMS**
Carefully dismantle and safely store salvage items where directed; for removal, use on the site, or until completion of the works.

2200 GROUNDWORKS AND PREPARATION

1. GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 QUALIFICATIONS

Carry out work using persons competent and experienced in the trade.

1.2 SITE SAFETY

Provide proper support for excavations. Cover holes and fence off open trenches and banks.

2. PRODUCTS

2.1 FILLING MATERIALS

Volcanic tuff:	Scoriaceous tuff of variable grading excluding silt or clay material, capable of being placed and compacted as specified.
Rock fill:	Hard material comprising rock, broken stone, hard brick, concrete, run of pit scoria, or other comparable inert material capable of being placed and compacted as specified.
Sand fill:	Clean sand of such grading in particle size as to allow for mechanical compaction to 90% maximum density.
Hardcore:	Scoria or crushed rock to GAP (General All Passing) 40 grading.
Granular base:	Screened crushed gravel or scoria graded in size from 20mm to 7mm, clean. When tested with a standard sieve of 4.75 opening no material is to pass.
Dressing course:	Scoria to GAP 20 grading, or "dirty footpath scoria", or equivalent "all in" graded crushed metal aggregate.
Free-draining aggregate:	Scoria or crushed gravel graded 50 to 14 clean.

3. EXECUTION

3.1 EXCAVATION GUIDELINES

Carry out excavation to the guidelines set in OSH Approved Code of Practice for Safety in Excavation and Shafts for Foundations.

3.2 PROTECT EXISTING

Protect from damage existing buildings, structures, roads, paving and services nominated on the drawings as being retained, throughout the course of the work.

3.3 PROTECT TREES

Protect from damage all trees, shrubs, natural site features and existing landscaped areas nominated on the drawings as being retained, throughout the course of the work.

3.4 SURFACE PREPARATION

To NZS 3604, 3.5 **Site preparation**, remove all turf, vegetation, trees, topsoil, stumps and rubbish from the area being built on.

3.5 UNDERGROUND ELEMENTS AND SERVICES

Break out and remove underground elements and redundant services. Report for instructions when unexpected voids, made-up ground or services are encountered. Seal off the ends of drains or remove to NUO approval.

3.6 STOCKPILE TOPSOIL

Stockpile excavated topsoil on site where directed. Keep separate from other excavated materials. Spread and level where directed before completion of the works.

3.7 GENERAL EXCAVATION

Trim ground to required profiles, batters, falls and levels. Remove loose material. Protect cut faces from collapse. Keep excavations free from water.

3.8 EXCAVATION FOR FOUNDATIONS

Take foundation excavations to depths shown. Keep trenches plumb and straight, bottoms level and solid, stepped as detailed and clean and free of water.

3.9 INADEQUATE BEARING

If bearing is inadequate then excavate further and backfill with material as follows:

Slabs on grade:	Hardfill
Footings:	10 MPa concrete
Service trenches:	Hardfill

If excavation exceeds the required depths, backfill and compact to the correct level with listed material.

3.10

GRANULAR BASE FOR SLABS

To NZS 3604, 7.5.3 **Granular base**. Consolidate with a vibrating roller. Blind the surface with coarse sand or sand/cement and roll ready to receive a damp-proof membrane.

3.11

GENERAL BACKFILLING

Compact backfilling in 150mm layers, with the last 200mm in clean topsoil, lightly compacted and neatly finished off.

3110 CONCRETE WORK

1. GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 QUALIFICATIONS

Carry out work using persons competent and experienced in the trade. Structural and foundation work to be carried out by or supervised by the appropriate LBP.

2. PRODUCTS

2.1 REINFORCEMENT

Bars to AS/NZS 4671, grade 300E deformed, other than for ties, stirrups and spirals, unless shown otherwise on the drawings. Welded reinforcing mesh to AS/NZS 4671 Class E. Mild drawn steel tying wire not less than 1.2mm diameter.

2.2 SPACERS AND CHAIRS

Precast concrete or purpose made moulded PVC. Use concrete spacer blocks only where the concrete surface is not exposed in the finished work.

2.3 CONCRETE

Strength as selected. Ready-mix normal grade, maximum aggregate size 19mm to NZS 3104. Site mixed prescribed grade, using either separate batching of sand and coarse aggregate, or builder's mix, to NZS 3104.

3. EXECUTION

3.1 HANDLE AND STORE REINFORCING

Handle and store reinforcing steel and accessories without damage or contamination. Ensure reinforcement is clean and remains clean and free of contamination that may reduce bonding capacity.

3.2 FALSEWORK AND FORMWORK

Use falsework and formwork of sufficient strength to retain and support the wet concrete to the required profiles and tolerances. Select formwork finish to produce the specified finished quality.

3.3 CUT AND BEND

Cut and bend bars using proper bending tools to avoid notching and to the requirements of NZS 3109. Do not rebend bars without written approval. Bend main reinforcing bars, stirrups and ties to the former pin diameters as given in NZS 3109, figure 3.1, **Standard bend, hook and stirrup**.

3.4 SECURE REINFORCEMENT

Secure reinforcement adequately with tying wire and place, support and secure against displacement when concreting. Bend tying wire back well clear of the formwork. Spacing as dimensioned, or if not shown, to the clear distance minimums laid down in NZS 3109, 3.3. **Hooks and bends**.

3.5 LAPPED SPLICES

Set length of laps, where not dimensioned on the drawings, in accordance with NZS 3109: 3.7, **Splices in reinforcement**. Increase laps of plain round steel by 100%.

3.6 COVER

Minimum cover to reinforcing as shown on the drawings and to NZS 3109, 3.8 **Cover**. Fix chairs for top reinforcement in slabs at 1.0 metre centres. Cover tolerances to NZS 3109, 3.8. **Cover**.

3.7 SURFACE FINISHES

To comply with NZS 3114, section 105 **Specification of finishes**, or as denoted on the drawings. Formwork linings and surface finishes as nominated for both fair face and concealed or exposed surfaces. Surface tolerances to comply with NZS 3114, section 104 **Surface tolerances** and 105.3.2.

3.8 DAMP-PROOF MEMBRANE

Apply membrane to prepared basecourse with 150mm laps between sheets. Tape seal laps and penetrations with 50mm wide pressure sensitive plastic tape. Refer to drawings for perimeter details.

3.9 CASTING IN

Build in grounds, bolts and fixings for wall plates and bracing elements, holding down bolts, pipes, sleeves and fixings as required. Form pockets, chases and flashing grooves as required. No

grounds exceeding 100mm in length. Minimum cover on conduits 40mm. Do not encase aluminium items in concrete. Do not paint steel embedded items more than 25mm into the concrete encasement. Cut back form ties to specified cover and fill the cavities with mortar. Wrap all pipes embedded in concrete with tape to break the bond and to allow for expansion.

3.10 CONSTRUCT FLOOR SLABS

Construct in accordance with NZS 3604, 7.5 **Concrete slab-on-ground floors for timber buildings** as modified by NZBC B1/AS1, 3.0 **Timber**. Lay to true and straight surfaces, screeded, floated and steel (manual or power) trowelled finish. Tolerance on flatness: maximum 3mm gradual deviation over a 3 metre straight-edge, to the requirements of NZS 3114, section 104 **Surface tolerances**.

In the Canterbury Earthquake Region comply with the changes to NZS 3604 in NZBC B1/AS1.

3.11 SAW CUTS

Pour floor slabs cast on the ground in areas no greater than 25 square metres, with a maximum ratio of length to breadth of 1:1.5. Cut slabs where indicated on the drawings and as required to control shrinkage cracking. 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: 1/3rd slab depth, or 30mm minimum.

3.12 SURFACE REPAIRS

Make good surface defects as soon as forms are stripped. Make good hollows or bony areas with 1:2 mortar, finished to the same tolerances as the parent concrete. Fill tie rod holes with 1:2 mortar.

3.13 CURING OF CONCRETE

Keep damp for not less than seven days. Ensure curing of slabs commences as soon as possible after final finishing, by the use of continuous water sprays, or ponding. Alternately, apply a curing membrane. Ensure any membrane used will not affect subsequent applied finishes.

3.14 STRIKE FORMWORK

Strike formwork without damaging or overloading structure.

3.15 CLEAN OUT

Clean out saw cuts. Fill with cement grout where the floor will be covered with carpet or vinyl.

3.16 WATERPROOFING EXTERIOR OPENINGS

Apply a waterproofing of unreinforced wet area membrane to AS/NZS 4858 for waterproofing around openings for windows, doors, meters and other services openings, at or above floor level, also parapets and ends of masonry walls abutting other claddings, to CCANZ CP 01. Do not use bituminous coatings.

3320 CONCRETE MASONRY

1. GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 QUALIFICATIONS

Use experienced competent registered masons familiar with the materials and techniques specified. Work to be carried out by or supervised by the appropriate LBP.

1.2 INSPECTION

Call for inspection of the work at critical stages including set out, reinforcing, and the time prior to and during grouting. All as set out in NZS 4210, section 1.4 **Inspection**.

1.3 TESTS AND RECORDS

Carry out required tests in accordance with NZS 4210, appendix 2A, **Compressive strength tests for mortar and grout**. Keep accurate records relating to strength and quality of materials used in the construction, and make the information available to the BCA inspector on request.

1.4 DURABILITY

Ensure that, mortar, built in components and reinforcement cover are to NZS 4210, table 2.E1 **Masonry durability requirements**, for the location and the Exposure Zone (refer 1212 COMPLIANCE).

2. PRODUCTS

2.1 ACCESSORIES

Reinforcement:	To AS/NZS 4671 and Class E reinforcing and mesh for slabs on ground.
Mortar:	Sand to NZS 3103. Chloride levels not exceeding 0.04% by dry weight of sand. Mortar to NZS 4210, section 2.2 Mortar . Compressive strength of not less than 12.5 MPa.
Grout:	To NZS 4210, section 2.3 Grout . Spread value 450 - 530mm.
Water:	From local authority supply.

3. EXECUTION

3.1 STORAGE

Store masonry clear of the ground, under cover and well ventilated until placed in the work. Ensure masonry units are air dry prior to laying.

3.2 CHECK BASE CONCRETE

Ensure the base concrete is true to line and level, requiring a base mortar bed of 10mm (minimum) to 20mm (maximum).

3.3 STARTER POSITIONS

Before commencing masonry laying check the location of starter reinforcement by measure or by a dry trial lay up of the first course. Do not correct misplacement by cranking bars; obtain direction.

3.4 INSTALL REINFORCEMENT

Detailed, bent and placed in accordance with NZS 4210. Refer to drawings for details of reinforcement and extent of grout filling. Minimum cover as required for reinforced concrete, with grout and masonry work treated as a homogeneous material. Maintain reinforcing bars for retaining walls a minimum of 15mm and for other concrete masonry, a minimum of 6mm, from the masonry face, with the space filled with grout.

3.5 TOLERANCES

Construct within the tolerances set out in NZS 4210, clauses 2.6.5 **Tolerances** and 2.7.1 **General**. Lay masonry units with bedding of consistent thickness throughout.

3.6 LAY MASONRY UNITS

Execution generally to NZS 4210, NZS 4229 as modified by NZBC B1/AS1, 2.0 **Masonry** and NZBC E2/AS3 (CCANZ CP 01). Ensure consistent, fully filled and tooled joints. Where walls are reinforced, prevent mortar droppings from entering the cells being grouted. Provide clean out holes at base of wall, unless "low lift" (NZS 4210) grouting is used. Ensure reinforcement is accurately placed and tied. Lay in regular stretcher bond with all necessary special units and sill units. Cut masonry, if necessary, true and square without chipping.

3.7 PROTECTION

Protect fair-faced masonry walls, keeping them clear of mortar droppings, grout splashes, or stains.

- 3.8 MASONRY JOINTS
Not exceeding 10mm thick, or less than 8mm when the masonry units are bedded in. Joints tooled concave.
- 3.9 CONTROL JOINTS
Locate at major changes of wall height or thickness, at openings, and at not more than 6 metre centres, or, as shown on the drawings.
- 3.10 BRACING
Provide sufficient temporary lateral bracing to ensure stability until the final construction is in place.
- 3.11 GROUTING OF CELLS
Inspect walls prior to grouting. Ensure cells are clean and reinforcement is correctly placed. Grout all masonry cells below finished grades, all cells in retaining walls and all cells containing reinforcing. Use procedures set out in NZS 4210.
- 3.12 CONSTRUCTION JOINTS
Form and treat construction joints between grout pours and between masonry walls and hardened concrete work to ensure bonding occurs. Comply with NZS 4210, section 2.16 **Horizontal construction joints**.
- 3.13 BUILD IN
Mortar in components such as sills, copings, lintels, and steps, as work proceeds. Build in plugs, bolts, ties, metal flashings, dowels, fastenings, and fixings as required and as shown on the drawings.
- 3.14 CLEANING
Clean off mortar splashes and grout spills as they occur, making good any damage at the same time. Clean down masonry and remove waste material from adjoining surfaces and floors.
- 3.15 WATERPROOFING EXTERIOR OPENINGS
Apply a waterproofing of unreinforced wet area membrane to AS/NZS 4858 for waterproofing around openings for windows, doors, meters and other services openings, at or above floor level, also parapets and ends of masonry walls abutting other claddings, to CCANZ CP 01.
Do not use bituminous coatings.

3800 TIMBER FRAMING

1. GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

Use experienced competent carpenter familiar with the materials and techniques specified. Work to be carried out by or supervised by the appropriate LBP.

2. PRODUCTS

2.1 TIMBER FRAMING GENERALLY

Species, grade and level of treatment to NZBC B2/AS1, NZS 3602, tables 1 to 3 **Requirements for wood-based building components**..., and moisture content to NZS 3602, table 4 **Allowable moisture content**..... Structural Grade (SG) to NZS 3604, NZS 3622 with properties to NZS 3603.

2.2 TIMBER TRUSSES

To FTMA Code of Practice. Moisture content 16% at supply.

2.2 ACCESSORIES

Damp-proof course:	High impact embossed polyethylene
Stud straps	Polypropylene tape run horizontal at 300mm centres over flexible wall underlay, for drained cavities with stud spacings greater than 450mm.
Nails, bolts and screws:	Steel, stainless steel, galvanized steel of pattern to suit the location and to BRANZ Bulletin 519: Fasteners selection. To NZS 3604, 4 Durability and NZBC E2/AS1.
Nail plates connectors:	Stainless steel and/or galvanized steel toothed or nailed plates to the plate manufacturer's design for the particular locations as shown on the drawings and to NZS 3604, 4 Durability . Galvanized steel and stainless steel connectors and brackets to the connector manufacturer's design for locations shown on drawings and to NZS 3604, 4 Durability and NZBC E2/AS1

3. EXECUTION

3.1 ATTENDANCE

Provide and fix blocks, nogs, openings and other items as required by others.

3.2 MOISTURE CONTENT

Maximum allowable moisture content to NZS 3602, table 4 **Allowable moisture content**..., for framing supporting interior linings:

Framing at erection	24%
Framing at enclosure	20%
Framing at lining	16%

3.3 EXECUTION GENERALLY

To NZS 3604 except as varied in this specification. To include those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs). Set out framing in accordance with the requirements of NZS 3604 and as required to support sheet linings and claddings.

3.4 INSTALL FLOOR, WALL AND ROOF FRAMING

Floors and bottom plates framed and fastened to NZS 3604, 7 **Floors**. Frame walls to required loading and bracing complete with lintels, sills and nogs, all fabricated and fastened to NZS 3604, 8 **Walls**. Frame roof to required loading and bracing complete with valley boards, ridge boards and purlins to NZS 3604, 10 **Roof framing**. Design and fit roof trusses complete with anchorage. All fabricated and fastened to NZS 3604, 9 **Posts**, and NZS 3604, 10 **Roof framing**.

3.6 BATTENS

For drained cavity construction nominal 20mm H3.1 cavity battens to NZBC E2/AS1, 9.1.8.4 **Cavity battens**. For direct fix cladding window and door openings nominal 20mm H3.1 jamb battens to NZBC E2/AS1, Fig. 72A.

4171E ECOPLY® BARRIER RIGID AIR BARRIER SYSTEM

1. GENERAL

This section relates to the use of **Ecoply® Barrier** as a rigid air barrier system in both residential and commercial buildings.

Documents

1.2 DOCUMENTS

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

NZBC B1/AS1	Structure
NZBC B2/AS1	Durability
NZBC E2/AS1	External moisture
AS/NZS 1170.2	Structural design actions - Wind actions
NZS 1170.5	Structural design actions - Earthquake actions - New Zealand
AS/NZS 1604.3	Specification for preservative treatment - Plywood
AS/NZS 2269.0	Plywood - structural - specifications
NZS 3602	Timber and wood-based products for use in building
NZS 3603	Timber Structures Standard
NZS 3604	Timber-framed buildings
IBC AC148	Acceptance Criteria for Flexible Flashing Materials.

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

CHH Woodproducts documents relating to work in this section are:

Ecoply® Barrier Specifications and Installation Guide
Ecoply® Barrier Technical Notes
Ecoply® Barrier CAD Details.

Copies of the current product literature are available from Carter Holt Harvey Woodproducts Ltd
Web: www.chhwoodproducts.co.nz
Telephone: 0800 326 759

1.4 NO SUBSTITUTIONS

Substitutions are not permitted to any specified system, or associated components and products.

Performance

1.5 STRUCTURAL FIXINGS, WIND

Design and use the fixings appropriate for the wind zone (R) and topographical classification (T) of this site and building height; as required by NZS 3604 and the wind loads on various wall areas as given by AS/NZS 1170.2.

1.6 STRUCTURAL FIXINGS, EARTHQUAKE

Use fixings and methods capable of sustaining the loads appropriate to the area as set out in NZS 3604 and as required by NZS 1170.5.

1.7 BRACING SYSTEM

The **Ecoply®** bracing system provides bracing resistance for walls and subfloor foundations for light timber framed buildings under wind and earthquake loading to NZBC B1 Structure, and to NZS 3603 Timber Structures Standard. Refer to table for summary of P21 Ratings for 2.4m high **Ecoply®** Barrier wall element:

Brace No.	Minimum wall length	Lining Requirements	Bus/m Wind	Bus/m Earthquake
EP1	0.6m	7mm Ecoply® Barrier one side	125	130
EP2	0.6m	7mm Ecoply® Barrier each side	140	150
EPG	0.4m	7mm Ecoply® Barrier one side and 10mm Gib® Standard plasterboard other side	100	115
EPG	1.2m	7mm Ecoply® Barrier one side and 10mm Gib® Standard plasterboard other side	150	150
EPGs*	0.4m	7mm Ecoply® Barrier one side* and 10mm Gib® Standard plasterboard other side	100	115

EPGs*	1.2m	7mm Ecoply [®] Barrier one side* and 10mm Gib [®] Standard plasterboard other side	150	120
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*Plywood side of element must be a maximum of 300mm below top plate.

2. PRODUCTS

Materials

2.1 ECOPLY[®] BARRIER PLYWOOD

Radiata pine veneer ply to AS/NZS 2269.0, face sanded, DD A Bond structural grade, 7mm thick, H3.2 CCA treated to AS/NZS 1604.3, and sealed on the face and edges using a powder coating process.

Components

2.2 NAILS

Application	Minimum nail length
Ecoply [®] Barrier (not used as bracing)	40 x 2.5mm flat head hot dipped galvanized
Ecoply [®] Barrier (bracing)	50 x 2.8mm hot dipped galvanized

2.3 CAVITY BATTENS FOR CAVITY WALL CLADDINGS

47 x 21mm Merchant Grade Pinus Radiata cavity battens.

2.4 PVC FLASHINGS

PVC horizontal and PVC cavity closure flashings or acceptable flashings to NZBC E2/AS1 table 20 and 21.

2.5 FLEXIBLE FLASHING TAPE

Ecoply Barrier Sealing Tape to vertical sheet joints and internal/external corners. Rolls are 60mm wide x 30m long.

2.6 BRACING HOLD-DOWN CONNECTORS

Gib HandiBrac[®] hold-down brackets manufactured by Mitek[™] NZ complete with mechanical fastener with a minimum 15kN uplift capacity for concrete floors and 150 x 12mm dia galvanized coach screw for timber floors.

3. EXECUTION

Conditions

3.1 HANDLE

Handle sheets carefully and reject those with damaged faces or edges.

3.2 STORE

Store sheets flat in stacks clear of the ground, supported without sagging on evenly spaced horizontal bearers. Protect from damage and weather.

3.3 WALL FRAMING

Kiln dried timber framing sizes and set outs to NZS 3604 with stud and nog centres and timber widths to Ecoply[®] Barrier Specification and Installation Guide. Treatment to NZBC B2/AS1 and NZS 3602.

Application

3.4 SUPPORT EDGES AND JOINTS

Fully support edges and joints. Studs maximum 600mm centres and nogs maximum 1200mm centres with the framing width of 45mm at each Ecoply[®] Barrier sheet joint.

3.5 FASTENERS

Minimum 7mm from edge of the sheet, 150mm centres around perimeter and 300mm centres on intermediate supports of each sheet.

3.6 FIXING ECOPLY[®] BARRIER SHEETS

Fix sheets vertically. Sheets to overhang bottom plate by 50mm over timber and or concrete foundations. Allow 2-3mm expansion gap between sheets. Cut edges of sheet to be placed to the top. All other cuts and penetrations to be covered by a flexible flashing tape. Maintain ground clearance of 100mm minimum to decks and permanently paved ground and 175mm minimum to unprotected ground.

- 3.7 VERTICAL ECOPLY® BARRIER SHEET JOINTS
Seal vertical joints, internal and external corners, with 60mm wide EcoPLY Barrier Sealing tape. Dust out joints before applying the tape. Where temperature is below 10° C warm up tape to ensure adhesion with the sheets.
- 3.8 HORIZONTAL ECOPLY® BARRIER SHEET JOINTS
Flash horizontal joints with EcoPLY Barrier PVC Horizontal Z Flashing (RDZF7).
- 3.9 BRACING SYSTEM
Use Gib HandiBrac® hold-down connections at each end of bracing element. Refer to the installation instructions supplied with connectors for correct bolt types to be used for either concrete or timber floors. Within the length the bracing element, bottom plates are fixed to the requirements of NZS 3604.
- Completion**
- 3.10 PROTECTION
Protect work from the weather until it is covered, coated or sealed.
- 3.11 REPLACE
Replace damaged or marked elements.
- 3.12 LEAVE
Leave work to the standard required by following procedures.
- 3.13 REMOVE
Remove all debris, unused materials and elements from the site.

4223S SHADOWCLAD® PLYWOOD CLADDING

1. GENERAL

This section relates to the use of the CHH Woodproducts' Shadowclad® range of shiplap plywood exterior claddings.

Documents

1.2 DOCUMENTS

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

AS/NZS 1604.3	Specification for preservative treatment - Plywood
AS/NZS 1170.2	Structural design actions - Wind actions
AS/NZS 2269.0	Plywood - structural - Specifications
NZS 3602	Timber and wood-based products for use in building
NZS 3604	Timber-framed buildings

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

CHH Woodproducts documents relating to work in this section are:

Shadowclad® specification and installation manual

Ecoply® specification and installation guide

Copies of the above literature are available at

Web: www.chhwoodproducts.co.nz/
www.ecoply.co.nz

Telephone: 0800 326 759

1.4 NO SUBSTITUTIONS

Substitutions are not permitted to any specified system, or associated components and products.

Performance

1.5 FIXINGS, WIND

Design and use the fixings appropriate for the wind zone (R) and topographical classification (T) of this site and building height; as required by NZS 3604 and the wind loads on various wall areas as give AS/NZS 1170.2.

1.6 PERFORMANCE

Accept responsibility for the weather-tight performance of the completed cladding system, including all penetrations.

2. PRODUCTS

Materials

2.1 SHADOWCLAD® PLYWOOD CLADDING

Radiata pine veneer ply sheet to AS/NZS 2269.0. Treated LOSP Azole H3.1 to AS/NZS 1604.3.

2.2 EXTERIOR CAVITY WALL BATTENS

Radiata pine battens, minimum 20mm thickness, width and height to match timber framing studs. To NZS 3602, table 1, reference 1D.10.

2.3 EXTERIOR CAVITY CLOSER/VERMIN-PROOFING

Shadowclad® cavity base closure with upstand one side 10mm and the other 75mm. Length to suit cavity.

2.4 EXTERIOR TRIM

Radiata pine battens, trim and covers to profiles as detailed or as required by the cladding manufacturer. Clears grade or finger-jointed, treated H3.1.

Components

2.5 NAILS

Refer to the **Shadowclad®** specification and installation manual, 5.0 Sheet fixing requirements for size and use. Refer to SELECTIONS for material and type.

- Minimum 65mm x 3.2mm for cavity construction.

2.6 SCREWS

Refer to the **Shadowclad**[®] specification and installation manual, 5.0 Sheet fixing requirements for size and use. Refer to SELECTIONS for material and type.

- Minimum 10 -16 - 45 self-drilling galvanized steel countersunk screws to steel.

2.7 FLASHINGS

To NZBC E2/AS1, 4.0 **Flashings** and NZBC E2/AS1, 9.8 **Plywood Sheet**. Refer to the **Shadowclad**[®] specification and installation manual. **Shadowclad**[®] aluminium flashings compatible with adjacent materials and fixings.

2.8 FLASHING TAPE

Flexible flashing tape to NZBC E2/AS1, 4.3.11 Flexible flashing tape, UV resistant for exposed applications.

Accessories

2.9 SEALANT

Refer to the plywood manufacturer's requirements for elastomeric sealant to waterproof penetrations.

3. EXECUTION

Conditions

3.1 HANDLE

Handle sheets carefully and reject all those with damaged faces or edges.

3.2 STORE

Store sheets in stacks clear of the ground, supported without sagging on evenly spaced horizontal bearers. Protect from damage and weather.

3.3 SUBSTRATE

To NZS 3604 and the manufacturer's requirements.

3.4 SUPPORT

Fully support all edges and joints.

3.5 EXPANSION

Provide 2-3mm gap at all edges of cladding for sheet expansion.

Shadowclad[®] Groove: Use a 9mm packer in the groove of the shiplap joint to create an adequate expansion allowance. Refer **Shadowclad**[®] specification and installation manual.

Shadowclad[®] Texture: Maintain 2mm minimum expansion gap. Refer **Shadowclad**[®] specification and installation manual.

3.6 FRAMING MOISTURE CONTENT

Maximum moisture content 18%.

Application

3.7 FIX UNDERLAYS AND RIGID AIR BARRIERS

Fix to framing, with laps and fixing to the cladding manufacturer's requirements. Make good any damage before or during fixing of boarding before fixing continues. Note the NZBC E2/AS1: Table 23 does not allow bitumen based underlay in direct contact with LOSP treated plywood.

3.8 INSTALL DRAINED CAVITY

20mm minimum thickness drained cavity to NZBC E2/AS1: 9.0 **Wall claddings**, where required. Fix vertical cavity battens to wall framing studs and to nogs to achieve battens at 450mm centres maximum. The battens are fixed by the cladding fixings which will penetrate the wall framing studs over the wall underlay. Seal the top of the cavity. Install a cavity closer/vermin proofing at the base of walls, open horizontal (or raking) junctions, over openings (windows, meters etc). Do not use horizontal cavity battens except when closing off the top of a cavity from all roof spaces and enclosed soffits to prevent entry of moist air. Use cavity spacers where fixing is required between cavity battens.

- 3.9 PENETRATIONS
Confirm that exterior wall openings have been prepared ready for the installation of all window and door frames and other penetrations through the cladding. Required preparatory work includes the following:
- wall/cladding underlay to openings finished and dressed off ready for the installation of window and door frames and other penetrations
 - claddings neatly finished off to all sides of openings
 - installation of flashings (those required to be installed prior to installation of penetrating elements).
- 3.10 SEALING
Seal cut edges of plywood before fixing with Metalex clear.
- 3.11 FIXING SHADOWCLAD® PLYWOOD CLADDING
Fit and fix to E2/AS1, 9.8 **Plywood sheet**. Fix at 150mm centres at sheet edges and no closer than 7mm to the sheet edge, except for the following: -
- | | |
|-----------------------------|---|
| Sheet edge with top lap: | Place fixings the width of the top lap plus minimum 7mm from the edge of the sheet. |
| Sheet edge with bottom lap: | Place fixings through the bottom lap to the sheet side of the capillary groove. |
- Fix intermediate supports at 300mm centres. With the exception of bottom laps, fix through the full sheet thickness. Do not fix through grooves.
- 3.12 INSTALL BATTENS, COVERS AND TRIMS
Install as detailed on the drawings and in accordance with the cladding manufacturer's requirements.
- 3.13 INSTALL FLASHINGS
Install flashings and covers as detailed on the drawings and to NZBC E2/AS1, 4.0 **Flashings**, NZBC E2/AS1, 9.8 **Plywood Sheet**, and in accordance with **Shadowclad**® recommended details.
- 3.14 COMPLETE
Ensure the work is complete with all flashings, finishings and trim properly installed so the cladding system is completely weathertight.
- Completion**
- 3.15 REPLACE
Replace all damaged or marked elements.
- 3.16 LEAVE
Leave work to the standard required for following procedures.
- 3.17 REMOVE
Remove debris, unused materials and elements from the site.
- 3.18 PROTECTION
Protect this work as it proceeds, and when completed, from the weather and until it is covered, coated or sealed.

4241 PROFILED METAL CLADDING

1. GENERAL

This section relates to the supply and fixing of proprietary overlap rigid sheet profiled metal wall cladding complete with accessories.

1.1 RELATED WORK

Refer to 4161 UNDERLAYS, FOIL AND DPC for underlays, foils and DPC.

1.2 ABBREVIATIONS

The following abbreviations are used throughout this part of the specification:

BMT	Base metal thickness
NZMRM	New Zealand Metal Roofing Manufacturers Inc

Documents

1.3 DOCUMENTS

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

NZBC E2/AS1	External moisture
AS/NZS 1170.2	Structural design actions - Wind actions
AS 1397	Steel sheet and strip - hot-dipped, zinc-coated or aluminium/zinc-coated
AS 3566	Self-drilling screws for the building and construction industries
NZS 3602	Timber and wood-based products for use in building
NZS 3604	Timber-framed buildings
NZMRM - CoP	NZ Metal roof and wall cladding - Code of practice (CoP)

Warranties

1.5 WARRANTY - INSTALLER/APPLICATOR

Warrant this work under normal environmental and use conditions against weatherproofing failure.

5 years:	from the date of completion of the roof
Form:	Metal wall cladding installer's standard form

Include a copy of the cladding manufacturers' maintenance requirements with the warranty.

Refer to the general section 1237 WARRANTIES - INSTALLER/APPLICATOR for additional requirements.

1.6 WARRANTY - MANUFACTURER/SUPPLIER

Warrant this work under normal environmental and use conditions against materials failure.

15 years:	For failure of coating adhesion
15 years:	For weatherproofing by material penetration
Form:	Cladding manufacturers standard form

Requirements

1.7 QUALIFICATIONS

Carry out the cladding work with experienced, competent installers familiar with the products being used.

Performance

1.8 PERFORMANCE

Install roofing material and associated flashings and accessories to form a weathertight and durable system.

Performance - Wind (design by contractor)

1.9 DESIGN PARAMETERS - NON SPECIFIC DESIGN

Design the installation to the wind zone parameters of NZS 3604, table 5.4.
Refer to general section 1220 PROJECT for details.

1.10 DESIGN PARAMETERS - SPECIFIC DESIGN

Design the installation to the wind pressure parameters of AS/NZS 1170.2.
Refer to general section 1220 PROJECT for details.

2. PRODUCTS

Materials

- 2.1 EXTERIOR CAVITY WALL BATTENS
Radiata pine battens, minimum 20mm thickness, width and height to match timber framing studs. To NZS 3602, table 1, reference 1D.10, Requirements for wood-based building components to achieve a 50-year durability performance.
- 2.2 EXTERIOR CAVITY CLOSER/VERMIN-PROOFING
Perforated uPVC or aluminium trays with upstands. Upstand one side 10mm and the other 75mm. Length and width to suit cavity.
- 2.4 PRE-FINISHED ALUMINIUM/ZINC ALLOY COATED STEEL
Formability G550 steel sheet coated to AS 1397.
Coating class: AZ 150
- 2.5 FLASHINGS GENERALLY
Material, grade and colour as detailed and scheduled. Ensure that materials used for flashings are compatible with the window frame materials and fixings and cladding materials and fixings.
- 2.6 FLASHINGS
To NZBC E2/AS1, 4.0 **Flashings**. Formable grade 0.55mm BMT for galvanized, aluminium/zinc-coated and pre-painted steel, and 0.9mm for aluminium (or 0.7mm for small aluminium flashings) to the same standards as the profiled sheets, notched where across profile or provided with a soft edge.
- 2.7 WALL AND PARAPET FLASHINGS
To NZBC E2/AS1, 4.0 **Flashings**. Supplied by the cladding manufacturer to match or to suit the cladding.

Components

- 2.8 FASTENERS GENERALLY
Minimum Class 4 and durability not less than the roofing material being fixed. Screw fasteners to be head stamped identifying the manufacturer and class.
- 2.9 FIXING CLIPS
Galvanized steel (powder coated for aluminium) to suit the material and profile of the rigid sheet and location as required by the cladding manufacturer. Fix to steel with 16mm x 10 gauge galvanized wafer head self-drilling screws and to timber with 50mm long x 4.5mm galvanized spiral rolled flat head nails.
- 2.10 FIXING SCREWS
To AS 3566. To comply with AS 3566. Screws appropriate to the cladding material and the supporting structure, as required by the cladding manufacturer and with a durability no less than the material fixed. Screws into timber to penetrate by minimum 30mm.
- 2.11 RIVETS
Sealed aluminium, minimum diameter 4mm for use with zinc coated, zinc/aluminium coated or aluminium cladding.

Accessories

- 2.12 SEALANT
Neutral curing MS silicone or MS polymer sealant as required by the cladding manufacturer and used as directed.
- 2.13 CLOSURE STRIPS
Non-bituminous compressible, profiled foam strips to fit the sheet profile.
- 2.14 LAP SEALING TAPE
Closed cell self adhesive nitrile tape.

3. EXECUTION

Conditions

- 3.1 INSPECTION
Inspect the wall framing and supporting structure to ensure that it is complete and fully braced ready for cladding.

- 3.2 **FRAMING TIMBER MOISTURE**
When continuous metal cladding etc. Runs along a long continuous timber member and is directly fixed to it, the timbers equilibrium moisture content (EMC) to be 18% or less. For flashings in this situation (sometimes called transverse flashings) the framing EMC to be maximum 16%, and preferably as low as 12%. Transverse flashings can be temporarily tacked in place and final fixing done when moisture content is acceptable.
- 3.3 **STORAGE**
Take delivery of and accept packs of cladding undamaged on delivery. Reject all damaged material. Store on a level firm base with packs well ventilated and completely protected from weather and damage. Do not allow moisture to build up between sheets. If sheet packs become wet, fillet or cross stack to allow air movement between sheets.
- 3.4 **HANDLING**
Avoid distortion and contact with damaging substances, including cement. Do not drag sheets across each other and other materials. Protect edges and surface finishes from damage.
- 3.5 **SEPARATION**
Isolate dissimilar materials in close proximity as necessary by painting the surfaces or fitting separator strips of compatible materials. Place isolators between metals and treated timber and cement based materials. Do not use unpainted lead sheet or copper in contact with or allow water run-off onto galvanized and aluminium/zinc-coated metals.
- Application**
- 3.6 **SET-OUT**
Set cladding to vertical plumb lines and maintain verticality. Set all exposed fixings with horizontal string lines. Carefully set out sheets with side laps away from the main line of sight, and with the widths of end sheets the same. Check during fixing to eliminate creep or spread and to keep fastenings in line.
- 3.7 **AVOID END LAPS**
End laps are not permitted, except where specifically detailed.
- 3.8 **MOVEMENT JOINTS**
Fixing and jointing to conform with the cladding manufacturer's requirements for thermal movement. Over timber framing, transverse flashings (those running along continuous framing members) to have expansion joints at maximum 12m centres.
- 3.9 **FIXING GENERALLY**
Install and fix in accordance with the NZMRM - CoP, and to the cladding manufacturer's required fixing patterns and details for each area of the building cladding. Use only screws as required by the cladding manufacturer. Paint colour matched fixings and accessories before installation.
- 3.10 **INSTALL DRAINED CAVITY**
20mm nominal thickness drained cavity to NZBC E2/AS1: 9.0 Wall claddings, where required. Fix vertical cavity battens to wall framing studs and provide a separation strip of metal cladding underlay over batten. The battens are fixed by the cladding fixings which will penetrate the wall framing studs over the wall underlay. Install cavity closer/vermin-proofing at base of wall, open horizontal (or raking) junctions and over openings (windows, meters etc).
- 3.11 **PENETRATIONS**
Confirm that exterior wall openings have been prepared ready for the installation of all window and door frames and other penetrations through the cladding. Required preparatory work includes the following:
 - wall/cladding underlay to openings finished and dressed off ready for the installation of window and door frames and other penetrations
 - claddings neatly finished off to all sides of openings
 - installation of flashings (those required to be installed prior to installation of penetrating elements).
- 3.12 **MARKING AND CUTTING**
Cut only by shearing tools. Do not use black lead pencils for marking aluminium/zinc coated products.
- 3.13 **FIX SHEETS**
Fix sheets in place using the fastening system required by the manufacturer of the specified profiled metal cladding, making due allowance for dynamic local wind pressures on the building and thermal movement in the sheet.

- 3.14 **INSTALL FLASHINGS**
Flash to penetrations, cap corners and edges, using sealant and rivets to detail, to the cladding manufacturer's requirements and to NZBC E2/AS1.
- 3.15 **COMPLETE**
Ensure the work is complete with all flashings, finishing and trim properly installed so the cladding system is completely weathertight.
- 3.16 **SEPARATION**
Separate metal sheeting from CCA treated timber with wall underlay or other suitable isolation material.
- Completion**
- 3.17 **REPLACE**
Replace all damaged or marked elements.
- 3.18 **LEAVE**
Leave this work complete with all necessary flashings and capping all properly installed as the work proceeds so the finished cladding is completely weathertight.
- 3.19 **REMOVE**
Remove debris, unused materials and elements from the site.

4310**ROOFING****1.****GENERAL**

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1**QUALIFICATIONS**

Use experienced competent roofers familiar with the materials and techniques specified. Work to be carried out by or supervised by the appropriate LBP.

1.2**WIND AND EARTHQUAKE LOADINGS**

Use fixings and methods capable of sustaining the loads appropriate to the area as set out in NZS 3604, section 5 **Bracing design**, and confirmed under 1212 COMPLIANCE.

2.**PRODUCTS****2.1****PROFILED METAL**

Profile, metal and finish as selected. Accessories, cappings, flashings and fixings to match and to the roofing manufacturer's requirements.

2.2**ACCESSORIES**

Roof underlays:	As selected.
Nails, screws, fastenings:	Metal, size and pattern, to roofing manufacturer's requirements and complying with the relevant aspects of NZS 3604, section 4 Durability and NZBC E2/AS1.
Flashings:	As required.

3.**EXECUTION****3.1****STORAGE**

Stack roofing and accessories on clean, level areas of the site. Cover and protect from damage and from weather until ready to fix in place.

3.2**SET-OUT**

Set out the planned layout before fixing commences, to ensure true lines and the correct relationship to module, grid and roof features. Overlaps to face away from prevailing wind direction.

3.3**LAY ROOF UNDERLAY**

Lay and fix to NZBC E2/AS1, 8.1.5 **Roof Underlays**.

3.4**TAKE CARE**

Take care to avoid damaging pre-finished roofing both during and after fixing. Mark only with chalk or spirit-based pen. Wear only soft-soled shoes on the finished surface. Remove metal filings daily.

3.5**INSTALL PROFILED METAL**

Use cutting tools recommended by the roofing manufacturer. Fold ends and seal cut edges to the roofing manufacturer's requirements. Fix complete with matching accessories, flashed to roof features and penetrations; all in accordance with NZ metal roof and wall cladding code of practice and NZBC E2/AS1: 8.4 **Profiled metal roof cladding**.

3.6**FIXINGS AND SEALANTS**

Refer to the roofing manufacturer's literature for fixing details and to NZS 3604 for fixings durability requirements. Select and use sealants only as recommended by the roofing manufacturer.

3.7**INSTALL COVERS AND FLASHINGS**

Provide apron, verge and ridge flashings. Install and fix as detailed and to the roofing manufacturer's details and to comply with NZBC E2/AS1, 4.0 **Flashings**, NZBC E2/AS1: 5.0 **Roof/wall junctions**, and NZBC E2/AS1: 6.0 **Parapets**.

3.8**PENETRATIONS**

Flash and overflash penetrations through the roof. Fit proprietary boots to pipework penetrations.

3.9**COMPLETE**

Ensure the work is complete with flashings, undercloaks, valleys, ridges and hips properly installed so the finished roof is completely weathertight.

4520 ALUMINIUM WINDOWS AND DOORS

1. GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 QUALIFICATIONS

Fabricators/Installers to be experienced, competent trades people familiar with the materials and techniques specified.

1.2 CERTIFICATION

Provide documentation that the windows and doors comply with NZS 4211 and safety glass complies with NZS 4223.3 as modified by NZBC F2/AS1 and NZBC B1/AS1.

1.3 WIND LOADINGS

Refer to section 1212 COMPLIANCE for wind zone.

2. PRODUCTS

2.1 WINDOW AND DOOR REVEALS

As selected, manufactured to comply with NZS 4211. Timber jamb liners to NZS 3602.

2.2 FLASHINGS

To NZBC E2/AS1, 9.1.10 **Windows and Doors** and as required.

2.3 POWDER COATING FINISH

To WANZ Specification for powder coatings on architectural aluminium products. All finished surfaces to show uniformity of gloss and colour (to match sample) free of all coating defects.

2.4 SEALANT, GLAZING TAPE AND GASKETS

To the window manufacturer's requirements.

2.5 FIXINGS

Ensure fixings and bracketing are compatible with aluminium. Do not use electroplated zinc fasteners or brass fastenings.

3. EXECUTION

3.1 OPENING PREPARATION

Confirm framing openings (including jamb battens for direct fix cladding) on site for dimension, plumb and straightness prior to fabrication or ordering of aluminium joinery. Prepare and trim to WANZ Window Installation System requirements. For openings over 600mm wide on cavity construction provide sill support bars.

3.2 EXECUTION GENERALLY

To NZBC E2/VM1 and NZBC E2/AS1. Install to WANZ Window installation System requirements.

3.3 HANDLING

Avoid distortion of elements during transit, handling and storage. Prevent pre-finished surfaces from rubbing together. Prevent contact with mud, plaster and cement. Do not deliver to site any elements which cannot be immediately unloaded into suitable conditions of storage.

3.4 CORROSION PROTECTION

Seal or suitably coat cut ends and holes drilled in aluminium before the frames are installed. Before fixing, apply bituminous coatings, slips or underlays between dissimilar metals in contact, or aluminium in contact with concrete.

3.5 FIX FRAMES

Fix frames rigidly in place without distortion, to the window manufacturer's requirements and to NZBC E2/AS1, 9.1.10.8, **Attachments for windows and doors**, plumb, true to line and face, weathertight and with all openings operating freely.

3.6 DRAINAGE

Anti-condensation channels to sills. All sills to sashes and fixed lights to incorporate positive drainage to the exterior.

3.7 GLAZING INSTALLATION

All glass held in aluminium beads and black PVC gaskets.

- 3.8 SAFETY GLASS INSTALLATION
Use in doors, sidelight panels, low level windows and all other locations to comply with NZS 4223.3, as modified by NZBC F2/AS1, 1.0 **Glazing** and NZBC B1/AS1, 7.0 **Glazing**.
- 3.9 INSTALL FLASHINGS
Install flashings to heads, jambs and sills of frames as supplied and required by the window manufacturer and as detailed on the drawings. Finish on head flashings to match window finish.
- 3.10 SEAL FRAMES ON SITE
Seal frames to each other and to adjoining structure and finishes, all as required by the window manufacturer and to make the installation weathertight. Provide a continuous internal air seal between reveals and framing, using sealant over a backing rod.
- 3.11 SAFETY
Indicate the presence of transparent glasses for the remainder of the contract period, with whiting, tape or signs compatible with the glass type. Indicators other than whiting must not be applied to the glass surface. Permanent manifestations to comply with NZS 4223.3, 303.1 **Manifestations** (making glass visible).
- 3.12 CLEAN GLASS AND FRAMES
Clean off or remove glass indicators at completion of the building. Clean glass inside and out to a shining finish. Clean down both sides of window and door frames using the methods required by the window and door manufacturer.

- 4610 GLAZING**
- 1. GENERAL**
Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.
- 1.1 QUALIFICATIONS**
Glaziers to be experienced, competent trades people familiar with the materials and techniques specified.
- 1.2 CERTIFICATION**
If not supplied with windows, provide documentation that the safety glass complies with NZS 4223.3 as modified by NZBC F2/AS1 and NZBC B1/AS1.
- 2. PRODUCTS**
- 2.1 GLAZING TAPE**
Pressure sensitive, self-adhesive vinyl foam tapes, selected to suit the glazing detail.
- 2.2 GLASS THICKNESS**
As selected and to NZS 4223.1, NZS 4223.3, NZS 4223.4 and NZBC B1/AS1, 7.0 **Glazing**.
- 2.3 FLOAT GLASS**
Clear ordinary annealed glass for general window glazing. Thickness as required by NZS 4223.1.
- 2.4 LAMINATED GLASS**
Grade A safety glazing material with PVB or CIP resin interlayer.
- 2.5 TOUGHENED GLASS**
Grade A safety glazing material.
- 2.7 MIRROR GLASS**
Clear annealed mirror float glass, including silver, activation, passivation and two protective coats.
- 3. EXECUTION**
- 3.1 EXECUTION GENERALLY**
To NZS 4223.1, and for human impact safety glazing to NZS 4223.3, both modified by NZBC B1/AS1, 7.0 **Glazing**. Insulating glass units to AS/NZS4666.
- 3.2 INSTALL GLASS TO ALUMINIUM FRAMES**
Install glass to NZS4223.1.
- Bead glaze to Section 4 Glazing.
- Channel glaze to Section 4 Glazing, and Section 5 for Framed, Unframed, Partly Framed Glass Assemblies.
- 3.3 SAFETY GLASS INSTALLATION**
Use in doors, sidelight panels, low level windows and all other locations to comply with NZS 4223.3, as modified by NZBC F2/AS1, 1.0 **Glazing** and NZBC B1/AS1, 7.0 **Glazing**.
- 3.4 INSTALL MIRRORS**
Install mirrors as detailed. Seal to vanities and basins where required.
- 3.5 SAFETY**
Indicate the presence of transparent glasses, with whiting, tape or signs compatible with the glass type. Do not apply indicators other than whiting to the glass surface. Permanent manifestations to comply with NZS 4223.3, 303.1 **Manifestation** (making glass visible).
- 3.6 CLEAN**
Clean off or remove indicators at completion of the building. Clean glass inside and out to a shining finish.

4710 THERMAL INSULATION

1. GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 QUALIFICATIONS

Installers to be experienced, competent trades people familiar with the materials and techniques specified.

2. PRODUCTS

2.1 THERMAL INSULATING PADS

Rectangular insulating pads manufactured from fibreglass, polyester, wool or similar.

2.2 THERMAL INSULATING BLANKET

Roll form insulation blanket manufactured from fibreglass or polyester.

2.3 CELLULAR PLASTIC RIGID BOARD

Polystyrene foam board manufactured from fire retardant grade resin.

3. EXECUTION

3.1 INSTALL INSULATION - GENERAL

Lay, install, fit and fix to NZBC H1/AS1: Energy efficiency, 2.0 Building thermal envelope, and to the insulation manufacturer's requirements. Install in housing to NZS 4218 and NZS 4246.

3.2 FIT THERMAL INSULATING PADS

Friction fit insulating pads in place to completely fill the whole of the cavities. Carefully scribe cut insulating pads slightly oversize to maintain friction fit to each other, to smaller spaces and around penetrations. Leave no gaps between, and maintain full thickness of the insulating pads over the whole of the installation. Do not cover vents.

3.3 FIT THERMAL INSULATING BLANKET

Install in ceiling/roof cavity and mid-floor cavity where specified. 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 between, and maintain full thickness of the insulating segments over the whole of the installation. Do not cover vents.

3.4 GAPS AROUND RECESSED LIGHTS AND FLUES

New recessed light fittings to NZS 3000, must be types IC-F, IC, CA-80 or CA-135 and do not require clearance from most, fibre glass, polyester or wool insulation. For all other insulation types and lighting types, or existing undefined types, allow clearance from the insulation of 100mm clear gap to incandescent or halogen lights, or as recommended by the lighting manufacturer. Around metal flues allow 200mm minimum clear gap or as recommended by the fireplace/flue manufacturer.

5110 INTERIOR LININGS AND TRIM

1. GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 FRAMING MOISTURE CONTENT

Maximum allowable moisture content to NZS 3602, table 4 **Allowable moisture content...**

1.2 PROTECT

Protect joinery, fittings and finishes already in place from water staining or damage from lining installation. Ensure building is weatherproof before lining work commences.

2. PRODUCTS

2.1 PLASTERBOARD

Gypsum plaster core encased in a durable face and backing paper formed for standard use, bracing use, fire rated use and water resistance use.

2.2 PLASTERBOARD ACCESSORIES

External angles:	Slim type 0.5mm galvanized steel.
Casing bead:	Slim type 0.5mm galvanized steel or PVC.
Cornice:	Plasterboard scotia type.
Nails:	Galvanized clouts 40mm x 2.5mm.
Screws:	40mm x 6 gauge zinc electro-plated bugle head gypsum drywall screws
Jointing compound & paper tape:	To the board manufacturer's requirements.
Adhesive:	Multi-purpose water based wallboard adhesive.

2.3 FIBRE CEMENT SHEET

Cellulose cement autoclaved sheets.

2.6 NAILS

Zinc-plated steel, stainless steel and galvanized steel of pattern to suit location and to BRANZ Bulletin 519: **Fasteners selection**.

2.7 INTERIOR FINISHING TRIM

Timber selection to NZS 3602, table 3 **Requirements for wood-based building components....**
Profile as selected or to match existing. Jointer profiles to suit location.

3. EXECUTION

3.1 SUBSTRATE

To NZS 3604, section 8 **Walls**, section 10 **Roof framing**, section 12 **Interior linings**, section 13 **Ceilings**, and the standard required by the lining manufacturer's requirements. Ensure moisture content of timber framing is at or below specified levels.

3.2 CONFIRM LEVELS OF PLASTERBOARD FINISH

Before commencing work, confirm the surface finish assessment procedures necessary to ensure the specified levels of finish will be obtained. Provide levels of finish as laid down in AS/NZS 2589.

3.3 LINE PLASTERBOARD CEILINGS AND WALLS

Line walls and ceilings with plasterboard sheets, fastened to the plasterboard manufacturer's requirements.

3.4 SPECIAL PLASTERBOARD LININGS

Line wet area walls with water resistant plasterboard sheets using adhesive and nail fixing to studs at centres to suit the surface finish. Form bracing panels using high density plasterboard sheets fixed with clout-washers and clouts and to conform to NZS 3604, 5.4 **Wall bracing design**, and 13.5 **Structural ceiling diaphragms**. Form sound rated panels following the sheet manufacturer's specifications and details for the required sound rating. Form fire rated panels following the sheet manufacturer's specifications and details for the required fire rating.

3.5 FIX PLASTERBOARD EXTERNAL ANGLES

Fix full length to external corners, with clouts at 100mm each side staggered.

3.6 FIX PLASTERBOARD CORNICE

Fix with adhesive and with joints scribe-fitted to the plasterboard manufacturer's requirements.

- 3.7 **PLASTERBOARD JOINTING AND STOPPING**
Fill joint recess with bedding compound, centre the paper tape, apply second coat of bedding compound followed by a coat of finishing compound. Allow to dry and lightly sand off. Fill nail holes and flush up external angles with two successive coats of bedding compound followed by a coat of finishing compound. Allow to dry and lightly sand off. All to the plasterboard manufacturer's requirements.
- 3.8 **LEVELS OF FINISH**
Provide levels of finish to standards laid down by *AS/NZS 2589* as follows:
Level 4: For thin coating finishes (paint) and surfaces receiving light texture or wall covering finishes
Level 5: Where specifically detailed for surfaces receiving thin coating finishes (paint).
- 3.9 **INSTALL FIBRE CEMENT SHEET LININGS**
Fix to timber framing with jointing as detailed and to the panel manufacturer's requirements
- 3.10 **INSTALL TRIM**
Scribe and fit reveal linings to exterior timber joinery, architraves to interior joinery, skirtings to walls and timber beads to wall/ceiling junctions, and other trim as detailed.

5230 INTERIOR DOORS & FRAMES

1. GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 QUALIFICATIONS

Trades people qualified or experienced in those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, and stairs).

2. PRODUCTS

2.1 DOORS GENERALLY

As selected.

2.2 GLAZED DOORS

Solid timber framed and bead glazed.

2.2 INTERIOR CAVITY SLIDERS

Hollow core door within a proprietary cavity slider frame, with brand-matched sliding door gear.

2.4 INTERNAL JOINERY FRAMES

Fabricate as detailed.

2.5 DOOR HINGES

Type: loose-pin zinc-plated steel

Size: 89mm

Material: zinc-plated steel

Number: 3 hinges per door

2.6 INTERIOR SLIDING DOOR GEAR

To suit door size and weight and as detailed.

2.7 DOOR HARDWARE

As selected.

2.8 NAILS

Zinc-plated steel, stainless steel and galvanized steel of pattern to suit location and to BRANZ Bulletin 519: **Fasteners selection**.

3. EXECUTION

3.1 PROTECT

Protect joinery, fittings and finishes already in place from water staining or damage from lining installation. Ensure building is weatherproof before lining work commences.

3.2 FIT INTERNAL JOINERY FRAMES

Wedge and rigidly fix in place without distortion, plumb, and true to line and face.

3.3 INTERNAL CAVITY SLIDERS

Install in accordance with the door manufacturer's requirements.

3.4 FIT HARDWARE

Fit hardware selected and provided, all in accordance with the hardware manufacturer's requirements.

3.5 CHECK

Check and adjust operation of doors sets, hardware and furniture.

6200**TILING****1.****GENERAL**

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1

QUALIFICATIONS

Use tilers experienced with the materials and techniques specified.

1.2

SLIP RESISTANCE

Accessible routes slip resistance to NZBC D1/AS1, 2.1 Slip resistance.

2.**PRODUCTS**

2.1

ADHESIVES COMPATIBILITY

On proprietary substrates or waterproof membranes use only adhesives with documented compatibility approval from the respective manufacturers.

2.2

ACCESSORIES

Waterproofing membranes:	As selected.
Cement-based screed:	Mix of 3:1 Portland cement, wash-mix sand, gauged with liquid polymer additive to the tile manufacturer's requirements.
Tile adhesive:	To the tile manufacturer's requirements.
Grout:	Cement based, compressible and to suit the particular location and use.
Control joint sealant:	To BRANZ Good practice guide: Tiling, section 5.0.

3.**EXECUTION**

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.

3.2

SUBSTRATE

Ensure all services and accessories are in place, located to suit the tile layout, with the substrate required for tiling work.

3.3

TEMPERATURE

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

3.4

LAYOUT

Obtain confirmation of the proposed layout of tiles, expansion joints and other visual considerations.

3.5

EXECUTION GENERALLY

Prepare surfaces and carry out the tiling work in accordance with BRANZ Good practice guide: Tiling.

3.6

SURFACE PREPARATION

To BRANZ Good practice guide: Tiling, section 4.0.

3.7

LAY PROPRIETARY SCREED

Apply a proprietary cement slurry bond coat over the whole of the floor. Mix and place a 40mm thick mortar bed over the bond coat and firmly tamp, screed and compact to the required level. In waterproofed areas where the cement screed has been laid over the waterproofing membrane, prepare the screed surface by applying a further waterproof coating before laying tiles.

3.8

APPLY LIQUID WATERPROOFING MEMBRANE

Apply the selected liquid waterproof membrane system to the membrane manufacturer's requirements. Flood test shower cubicle floors.

3.9

INSTALL UNDER TILE ELECTRIC HEATING

Install to the membrane manufacturer's requirements. Arrange for electrician to connect power supply.

3.10

TILE FIXING, CONCRETE, CEMENT-BASED ADHESIVE

Apply and float thin (thick) bed cement-based adhesive to a minimum 3mm (6mm) bed thickness to the tile manufacturer's requirements. Rib surface with a notched trowel, press the tile and beat it into place with 3mm joints, and to obtain required coverage of adhesive on the back of each tile.

- 3.11 **TILE FIXING, RIGID SHEET**
Prime the surface after the curing of any waterproof membrane. Spread adhesive to a uniform minimum thickness of 3mm and rib it with a notched trowel to the tile manufacturer's requirements. Press the tile and beat it into place to obtain the required coverage by adhesive on the back of each tile.
- 3.12 **GROUTING**
Remove spacers. Prepare joints, mix and apply proprietary grout and finish off the grout uniform in colour, smooth and without voids, pinholes or low spots.
- 3.13 **MOVEMENT CONTROL JOINTS**
Minimum width of 6mm, carried through tile and bedding. Where substantial movement is anticipated, carry through the rigid sheet to the structure. Ensure joints are clean, formed, filled, and the sealant inserted to the sealant manufacturer's requirements.
- 3.14 **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.

6700 PAINTING

1. GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 QUALIFICATIONS

Carry out work using competent and experienced painters.

1.2 HEALTH AND SAFETY

Refer to the requirements of the Health and Safety in Employment Act 1992 and if elimination or isolation is not possible, then minimise the hazards in this work. Refer to OSH publication, Repainting lead based paints, for the required procedures and precautions when treating or removing lead based paint, burning or sanding off paint, or using solvent based paint removers.

1.3 SELECTIONS

Confirm all selections, colours and finishes with the owner.

2. PRODUCTS

2.1 PAINT

As selected and to the paint manufacturer's standards for exterior and/or interior primers, undercoats, sealers, stains, clear coatings, solvent-borne and water-borne paints.

2.2 GAP FILLERS

Linseed oil, putty, plastic wood, wood filler or plastic filler, to suit and to match the surface being prepared.

3. EXECUTION

3.1 INSPECT SURFACES

Inspect surfaces being painted and report to the owner any that will not, after the preparatory work laid down by the paint manufacturer, allow work of the required standard. Confirm that all areas have adequate lighting and are sufficiently free of other construction activities to enable painting work to proceed.

3.2 EXISTING FINISHED SURFACES

Ensure that all surfaces are sound, remove any, blistered, drummy, chalky, powdery, loose, soft or corroded material and make good. Remove or treat any surface contaminates or moss and mould to manufacturer's requirements.

3.3 PROTECT

Cover up adjoining surfaces and areas liable to damage or over-painting.

3.4 REMOVE HARDWARE

Remove hardware and door/window furniture and replace on completion. Do not paint over permanently attached hinges, or any hardware items which cannot be removed.

3.5 PRIMING AND SEALING

Ensure that priming and sealing work needed before or during construction is carried out when required.

3.6 ENVIRONMENTAL CONDITIONS

Carry out work within acceptable temperature and humidity limits, with timber dry, all to the requirements of the paint manufacturer.

3.7 SHARP EDGES, CRACKS AND HOLES

Repair as required by the paint manufacturer.

3.8 PREPARE SURFACES

Prepare surfaces as required by the paint manufacturer. Make good all damage and defects.

3.9 PAINT APPLICATION

Apply paint by brush and/or roller to suit the location of the coating and to the paint manufacturer's requirements. Do not spray on site without express permission.

3.10 MANUFACTURER'S MANUALS

Refer to the paint manufacturers' manuals and follow their preparation, sequence and application requirements applying to each system. Ensure all paint coats in any system are supplied by the same manufacturer.

- 3.11 SCUFF BETWEEN COATS
Scuff between all coats to remove any dust pick-up, protruding fibres and coarse particles.
- 3.12 FINISHED PAINT SURFACES
Finished paint surfaces to show uniformity of gloss and colour, with the correct thickness for each coat, and freedom from painting defects. Ensure finished work is clean and free of any disfigurement.
- 3.13 CLEAN
Clean adjoining surfaces, glass and fittings of any paint contamination.
- 3.14 REFIT HARDWARE
Refit hardware without damage to the hardware or the adjoining surfaces.

7120 WATER SYSTEM

1. GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 QUALIFICATIONS

Carry out work by or under the direct supervision of a certifying person under the Plumbers, Gasfitters and Drainlayers Act 2006.

2. PRODUCTS

2.1 CROSS LINKED POLYETHYLENE WATER PIPE

Proprietary high-density cross-linked polyethylene composite pipe and fittings to AS/NZS 4130.

2.2 INSULATION FOR HOT WATER PIPES

Preformed closed cell foam.

2.3 EXPOSED PIPES

As selected, chrome or white polybutylene, pipework finish to include escutcheon plates, accessories, bends and elbows protruding from walls or fittings.

2.4 VALVES AND FITTINGS

All valves and fittings required for the system, to NZBC G12/AS1.

3. EXECUTION

3.1 EXECUTION GENERALLY

Carry out work and tests as applicable to NZBC G12/AS1.

3.2 INSTALL POLYBUTYLENE WATER SUPPLY

Type as selected. Size the piping layout to eliminate loss of pressure at any point by simultaneous draw-off. Run pipes complete with all fittings, support and fixing, and jointed to the pipe manufacturer's specifications, all to NZBC G12/AS1, 5.0 **Water supply**. Conceal pipework and pressure test before wall linings are fixed.

3.3 OUTLET LOCATIONS

Ensure wall outlets for exposed pipes are level and centred on the fixture to ensure the neat installation of exposed pipework.

3.4 BACKFLOW PREVENTION

Fit back flow prevention devices to all outlets where it is possible for water or contaminants to backflow in to the potable water supply system.

3.5 INSTALL HOT WATER PIPE INSULATION

Insulate hot water pipes in accordance with the insulation manufacturer's instructions. Cut insulation sections tight between timber framing and tight between the webs of steel studs. Where hair felt is used, wrap around pipes in two layers in opposite directions and secure with galvanized steel wire ties.

3.6 PENETRATIONS

Provide and fit collars and escutcheon plates to match pipework at penetrations through constructions.

3.7 COMPLETION

Pressure test to ensure no leakage and leave in proper working order. Clean tapware and fittings.

7150 SANITARYWARE, TAPWARE & ACCESSORIES

1. GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 QUALIFICATIONS

Carry out work by or under the direct supervision of a certifying person under the Plumbers, Gasfitters and Drainlayers Act 2006.

2. PRODUCTS

2.1 SANITARY FIXTURES, TAPWARE, APPLIANCES AND ACCESSORIES

Refer to 1213 SELECTIONS and drawings for product selections.

3. EXECUTION

3.1 EXECUTION GENERALLY

Carry out installation work and tests to AS/NZS 3500.2, as applicable.

3.2 INSTALL SANITARYWARE

Fit and install sanitaryware and associated screens, elements and hardware, plumb, true to line and rigid, to the fixture manufacturer's requirements. Supply standard chrome plated brass wastes and plastic plugs on chrome plated chains with all basins, tubs and baths.

3.3 INSTALL TAPWARE

Install tapware in accordance with the tap manufacturer's requirements. Flush out on completion. Check that washers or ceramic discs are operating correctly.

3.4 INSTALL SHOWER CUBICLE

Install to NZBC G1/AS1 and in accordance with shower manufacturer's details and requirements. Ensure that screens and doors fit closely and accurately. Test for water egress around sides and base.

3.5 TEST

Test soil and waste disposal systems to ensure no leakage exists and leave in working order.

3.6 ENSURE

Ensure all sanitary plumbing fittings and pipework are complete and operational.

7410 RAINWATER SPOUTING SYSTEM

1. GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 LIAISON

Ensure liaison with associated installations to ensure material selections are compatible and required flashing work is completed.

1.2 ELECTROLYTIC ACTION

Avoid electrolytic action by eliminating contact or continuity of water between dissimilar metals.

2. PRODUCTS

2.1 PVC-U DOWNPIPES

Tubes, stand-off brackets and fittings brand matched and complete to the manufacturers specifications.

2.2 ALUMINIUM/ZINC ALLOY COATED PRE-PAINTED STEEL SPOUTING

Profile, jointing, brackets and fittings brand matched and complete to the spouting manufacturer's specifications.

3. EXECUTION

3.1 INSTALL PVC-U DOWNPIPES

Fit and screw fix brackets, set to falls to outlets. Ensure solvent welded or rubber ring jointed spouting sections are complete with all fittings to the spouting manufacturer's requirements. Screw fix stand-off brackets, set pipes plumb and clear of the wall, solvent welded. Discharge into stormwater bends.

3.2 INSTALL ALUMINIUM/ZINC ALLOY COATED STEEL PRE-PAINTED SPOUTING

Screw fix brackets, set to falls to outlets, with spouting joints silicone sealed and pop-riveted to the spouting manufacturer's requirements. Screw fix stand off brackets, set pipes plumb and clear of the wall, with joints silicone sealed. Discharge into stormwater bends.

3.3 ENSURE

Ensure rainwater services are operational, flashings complete and the building weathertight.

7420 SANITARY WASTE SYSTEM

1. GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 QUALIFICATIONS

Carry out work by or under the direct supervision of a certifying person under the Plumbers, Gasfitters and Drainlayers Act 2006.

2. PRODUCTS

2.1 PVC-U WASTE, SOIL AND VENT PIPES

PVC-U pipe, complete with fittings brand-matched to the pipe manufacturer's requirements.

2.2 EXPOSED PIPES AND TRAPS

As selected and to the following details:

- chrome plate on copper pipes and associated copper and brass fittings
- white polybutylene or PVC, including all associated fittings

3. EXECUTION

3.1 EXECUTION GENERALLY

Carry out sanitary plumbing work and tests as applicable to:

- NZBC G13/AS1
- AS/NZS 3500.2

3.2 ELECTROLYTIC ACTION

Avoid electrolytic action by eliminating actual contact or continuity of water between dissimilar metals.

3.3 INSTALL TRAPS, WASTE AND VENT PIPES

Connect waste outlets to traps and run waste pipes and back vents concealed, sized and fixed to AS/NZS 3500.2. Discharge wastes into floor waste gully, drainage system stack, soil pipe, or gully trap as shown. Bird proof mesh to roof vents and vermin proof mesh to untrapped waste pipes.

3.4 PENETRATIONS

At penetrations through constructions provide and fit collars and escutcheon plates to match pipework. Exterior roof and wall penetrations to NZBC E2/AS1.

3.5 TEST

Test soil and waste disposal systems to ensure no leakage exists and leave in working order.

3.6 ENSURE

Ensure all sanitary plumbing fittings and pipework are complete and operational.

7430 DRAINAGE SYSTEMS

1. GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 QUALIFICATIONS

Carry out work by or under the direct supervision of a person registered under the Plumbers, Gasfitters and Drainlayers Act 2006.

1.2 AS-BUILT DRAWINGS

Supply a 1:100 as-built drawing to the BCA and the owner on completion.

2. PRODUCTS

2.1 MATERIALS

Concrete:	17.5 MPa prescribed grade.
Reinforcement:	Grade 300 deformed bars.
PVC-U pipes:	PVC-U pipes bends, junctions, fittings and joints.
Field drains:	Plastic pipes for field drains perforated and coiled with filter fabric over.
Drainage/filling materials	
Granular fill:	Clean gravel or crushed stone or a blend of these. Particle size from minimum 7mm to maximum 20mm.
Selected fill:	Fine grain soil or granular material suitable for bedding, excluding topsoil.
Ordinary fill:	Top soil or other excavated materials.

2.2 FITTINGS

Gully traps:	To NZBC G13/AS2, 3.3 Gully traps , complete with grating.
Strip drain channel:	Proprietary, modular, variable invert, PVC-U or precast concrete drainage channel sections and drainage sump, embedded in site concrete and fitted with selected metal gratings.

3. EXECUTION

3.1 EXCAVATE

Excavate for drains to a firm even base with correct gradients set in straight runs.

3.2 MANUFACTURER'S REQUIREMENTS

All drainage installations to the pipe and fitting manufacturer's requirements.

3.3 EXECUTION GENERALLY

Carry out drainage work as applicable to:

- NZBC G13/AS1, G13/AS2 and G13/AS3
- AS/NZS 3500.2 and AS/NZS 3500.3

3.4 LAY WASTEWATER DRAINS

Lay drains in straight runs to correct gradients, to discharge into the NUO's sewer. Set inspection fittings on a concrete base.

3.5 INSTALL GULLY TRAPS

Set on concrete 50mm above surrounding ground or paving and brought up to protect the top of the fitting. Trowel off.

3.6 LAY STORMWATER DRAINS

Confirm the required location of downpipes and finished ground levels before commencing pipework. Set downpipe bends in concrete brought up to protect the top of the bend from damage. Lay drains in straight runs to correct gradients to discharge into the NUO's stormwater system.

3.7 LAY GROUNDWATER DRAINS

Lay perforated coil piping firmly in a granular bed in straight runs to correct gradients, discharging into a sump. Carry the granular bed up over the pipes without disturbing them, to a total depth of 300mm and cover with geotextile fabric; all to the pipe manufacturer's requirements.

3.8 INSTALL STRIP DRAIN CHANNEL

Excavate trench and form site concrete base to fall. Set interlocking channel sections, sumps and accessories in place, all in accordance with the channel manufacturer's requirements. Check falls and install gratings and covers.

- 3.9 **INSTALL SURFACE WATER SUMP**
To NZBC E1/AS1, 3.6 Surface water inlets to drains. Ceramic half-siphon pipe. Cast iron frame with a lift out grating.
- 3.10 **CONCRETE ENCASUREMENT**
Concrete encase shallow drains and drains under driveways, on a 100mm deep 17.5 MPa concrete bed reinforced with three 10mm mild steel bars. Surround pipes with a polythene membrane to allow movement and encase in 100mm 17.5 MPa concrete.
- 3.11 **FIELD TEST**
Field test drains for watertightness to the satisfaction of the BCA inspector.
- 3.12 **BACKFILL**
Backfill drain lines in 150mm layers, well tamped but without disturbing the drains. Finish off garden areas with 150mm of topsoil, slightly mounded above the finished ground line. Public roads and footpaths to be made good to the controlling authority requirements.

7700

ELECTRICAL

1.

GENERAL

Refer to 1213 SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1

COMPLY

Comply with the Electricity (Safety) Regulations 2010, AS/NZS 3000 and the New Zealand Electrical Codes of Practice for listed and prescribed work and with the NUO's requirements. Apply for the service connection. Arrange for the required inspections of listed work. Pay all fees.

1.2

QUALIFICATIONS

Carry out work by or under the direct supervision of an electrical licensed supervisor under the Electricity (safety) Regulations 2010.

1.3

CERTIFICATE OF COMPLIANCE

Supply a certificate of compliance to the owner, as required by the Electricity (Safety) Regulations 2010. Allow the NUO to view before the meter installation, listed work inspection, polarity check and livening of supply.

1.4

SAFETY OF INSTALLATION

Before installation work commences, provide a declaration of conformity to Electrical (Safety) Regulations 2010, regulations 57 & 58

2.

PRODUCTS

2.1

METER BOARD / DISTRIBUTION BOARD / SUB BOARD

Proprietary manufactured meter board complete with flashing kit. Proprietary manufactured distribution board, zinc plated powder coated, or heavy duty plastic, fire resistant enclosed construction, complete with neutral and earth busbars, MCB's, RCD's and main switch. All protective devices: 6kA MCB's of the appropriate rating. Fit to board manufacturer's requirements where detailed. Recess into wall and ensure fire containment properties of the enclosure is maintained.

2.2

MAIN SUPPLY

Excavate, lay underground mains to NUO requirements, install cable marker, back fill. Public roads and footpaths to be made good to the controlling authority requirements.

2.3

CABLES

Tough plastic sheathed copper conductors. Minimum sizes are indicated below. Increase these as necessary due to method of installation, cable length or load.

Lighting circuits: 1.5mm² on 10 amp MCBs for domestic construction

Power circuits: 2.5mm² on 16 amp MCBs for domestic construction

2.4

ELECTRICAL ACCESSORIES

As selected and to the following details:

Switch units	Minimum 16 amp, 230 volt flush polycarbonate units. For number of switches per unit, dimmer units, neon (indicator or toggle) units, locator units and 2-way units refer to the electrical drawings.
Switched socket units:	10 amp, 230 volt flush polycarbonate 3 pin combined switch units.
Hot water system switch:	One way 20 amp switch complete with clamp for flexible PVC conduit.
Stove/range socket outlet and switch:	32 amp, 230 volt flush polycarbonate 3 pin combined switch unit, with remote isolating switch.

3.

EXECUTION

3.1

CABLING

Install with a maximum of 10 light outlet units or 6 switched socket units on any circuit. Separate circuits for all electric heating appliances. All cabling run concealed. No TPS cable laid directly in concrete. Locate holes in timber framing for the passage of cables at the centre line of the timber member. Provide earth bonding and main earth.

3.2

INSTALL SWITCH AND SOCKET UNITS

Fit single and double switch units and socket units level and plumb where shown on the drawings. Install at the following heights (to the centre of the unit) unless shown otherwise on the drawings or to match existing.

Switch Units: 1000mm above floor

Socket Units:	400mm above floor
	150mm above work benches

Mount switches vertically and socket units horizontally. Label switch units which control electrical equipment by engraving on the rocker switch.

- 3.3 **INSTALL LIGHT FITTINGS**
Install selected light fittings in the locations and heights shown on the drawings and in accordance with the fitting manufacturer's requirements. Recessed fittings to AS/NZS 3000, types IC-F, IC, CA-80 or CA-135 only (no clearance to insulation required for these types).
- 3.4 **ELECTRIC HOT WATER SYSTEM**
Wire as a separate circuit through a wall-mounted isolating switch, with the cable from switch to element encased in flexible PVC conduit, clamp fixed at each end.
- 3.5 **GAS HOT WATER SYSTEM**
Wire for control system to continuous flow gas hot water system.
- 3.6 **UNDERFLOOR HEATING SYSTEMS**
Connect under floor heating systems complete with thermostats to manufacturer's requirements.
- 3.7 **WIRE FOR PLUMBING FITTINGS**
Wire for fittings to the Electricity (Safety) Regulations 2010 and to the fitting manufacturer's requirements.
- 3.8 **INSTALL DOMESTIC SMOKE ALARMS**
Install alarms to NZBC F7/AS1, 3.3 Location of smoke alarms, and to manufacturer's requirements, fitted neatly and without damage to the surrounding finish.
- 3.9 **ELECTRIC POWERED FITTINGS AND EQUIPMENT**
Install and wire selected fittings and equipment to the Electricity (Safety) Regulations 2010 and the individual fittings and equipment manufacturer's requirements. Refer to the drawings for required layouts and locations for equipment.
- 3.10 **COMPLETION**
Leave all fittings, lamps and tubes operational, with equipment and diffusers clean

Memorandum from licensed building practitioner: Record of building work

Section 88, Building Act 2004

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

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

THE BUILDING	
Street address: 91 ASTON ROAD	
Suburb: WAIKANAЕ	
Town/City:	Postcode: 5036

THE PROJECT
Building consent number: 130 237

THE OWNER(S)	
Name(s): CHRIS & JACKIE FAWCETT	
Mailing address: 91 ASTON ROAD WAIKANAЕ	
Suburb:	PO Box/Private Bag:
Town/City:	Postcode:
Phone number:	Email address:

RECORD OF WORK THAT IS RESTRICTED BUILDING WORK

PRIMARY STRUCTURE

Work that is restricted building work	Description of restricted building work	Carried out or supervised
Tick <input checked="" type="checkbox"/>	If necessary, describe the restricted building work.	Tick <input checked="" type="checkbox"/> whether you carried out the restricted building work or supervised someone else carrying out the restricted building work.
Foundations and subfloor framing <input checked="" type="checkbox"/>	CONCRETE FOUNDATION UNDER SUPERVISION FROM CONSULTING ENGINEER	<input checked="" type="checkbox"/> Carried out <input type="checkbox"/> Supervised
Walls <input checked="" type="checkbox"/>	ERECTION OF PREMADE FRAMING	<input checked="" type="checkbox"/> Carried out <input type="checkbox"/> Supervised
Roof <input checked="" type="checkbox"/>		<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised
Columns and beams <input checked="" type="checkbox"/>		<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised
Bracing <input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> Carried out <input type="checkbox"/> Supervised
Other <input checked="" type="checkbox"/>		<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised

EXTERNAL MOISTURE MANAGEMENT SYSTEMS

Work that is restricted building work	Description of restricted building work	Carried out or supervised
Tick <input checked="" type="checkbox"/>	If necessary, describe the restricted building work.	Tick <input checked="" type="checkbox"/> whether you carried out the restricted building work or supervised someone else carrying out the restricted building work.
Damp proofing <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Roof cladding or roof cladding system <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Ventilation system (for example, subfloor or cavity) <input checked="" type="checkbox"/>	CAVITY BATTERN SYSTEM	<input checked="" type="radio"/> Carried out <input type="radio"/> Supervised
Wall cladding or wall cladding system <input checked="" type="checkbox"/>	PLYWOOD WALL CLADDING ONLY	<input type="radio"/> Carried out <input type="radio"/> Supervised
Waterproofing <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised
Other <input checked="" type="checkbox"/>		<input type="radio"/> Carried out <input type="radio"/> Supervised

ISSUED BY	
Name and contact details of the licensed building practitioner who is licensed to carry out or supervise restricted building work.	
Name: <u>JEROME WAGG</u>	LBP number: <u>BP 103293</u>
Class(es) licensed in: <u>CARPENTRY</u>	
Plumbers, Gasfitters and Drainlayers registration number (if applicable): <u>—</u>	
Mailing address (if different from below):	
Street address/Registered office:	
Suburb: <u>RAUMATI BEACH</u>	Town/City:
PO Box/Private Bag <u>2082</u>	Postcode:
Phone number: <u>021 500 844</u>	Mobile:
After hours:	Fax:
Email address:	Website:

DECLARATION	
I <u>JEROME WAGG</u> carried out or supervised the restricted building work recorded on this form.	
Signature:	<u><i>J. Wagg</i></u>
Date:	<u>20-04-2014</u>

Validity authenticated

27 JUN 2014

Signature: *[Signature]*

R B W



Memorandum from licensed building practitioner: Memorandum of Design Section 45 and section 30c, Building Act 2004

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

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

THE BUILDING	
Street address:	91 Aston Road
Suburb:	Waikanae Downs
Town/City:	KAPITI
	Postcode:

THE OWNER(S)	
Name(s):	Mr & Mrs Fawcett
Mailing address:	91 Aston Road
Suburb:	Waikanae Downs
	PO Box/Private Bag:
Town/City:	Kapiti
	Postcode:
Phone number:	2935114
	Email address:

BASIS FOR PROVIDING THIS MEMORANDUM

I am providing this memorandum in my role as the: Please tick the option that applies

- sole designer of all of the RBW design outlined in this memorandum – I carried out all of the RBW design work myself – no other person will be providing any additional memoranda for the project
- lead designer who carried out some of the RBW design myself but also supervised other designers – this memorandum covers their RBW design work as well as mine, and no other person will be providing any additional memoranda for the project
- lead designer for all but specific elements of RBW – this memorandum only covers the RBW design work that I carried out or supervised and the other designers will provide their own memorandum relating to their specific RBW design
- specialist designer who carried out specific elements of RBW design work as outlined in this memorandum – other designers will be providing a memorandum covering the remaining RBW design work

IDENTIFICATION OF DESIGN WORK THAT IS RESTRICTED BUILDING WORK (RBW)

I Rochelle Dennis carried out / supervised the following design work that is restricted building work

PRIMARY STRUCTURE: BI

Design Work Item	Description of RBW	Carried out or supervised	References
------------------	--------------------	---------------------------	------------

Tick if included
Cross if excluded

If appropriate, provide details of the RBW

Tick whether you carried out this design work, or supervised someone else carrying out this design work

If appropriate, specify references

All RBW design work relating to BI

Carried out
 Supervised

Foundations and subfloor framing

By Engineer

Carried out
 Supervised

Design work that is RBW	Description of RBW	Carried out or supervised	Reference to plans and specifications
Tick <input checked="" type="checkbox"/> if included. Cross <input checked="" type="checkbox"/> if excluded	If appropriate, provide details of the RBW	Tick <input checked="" type="checkbox"/> whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
Walls	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Carried out <input type="checkbox"/> Supervised	
Roof	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Carried out <input type="checkbox"/> Supervised	
Columns and beams	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Carried out <input type="checkbox"/> Supervised	
Other	<input type="checkbox"/>	<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised	

EXTERNAL MOISTURE MANAGEMENT SYSTEMS: E2

All RBW design work relating to E2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Carried out <input type="checkbox"/> Supervised
Damp proofing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Carried out <input type="checkbox"/> Supervised
Roof cladding or roof cladding system	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Carried out <input type="checkbox"/> Supervised

Design work that is RBW	Description of RBW	Carried out or supervised	Reference to plans and specifications
Tick <input checked="" type="checkbox"/> if included. Cross <input checked="" type="checkbox"/> if excluded	If appropriate, provide details of the RBW	Tick <input checked="" type="checkbox"/> whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
Ventilation system (for example, subfloor or cavity)	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Carried out <input type="checkbox"/> Supervised	
Wall cladding or wall cladding system	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> Carried out <input type="checkbox"/> Supervised	
Waterproofing	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> Carried out <input type="checkbox"/> Supervised	
Other	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> Carried out <input type="checkbox"/> Supervised	

FIRE SAFETY SYSTEMS: C1 - C6

Emergency warning systems

Evacuation and fire service operation systems

Suppression or control systems

Other

Carried out
 Supervised

Note: The design of fire safety systems is only restricted building work when it involves small-to-medium apartment buildings as defined by the Building (Definition of Restricted Building Work) Order 2011

WAIVERS AND MODIFICATIONS

Waivers or modifications of the Building Code are required. Yes No

If Yes, provide details of the waivers or modifications below:

Clause	Waiver/modification required
List relevant clause numbers of building code	Specify nature of waiver or modification of building code required

ISSUED BY

91 Aston Road

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

Name: Rochelle Dennis

LBP or Registration number: 108739

The practitioner is a: Design LBP Registered architect Chartered professional engineer

Design Entity or Company (optional): Kapiti Architectural Design Ltd

Mailing address (if different from below)

Street address/Registered office: 59 Ngairo Rd

Suburb: Waikanae

Town/City: Kapiti

PO Box/Private Bag: P.O. Box 296

Postcode: 5036

Phone number: 9057380

Mobile: 0275114744

After hours:

Fax:

Email address: rochelle@kapitidesign.co.nz

Website: www.kapitidesign.co.nz

DECLARATION

I Rochelle Dennis LBP, state that I have applied the skill and care reasonably required of a competent design professional in carrying out or supervising the Restricted Building Work (RBW) described in this form, and that based on this, I also state that the RBW:

- Complies with the building code, or
- Complies with the building code subject to any waiver or modification of the building code recorded on this form

Signature: 

Date: 24/1/13

KCDC Building Consent Authority
Building Consent Documentation Filed

BC No.	BC130237
Street Address.	91 Aston Road Waikanae

Tick indicates document(s) included in this Building Consent

Building Consent Application,	✓
Application checksheet,	✓
Costing schedule,	✓
Plans and specifications,	✓
Invoice and receipt,	✓
Processing records/checksheets,	✓
Inspection page printouts	✓
1-19,66 82-94	
Building consent and memorandum,	✓
Inspection reports,	✓
Application for CCC,	✓
Code of Compliance Certificate.	✓
Producer statements and supporting documentation,	✓
Peer review documents,	✓
Fire design documents,	NA
Requests for further information and other correspondence,	↓
Amendments,	↓
Supplementary information,	✓
Energy work certificates,	✓
Notices to Fix.	NA
	3

This form comprises part of the Building Consent documentation and indicates the contents of the Building Consent File. Refer KCDC Policy 029.

KCDC CODE COMPLIANCE REVIEW CHECK SHEET

Criteria: All building work except for minor works or major projects. Refer BI-WI-024

Address: 91 Aston Road Waikanae	Date: 27/6/14
	BC No: 130237

application for code compliance certificate (Form 278) completed	<input checked="" type="radio"/> Y	<input type="radio"/> N
--	------------------------------------	-------------------------

Confirm all required inspections have been completed and passed: Answer: Yes or No

If inspections have been missed, what supporting info and method of verification has been provided to compensate for missed inspection. (Describe):

INSPECTIONS ~~2, 3, 4~~ 1, 3, 5. COVERED BY
ENGINEER NOTED & PS 4.

Work in accordance with approved consent and approved amendments	<input checked="" type="radio"/> Yes	<input type="radio"/> No
If no, has NTF been issued:	N/A	<input type="radio"/> Yes <input type="radio"/> No
Have items of non compliance been resolved and NTF uplifted.	N/A	<input type="radio"/> Yes <input type="radio"/> No

Note: If work is not in accordance with consent, (and approved amendments) or NTF matters have not been resolved, suspend application for Code Compliance Certificate

Supporting documentation required in building consent addenda (Accept in accordance with KCDC Policy 002) Form completed during BC Approval process

Tick (✓) indicates yes, N/A indicates considered - but not applicable	Req'd	Supplied	Accept
copy of electrical certificate	✓	✓	✓
copy of gas certificate	N/A		
an "as-built" drainage plan	✓	✓	✓
plumbing (Form 125) for pressure test and installation piped services	✓	✓	✓
drainage (Form 126) for stormwater installation	✓	✓	✓
drainage (Form 127) for private sewer installation	✓	✓	✓
a Construction Review (PS4) statement for Structural engineering	✓	✓	✓
a Construction Review (PS4) statement for Fire engineering	N/A		
a Construction Review (PS4) statement for Geo-technical engineering	✓	✓	✓
Roof cladding warranty	✓	✓	✓
Solar water heating technical specifications	N/A		
wall cladding/texture coating installation applicator warranty	✓	✓	✓
a copy of the lift certificate			
a certificate from the fire alarm installer			
a certificate from the sprinkler installer			
a copy of wet-area membrane installers warranty	✓	✓	✓
A copy of deck membrane manufacturer's installers warranty/guarantee	N/A		
FPIS (verifier) Fire Systems Certification	✓	✓	✓
Row	✓	✓	✓

KCDC CODE COMPLIANCE REVIEW CHECK SHEET

If specified supporting documentation has not been provided, what alternative information or verification method has been provided to compensate. (describe):

Compliance Schedule

Is a new or amended compliance schedule required?	Y	<input checked="" type="radio"/> N
If "Y" Has it been issued? (Refer note below)	N/A	<input checked="" type="radio"/> N
If the new/ revised compliance schedule has not been issued, what action has been taken to ensure it will be issued? Outline:		

Note: If the draft/ revised compliance schedule has not been issued, the Code Compliance Certificate cannot be issued. Suspend issuing CCC until this matter is addressed.

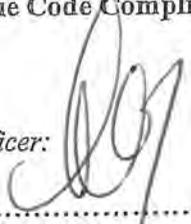
Building consent requirements.

Are there any item specified in the building consent or PIM that have not been completed.

Outline: -----

Are there any development impact fees to be paid outstanding? Yes No (if yes, CCC cannot be issued)

Approve to issue Code Compliance Certificate if all other outstanding fees are paid. YES / NO

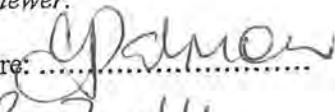
Building officer: 

Signature:

Date: ... 17 / 14

Name: Alan

Co-reviewer:

Signature: 

Date: ... 27 / 14

Name: Michelle Selman

BC

VEHICLE CROSSING
INSPECTION FORM

Date:

To: Building Inspectors

Owner:

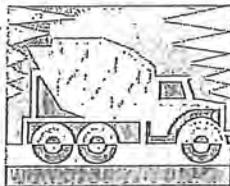
Address:

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:



Form 436

BC...130237

PROCESSING CHECKLIST

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... 1

Site Plan (NZS 3604 Sec 3.4, 4,5 Code c1B1, B2,E1, E2 F1 & F2 Sect. 72, 75 BA04)

N/A NO YES

Comments

- Wind zone High V/High Specific..... GIS *extra high*
- Flooding / ponding hazardsGIS
- Slippage/ fault line hazards GIS
- Erosion, river & coastal hazardsGIS
- Subsidence/ soft soil hazards *Site inspection notes*
- Corrosion zone *Sea spray* or Zone *E*.....GIS
- Soil contamination GIS
- 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 VMI)

Comments

- PSI Design Certificate B1 B2 VMI
- PS2 Peer Review..... B1 B2 VMI
- Calculations VMI
- CPeng Verified Online

P Davenport Foundation design.

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
- 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.....
- Pile c/c..... NZS 3604.....
- Fixing..... NZS 3604;B2.....
- Coatings(durability)..... NZS3604 ;B2.....
- 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 preanaler.... B1 B2.....
- Smoke detectors..... F7.....
- Wet areas / WCs D1, Table 2; B2. *470(2001) Base against Duct*
- 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 preanaler 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 *Watergale plus*.....
- Stud heights of rooms..... NZS 3604..... B1 B2.....
- Alternative.....specify reason

Roof..... NZS 3604, 3602 & 3640 B1B2E2 E2/AS1

Comments

Trussed / by preanaler or Framed roof NZS 3604

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.....
- Flashings.....E3;E2.....B1 B2.....
- Parapets.....B1 E2 B2.....
- Membrane Roofs and substrate Code E2/AS1 B2.....
- 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'.

Claddings Code B1 & 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 *Rigid air barrier*.....
- Fiber Cement W/b.....E2; B2.....
- Board & Batten..... Branz good practice guide; B2.....
- Fiber Cement Sheet.....E2; B2.....
- Weathertightness details.....E2' ; B2.....
- Alternative.....specify reason.....

Bracing NZS 3604 B1, B2, B3

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.....
- Alternative.....specify reason

Insulation *BRANZ Home Insulation Guide, NZS 4218, AS/NZS 2918*

Comments

- FloorH1.....
- Wall..... H1.....
- Roof..... H1.....
- Windows / glazing..... H1.....
- Alternative.....specify reason.....

Stairs / Landings / Handrails *D1,sec 4*

Comments

- Stair tread & risers.....D1
- Landing size.....D1.....
- Handrail.....D1.....
- 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.....
- Slip resistanceD1.....
- Appropriate waterproofing membrane..... B1 B2.....
- Stringer size & connectionsD1 B1 B2.....
- Thresholds.....D1 E2.....
- Alternative.....specify reason

Fire (Residential) NZBC F7;Cdoc

Comments

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.....
- 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.)

Water Supplies

Comments

- G12
- Town supply.....
- Private scheme.....
- Type & location.....
- Alternative.....specify reason.....

extension of internal pipework

Sanitary Drainage

Comments

- G13.....
- Layout
- Council availability or
- Septic tank design & calcs.....
- Alternative.....specify reason

small branch drain and cap of disused portion

Stormwater Drainage

Comments

- E1
- Layout
- Council availability
- Alternative.....specify reason

connecting existing sw system

Sanitary Plumbing

Comments

- G13 NZ/AS7500
- Layout
- Alternative.....specify reason

P+D Pack existing drain plan scanned to B-CV

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

Change Of Use – Sec 114: (record decisions and basis for decisions – confirm whether sec 115 applies)	
Date		
	NA	
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	Means of escape from fire Comples 11/8/13	4613
Hazards – Sec 71-74 : (record decisions and basis for decisions – see under "site plan above already done")	
Date:	INA	
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		
	NR	

Note :- Refer to the associate code clause along side each prompt above for compliance or reason of decision

Plan checked yet Unsatisfactory
(request for further information- see attached copy)

Signature, name & date

Bldg.....

Plumbing.....

Fire.....

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..... 4613
(for all pages except those listed below)

Plumbing..... Simon Lopp 8/5/2013
(For pages 6 of 11 unless otherwise listed)

Fire.....
(As listed on page 7 of 11)

Addenda to Form 436

Allocation of work to approvals officer outside current competency

Building Category	<i>Circle appropriate category</i> 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

- o Categories of building are determined on receipt of application
- o 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
- o Approvals staff are aware of their own competency level and check the allocation of work.
- o 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.

Registers
 Introduction
 Frequently Asked Questions

Professional Engineers
 Chartered Professional Engineer - CPEng
 International Professional Engineer - IntPE(NZ)
 Recognised Engineer
 Design Verifiers
 Professional Engineering Geologist
 Professional members of IPENZ Practice College
 Professional members of IPENZ

Engineering Technologists
 Engineering Technicians
 General Information

- CPEng Search**
- [Introduction](#)
 - [Current registrants](#)
 - [Registrants in abeyance](#)
 - [Suspended Registrants](#)
 - [Disciplinary actions in last 3 years](#)
 - [New Competence Assessment Applications](#)

CPEng Search Holders of Annual Practising Certificates for 2013

For a list of all registrants in a particular region, leave the Surname field blank, select the Region and click Search.

Surname **Region**

1 results found for your search

Name	Business Address	Date Reg'd	Next Assessment
Davenport, Peter Norman	Eastern Consulting PO Box 3322 Wellington 6140 New Zealand	04/08/04	2015

Now Displaying Records 1 to 1

Contact details are for use in a legitimate business context only and are not permitted for unsolicited messaging.

[▲ back to top](#)

CPEng Register
 Overview
 Competence Standard
 Search Register
 Apply
 Appeals on registration or disciplinary decisions
 Credit for Registrants from other Jurisdictions (pdf)
 Registration fees
 CPEng Act
 CPEng Rules 2002 No 2
 Annual Reports to CPEng Council

Building Consent Application — use this Checksheet for:
Single Residential Dwelling and Accessory Buildings
 — including single stand-alone dwellings, dwelling additions and/or alterations, re-piling, garages, decks, gazebos, sheds, retaining walls etc.
 — An Application Form is attached to this checksheet —
 (Please include this checksheet with your application)

Address of project: 91 Aston Road

This checksheet 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 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.

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 *COUNCIL USE*

1. GENERAL

Complete this section for all applications

- | | | | |
|-------------------------------------|---|--|-------------------------------------|
| <input checked="" type="checkbox"/> | a. <u>Building Consent Application Form</u> (1 copy) | | <input checked="" type="checkbox"/> |
| | | Completed and signed by the owner or by an agent on behalf of the owner. | |
| <input checked="" type="checkbox"/> | b. <u>Proof of ownership</u> (1 copy) | | <input checked="" type="checkbox"/> |
| | | One recent copy of current certificates/s of title (i.e. not older than 3 months) or where applicable one copy of purchase agreement (if recently purchased) or one copy of relevant portions of current lease | |
| <input checked="" type="checkbox"/> | c. <u>Locality Plan (1:500) showing:</u> | | <input checked="" type="checkbox"/> |
| | | Physical location of the subject building in relation to streets or landmarks, north point, name of building and lot and DP number. | |
| <input checked="" type="checkbox"/> | d. <u>Site Plan (1:100) showing:</u> | | <input checked="" type="checkbox"/> |
| | | 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, distance to boundaries and the position of swimming or spa pools. Include on the site plan the designated wind zone of the site (e.g. specific design, very high, high, medium or low). | |
| <input checked="" type="checkbox"/> | e. <u>Application Fee</u> | | <input checked="" type="checkbox"/> |
| | | 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 Receiving Officer:

2. 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 building, in its new use, complies 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.

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. Foundation Plan (1:100 / 1:50) showing:

- 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 footing
- If the addition is an upper storey show details on upgrading existing foundations, joints, piles etc
- Indicate ventilation to sub floor spaces

b. 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.

N/A

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

**b. 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
- Note where wall will form part of the swimming pool fence

**c. Pre-nail Truss and Frames:**

- Specific design wall framing requires clarification
- Truss layout must be supported by design certification and design of fixing details, including consideration of load paths to ground
- Lintels carrying point loads, such as from girder trusses, require specific engineering design

**d. 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 3604:1999 (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)

**e. Sections and details (1:50 / 1:20 / 1:10) showing:**

- Foundation details involving reinforcing and connections
- 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
- 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
- Window and door installation details
- Retaining wall details e.g. type, height of retained ground, relationship to boundary, waterproof membrane and proposed drainage

**f. Fire Report:**

For domestic dwellings of 4 storeys or more, or buildings providing more than one household unit

5. EXTERNAL

Complete for new buildings or existing buildings with alternations to the external shell

- | | | |
|-------------------------------------|---|-------------------------------------|
| <input checked="" type="checkbox"/> | <p>a. <u>Elevations (1:100 / 1:50) showing:</u>
 Accurate lines form 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)</p> | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | <p>b. <u>Risk assessment</u>
 <i>(Risk matrix in E2/AS1 may be used for buildings within scope)</i>
 Consider exposure, design and detailing to support appropriate selection of cladding</p> | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | <p>c. <u>Cladding details (1:50 / 1:20 / 1:10)</u>
 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, back flashing details for cavity systems</p> | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | <p>d. <u>Production certification</u>
 Supply copies of product certificates relied on as compliance documents</p> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | <p>e. <u>Alternative solutions</u>
 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 test results (fully signed reports), case studies, expert opinion (including evidence of experience/qualification, basis for forming opinion and statement of independence) etc to demonstrate compliance.</p> | <input type="checkbox"/> |

6. SERVICES

Complete for all projects with new installations or alteration of plumbing or drainage services

- | | | |
|-------------------------------------|--|-------------------------------------|
| <input checked="" type="checkbox"/> | <p>a. <u>Plumbing and Drainage plan 1:100 / 1:50) showing:</u>
 <i>Note: if you have supplied drainage details for surface water disposal on the site plan, no drainage plan is required.</i></p> <ul style="list-style-type: none"> • Sizes of pipe work and drains • Fixtures and fittings, hot water 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 storm water • Any other drainage on site including council mains and retaining wall field drains • Ventilation of sanitary rooms • Calculations for sizing of down pipes • Gully traps including overflow relief gullies | <input checked="" type="checkbox"/> |
|-------------------------------------|--|-------------------------------------|

5. EXTERNAL

Complete for new buildings or existing buildings with alternations to the external shell

a. Elevations (1:100 / 1:50) showing:

Accurate lines form 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 for buildings within scope)

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, back flashing details for cavity systems

d. Production 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 test results (fully signed reports), case studies, expert opinion (including evidence of experience/qualification, basis for forming opinion and statement of independence) etc to demonstrate compliance.

6. SERVICES

Complete for all projects with new installations or alteration of plumbing or drainage services

a. Plumbing and Drainage plan 1:100 / 1:50) showing:

Note: if you have supplied drainage details for surface water disposal on the site plan, no drainage plan is required.

- Sizes of pipe work and drains
- Fixtures and fittings, hot water 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 storm water
- Any other drainage on site including council mains and retaining wall field drains
- Ventilation of sanitary rooms
- Calculations for sizing of down pipes
- Gully traps including overflow relief gullies

7. STRUCTURAL

Complete for all projects incorporating specific structural design

a. Structural calculations

If any design work required the services of a structural engineer, attach 2 copies of the calculations with this. The calculations must be prefaced with information explaining the design philosophy and justification of assumptions and methodologies used in analysis

b. Expert Opinion (Producer Statements):

If this application for consent relies on any expert opinion including 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)

8. 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 or 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 (roof and decks)
- Tanking
- Joinery

9. DEMOLITION / REMOVAL

Complete for all projects involving demolition of significant parts of buildings or the demolition or removal of whole buildings.

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

- | | | |
|--------------------------|--|--------------------------|
| <input type="checkbox"/> | b. <u>Proposed tipping location for demolition materials (address/landfill)</u> | <input type="checkbox"/> |
| <input type="checkbox"/> | c. <u>Hazardous building material</u>
Provide safety plan detailing the safe handling and disposal of hazardous materials | <input type="checkbox"/> |
| <input type="checkbox"/> | d. <u>Site management plan covering</u>
Management to control silt runoff, noise and dust | <input type="checkbox"/> |
| <input type="checkbox"/> | e. <u>Proposed destination for relocate building</u> | <input type="checkbox"/> |
| <input type="checkbox"/> | f. <u>Access to and from the site including (use of kerb crossings)</u> | <input type="checkbox"/> |
| <input type="checkbox"/> | g. <u>Specify termination of existing services</u> <ul style="list-style-type: none"> • Water • Sewer • Storm water | <input type="checkbox"/> |
| <input type="checkbox"/> | h. <u>Details about the building such as:</u>
Number of storeys, type of materials the building is constructed (Photographs of the building would be useful) | <input type="checkbox"/> |

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.

Transportation of relocated building

You will be required to contact and provide details to Councils Transportation and Traffic Department.

10. OTHER APPROVALS

Please check 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, road openings and water connections.

Show the location of swimming or spa pools on the property and describe how compliance with the fencing of Swimming Pools Act will be achieved.

The issuing of a building consent does not relieve the owner of any duty or responsibility under any other act.

The following Councils developed this checksheet in partnership: Kāpiti Coast District, Porirua City, Wellington City, Hutt City, and Upper Hutt City.

Planning Processing Check Sheet

Building Consent Number : BC 130237

Property Information				
Property Address	91 Aston Road Waikanae			
Legal Description	Lot 7 DP 84600			
Planning Zone	Rural.			
Building Project	Adds + Alts			
	Yes	No	Action reqd	Action
Certificate of Title	✓			
Easements	✓		R.O.W. & Services ~ Search	
Section 221	✓		Include copy	Title to confirm
District Plan Items to Check				
	Yes	No	Action Reqd	Actioned
Designations		✓	Hill country / Outstanding Landscapes (Features)	
Heritage Register		✓		
Flood Hazards		✓		
Min Floor Level		✓		
Coastal Hazards		✓		
Other Hazards	✓		HV Transmission Lines	
EQ Faults		✓	Ohariu Fault trace (uncertain ~ constrained) E/SEast of site	
Eco-site/Native Veg	✓		(Outstanding Landscapes)	
	Complies?		Action Reqd	Actioned
Yards (+water bodies)		✓	Neighbours Approval??	J. Lee
HIRB	✓			
Max Height	✓			
Site Coverage	✓			
Permeable Surface	✓			
Earthworks	✓			
Water Tank / Siting	✓			
Parking	✓			

Fences/Retaining Wall	<input checked="" type="checkbox"/>			
Airport Noise 45dbl	<input checked="" type="checkbox"/>			
Other Provisions				
	Yes	No	Action reqd	Actioned
Does the building straddle Title/crosslease boundary		<input checked="" type="checkbox"/>		
Existing Resource Consent?	<input checked="" type="checkbox"/>		Ø1ØØ51 & 130018	
Resource Consent Required?	<input checked="" type="checkbox"/>		Apply Section 37 and advise Plan Vetting Team.	
Section 72 or 77 Required?		<input checked="" type="checkbox"/>	Advise Plan Vetting Team and send letters out.	\$124.00
Section 221 Consent Notice	<input checked="" type="checkbox"/>		Advise Plan Vetting Team	
DIF Required?		<input checked="" type="checkbox"/>	Advise Plan Vetting Team and send letter out.	
Calculate DIF Fees				Amount
			2 nd Comm / Ind Floor area X \$12.65	
			Non-residential 0.002 X area	
Invoice codes	RM		Water Supply	
	RM		Sewage	
	RM	79	Community Facilities	
	RM		Roads	
	RM		Flood Mitigation	
	RM		Reserves	
Send DIF letter out			TOTAL	

Additional Comments

Add to notes:

* All work shall be carried out in accordance with RMs Ø1ØØ51, 130018 & 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: _____

Date: 6.6.2013



CONO B639026.12 Consen

Copy - 01/01, Pgs - 003, 10/08/09, 08:56



DocID 410960041

KAPITI COAST DISTRICT COUNCIL
CONSENT NOTICE PURSUANT TO SECTION 221
OF THE RESOURCE MANAGEMENT ACT 1991

COPY
Checklist

**FOR THE DEPOSIT OF LAND TRANSFER PLANS 84599, 84600
and 84601**

**THE SUBDIVISION OF LOT 2 DP 81575 AND PART NGARARA
WEST C11, C12 & A47 BLOCK IX KAITAWA SURVEY
DISTRICT,**

STATE HIGHWAY 1, WAIKANAE

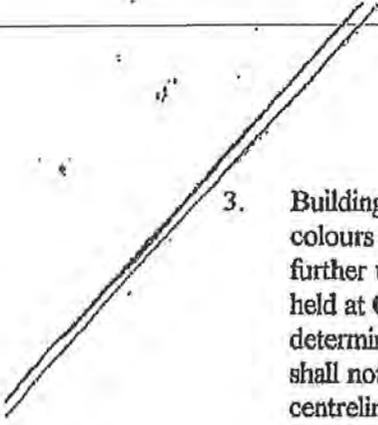
FOR BIPROC HOLDINGS LTD

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 and the following condition is to be complied with on a continuing basis:

1. That specific foundation design by a registered engineer will be required for any new dwelling on Lot 1 Land Transfer Plan No. 84599 and Lots 2 to 30, 32, 33, 39 and 40 on Land Transfer Plan No.s 84600 and 84601.
2. On site effluent disposal for Lot 1 Land Transfer Plan No. 84599 and Lots 2 to 30, 32, 33, 39 and 40 on Land Transfer Plan No.s 84600 and 84601 shall be in accordance with Wellington Regional Council Discharges to Land Plan, Rule 7 and Appendix 6 and shall comply with the recommendations contained in the Ormiston Associates Limited report titled "Wastewater Disposal Assessment for Biproc Holdings Subdivision, at State Highway 1, Waikanae", except for Option (ii) Item 3 on page 14 under the heading "9 Conclusions and Recommendations" which is unacceptable to Council.

Owners shall be responsible for the ongoing maintenance and monitoring of the effluent disposal system in accordance with the systems maintenance specifications.

- 
3. Buildings built above the 60 metre contour line shall be clad or "finished" in earthtone colours and shall not be built on ridgelines, shall be located so that they are not further uphill of the nominated house sites as shown on the approved scheme plan held at Council except that sites on lots that are visible from the coastal plain shall be determined in accordance with condition 4 of the subdivision consent granted and shall not be located closer than 5 metres of a waterbody and within 20 metre of the centreline of the high tension 110kv transmission lines.
4. Dwellings and associated buildings and temporary accommodation such as caravans shall not be built or located on Lots 31, ^{and} 41 ~~and~~. The planting of plantation forestry on Lots 31, 41 ~~and~~ shall be prohibited as per plans held at Council and shall not be planted within 50 metres of covenanted/protected areas of native bush.
5. Further subdivision of Lot 1 Land Transfer Plan No. 84599 and Lots 2 to ⁴¹ ~~40~~ on Land Transfer Plan No.s 84600 and 84601 shall be prohibited.
- 
- 

Dated this 14th day of November 1997.



AUTHORISED OFFICER



DocID: 410350440



**KAPITI COAST DISTRICT COUNCIL
VARIATION OF CONSENT NOTICE UNDER
SECTION 221 (3) OF THE RESOURCE MANAGEMENT ACT 1991
FOR LOT 7 DEPOSITED PLAN 84600; CT 52A/947**

The District Land Registrar at Wellington

PURSUANT to Section 221 (3) of the Resource Management Act 1991 the Kapiti Coast District Council hereby gives notice that, in relation to Lot 7 DP 84600 only, it has consented to a variation of the following consent notice condition from the consent notice dated 14 November 1997 for the deposit of Land Transfer Plans 84599, 84600 and 84601:

“3. Buildings built above the 60 metre contour line shall be clad or “finished” in earthtone colours and shall not be built on ridgelines, shall be located so that they are not further uphill of the nominated house sites as shown on the approved scheme plan held at Council except that sites on lots that are visible from the coastal plain shall be determined in accordance with condition 4 of the subdivision consent granted and shall not be located closer than 5 metres of a waterbody and within 20 metre of the centreline of the high tension 110kv transmission lines.”

The owners of Lot 7 DP 84600; Neil Weaver and Regan West; and the Kapiti Coast District Council hereby agree to change the above condition so that it reads as follows:

“3. All buildings above the 60 metre contour line shall be clad or “finished” in earthtone colours and all buildings shall be located so that they are not further uphill of the relocated nominated house site as shown on the plans date stamped as approved by Council on 31-08-01 that accompanied application RM 010051. Any further buildings to be constructed within the site shall be located within the amended nominated site unless a further approval from Council is obtained. It should be noted that nominated building site is restricted to 500 m² in area. Buildings shall not be located closer than 5 metres to a waterbody or within 20 metres of the centreline of any high tension 110kv transmission lines.”

AUTHORISED OFFICER

DATE: 31-08-01

NEIL WEAVER AND REGAN WEST

DATE: 01.09.01

AUTHORISED OFFICER

DATE: 1/9/01.



**COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952**

RECEIVED
29 APR 2013
00-23



R. W. Muir
Registrar-General
of Land

**Guaranteed Search Copy issued under Section 172A
of the Land Transfer Act 1952**

Identifier WN52A/947
Land Registration District Wellington
Date Issued 24 November 1997

Prior References
WN48A/857

Estate Fee Simple
Area 1.2710 hectares more or less
Legal Description Lot 7 Deposited Plan 84600

Proprietors
Christopher Alan Fawcett, Jacqueline Mavis Fawcett and Catherine Ann Freear ✓

Interests

Appurtenant hereto are rights of way created by Transfer 210608 (affects parts formerly contained in CT WN363/4)

Appurtenant hereto are rights of way created by Transfer 774937(affects parts formerly contained in CT WN363/4)

B639026.12 Consent Notice pursuant to Section 221(1) Resource Management Act 1991 - 24.11.1997 at 3.45 pm
Appurtenant hereto are rights of way specified in Easement Certificate B639026.16 - 24.11.1997 at 3.45 pm
Subject to a right of way over part marked C on DP 84600 specified in Easement Certificate B639026.16 - 24.11.1997 at 3.45 pm

The easements specified in Easement Certificate B639026.16 are subject to Section 243 (a) Resource Management Act 1991

Appurtenant hereto are water supply, electricity, telephone and sewage drainage rights specified in Easement Certificate B639026.17 - 24.11.1997 at 3.45 pm

Subject to water supply and sewage drainage rights over parts marked C and E, electricity and telephone rights over parts marked C, E and G on DP 84600 specified in Easement Certificate B639026.17 - 24.11.1997 at 3.45 pm

Subject to an electricity right (in gross) over parts marked C, E and G on DP 84600 in favour of Horowhenua Energy Limited created by Transfer B639026.19 - 24.11.1997 at 3.45 pm

Subject to a right to enable termination of biomass disposal connection (in-gross) in favour of Waikanae Downs Limited created by Transfer B639026.21 - 24.11.1997 at 3.45 pm

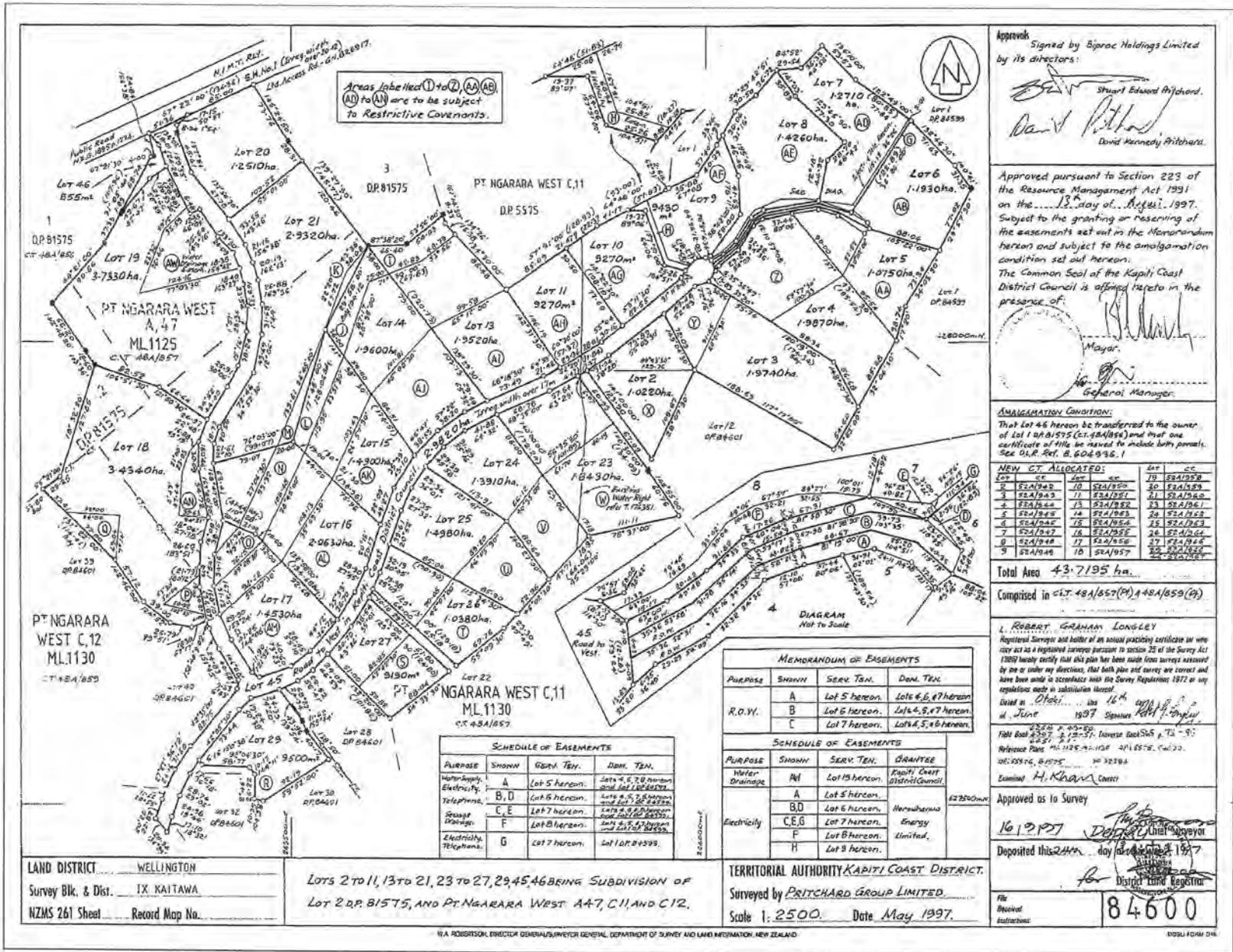
Land Covenant in Transfer B639026.23 - 24.11.1997 at 3.45 pm

Fencing Covenant in Transfer B733730.2 - 14.7.1999 at 3.55 pm

5118530.1 Variation of Consent Notice B639026.12 pursuant to Section 221(5) Resource Management Act 1991 - 3.12.2001 at 1:50 pm

8830922.3 Mortgage to Bank of New Zealand - 26.8.2011 at 4:52 pm





Areas labeled ① to ④, (A) to (H) are to be subject to Restrictive Covenants.

Approved Signed by Biproc Holdings Limited by its directors:
Stuart Edward Pritchard
David Kennedy Pritchard
David Kennedy Pritchard

Approved pursuant to Section 223 of the Resource Management Act 1991 on the 13th day of May 1997. Subject to the granting or reserving of the easements set out in the Memorandum hereon and subject to the amalgamation condition set out hereon. The Common Seal of the Kapiti Coast District Council is affixed hereto in the presence of:
[Signature]
Mayor.
[Signature]
General Manager.

AMALGAMATION CONDITION:
That Lot 46 hereon be transferred to the owner of Lot 1 DP 81575 (CT 484/854) and that one certificate of title be issued to include both parcels. See O.R. Ref. B. 604936.1

NEW CT ALLOCATED:	Lot	Area	CC	
1	2	224/1942	10	224/1958
2	3	224/1943	11	224/1957
3	4	224/1944	12	224/1956
4	5	224/1945	13	224/1955
5	6	224/1946	14	224/1954
6	7	224/1947	15	224/1953
7	8	224/1948	16	224/1952
8	9	224/1949	17	224/1951
9	10	224/1950	18	224/1950

Total Area 43.7195 ha.
Comprised in CT 484/857 (P) 1+484/859 (B)

L. ROBERT GRAHAM LONGLEY
Registered Surveyor and holder of an annual practicing certificate in who may act as a registered surveyor pursuant to section 25 of the Survey Act 1980 hereby certify that this plan has been made from surveys prepared by me or under my direction, that both plan and survey are correct and have been made in accordance with the Survey Regulations 1972 or any regulations made in substitution thereof.
Dated at Opaki... on 16th day of June 1997
Signature RGH Longley

MEMORANDUM OF EASEMENTS			
PURPOSE	SHOWN	SERV. TEN.	GRANTEE
R.O.V.	A	Lot 5 hereon.	Lots 4, 6, 8, 7 hereon
	B	Lot 6 hereon.	Lots 4, 5, 8, 7 hereon
	C	Lot 7 hereon.	Lots 4, 5, 8, 6 hereon.

SCHEDULE OF EASEMENTS			
PURPOSE	SHOWN	SERV. TEN.	GRANTEE
Water Drainage	M	Lot 15 hereon.	Kapiti Coast District Council
Electricity	A	Lot 5 hereon.	Heretaunga Energy Limited
	B, D	Lot 6 hereon.	
	C, E, G	Lot 7 hereon.	
	F	Lot 8 hereon.	
	H	Lot 9 hereon.	

SCHEDULE OF EASEMENTS			
PURPOSE	SHOWN	SERV. TEN.	GRANTEE
Water Supply, Electricity, Telephone, Sewage Drainage, Electricity, Telephones.	A	Lot 5 hereon.	Lots 4, 6, 7, 8 hereon and Lot 10 DP 81575
	B, D	Lot 6 hereon.	Lots 4, 5, 7, 8 hereon and Lot 10 DP 81575
	C, E	Lot 7 hereon.	Lots 4, 5, 6, 8 hereon and Lot 10 DP 81575
	F	Lot 8 hereon.	Lots 4, 5, 6, 7 hereon and Lot 10 DP 81575
	G	Lot 7 hereon.	Lot 10 DP 81575

LAND DISTRICT WELLINGTON
Survey Blk. & Dist. IX KAITAWA
NZMS 261 Sheet Record Map No.

LOTS 2 TO 11, 13 TO 21, 23 TO 27, 29, 45, 46 BEING SUBDIVISION OF LOT 2 DP 81575, AND PT. NGARARA WEST A, 47, C, 11, AND C, 12.

TERRITORIAL AUTHORITY KAPITI COAST DISTRICT.
Surveyed by PRITCHARD GROUP LIMITED.
Scale 1:2500. Date May 1997.

Approved as to Survey
16/5/97 *[Signature]*
Deposited this 24th day of May 1997
[Signature]
District Land Registrar
File Received Suburban 84600

Approved Signed by Girac Holdings Limited by its directors!

Short Edward Pritchard, David Pritchard, David Kennedy Pritchard.

Approved pursuant to Section 223 of the Resource Management Act 1991 on this... day of... 1997. Subject to the granting or reserving of the easements set out in the Memorandum hereon and subject to the amalgamation condition set out hereon.

The Common Seal of the Kaipiti Coast District Council is affixed hereto in the presence of:

THE MAYOR DAVID COOPER General Manager.

AMALGAMATION CONDITION: That Lot 4 & 6 hereon be transferred to the owner of Lot 1 0281575 (CT 484/659) and that one certificate of title be issued to include both parcels. See D.P. Oct. 8, 1996 936.1

Table with columns: NEW CT ALLOCATED, LOT, CC, DATE, and other details for land parcels.

Total Area: 43.7195 ha.

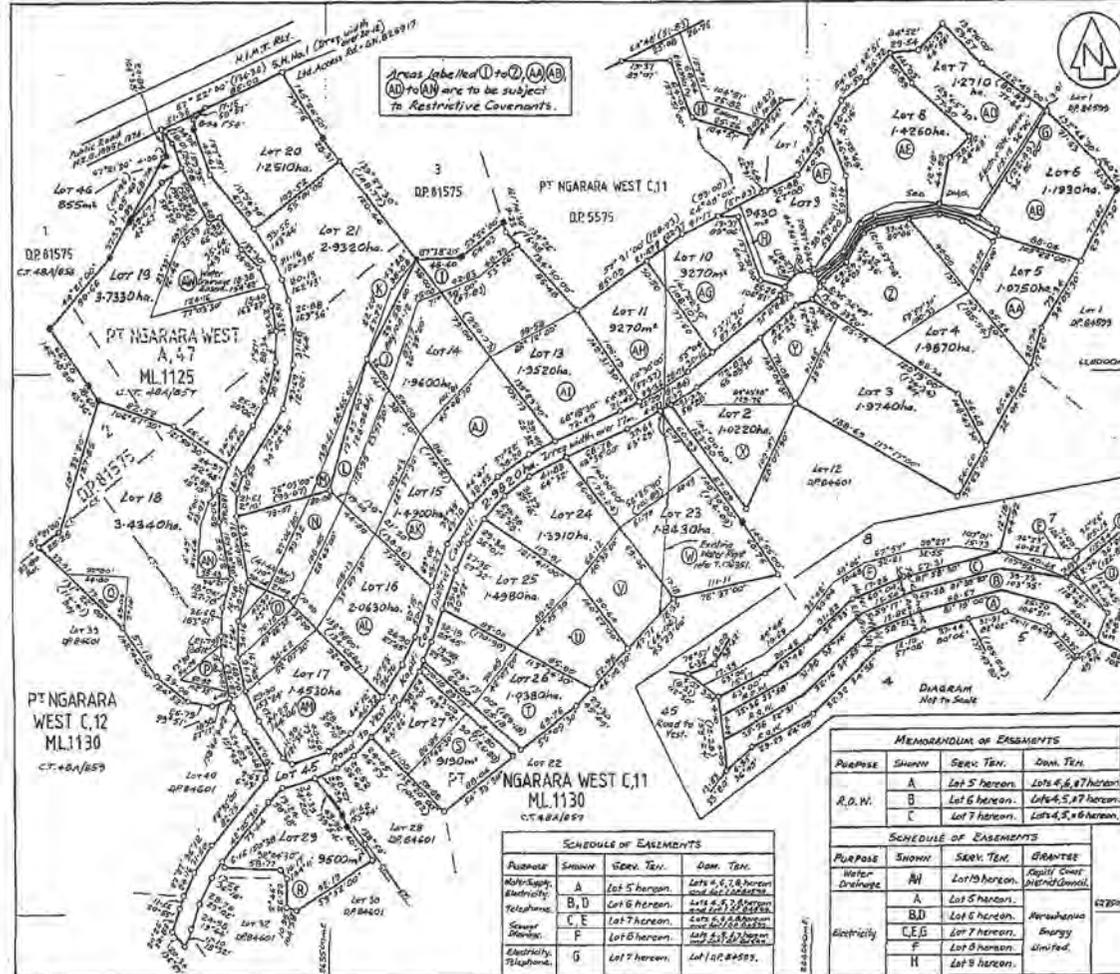
Completed in CT 484/657 (P) & 484/659 (P)

I, ROBERT GRHAM LONGLEY Registered Surveyor and holder of an annual practicing certificate in who may act as a registered surveyor pursuant to section 23 of the Survey Act 1980 hereby certify that this plan has been made from surveys conducted by me or under my direction, that all plans and notes are correct and have been made in accordance with the Survey Regulations 1982 or any regulations made in substitution thereof.

Approved as to Survey No 19297 Deposited this 24th day of May 1997.

For District Council Registrar

84600



Areas labeled (A) to (M) are to be subject to Restrictive Covenants.

SCHEDULE OF EASEMENTS table with columns: PURPOSE, SHOWN, SERV. TEN., DOM. TEN.

MEMORANDUM OF EASEMENTS table with columns: PURPOSE, SHOWN, SERV. TEN., DOM. TEN.

SCHEDULE OF EASEMENTS table with columns: PURPOSE, SHOWN, SERV. TEN., DOM. TEN.

LAND DISTRICT WELLINGTON Survey Blk. & Dist. IX KAITIWA NZMS 261 Sheet Record Map No.

LOTS 2 TO 11, 13 TO 21, 23 TO 27, 29, 45, 46 BEING SUBDIVISION OF LOT 2 RP 81575, AND PT NGARARA WEST A 47, C 11, AND C 12.

TERRITORIAL AUTHORITY KAIPITI COAST DISTRICT. Surveyed by PRITCHARD GROUP LIMITED. Scale 1:2500. Date May 1997.

1:1. HONORABLE DIRECTOR GENERAL SURVEYOR GENERAL, DEPARTMENT OF SURVEY AND LAND INFORMATION, NEW ZEALAND



KAPITI COAST DISTRICT COUNCIL

CONSENT NOTICE PURSUANT TO SECTION 221

OF THE RESOURCE MANAGEMENT ACT 1991

FOR THE DEPOSIT OF LAND TRANSFER PLANS 84599, 84600
and 84601

THE SUBDIVISION OF LOT 2 DP 81575 AND PART NGARARA
WEST C11, C12 & A47 BLOCK IX KAITAWA SURVEY
DISTRICT,

STATE HIGHWAY 1, WAIKANAE

FOR BIPROC HOLDINGS LTD

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 and the following condition is to be complied with on a continuing basis:

1. That specific foundation design by a registered engineer will be required for any new dwelling on Lot 1 Land Transfer Plan No. 84599 and Lots 2 to 30, 32, 33, 39 and 40 on Land Transfer Plan No.s 84600 and 84601.
2. On site effluent disposal for Lot 1 Land Transfer Plan No. 84599 and Lots 2 to 30, 32, 33, 39 and 40 on Land Transfer Plan No.s 84600 and 84601 shall be in accordance with Wellington Regional Council Discharges to Land Plan, Rule 7 and Appendix 6 and shall comply with the recommendations contained in the Ormiston Associates Limited report titled "Wastewater Disposal Assessment for Biproco Holdings Subdivision, at State Highway 1, Waikanae", except for Option (ii) Item 3 on page 14 under the heading "9 Conclusions and Recommendations" which is unacceptable to Council.

Owners shall be responsible for the ongoing maintenance and monitoring of the effluent disposal system in accordance with the systems maintenance specifications.

CODE COMPLIANCE CERTIFICATE

Section 95 Building Act 2004 [Form 7 – Building (forms) Regulations 2004]



Consent No(s): 221050

The Building			
Street address of building:	91 Aston Road, Paraparaumu	Building name:	N/A
Current, Lawfully established, use:	Ancillary Building (Septic System)	Location of building within site/block number:	Adjacent to dwelling
Level/unit number:	-	Intended life of the building if 50 years or less:	-
Legal description of land where building is located:	LOT 7 DP 84600 C/T 52A/947	Year first constructed:	2000
The Owner			
Name of owner:	Fawcett Family Trust	Street address /registered office:	91 Aston Road Waikanae
Contact person:	Christopher and Jacqueline Fawcett	Phone numbers:	
Mailing address:	91 Aston Road RD 1 Waikanae 5391	Landline:	-
Email address:	fawpram@xtra.co.nz	Mobile:	021615345
Website:	N/A	Daytime:	-
		After hours:	-
		Facsimile number:	-
First point of contact for communications with the Kapiti Coast District Council:			
As above			
Building Work			
Building Consent No(s):	221050	Issued by:	Kapiti Coast District Council

Code Compliance

The building consent authority named below is satisfied, on reasonable grounds, that:

- (a) the building work complies with the building consent

A handwritten signature in blue ink, appearing to read 'Michelle Salmon', is written over a horizontal line.

Michelle Salmon –
Building Inspections Team Leader
On behalf of **Kapiti Coast District Council**

Date: 1/03/2023



ELECTRICAL CERTIFICATE OF COMPLIANCE & ELECTRICAL SAFETY CERTIFICATE (RETAIN FOR 7 YEARS)

CERTIFICATE ID NO AS PER INVOICE: INV-61111

Customer name: Jackie Fawcett

Location of installation: 91 Aston Road, RDI, Waikanae

Name of Electrical worker:

James Walburn

Registration/Practising licence number:

E062566

Company details:

2 Connect Electrical Limited / 04 974 0573 / info@2connect.co.nz

Name of person(s) supervised:

F Herries - ETLC 155863 J Singleton - EW148496

CoC / ESC

- Type of work: Additions Alterations New work
The prescribed electrical work is: Low risk General High-risk (Specify):
Reference Standards: Part 1 of AS/NZS 3000 Part 2 of AS/NZS 3000
Additional Standards: Type of Supply system: 400V MEN

Description of Work - full details and dates on invoice:

Connect replacement septic pump system

Select those that apply:

- Has been installed in accordance with the specified certified design¹
- Has an earthing system that is correctly rated (where applicable)
- Contains fittings that are safe to connect to a power supply
- Relies on a supplier Declaration of Conformity¹ Attach or reference.
- Relies on a manufacturer's instructions¹ Attach or reference.
- Has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010
- Is safe to connect

Electronic/Other reference: www.jarussell.co.nz

Test Results	
Polarity (Independent earth):	Correct
Insulation resistance:	71MΩ
Earth Continuity:	0.1Ω
Bonding:	0.1Ω
Fault Loop impedance	0.56Ω
Other (specify):	-

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

This certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1) of the Building Act 2004. I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name: James Walburn

Registration/Practising licence number: E062566

Certifier's signature: [Signature]

Certificate Issue Date: 18/11/23

Connection Date: 18/11/23

Certified Design / Suppliers Declaration of conformity - Materials supplied by J.A. Russell Ltd



Kiwi Green Plumbing and Drainlaying Ltd



Formerly Cundy Plumbing

- Septic Tank Systems
- Emergency Call Outs
- Grey Water Systems
- Alterations
- New Houses
- Maintenance
- Spouting
- Water Tanks and Pumps

LOCAL & RELIABLE
CRAFTSMAN PLUMBER



Greg Cundy

027 2436866

04 2933612

0800 424 783

kiwigreen@vodafone.co.nz
www.kiwigreenplumbing.co.nz

This is the information that needs to be submitted to your Council for your Devan Integra S-15 Septic Tank System

Contents

1. PS4
2. Site Plan showing location of the Devan Integra S-15 and Drip line Irrigation.
3. Devan Warranty.

BC221050
Received by
Kapiti Coast District Council
02/02/2023
via email



Kiwi Green Plumbing and Drainlaying Ltd



Formerly Cundy Plumbing

- Septic Tank Systems
- Emergency Call Outs
- Grey Water Systems
- Alterations
- New Houses
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0800 424 783

kiwigreenplumbing@gmail.com
www.kiwigreenplumbing.co.nz

PRODUCER STATEMENT 4

ISSUED BY: Kiwi Green Plumbing and Drainlaying Ltd

TO BE SUPPLIED TO: Kapiti Coast District Council

IN RESPECT OF: Chris & Jackie Fawcett

AT: 91 Aston Road, Waikanae Downs

Kiwi Green Plumbing and Drainlaying Ltd referred to above to provide an Onsite Waste Water Design which complies with AS/NZ 1546-2000 and the ARC (TP58)3rd edition 2004.

Warranty

Devan Plastics Ltd warrants each system to be free of defects in workmanship or materials for a period of 15 years for all. A manufacturer's warranty applies to all other componentry used on the Devan System. It is this commitment to excellence that makes Devan Plastics Limited the Market Leader in the field of Sewage and Waste Water Treatment.

Compliance and Certification

AS/NZ standard 1546:2008 standard

AS/NZS 1547:2012 standard

On Site Wastewater Management

Design and testing carried out by Registered Engineers and Consultants.

Greg Cundy

Kiwi Green Plumbing and Drainlaying Ltd



PRODUCER STATEMENT

UNDERGROUND TANKS

ISSUED BY: Devan Plastics Limited

Warranty

Devan Plastics Ltd warrants the 2100 and 3600 litre underground storage vessels (for all applications including grey, black and potable water) to be free of defects in workmanship or materials for a period of 15 years. It is this commitment to excellence that makes Devan Plastics Limited the market leader in the field of water storage and wastewater treatment. Please refer to the appropriate installation standards in order to comply with the provisions of the warranty.

Compliance and Certification

Design and testing of Devan underground tanks has been carried out by Registered Engineers and Consultants in order to comply and be certified against the following standards:

- ☒ AS/NZS 1170.0-2002 Structural Design Actions
- ☒ AS/NZS 4766:2006 Polyethylene Storage Tanks for Water and Chemicals
- ☒ AS/NZS 4678:2002 Earth Retaining Structures
- ☒ AS/NZS 1546.1.2008 Septic Tanks

Raw Materials

Devan tanks are manufactured in New Zealand from specifically designed Polyethylene that is certified by the manufacturer to be fit for purpose. The polyethylene material used in the manufacture of Devan tanks will not degrade, is UV stabilized for New Zealand conditions and it is also resistant to algae growth as a result of its formulation and not from any addition of fungicides.

WARRANTY POLICY

Your Devan product has been manufactured to the highest standards utilising advanced technology and production procedures. Devan Plastics Limited ("Devan") warrants their products to be free of defects in workmanship or materials for the period defined in Appendix A, provided the provisions detailed below have been complied with.

A third party manufacturers' warranty applies to all other components used in the manufacture of Devan products. Third party manufacturer's warrant their products are free from defects in material and workmanship at the time of shipment and will make good, by repair or at its option replacement, any defects which occur during the warrantable period as defined in Appendix A provided the provisions below have been complied with.

Necessary provisions

In order for a warranty claim to be accepted by Devan Plastics Limited or a third party manufacturer the following provisions must be met:

- 1) The equipment was correctly installed and in proper use as was intended by the manufacturer in accordance with the Installation and operating instructions supplied, and generally accepted code of practice or national standard/s.
- 2) The warranty period (as defined in Appendix A) from the date of invoice to the end user has not lapsed.
- 3) The claim for goods under warranty arises solely from faulty material or manufacturers' workmanship.
- 4) The customer or agent of the customer must return goods under warranty (where appropriate), stating the date and place of purchase promptly and within the product liability period.
- 5) No repairs must be entered into by anybody other than a specified distributor or repairer as agreed and appointed by Devan Plastics Limited.

6) Devan must be given a reasonable opportunity to inspect the tank and, if deemed necessary by Devan to have an independent engineering or other expert analysis of the cause of failure carried out.

Exclusions

Both the Devan warranty and third party manufacturer's warranty do not cover the following exclusions:

- 1) Except where otherwise stated by law, the manufacturer shall not be under liability for any injury, damage, or loss, including consequential damage or loss resulting from the use of its products, or resulting from defects therein. This may specifically refer to the cost of carriage, installation, electrical or plumbing requirements etc.
- 2) Damage caused by abnormal operating conditions, war, violence, cataclysm, or any force majeure.
- 3) Damage caused by the equipment being used for an application for which it is not manufactured or recommended by the original manufacturer or Devan Plastics Limited.

4) Damage caused by sand or abrasive materials, corrosion due to salt water, hazardous liquids, electrolytic action, and liquid temperatures beyond the recommended range, cavitation, and improper power supply voltage or outages.

5) Attempted repair, dismantling or any other tampering with any component of the system without the prior written approval of Devan Plastics Limited will void any warranty.

6) If the Devan product or third party component has not been maintained in accordance with Devan Plastics instructions.

7) Ingress of water or insect infestation to electrical components due to post-manufacture electrical penetrations not being appropriately protected.

8) Incorrect installation or negligent practices of the installer of the product.

This warranty does not exclude any condition or warranty implied by the Consumer Guarantees Act 1993, Fair Trading Act 1986, and the Commerce Act 1986 and is in addition to any rights the purchaser may have at law.

Appendix A - Product warranty periods

Product	Warranty Period
Septic tanks	15 years
WWTS vessels	15 years
Detention/retention tanks	15 years
Third party components	2 years
Grundfos pumps	2 years

Fawcett Family Trust
91 Aston Road
RD 1
Waikanae 5391

04 January 2023

Dear Building Consent Applicant / Building Owner

Approval of Building Consent – Detached Residential / Outbuilding: 221050

Location: 91 Aston Road, Paraparaumu
Legal Description: LOT 7 DP 84600 C/T 52A/947
Description: Upgrade septic tank system and install drainage field. Disconnect from Waikanae Downs Ltd Sewerage scheme

I am pleased to inform you that the above building consent application has been approved. The building consent documents have been issued and are enclosed.

The building consent attached to this letter is consent under the Building Act 2004 to undertake building work in accordance with the plans and specifications that accompanied your application. Under section 49 of that Act, Council is satisfied that the provisions of the building code would be met if the proposed building work were completed in accordance with those plans and specifications. This consent does not affect any duty or responsibility under any other Act or permit any breach of any other Act.

This building consent does not give or imply any rights to transgress beyond your legal boundaries. Any work that is required beyond your legal boundaries can only be undertaken with the permission of the affected owner/s.

Before starting any work please read ALL the building consent documents carefully and in full so that you, as the owner, understand the conditions under which the consent has been issued.

Owner responsibilities

The owner is responsible for ensuring:

- building work starts within 12 months of the approval of the building consent and that work progresses at a reasonable pace.
- written notice of every licensed building practitioner undertaking restricted building work is provided to Council before that work commences, and any changes are advised in writing

- the approved building consent documents are kept on site during construction and available for the District inspector at inspections
- all required inspections are completed and that a Code Compliance Certificate is obtained once the work has been completed. The list of supporting documentation required before issue of the Code Compliance Certificate and information on filling out the application form for code compliance certificate is attached. Failure to obtain a final inspection and a code compliance certificate may affect your insurance cover and could affect future re-sale of your property.
- a Corridor Access Request is made and a Works Access permit is obtained before undertaking work in the legal road/road reserve, including installing a vehicle access crossing from the public road into your property. The process to be followed and the forms can be found on the Council website under Council Services/Roads or Council Services/Frequently asked questions/Access & Transport.
- before any excavations are undertaken a "Before U Dig" inquiry is made to check for locations of any underground services.
- no work with noisy equipment is to be carried out before 7.30 a.m. or after 6 p.m. Monday to Saturday. During the week there may be workers on site from 6.30 a.m. quietly preparing for work. Work with noisy equipment is not permitted on Sundays and public holidays.
- all loose materials that are capable of being carried by the wind are either secured or removed from the site. All activities must be carried out in a manner that keeps to a minimum the dust nuisance to adjacent properties.
- no damage occurs to public property, for example footpaths, water meters or retaining structures. Should damage occur you will be required to pay for any repairs.
- obtaining an amendment to the building consent for any changes to the approved building consent, prior to that work being undertaken.
- meeting the requirements of any easements, consent notices, covenants, and like listings registered on the title.
- the development contributions invoiced, if any, must be paid before a code compliance certificate can be issued.
- all maintenance recommended by the manufacturers is carried out at the required intervals.

General requirements

Note: Your attention is drawn to the notes contained in the 'Addendum to the Consent' and guidance documents referred to.

The following information is relevant to this building consent:

1. The Building Inspector is to be given 24 hours' notice before carrying out the inspections on the attached list. To arrange for inspections by the District Inspector, please contact the building inspectorate on 04 296 4700 between the hours of 8.00am and 4.30pm.

2. You are responsible for the safety of visitors to the work site including those undertaking building inspections. You must provide safe access to parts of the construction necessary for inspection. Ladder access must be securely founded and tied. Scaffold access and roof edge protection is generally required.
3. If required inspections, including those by designers of specifically designed elements, are not undertaken you may experience difficulty in obtaining a Code Compliance Certificate for the project. We suggest that at the time of the first inspection you discuss the inspection requirements with the inspecting officer.
4. This building consent will lapse and be of no effect if the building work concerned has not been commenced within 12 calendar months after the date of issue, or within such further period as the territorial authority allows.
5. The contractor is to leave the site clear of all demolition materials and in a tidy state.
6. Easements, consent notices, covenants, and like listings registered on the title are the responsibility of the applicant.
7. Note and comply with endorsements on approved plans.

Please note that the design work and restricted building work must be supervised or carried out by a licensed building practitioner who is licensed to carry out or supervise that kind of building work.

You or your agent will need to provide their details to the Council in writing prior to commencement of the building work. If after the restricted building work commences the named licensed building practitioner(s) ceases to be engaged to carry out or supervise the restricted building work under the building consent, this must also be advised in writing as must also the details of any other licensed building practitioner(s) subsequently engaged to carry out or supervise the restricted building work (Section 87 of the Building Act 2004). A form "Advice of licensed building practitioner(s)" is enclosed for you to use to advise the Council of licensed building practitioner details.

Please also note that it is an offence to engage another person to carry out or supervise restricted building work who is not a licensed building practitioner (Section 86 of the Building Act 2004).

Other reference material

- Guide for completing an application for code compliance, <https://www.kapiticoast.govt.nz/your-council/planning/building/code-compliance-certificate/>
- A guide to the inspection process <https://www.kapiticoast.govt.nz/your-council/planning/building/building-services-inspections/>

If you have any questions regarding your building consent or your responsibilities, please contact Kapiti Coast District Council on 04 296 4700 or toll free on 0800 486 486.

Building Consent

[Form 5, Building (Forms) Regulations 2004]

221050

Section 51, Building Act 2004

The building

Street address of building: 91 Aston Road, Paraparaumu

Legal description of land where building is located: LOT 7 DP 84600 C/T 52A/947

Valuation number: 1515012407

Building name:

Location of building within site/ block number:

Level/unit number:

The owner

Name of owner: Fawcett Family Trust

Contact person:

Mailing address: 91 Aston Road, RD 1, Waikanae 5391

Street address/registered office: as above

Phone numbers:

Landline: - *Mobile:* 021615345

After hours: - *Fax number:* -

Email address: fawpram@xtra.co.nz

Website: -

First point of contact for communications with the council/building consent authority:

Full Name: Jackie Fawcett

Mailing Address: 91 Aston Road, RD 1, Waikanae

Phones: -: -: 021615345: -

Fax: Trustee

Email: fawpram@xtra.co.nz

Building work

The following building work is authorised by this building consent:

Upgrade septic tank system and install drainage field. Disconnect from Waikanae Downs Ltd Sewerage scheme

Detached Dwelling.

This building consent is issued under section 51 of the Building Act 2004. This building consent does not relieve the owner of the building (or proposed building) of any duty or responsibility under any other Act relating to or affecting the building (or proposed building). This building consent also does not permit the construction, alteration, demolition, or removal of the building (or proposed building) if that construction, alteration, demolition, or removal would be in breach of any other Act.

Conditions of building consent

This building consent is subject to the following conditions:

1. Refer to the list of inspections required. Under section 90 of the Building Act 2004 agents authorised by the Council (acting as a Building Consent Authority) are entitled, at all times during normal working hours or while building work is being done, to inspect—
 - a. land on which building work is being or is proposed to be carried out; and
 - b. building work that has been or is being carried out on or off that building site; and
 - c. any building.

Compliance schedule

A compliance schedule is not required for the building.

Attachments

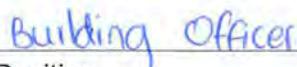
Copies of the following documents are attached to this building consent:

- List of required inspections and supporting documentation required
- Building Consent Addendum
- Plans and specifications

Note: The cover letter and all attachments to this building consent should be read fully to ensure you understand all conditions of this consent.



Signature



Position

On behalf of: KAPITI COAST DISTRICT COUNCIL

Date: 4/01/23

Relevant Information

Issued in accordance with Building Consent No. 221050

1. Council's manifold/meter box, base, and lid, are to be protected/re-instated to original specification. The cost to reinstate any damage to Council's assets will be paid for by the owner/contractor.
2. Plan notes take precedence over general specifications.

Building Consent Addendum to 221050

Application	Building Consent No. 221050
Fawcett Family Trust	
91 Aston Road	
RD 1	
Waikanae 5391	

Project	
Description:	Dwellings - Alterations & additions Being Stage 1 of an intended 1 Stages Upgrade septic tank system and install drainage field. Disconnect from Waikanae Downs Ltd Sewerage scheme.
Intended Life:	Indefinite, but not less than 50 years
Intended Use:	Detached Dwelling
Estimated Value:	\$22,000
Location:	91 Aston Road, Paraparaumu
Legal Description:	LOT 7 DP 84600 C/T 52A/947
Valuation No:	1515012407

Plumber: Greg Cundy - KiwiGreenPlumbing&Drainage
kiwigrreenplumbing@gmail.com : 0272436866

Specific requirements

1. A certifying plumber/drainlayer is to complete the attached producer statement forms and return to Council. Also provide a neat 'as built' drainage plan showing sewer, stormwater and water.

KAPITI COAST DISTRICT COUNCIL**Consent No:** 221050**Building Category:** R1**Site Address:** 91 Aston Road, Paraparaumu**Owner/Agent:** Fawcett Family Trust

Inspections

The following inspections are required:

- 1 Drainage
- 1 Final Inspection
- 2 Total Inspections

Documentation

The following documentation is required:

- 1 Application for CCC
- 1 Electrical safety certificate - Electrician
- 1 As-built drainage plan
- 1 Drainage (Form 126) for stormwater & private
Sewer installation
- 1 Other (specify) PS3 from tank and effluent installer



Kiwi Green Plumbing and Drainlaying Ltd



AIR TECH
9000

Formerly Cundy Plumbing

- Spouting
- Roofing
- Water Filters
- Septic Tank Systems
- Emergency Call Outs
- Grey Water Systems
- Alterations
- New Houses
- Maintenance
- Water Tanks and Pumps

LOCAL & RELIABLE
CRAFTSMAN PLUMBER



Greg Cundy

027 2436866

04 2933612

0800 424 783

kiwigreen@vodafone.co.nz
www.kiwigreenplumbing.co.nz

**This is all the information that needs to be submitted to your
Council for your Devan Integra S-15 Septic Tank System**

**APPROVED BY
BUILDING
simonc
OFFICER
4/01/2023**

Job Address: 91 Aston Road, Waikanae Downs

Client: Chris & Jackie Fawcett

Date: December 8, 2022

**BC221050
Received by
Kapiti Coast District Council
19/20/2022**

Contents

1. Google Plan showing bush area and possible waterways.
2. Site plan showing the location of the septic system and the drip line irrigation.
3. Site Visit Photos
4. Devan Assessment
5. Devan Brochure
6. Devan Warranty
7. Service Contract signed.
8. Insurance.
9. Job Sheet from Site Visit

**Provide barriers and signage
sufficient to comply with F5 of NZ
Bldg Code and Worksafe
requirements
for the construction/demolition site**

**CAUTION
Plans have been digitally
reproduced and may not
be to scale.**

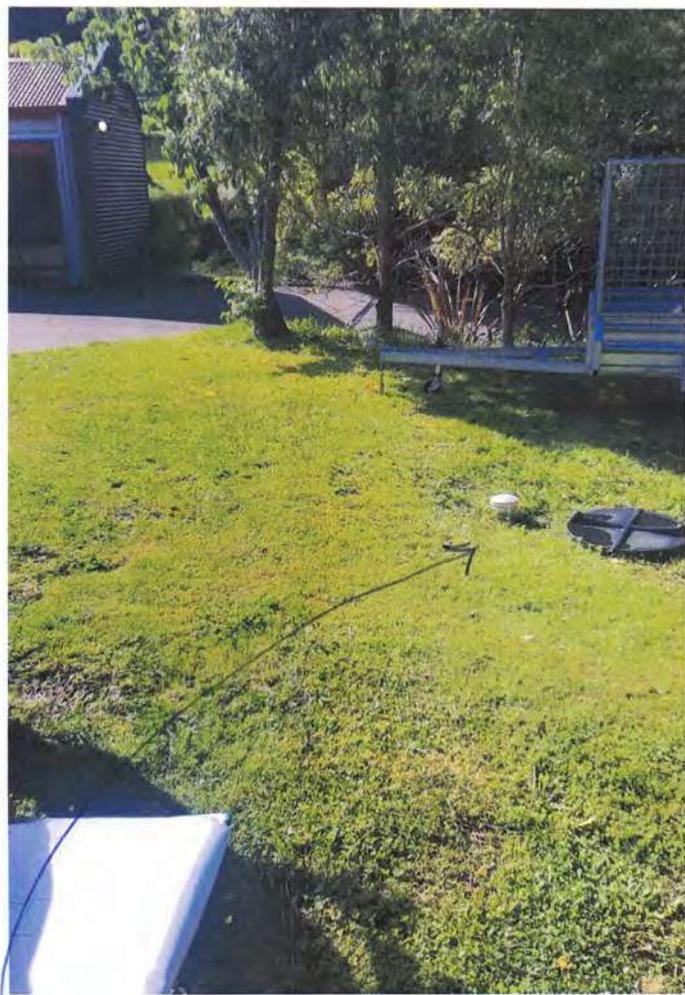
Google Maps 91 Aston Road



Imagery ©2022 Airbus, CNES / Airbus, Kapiti Coast District Council, Maxar Technologies, Map data ©2022 10 m

DEVAN INTEGRA SIS
SEPTIC TANK LOCATION

KIWIARGON PLUMBING 7921
7/12/22.



OLD EXISTING SEPTIC
EMPTY, CAUG IN, BACKFILL.

NEW SEPTIC LOCATION

D RIP IRRIGATION FIELD
IN GARDEN, PLANTED, MULCHED

Kiwi Green Plumbing and Drainlaying Ltd



AIR TECH
9000

Formally Cundy Plumbing

- Septic Tank Systems
- Grey Water Systems
- Emergency Call Outs
- Alterations
- New Houses
- Maintenance
- Spouting
- Water Tanks and Pumps

LOCAL & RELIABLE
CRAFTSMAN PLUMBER



Greg Cundy

027 2436866

04 2933612

0800 424 783

kiwgreenplumbing@gmail.com
www.kiwgreenplumbing.co.nz

November 23, 2022

Chris & Jackie Fawcett

We Jackie + Chris Fawcett agree to engage Kiwi Green Plumbing and Drainlaying Ltd to undertake 6 monthly servicing of our Devan Integra S-15 Septic Tank System.

Servicing (twice annually)

\$175.00 + GST each service

It is a requirement of Devan Plastics Ltd and of some councils that owners must enter into a service contract for the servicing of systems. This is necessary to keep your warranty valid and must be carried out by an authorized Devan Plastics Technician. At each service, we will provide both yourself and your local council with a signed copy of the servicing maintenance report.

This contract is reviewable after your next 6 services

Signed

Mr. Fawcett
Ol. Fawcett

Date

28/11/2022

BC221050
Received by
Kapiti Coast District Council
19/20/2022

BC221050
Received by
Kapiti Coast District Council
19/20/2022



AMP General Insurance
55 Featherston Street
P O Box 797
Wellington 6140

28th June 2022

Certificate of Currency

This certificate confirms details of the insurance cover.

Name of insured	Kiwi Green Plumbing & Drainlaying Ltd
Interest insured	Liability Package
Location	Anywhere in New Zealand
Type of cover	Business Insurance Policy
Sum insured	Public & Product Liability \$2,000,000 Statutory Liability \$1,000,000 Employers Liability \$1,000,000
Period of insurance	From 28 th June 2022 to 30 th June 2023 at 4pm
Interested party	None
Policy number	HO.BIP.5330370
Clauses	
Special terms and conditions	Tradies Package Endorsement

Please refer to the policy document and schedule for the full policy terms, conditions and exclusions which may limit the scope of this insurance cover.

Business Development Manager

Job Sheet for Site Visit

Date 7/11/22.

Name C & J FAWCETT

Address 91 ASTON RD.
WAIKARANAG BOWNS.

System NEW DEWAN INTEGRAL SIS.

Mole Plough? PLANTED / MULCHED.

Bedrooms 3 BODS

Water Supply TOWN SUPPLY TRUCKLY.

Soil Conditions SOIL CAT 3 200mm TOPSOIL

Ground Soil Test & Photo DIR. A. OVER CLAY/ROCK.

More Photos ATTACHED

Water Ways NONE.

Reserve Area PLenty OF ROOM.

Notes EMPTY EXISTING.
CAGE IN & RECONNECT NOW.



**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy**



R.W. Muir
Registrar-General
of Land

Identifier **WN52A/947**
Land Registration District **Wellington**
Date Issued 24 November 1997
Prior References
WN48A/857

BC221050
Received by
Kapiti Coast District Council
19/20/2022

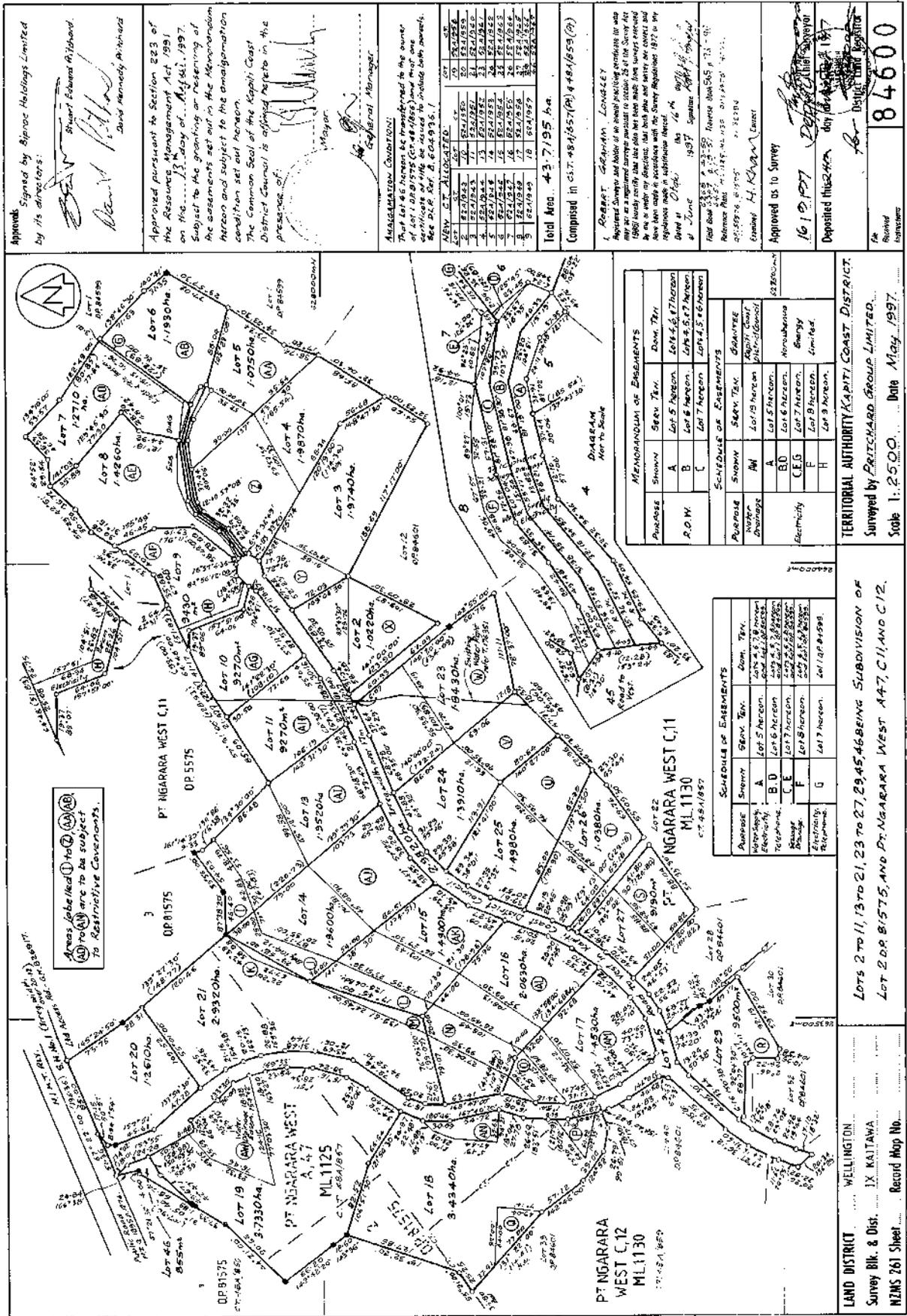
Estate Fee Simple
Area 1.2710 hectares more or less
Legal Description Lot 7 Deposited Plan 84600

Registered Owners

Christopher Alan Fawcett, Jacqueline Mavis Fawcett and Catherine Ann Freear

Interests

Appurtenant hereto are rights of way created by Transfer 210608 (affects parts formerly contained in CT WN363/4)
Appurtenant hereto are rights of way created by Transfer 774937(affects parts formerly contained in CT WN363/4)
B639026.12 Consent Notice pursuant to Section 221(1) Resource Management Act 1991 - 24.11.1997 at 3.45 pm
Appurtenant hereto are rights of way specified in Easement Certificate B639026.16 - 24.11.1997 at 3.45 pm
Subject to a right of way over part marked C on DP 84600 specified in Easement Certificate B639026.16 - 24.11.1997 at 3.45 pm
The easements specified in Easement Certificate B639026.16 are subject to Section 243 (a) Resource Management Act 1991
Appurtenant hereto are water supply, electricity, telephone and sewage drainage rights specified in Easement Certificate B639026.17 - 24.11.1997 at 3.45 pm
Subject to water supply and sewage drainage rights over parts marked C and E, electricity and telephone rights over parts marked C, E and G on DP 84600 specified in Easement Certificate B639026.17 - 24.11.1997 at 3.45 pm
Subject to an electricity right (in gross) over parts marked C, E and G on DP 84600 in favour of Horowhenua Energy Limited created by Transfer B639026.19 - 24.11.1997 at 3.45 pm
Subject to a right to enable termination of biomass disposal connection (in gross) in favour of Waikanae Downs Limited created by Transfer B639026.21 - 24.11.1997 at 3.45 pm
Land Covenant in Transfer B639026.23 - 24.11.1997 at 3.45 pm
Fencing Covenant in Transfer B733730.2 - 14.7.1999 at 3.55 pm
5118530.1 Variation of Consent Notice B639026.12 pursuant to Section 221(5) Resource Management Act 1991 - 3.12.2001 at 1:50 pm
8830922.3 Mortgage to Bank of New Zealand - 26.8.2011 at 4:52 pm
10610857.1 Variation of Consent Notice B639026.12 pursuant to Section 221(5) Resource Management Act 1991 - 4.11.2016 at 10:33 am



Approved Signed by Sparco Holdings Limited
by its directors:
Shant Edward Alford
David Kennedy Alford

Approved pursuant to Section 223 of the Resource Management Act 1991 on the 15th day of May 1997. Subject to the granting or reserving of the easements set out in the Memorandum hereon and subject to the amalgamation condition set out hereon. The Common Seal of the Kapiti Coast District Council is affixed hereto in the presence of:
[Signature] Mayor
[Signature] General Manager

AMALGAMATION CONDITION:
That Lot 6 hereon be transferred to the owner of Lot 1 and 2 hereon (C-181889) and the owner of Lot 1 and 2 hereon (C-181889) shall be deemed to be the owner of Lot 6 hereon.

Lot	Area (ha)	Area (sq ft)
1	1.920	437,000
2	1.920	437,000
3	1.920	437,000
4	1.920	437,000
5	1.920	437,000
6	1.920	437,000
7	1.920	437,000
8	1.920	437,000
9	1.920	437,000
10	1.920	437,000
11	1.920	437,000
12	1.920	437,000
13	1.920	437,000
14	1.920	437,000
15	1.920	437,000
16	1.920	437,000
17	1.920	437,000
18	1.920	437,000
19	1.920	437,000
20	1.920	437,000
21	1.920	437,000
22	1.920	437,000
23	1.920	437,000
24	1.920	437,000
25	1.920	437,000
26	1.920	437,000
27	1.920	437,000
28	1.920	437,000
29	1.920	437,000
30	1.920	437,000
31	1.920	437,000
32	1.920	437,000
33	1.920	437,000
34	1.920	437,000
35	1.920	437,000
36	1.920	437,000
37	1.920	437,000
38	1.920	437,000
39	1.920	437,000
40	1.920	437,000
41	1.920	437,000
42	1.920	437,000
43	1.920	437,000
44	1.920	437,000
45	1.920	437,000
46	1.920	437,000
47	1.920	437,000
48	1.920	437,000
49	1.920	437,000
50	1.920	437,000

Total Area 43,719.5 ha.
Comprised in C-17 48,455 (A) 48,455 (A)

Approved as to Survey
16/10/1997
Deposited this 24th day of May 1997
84600

Approved as to Survey
16/10/1997
Deposited this 24th day of May 1997
84600

Approved as to Survey
16/10/1997
Deposited this 24th day of May 1997
84600

MEMORANDUM OF EASEMENTS

Particular	Benefit To	Dom. Ten.
A Lot 5 hereon	Lots 6, 7, 8 hereon	Yes
B Lot 6 hereon	Lots 5, 7, 8 hereon	Yes
C Lot 7 hereon	Lots 5, 6, 8 hereon	Yes
D Lot 8 hereon	Lots 5, 6, 7 hereon	Yes

SCHEDULE OF EASEMENTS

Particular	Benefit To	Dom. Ten.
A Lot 5 hereon	Lots 6, 7, 8 hereon	Yes
B Lot 6 hereon	Lots 5, 7, 8 hereon	Yes
C Lot 7 hereon	Lots 5, 6, 8 hereon	Yes
D Lot 8 hereon	Lots 5, 6, 7 hereon	Yes

TERRITORIAL AUTHORITY KAPITI COAST DISTRICT.
Surveyed by FRESHARD GROUP LIMITED.
Scale 1:2500 Date May 1997.

W. A. REYNOLDS, DIRECTOR GENERAL, DEPARTMENT OF SURVEY AND LAND INFORMATION, WELLINGTON.

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W. A. REYNOLDS, DIRECTOR GENERAL, DEPARTMENT OF SURVEY AND LAND INFORMATION, WELLINGTON.

Areas labeled (A) to (H) are to be subject to Restrictive Covenants.

PT NGARARA WEST C.11
OP 5575

PT NGARARA WEST
ML 1125
C-17 48,455 (A)

PT NGARARA WEST
ML 1130

PT NGARARA WEST C.11
ML 1130

PT NGARARA WEST C.12
ML 1130

PT NGARARA WEST C.11
OP 5575

PT NGARARA WEST
ML 1125
C-17 48,455 (A)

PT NGARARA WEST
ML 1130

PT NGARARA WEST C.11
ML 1130

PT NGARARA WEST C.12
ML 1130

PT NGARARA WEST C.11
OP 5575

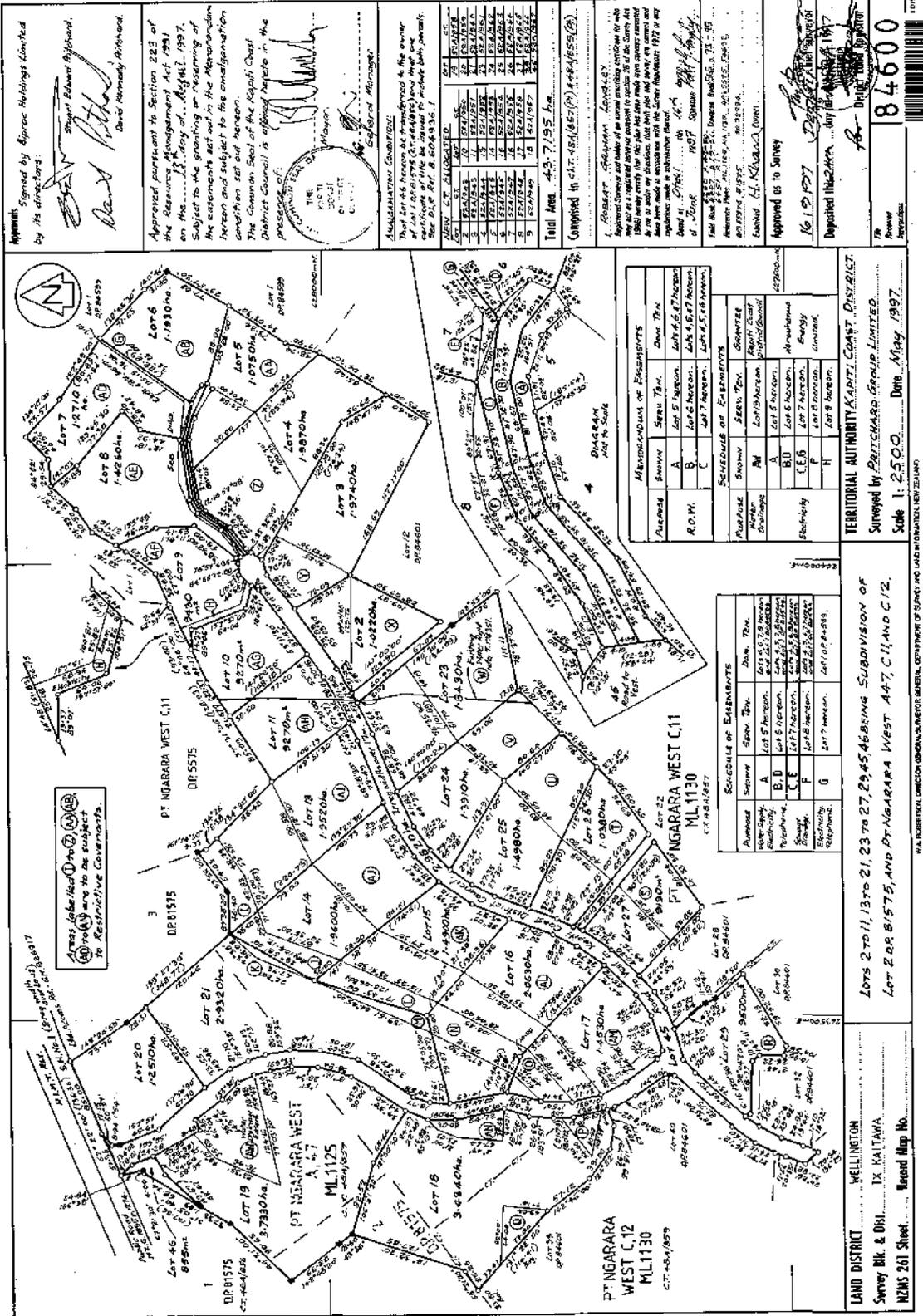
PT NGARARA WEST
ML 1125
C-17 48,455 (A)

PT NGARARA WEST
ML 1130

PT NGARARA WEST C.11
ML 1130

PT NGARARA WEST C.12
ML 1130

PT NGARARA WEST C.11
ML 1130



Approved by *Apura Holdings Limited* by its directors:
David Palmer
David Kennedy

Approved pursuant to Section 223 of the Resource Management Act 1991 on the 15th day of August 1997. The conditions set out in the Memorandum and Schedule are subject to the conditions set out in the Memorandum and Schedule set out hereon. The Common Seal of the Kapiti Coast District Council is affixed hereto in the presence of:
 THE MAYOR
 THE COUNCIL CLERK

AMALGAMATION CONDITIONS

That Lot 146 hereon be transferred to the owner of Lot 146/1995 (C-4488) and that one acre of Lot 146/1995 (C-4488) be included in the same lot as Lot 146/1995 (C-4488).

Lot No.	Area (sqm)	Area (sqft)
1	10717.5	11547.5
2	10717.5	11547.5
3	10717.5	11547.5
4	10717.5	11547.5
5	10717.5	11547.5
6	10717.5	11547.5
7	10717.5	11547.5
8	10717.5	11547.5
9	10717.5	11547.5
10	10717.5	11547.5
11	10717.5	11547.5
12	10717.5	11547.5
13	10717.5	11547.5
14	10717.5	11547.5
15	10717.5	11547.5
16	10717.5	11547.5
17	10717.5	11547.5
18	10717.5	11547.5
19	10717.5	11547.5
20	10717.5	11547.5
21	10717.5	11547.5
22	10717.5	11547.5
23	10717.5	11547.5
24	10717.5	11547.5
25	10717.5	11547.5
26	10717.5	11547.5
27	10717.5	11547.5
28	10717.5	11547.5
29	10717.5	11547.5
30	10717.5	11547.5

Total Area 43,719.5 ha.

Complied in C.T. 484/857 (A) 444/855 (B)

Consent to the subdivision of the land shown on this plan as a registered subdivision in accordance with the Survey Act 1980 was granted by the Registrar-General on the 15th day of August 1997. The conditions set out in the Memorandum and Schedule are subject to the conditions set out in the Memorandum and Schedule set out hereon. The Common Seal of the Kapiti Coast District Council is affixed hereto in the presence of:
 THE MAYOR
 THE COUNCIL CLERK

Approved by the Surveyor-General
 Approved 05 to Survey
 No. 15/1997
 Deposited this 20th day of August 1997
 84600

SCHEDULE OF EASEMENTS

Area	From	To	Area
A	Lot 5 hereon	Lot 6 hereon	Lot 5 hereon
B	Lot 6 hereon	Lot 7 hereon	Lot 6 hereon
C	Lot 7 hereon	Lot 8 hereon	Lot 7 hereon

ROADS

Area	From	To	Area
A	Lot 5 hereon	Lot 6 hereon	Lot 5 hereon
B	Lot 6 hereon	Lot 7 hereon	Lot 6 hereon
C	Lot 7 hereon	Lot 8 hereon	Lot 7 hereon

SCHEDULE OF EASEMENTS

Area	From	To	Area
A	Lot 5 hereon	Lot 6 hereon	Lot 5 hereon
B	Lot 6 hereon	Lot 7 hereon	Lot 6 hereon
C	Lot 7 hereon	Lot 8 hereon	Lot 7 hereon

TERMINAL AUTHORITY KAPITI COAST DISTRICT
 Surveyed by *PRESCOTT GROUP LIMITED*
 Scale 1:2500 Date May 1997

SCHEDULE OF EASEMENTS

Area	From	To	Area
A	Lot 5 hereon	Lot 6 hereon	Lot 5 hereon
B	Lot 6 hereon	Lot 7 hereon	Lot 6 hereon
C	Lot 7 hereon	Lot 8 hereon	Lot 7 hereon

SCHEDULE OF EASEMENTS

Area	From	To	Area
A	Lot 5 hereon	Lot 6 hereon	Lot 5 hereon
B	Lot 6 hereon	Lot 7 hereon	Lot 6 hereon
C	Lot 7 hereon	Lot 8 hereon	Lot 7 hereon

LAND DISTRICT WELLINGTON
 Survey Blk. & Dist. IX KAITIWA
 NZMS 261 Sheet
 Board Map No.

LAND DISTRICT WELLINGTON
 Survey Blk. & Dist. IX KAITIWA
 NZMS 261 Sheet
 Board Map No.

LAND DISTRICT WELLINGTON
 Survey Blk. & Dist. IX KAITIWA
 NZMS 261 Sheet
 Board Map No.

LAND DISTRICT WELLINGTON
 Survey Blk. & Dist. IX KAITIWA
 NZMS 261 Sheet
 Board Map No.



BC221050
Received by
Kapiti Coast District Council
19/20/2022

ON-SITE WASTEWATER TREATMENT and DISPOSAL ASSESSMENT

For: Kapiti Coast District Council

Site: 91 Aston Road
Waikanae

Report by: Kiwi Green Plumbing and Drainlaying Ltd

Authorised installers for Devan Plastics Limited



Customer Ref: Chris & Jackie Fawcett

Date: November 23, 2022

Site: 91 Aston Road
Waikanae

Postal: if different

By: Person who did the design

Registered drainlayer
Authorised Devan Plastics installer

Onsite Wastewater Treatment and Disposal Assessment

The following report has been based on the information provided in the Australian/New Zealand Standard AS/NZS 1547:2012 for On-site domestic-wastewater management, and on-site inspection by

The proposed building site meets the subdivision criteria for unsewered sites.

The following report demonstrates that the site is sustainable for on-site treatment and disposal of waste water.

The site has roof water supply.

The owners propose and connect to a Devan Integra S-15 Aerated Wastewater Treatment System.

We suggest that water saving devices be installed to all tap ware, and dual flush toilet cisterns be installed; this will ensure lower daily water consumption.

The total number of bedrooms is 3

Soil Category has been identified by Kiwi Green Plumbing

The soil category is 4

Topsoil thickness is 100mm

Water Table is 6m

Distance to water ways 20m

Disposal field slope <15%

Stabiility issues No

On this information we have designed the following wastewater treatment and disposal system (Australian/New Zealand Standard AS/NZS 1547:2012 for On-site domestic-wastewater management).

Disposing of wastewater will have no environmental impact to the surrounding properties with regards to the wastewater disposal or storm water run off.

The recommended design irrigation rate for irrigation system with secondary treated waste water is less than 28mm/week.

On these findings the following formula will apply for the footprint of the irrigation field. The treatment plant system will have to produce a quality of effluent better than 20g/m³ BOD and 30g/m³ TSS.

Irrigation Field Specifications

Total number of bedrooms	3	<input type="text"/>
Total occupancy	5	<input type="text"/>
Flow (L) per person per day	180	<input type="text"/>
Total Daily flow	900	
Selected loading rate (mm/day)	3	<input type="text"/>
Total disposal area required	300	
Line spacing	1m	
Dripper spacing	0.6m	
Dripper flow rate	2.3	
Cut off drains required	No	
Distance from boundary	>10m	
Reserve area available	100%	

The treatment plant (S-15) has the capability of treating up to 1.5 cubes per day and will incorporate a holiday/vacation mode. This mode will allow the system to cope with peak loadings along with extended periods of the house not being used. This mode is critical for the treatment system to function correctly.

The installation of the dripper line disposal system (which can utilise excess soil on site) . This should be installed below the ground at 150mm, insure to hoe up the existing ground to free the existing top layer of soil from compaction. The grasses and plants will maximize absorption along with evapotranspiration taking place. There will be no environmental impact surrounding the irrigation field as the irrigation system will achieve a ground water clearance greater than 600mm.

The dripper rate of the drip line pipe is 2.3 litres per hour at 600mm spacing's and the distance between the installed pipes will be 1000mm. The dripper pipe also incorporates the following features –

- a) Advanced filter on the emitter reducing clogging potential.
- b) Heavy wall thickness.
- c) Pressure compensating emitters.

The installation of a back flush valve to the inline filter is a requirement along with the installation of a 130 micron long body 25mm disc filter. This will prevent possible solid particles entering the irrigation field causing potential blockages of the dripper.

A full service and maintenance schedule will be required for the on-site disposal system and treatment plant.

Only a registered drainage contractor is permitted by Council and legislation to install drainage works.

Irrigation pump requirements

Dripline min operating pressure	5
Lateral loss (per 50m)	1
Mainline (per 50m)	1
Irrigation filter (semi blocked)	3
Tank depth	2
Height to disposal field	2
TOTAL	17
TOTAL + 10%	18.70

Irrigation pump performance

Total emitter number	inf
Required flow rate	inf
Pump duty	Check on pump curve

Additional Notes

Any extra info

Irrigation Pump Specifications

APPLICATIONS

The Hillift 35 is a multi-purpose submersible pressure pump ideal for rainwater systems, treated grey water irrigation, operating sprinklers, and pumping water from tanks.

FEATURES

- Silent alternative to surface pumps
- Environmentally safe, oil-free
- Ceramic shaft sleeve for long life
- Built-in thermal overload protection

CONSTRUCTION

- Composite and stainless steel materials
- Anti-debris stainless steel strainer
- Supplied with 10 m lead and plug, non return valve, float switch and a hose adapter for 3/4" and 1" thread or clamp version
- 1 x 240 V, IP68 motor, Class B

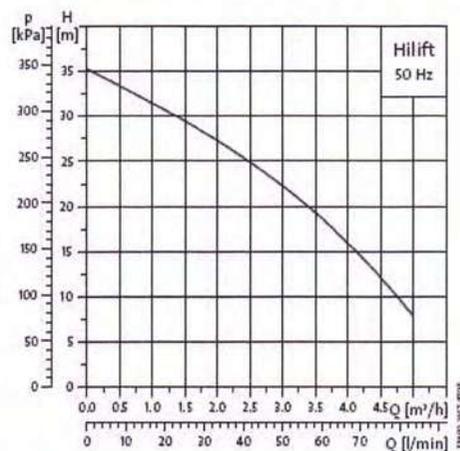
PERFORMANCE

Pumps	Discharge Pressure (kPa/psi)			
	150	200	250	300
	22	29	36	44
Output (l/min)				
Hilift 35 A-1	68	55	40	20

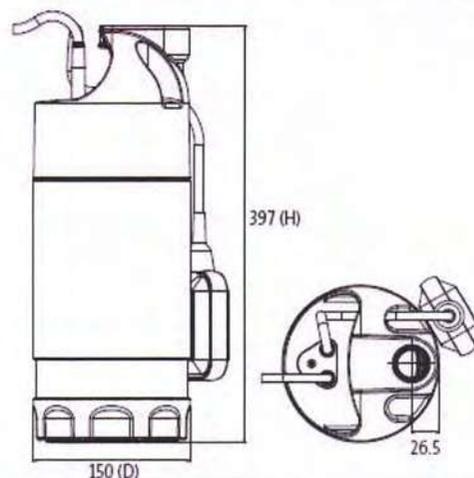
As a guide 1 tap  = 10 litres per minute • 1 sprinkler  = 15 litres per minute

TECHNICAL FEATURES

Pumps	Cable (m)	P1 (kW)	1 ph In (A)	Water temp (°C)	Outlet	Dimensions		Weight (kg)									
						D	H										
									l/min	10	20	30	40	50	60	70	80
Hilift 35 A-1	10	0.76	3.8	0/35	1" F	150	397	8.7	m ³ /h	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8
									m Head	33	31	28	25	22	18	15	10



DIMENSIONS / INSTALLATION



Assessment of Environmental Effects of the Devan Integra S-15

- The Devan Integra S-15 Wastewater Treatment System has the capacity to treat up to 1500litres per day with standard appliances and no sink waste disposal.
- The Devan Integra S-15 Treatment System is designed to perform to a quality of 15-20mg/L BOD5 and 20-30mg/L Suspended Solids.
- The Devan Integra S-15 Treatment System has an audible and visible alarm systems which indicates high water level, air interruption and pump failure.
- The waste water is distributed through self compensating drip irrigation tube which is designed to evenly distribute the liquid over the designed area. The design of the irrigation field is laid to ensure ponding does not occur.
- Slope, Aspect and Planting of suitable water and nutrient tolerant plants or vegetation to suit the application to maximise the evapotranspiration, have been recommended.
- All separation distances have been maintained as per TP58 – Third edition 2004.
- The Devan Integra S-15 has a 1500l capacity of storage in case of system failure.
- Irrigation is laid in an area where there is no foot, animal or vehicle traffic. Where location offers fenced areas, these are mostly considered.
- Odour effects are eliminated by sealed lids on the system, or the application of a carbon filter if requested.
- The Devan Integra S-15 aeration system is within a sealed container and is considered extremely low noise. The irrigation pump is submerged which does not produce a noise effect.
- The Devan Management Plan includes 6 monthly servicing. The system is maintained to ensure efficient functioning resulting in the quality of the waste water being consistently high. This is also required by Local Councils' and New Zealand Health legislation.
- The Devan Integra S-15 is wired to an alarm panel which alerts the customer to any problems occurring within their system.
- Each homeowner receives a user guide on the system at commissioning date. Commissioning date is used for education of the system for the client including cleaning product usage and general filter maintenance.
- The visual effect on the surrounding environment is minimal with only a small dome shaped lid and box visual above ground that can simply be disguised with planting.

Service Contract / Renewal Advice

This agreement is made between (Owner/Occupier): Chris & Jackie Fawcett
Of (Address): 91 Aston Road, Waikanae Downs

And the Authorised Distributor or their duly appointed agent: Kiwi Green Plumbing

The duration of the Agreement is for a period of 24 calendar months.

Authorised Distributor or their agent, upon payment of the sum of \$187.25+GST

signature of the afore-named person at the place indicated below, and upon acceptance of this application by a duly Authorised Distributor/Agent agrees, for the period to the following:

1. A factory-trained technician will make field service inspections during the 24 month period.

Inspections include:

(a) Any adjustment, cleaning and field service of the unit necessary for proper operation.

(b) Inspection of the control panel and alarm plate, aeration blower, bio-mass, sludge return, clarifier, filter, effluent quality, irrigation pump, and float alarm.

2. Both labour and materials will be charged for any emergency service call, outside the calls specified above.

3. In the event of any repairs being necessary on the purifier or electrical equipment during the first year because of damage which has occurred outside the warranty, then these repairs will be charged to the owner and will include labour and materials.

4. All repairs are on a strictly COD basis.

5. This agreement does not bind Devan Plastics Limited, or its duly appointed agent to be responsible for the quality of the effluent. However, it will at all times whenever possible, recommend how the effluent quality can be maintained at its maximum efficiency. It will also alter and adjust the system during service visits in an endeavour to obtain the best possible effluent standard.

In applying for this agreement, the undersigned acknowledges that this Agreement is binding while they are Owner/Occupier of the premises. There is an obligation by the Authorised Distributor/Agent and homeowner to transfer this Contract to any new Owner/Occupier to comply with the relevant health legislation, until a new contract is negotiated with the new Owner/Occupier.

I herewith apply for the above Agreement and submit the sum of \$187.25+GST

Owner/Occupier's Signature

Date November 23, 2022

Appendix

Planting list

Geotechnical Report

Site Plan

List of water tolerant plants suitable for Onsite wastewater disposal systems

Plants that are suitable for planting in moist conditions, such as those associated with wastewater land disposal fields need to be selected on the basis of both their tolerance for such moist conditions and for their potential for high level of growth/high transpiration of moisture in such conditions.

Standard lawn grass is a proven effective high transpiration plant species in such conditions, as are a large number of other plant species seen in typical domestic gardens.

Consideration needs to be given to effects of roots from plants and from trees in particular on wastewater distribution pipe networks/emitter lines in land application systems. Potential for root intrusion/disruption to the pipe system must be considered prior to selection and planting of a plant or tree species.

Advice on such matters for particular plant species can be obtained from garden centre specialists and landscaping consultants.

The following list covers native plant species are considered to be suitable for planting in moist conditions, such as those associated with wastewater disposal fields in Auckland situations. They are all tolerant or fond of moist conditions and all are native to the Auckland region. Much of this information has been adapted from one of the ARC Botanic Gardens advisory leaflets; 14— New Zealand plants for wet places and the list edited and reviewed by Dr. Rhys Gardner Consulting Botanist, Auckland War Memorial Museum (August 2004).

Grasses, ground covers, and other plants

Astelia grandis (swamp astelia)

Large clump forming plant with bright green, flax-like foliage. Female plants produce upright panicles of orange berries in the centre of the plant. This endemic species will not tolerate eutrophic conditions and prefers peat soils.

Blechnum novaezealandiae (kiokio)

Large, robust fern growing to 1 or even 2m, Hardy species that tolerates most conditions, but does best in well drained, shady areas.

Carex

There are many members of this genus which grow naturally in damp to wet areas. They all have quite fine drooping foliage and are vigorous in moist conditions. Most prefer very lightshade. The following species have been identified for their suitability

Carex dissita

Endemic species with dull green to reddish tufts often 0.5m tall (although this can vary). Tolerates a range of swampy habitats, but is also noted to grow on drier soils under forest cover.

Carex flagellifera

Endemic species with dense spreading reddish-brown tufts to 0.5m tall. Prefers damp soil and full sun, but is noted to thrive in a variety of habitats including boggy pasture.

Carex geminata

Robust and vigorous endemic species that grows to 1.5m tall. Thrives in a range of wet habitats. Suitable for a larger area.

Carex lessoniana

Robust and vigorous endemic species that grows to 1.5m tall. Similar to *C.geminata* in that the species is spreading and suitable for a larger wet area.

Carex secta (purei, makura)

Endemic species that exhibits tall spreading tussocks. Has been noted to grow to 3m tall, wide spread in swampy areas. Useful in the creation of bird habitat.

Carex virgata

Endemic species that forms dense, light green tussocks up to 1m tall. Thrives in a variety of habitats including swamps, drain margins, seepages and wet pastures. Useful in the creation of bird habitat.

Cortaderia fulvida (toetoe)

Branching from the base and forming a clump to 4m high. Long strap-shaped leaves with red-orange coloured veins, flower heads cream yellow. New shoots exhibit pale waxy cover on lower parts (unlike pampas grass). Prefers good drainage and semi-shade. Will struggle to compete if dried out in summer.

Cyperus ustulatus (toetoe upoko-tangata, giant umbrella sedge)

Vigorous leafy sedge growing to 1m in open damp places. Tolerates immersion in standing water within a range of habitats from seepages to wetlands.

Dicksonia squarrosa (wheki, tree fern)

Tree fern up to 7m tall that exhibits tolerance of wet open ground, and floods. Found to shelter and accumulate with other native plants. The base of the fern attracts biodiversity. Useful application to stream bank and seepage habitats.

Elatostema rugosum (parataniwha)

Herbaceous plant up to 0.5m tall that spreads by rhizomes. Bronze coloured foliage with serrated edge. Grows on moist sites in light to heavy shade. Intolerant of dry habitats.

Hypolepis dicksonioides

Large fern that prefers fertile moist, but well-drained ground, grows vigorously and spores into planted areas with abundance. Does however, die back during winter.

Trees and shrubs

Consideration needs to be given to the effects of roots land application on wastewater distribution pipe networks. This problem can be more significant for large tree species.

Carpodetus serratus (putaputaweta, marbleleaf)

Lowland forest tree up to 7m tall. Large bunches of cream coloured flowers appear in spring followed by black berries

Coprosma areolata

Species that grows to 4m tall. Low tolerance to drought, with medium to high fertility.

Coprosma robusta (karamu, shining karamu)

Shrubs or small trees growing to 3m+, with glossy green leaves. Masses of orange-red fruit in autumn are attractive to birds. Hardy plant.

Coprosma tenuicaulis (swamp coprosma)

Endemic species that grows to 3m tall. Leaves pale green with slender branches. Will tolerate a range of swampy to boggy habitats including standing water.

Cordyline australis (ti kouka, cabbage tree)

Palm-like in appearance with large heads of linear leaves and panicles of scented flowers. Sun to semi-shade. Prefers damp to moist soil. Grows eventually to 12m+ height.

Dacrycarpus dacrydioides (kahikatea, white pine)

Tree that grows to 40m. Moderately growing species, which prefers wetland and boggy environments. Application of this species must consider the possible impact of its root systems on the wastewater disposal field.

Geniostoma rupestre (hangehange)

Common forest shrub with pale green glossy foliage, growing to 2-3m. Tiny flowers give off strong scent in spring. Looks best in sunny position where it retains a bushy habit, and prefers well-drained soil.

Hebe stricta (koromiko)

Shrub or small tree growing to 2-5m in height. Natural forms have white to bluish flowers. Plant in full sun. Tolerates exposure. (NB Many cultivars and hybrids are available commercially, but these are all unsuitable for use near existing natural vegetation.)

Laurelia novae-zelandiae (pukatea)

Large upright tree (to 30m) with attractive bright green foliage and distinctive whitish bark. Fast growing and able to handle a wide variety of soils. It will tolerate periodic flooding, breathing roots develop in water logged soils. Can be grown from seed. Tolerant of some sun and frost. Not tolerant of wind.

Leptospermum scoparium (manuka)

Shrub or small tree growing to 4m+ in height. Ubiquitous shrub varying in form throughout New Zealand. Ideal to provide shelter for other plants as it is quick growing and hardy. Requires full sun and. Hardy and tolerant of difficult conditions, including waterlogging and drought.

Meliccytus ramiflorus (mahoe)

A fast growing yet long lived tree to 7m height. Prefers well drained fertile soils. Tolerates some frost, wind and sun. Birds are attracted to the blue berries.

Pennantia corymbosa (kaikomako)

Slow growing species that will reach 12m in moist, fertile sites. Useful species application in bank stabilisation or wetland habitats.

Plagianthus betulinus (ribbonwood) -

Fast growing species to 15m. Similar application to that of *Pennantia corymbosa*.

Rhopalostylis sapida (nikau)

New Zealand's only native palm, with red berries attractive to birds. Requires light shade, plenty of moisture and protection from wind when young. Grows well in areas of permanent dampness.

Syzygium maire (maire tawake)

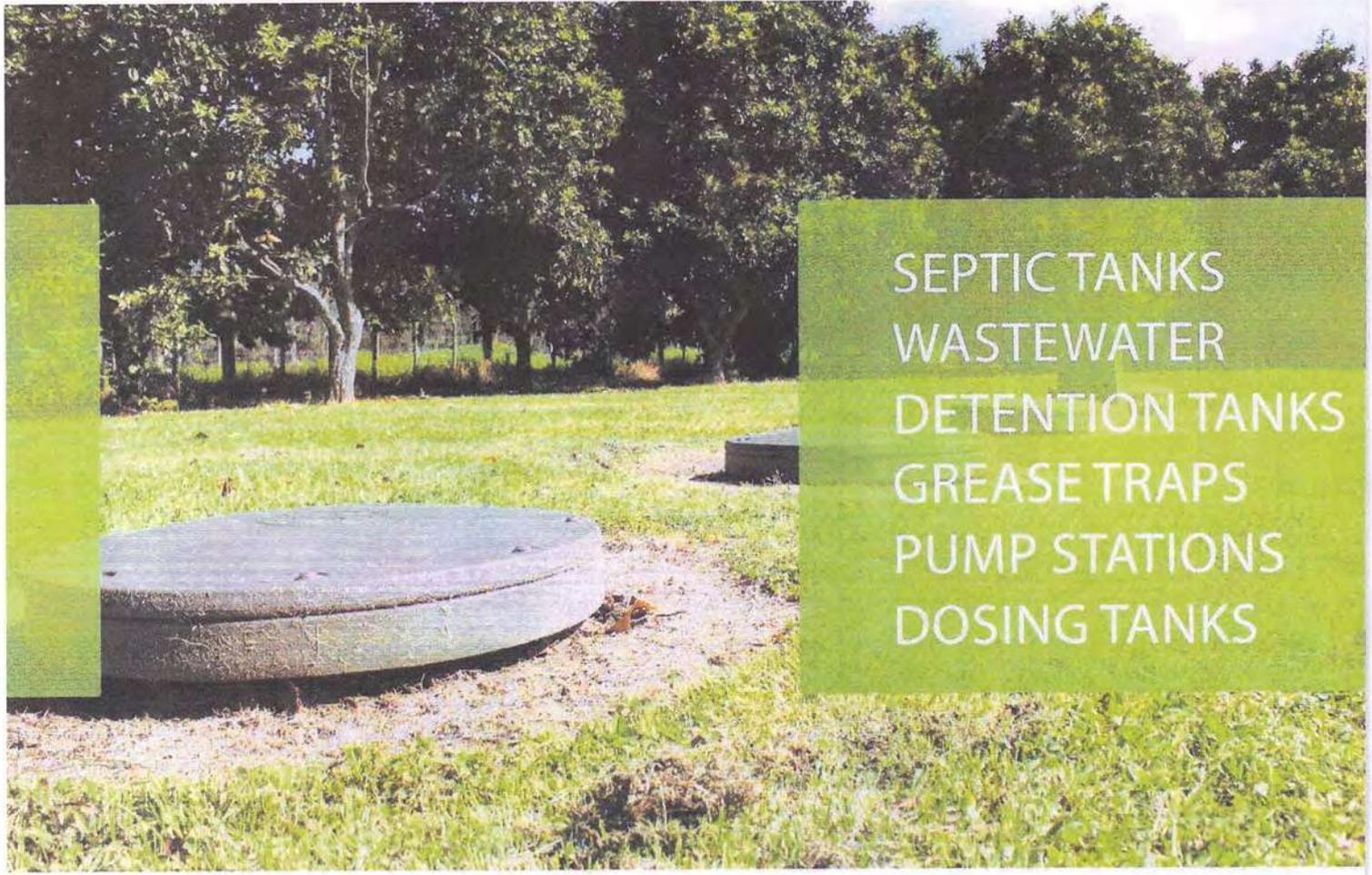
Attractive and moderately growing wetland tree to 15m with bronze foliage, large bunches of reddish fruit and distinctive whitish bark. Requires a sheltered sunny position. Tolerates some frost.

Vitex lucens (puriri)

Fast growing to 20m in fertile, open but sheltered conditions. Will struggle with poor drainage during adolescence.

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SEPTIC TANKS
WASTEWATER
DETENTION TANKS
GREASE TRAPS
PUMP STATIONS
DOSING TANKS



PUT IT IN THE GROUND. FORGET ABOUT IT.

Not only do wastewater management products need to meet minimum standards, but they need to be user friendly and safe to work with, on and around.

As you would expect, there are robust standards surrounding the construction of underground vessels and regarding the quality of outfall from wastewater handling devices. Devan invested vast sums in ensuring that all standards are exceeded and continue to invest in research and development programmes to continuously improve on this standard. There are many companies selling

wastewater products in New Zealand and there are also many horror stories to go with them. If you take any advice from Devan, it is to ensure whatever product you invest in has proof of meeting the minimum standards. Its not just about the money spent, its about the environment and the hassle of taking corrective action if something goes wrong.



SUPER-TUFF TANKS

Australasia's top engineers and seemingly endless finite element analysis has delivered New Zealand's toughest underground vessels to the market. Certified to standard, these vessels will not let you down.

EASY INSTALLATION

Some vessels can literally weigh tons and require heavy transport solutions and cranes to manipulate into place. Devan underground vessels are light yet extremely robust meaning they can be easily transported on a car trailer and man-handled into position if no digger or crane is available.



SIMPLE FITTINGS

Although there has been years of research and development go into the design of Devan wastewater products, keeping things simple has always remained at the forefront of product development. Common fittings and components are used in the system which means any drain layer will be able to install the product and it is super easy to maintain.

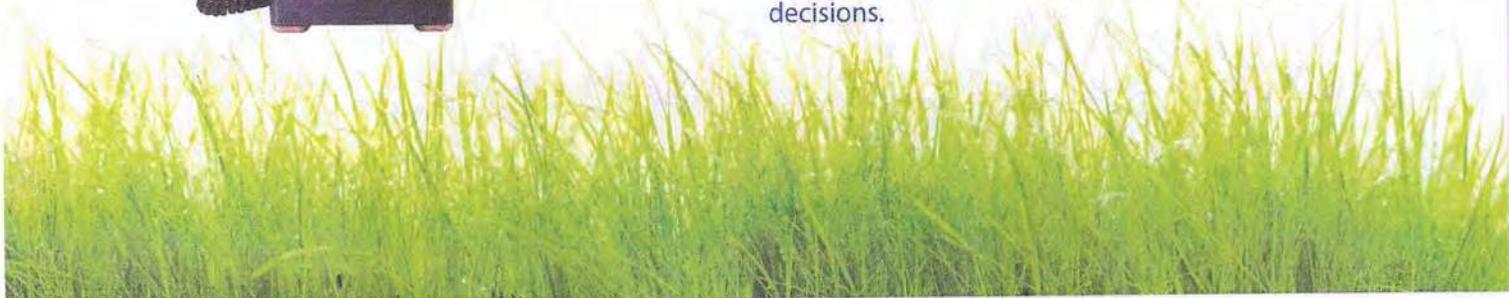
FULLY CERTIFIED

With a growing list of 'cowboy' manufacturers in the market place it is extremely important to have independent certification regarding vessel strength and product performance. Devan have ensured that all wastewater products meet or exceed the relevant standard and are certified accordingly.



EXPERTS ON HAND

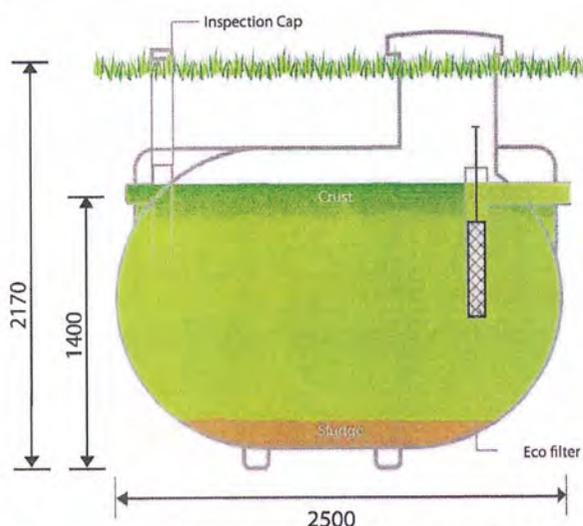
Many wastewater products have technical aspects to them and in order to properly support this product group Devan have on staff plumbers, drain layers and system designers to ensure you have the right advice from the relevant expert and are able to make informed decisions.





SEPTIC TANKS

Devan septic tanks are a popular choice both for new homes and retrofitting to older homes with failed tanks. Lightweight and easy to install there are no cranes or huge diggers required here.



Having a septic tank in your life is par for the course when it comes to rural living. A septic tank is an ingenious device and very cleverly and quietly chews away at your household wastewater. Many people do not give any thought to the fact that a septic tank is a living ecosystem and as a result treat it poorly. These people will find themselves with bad smells lingering around the house and frequently needing to empty their tank.

How does a septic tank work?

Simply yet effectively. The basic principle of the septic tank has remained unchanged for centuries. The tank receives wastewater outfall

from a building whereby the solids either settle to the bottom (sludge) or rise to the top (crust). Bacteria operate throughout the tank processing all the waste particles and after passing through a filter, the cleaner water is then discharged into your soakage trench.

How do I get a long life from my septic tank? Where a user is thoughtful about how they operate and what goes down the toilet and sink, a very long and trouble free relationship can exist between the dwellers and their septic tank.

The ecosystem living under your back yard is not particularly high maintenance if you follow these simple guidelines:

- Watch what chemicals you use in the house. Prefer septic 'friendly' products and stay away from bleach.
- Do not flush sanitary products or condoms down the toilet.
- Do not use a waste disposal unit.
- Eat lots of yogurt as the bugs in the tank love it!

There is a lot more information available online if you wanted to get technical, but these basics will put you in good stead.

YOU CAN HAVE
CONFIDENCE
IN DEVAN