

move.

council records

**63 bayly road
blagdon**

Statement of Passing Over:

This information has been supplied by the vendor or the vendor's agents and move (powered by ownly Ltd licensed REAA 208) is merely passing over this information as supplied to us. We cannot guarantee its accuracy as we have not checked, audited, or reviewed the information and all intending purchasers are advised to conduct their own due diligence investigation into this information. Where you have been supplied with a Council Property File or a LIM Report, please note there may be matters relating to pre-1992 consents or permits in this file which may need further investigation in order to determine their relevance. To the maximum extent permitted by law we do not accept any responsibility to any party for the accuracy or use of the information herein.



Legend

- Natural Source
- Treatment Plant
- Pumpstation
- Storage Unit
- Hydrant
- Manhole
- Alert Valve
- Air Valve
- Non-Return Valve
- Standard Valve
- Air Release Valve
- Manifold Valve
- Backflow
- Meter
- Wellup
- Inlet
- Outlet
- End Point
- Node
- Misc Point
- Trunk
- Rise
- Main
- Lateral
- Open Drain
- Stream
- Misc Polygon

Yellow = Privately Owned

Grey = Out of Service/Closed

Stormwater

Water Supply

Wastewater



BUILDING CONSENT

33250P

PROPERTY ID

017201



33250P

Association
Consulting
Engineers of
New Zealand

New Zealand
Institute of
Architects

Institution
Professional
Engineers of
New Zealand

P.I.M. No.

Building Regulation Clause(s).....

PRODUCER STATEMENT - DESIGN

ISSUED BY: H.E. ARCHER
(Suitably qualified Design Professional)

TO: DJ PRICE LTD
(Owner)

IN RESPECT OF: TYPICAL STANDARD GARAGE / HABITABLE DWELLING FOUNDATION DETAILS
(Description of Building Work)

AT: VARIOUS (TO BE CONFIRMED PRIOR TO CONSTRUCTION)
(Address)

LOT: _____ DP: _____ SO: _____

BECA CARTER HOLLINGS & FERNER LTD has been engaged by DJ PRICE LTD
(Design Firm) (Owner/Developer/Contractor)

to provide STRUCTURAL DESIGN services in respect of the
(Extent of Engagement)

requirements of Clause(s) B1 of the Building Regulations 1992 for

All Part only as specified

of the building work. The design has been prepared in accordance with B1/VM1
(verification method(s)/acceptable solution(s))

respectively) of the approved documents issued by the Building Industry Authority and the work is described on

BECA CARTER HOLLINGS AND FERNER LTD drawings titled GARAGE / HABITABLE DWELLING
(Design Firm)

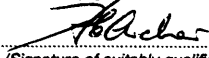
and numbered 3800015/S001 and the specification and other documents according to which the building is proposed to be constructed.

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

(i) the verification of the following design assumptions FOUNDATION CONDITIONS TO MEET

NZS 3604:1990 SECTION 3

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


(Signature of suitably qualified Design Professional)

Date 14 Jan 1997

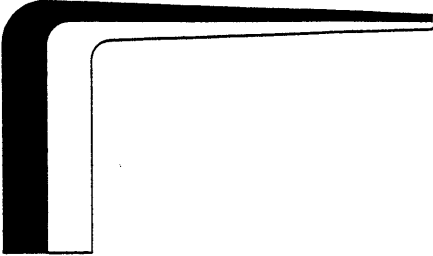
BE (Civil), MIPENZ Reg. Eng.
(Professional Qualifications)

ERB/AERB Reg No. 6079

122 Victoria Street, CHRISTCHURCH
(Address)

Member ACENZ IPENZ NZIA

This form to accompany Form 3 of the Building Regulations 1992 for the application of a Building Consent



O'Loughlin Taylor Spence Ltd
CONSULTING ENGINEERS

St Elmo Courts
47 Hereford Street
Christchurch 1
P.O. Box 2373
Telephone 379-2734
Fax 379-1642

J.S. O'Loughlin BSc BE (Hons) MIPENZ
J.S. Spence BE (Hons) MIPENZ

PRODUCER STATEMENT

for

WALL FRAMING

for

VERSATILE STANDARD GARAGES

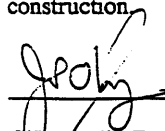
Issued by O'Loughlin Taylor Spence Ltd in respect of the wall framing as described on Standard Versatile Garages drawings File CH3900 Sheet 107 dated 25th June 1996.

We certify that the design has been carried out in accordance with the standards listed in Section B1/VM1 of the approved documents issued by the Building Industry Authority.

We believe as an independent professional design practice, covered by a current policy of Professional Indemnity insurance to a value of \$200,000, that subject to the exclusions noted below, the buildings as proposed to be constructed, comply with the relevant provisions of the building code.

1. This consulting practice has not been engaged to determine the foundations conditions which are excluded from this certification.
2. This consulting practice has not been engaged for engineering inspection procedures during construction.

Signed:



O'Loughlin Taylor Spence Ltd
J S O'Loughlin Director

Registered Engineer
Registration No. 5032

Dated 4 July 1996

**PRODUCER STATEMENT - DESIGN
GANG-NAIL GROUP LIMITED****CH3900 - 98
GANG-NAIL DESIGN**

The building design CH3900 – 98 sheets 101a, 102a, 103b, 104a, 105, 106, 107, 108a, 109b, 110, 111, 112 & 113 have been compiled using sound and widely accepted engineering principles and in accordance with NZS4203:1992 and NZS3603:1993 as verification methods and acceptable solutions of the approved documents issued by the Building Industry Authority to satisfy the requirements of Clause B1:Structure of the Building Regulations 1992.

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

1. The verification of all design assumptions detailed in the drawings and
2. All proprietary products meeting the performance specification requirements,

the drawings, specifications and other documents according to which the building is proposed to be constructed, comply with the relevant provisions of the Building Code.

Stephen Anthony COLL



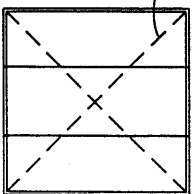
T.M. IPENZ, MNZIOB

for GANG-NAIL GROUP LIMITED
20 KOTZIKAS PLACE
CHRISTCHURCH
NEW ZEALAND

Date: 16 March, 2000

BRACING NOTES

1. The bracing effect of a single angle brace can be substituted by a 2400mm panel of weatherboard as detailed on Sheet No 105
2. Indicates a single row of Lumberlok Strip Brace tensioned up and laid over the top of purlins. Fix each end with 3 x 30 x 3.15 nails. (Typical)
Indicates a single length of Angle Brace in wall set at approx 45°. Fix each end with 3 x 60 x 3.15 nails and at each stud crossing with 2 x 60 x 3.15 nails (Typical)

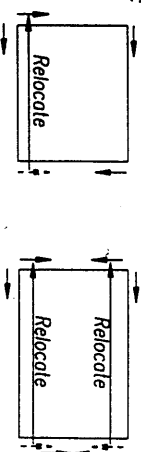


BRACING KEY

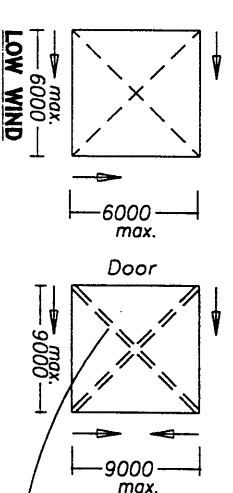
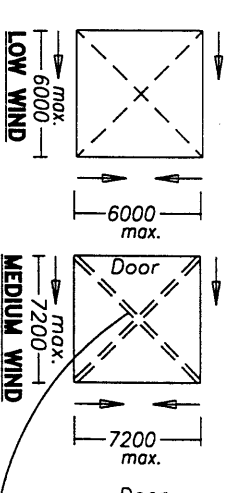
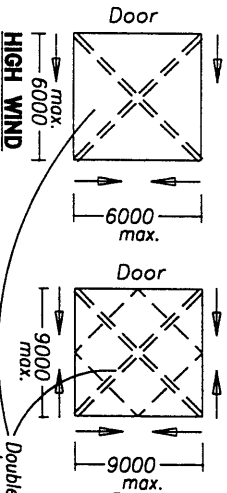
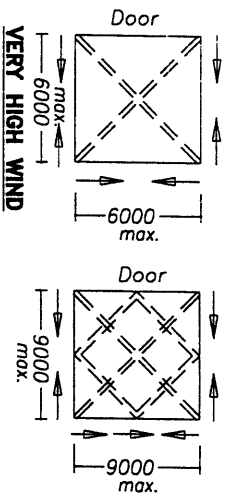
3. Building Dimension Ratios:

- (a) For Very High Wind the ratio of side Wall to End Wall must not exceed 1 to 1.5.
 - (b) For High, Medium and Low wind, the ratio of End Wall to Side Wall must not exceed 1 to 2.
4. Maximum Stud height of Building is 2.450m
Refer sht 106 for 2.7m & 3.0m stud heights.

5. Where it is possible to install wall bracing in all 4 walls, locate the bracing elements evenly.
eg:



6. Where there is insufficient room to install 2 Angle Braces on one face of the braced wall, substitute with a pair of crossed Stripbrace.



NB Double row of strip bracing required in all buildings in Very High Wind Zone
Building ratio of End Wall to Side Wall must not exceed 1 to 1.5

Triple row required only where wall ratio is between 1 to 1.5 & 1 to 2.
Otherwise brace as pattern shown but use single rows

Double row required only where wall ratio is between 1 to 1.5 & 1 to 2
Otherwise all rows as single

NOTE:

* 12000 length refers to the building dimensions opposite the truss span. Max. truss span for these designs is 10200.

Double row only required only where end wall to side wall ratio is between 1 to 1.5 & 1 to 2
Otherwise all rows as single

Double row required only where wall ratio is between 1 to 1.5 & 1 to 2
Otherwise all rows as single.

GANG NAIL

GANG NAIL LTD
3-7-2 Rutherford Drive, East Tamworth, NSW 2333
1800 371 1700 Fax: 08 324 8881 Email: 324 8314

VERSATILE BUILDINGS LTD
STANDARD GARAGES

DRAWING WINDLOAD BRACING REQUIREMENTS
MAX WALL HEIGHT 2450

DESIGNER S.A. COUL
DATE March 1998
DRAWING NO CH3900-98
SHEET NO 104-A

WALL FRAMING OPTIONS

OPTION 1 - VISUALLY GRADED DRY FRAME TIMBER

All combinations of loading conditions and geometric layouts will consist of 90 x 35 mm Number 1 Dry Frame.

OPTION 2 - MACHINE STRESS GRADED DRY FRAME TIMBER

| Wall (90x35mm) | (Stud Heights) | | | | |
|-------------------|----------------|-----|-----|-------------|--|
| | 2.1 | 2.4 | 2.7 | 3.0 | |
| Low | F4 | F4 | F4 | F5 | |
| Medium | F4 | F4 | F5 | F7 | |
| High | F4 | F7 | F8 | F11 | |
| Very High | F5 | F8 | F11 | F11 (90x45) | |

Wall framing Option 2 is covered by a separate Producer Statement.

| TOP PLATE ONLY | | |
|----------------|----------------|------|
| Height | Truss Spacings | 2400 |
| 2.1 | F4 | F4 |
| 2.4 | F4 | F5 |
| 2.7 | F4 | F5 |
| 3 | F5 | F5 |

OPTION 3 - VISUALLY GRADED WET FRAME TIMBER

All combinations of loading conditions and geometric layouts will consist of 94 x 47 mm Number 2 Wet Frame.

A4



GANG NAIL
GROUP LTD
35 Fawcett Drive, Queensland
P.O. Box 16307, Queensland
14 08 274 1100 Fax 08 274 1100
25 Yorkville Drive, Brisbane
P.O. Box 1347, Brisbane
14 03 346 8811 Fax 03 346 0314

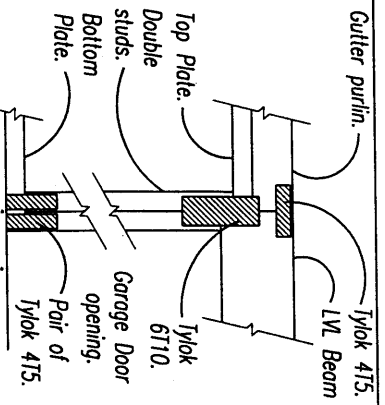
Job Title: **VERSATILE BUILDINGS LTD
STANDARD GARAGE DETAILS**

Sheet Title: **WALL DETAILS**

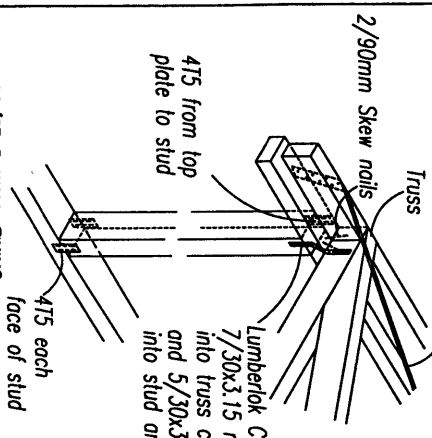
Drawn: 24/08/98
Checked: N/A
Designed: B COLL
Checked: D WILLIAMS
Approved: D WILLIAMS

Drawing Number: **CH3900 - 98**
Sheet: **107**

Printed

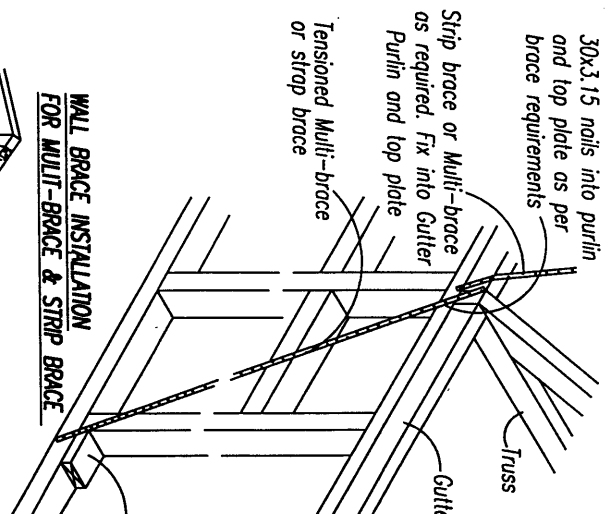


(Note: Plates on inside face only)
LM BEAM END CONNECTION
Multi-brace or Strip Brace as required (see across)

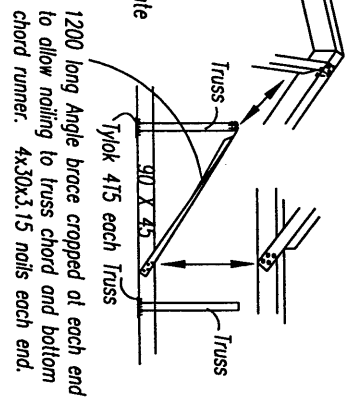


TRUSS/STUD WALL FIXING

30x3.15 nails into purlin and top plate as per brace requirements
Strip brace or Multi-brace as required. Fix into Gutter Purlin and top plate
Tensioned Multi-brace or strip brace

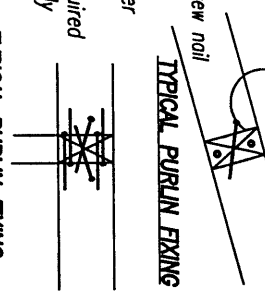


WALL BRACE INSTALLATION FOR MULTI-BRACE & STRIP BRACE



BOTTOM CHORD BRACE DETAIL

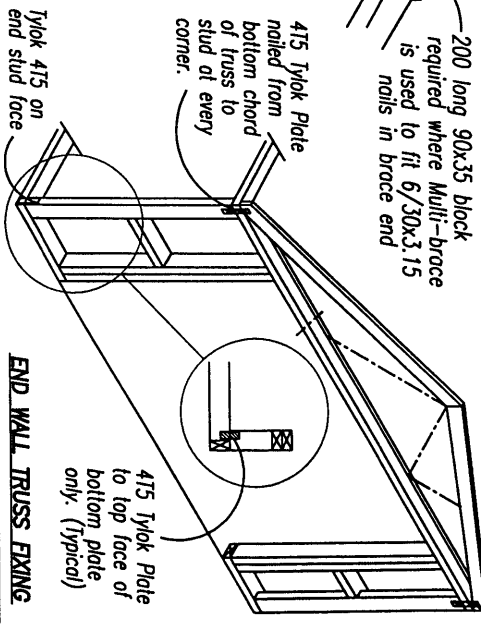
2 x 90mm nails into end of purlin through the truss plus



TYPICAL PURLIN FIXING

TYPICAL PURLIN FIXING CROSS-SECTION

415 as across



END WALL TRUSS FIXING

GAUG/NAIL GROUP LTD
25-27 Waterloo Drive, East Tamworth,
P.O. Box 98-012, Queensland,
Australia 4125.
Phone 274 1700 Fax 274 7100
Telex 244 88411 (South 244 8811)

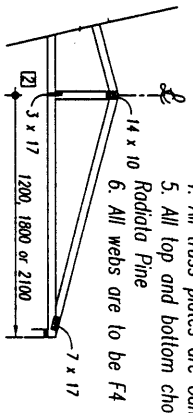
VERSATILE BUILDINGS LTD
STANDARD GARAGES

DRAWING FIXING DETAILS
DESIGNED & DRAWN BY S.A. COLL
DATE: March 1998
DRAWING NO. CH3900-98
SHEET NO. 103 B

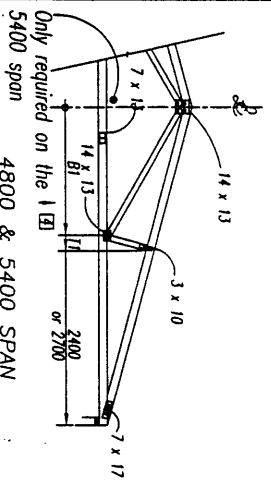
| | | |
|---|---|---------|
| A | Alternative bottom chord brace detail added | 2/11/98 |
| B | Timber Bottom Chord Brace Removed | 29/6/99 |

NOTE:

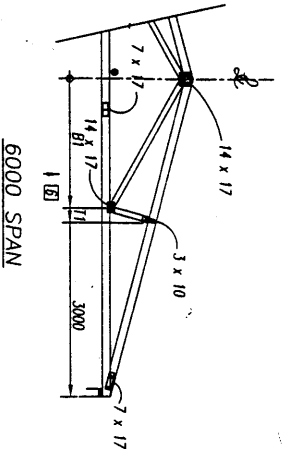
1. Truss top chord pitch range is 15°, 20°, 25° & 30°
2. ● Indicates location of Bottom Chord Brace
3. ☐ Indicates the Truss Camber (Typical)
4. All truss plates are Gang Nail GN10 type
5. All top and bottom chords are to be MGP10 90 x 35 Radiata Pine
6. All webs are to be F4 70 x 35 Radiata Pine



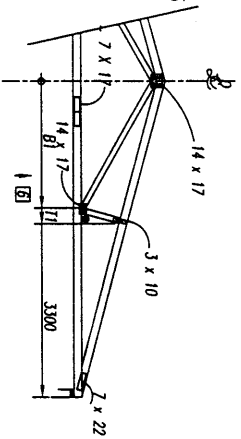
2400 to 4200 SPAN INCLUSIVE



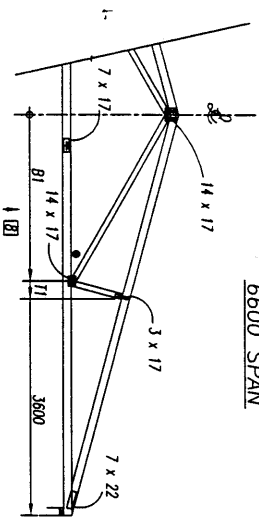
4800 & 5400 SPAN



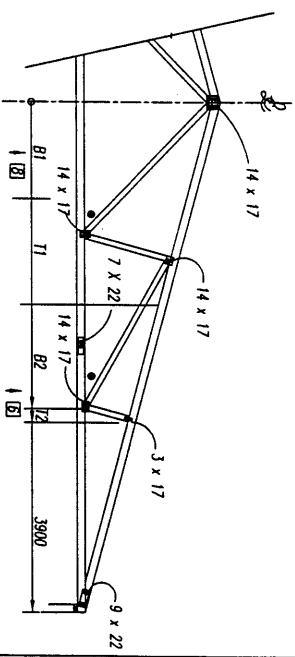
6000 SPAN



6600 SPAN



7200 SPAN



7800 SPAN

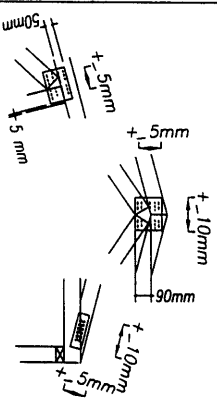
SPAN AND LOAD CHART

| | |
|----------------------------------|-----------------------|
| Live Load = 0.25kPa (Dist) | |
| 1.0kPa (Conc) | |
| Dead Load = 0.15 kPa (top chord) | |
| 0.20 kPa (bottom chord) | |
| on 900 & 1200ers only | |
| Wind Load Cpi = 0.50 max | |
| Cpe = 0.80 max | |
| Purlin Spacing = 1500 max | |
| TRUSS CENTRES | SNOW LOAD(kpa) |
| 1800 | 0.60 |
| 1200 | 1.00 |
| 900 | 1.20 |
| | Var/High |

TIMBER:

The specification of timber shall be as follows:
 Grading: MSG Radiata Pine to F4 or MGP10 grade as noted.
 Treatment: To NZMP 3640 : 1992
 Moisture Content: Dry

MANUFACTURING TOLERANCES.



Typical positioning tolerances for plates

- NOTE:**
1. Plates are to be fully pressed home on both sides of joints.
 - The plate axis must be located in the specified or indicated direction.

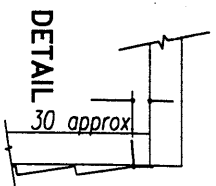
DRAWING TRUSS DETAILS

| | |
|-------------------------------|-------------|
| DESIGN & DRAWN | DRAWING NO |
| S.A. Coll & D.L.L. Williamson | CH3900 - 98 |
| DATE | SHEET NO |
| March 1998 | 101 |
| | A |

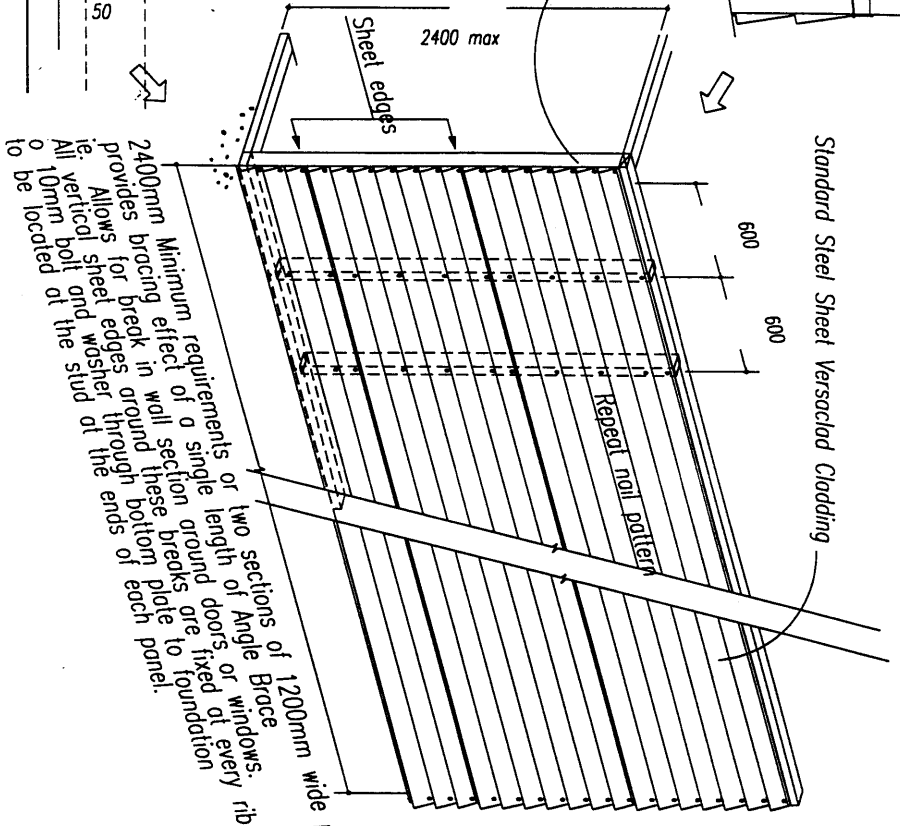
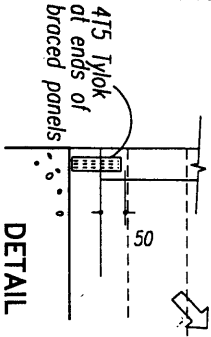
GANG NAIL GROUP LTD
 245, Tadmor Park, South Auckland
 P.O. Box 98, 0117, Christchurch
 1628 274 1198 Fax: 03 274 1190 1628 294 8881 Fax: 03 248 0314

VERSATILE BUILDINGS LTD
STANDARD GARAGE DETAILS

A Truss pitches modified 4/11/98



Conventional Versatile stud wall construction studs ie 90 x 35 timber notched into plates. Fix with 2 x 90mm nails



NOTE

1. Fix weather board with ϕ 2.8 x 35mm galvanised nails.
2. Locate nails as indicated on the drawing of a wall section. All sheet edges to be fixed to studs at 600c/s plus intermediate nailing between sheet edges at every alternate rib. Fixing along the vertical sheet edges to be at every rib.
3. "Bracing Ability"

Provided the weatherboard sheet iron (as shown across/s) fixed in accordance with notes 1 & 2 and laid out as drawn, a 2400 mm section can replace the requirement of a single length of Angle Brace as specified on Sheet No 104.

Refer to: "Load Rating of Versatile Timber Frame Garage Wall" prepared by: J.A. Dean Reg Structural Engineer, University of Canterbury, October 1989.

This report is available for inspection from: Versatile Buildings Ltd, 112 Waterloo Road, CHRISTCHURCH.

GANG-NAIL
GROUP LTD
2-22 Rangiora Drive, Cashmere, Christchurch
Phone 274 1700 Fax 274 2100
1000 274 1700 Fax 274 2100 (0800 248 8881) Email 248 0114

VERSATILE BUILDINGS LTD
STANDARD GARAGES

DRAWING
VERSACLAD BRACING ELEMENT
OWNER & DESIGNER: S.A. COUL
DATE: March 1998
DRAWING NO: CH3900-98
SHEET NO: 106

GENERAL NOTES:

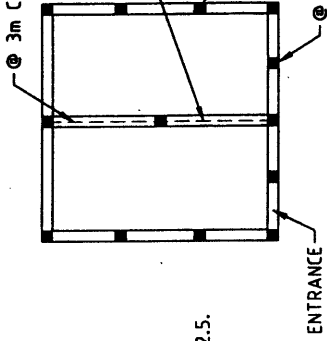
- 1 - ENSURE THAT FOUNDATION PADS ARE EXCAVATED THROUGH ALL TOPSOIL MATERIAL UNTIL SOLID MATERIAL IS REACHED.
- 2 - FOUNDATION PADS SHOULD BE FOUNDED ON, RATHER THAN KEYED INTO, THE SOLID MATERIAL.
- 3 - FOR GROUND CONDITIONS THAT DO NOT MEET THE REQUIREMENTS OF NZS 3604:1990 SECTION 3, SPECIFIC DESIGN WILL BE REQUIRED.
- 4 - HABITABLE BUILDING DPC (VAPOUR BARRIER) MAY STOP AT THE EDGE OF THE STRIP FOOTING AS SHOWN AND DEFINED IN NZS 3604:1990 CE2.5.
- 5 - ONE SAW CUT, CENTRAL IN SLAB, FOR GARAGES 6 X 6m AND LESS. TWO SAW CUTS, ONE RUNNING EACH WAY, FOR GARAGES GREATER THAN 6 X 6m, TYPICALLY SHOWN ON 6 X 9m PLAN.
- 6 - SAW CUTS TO BE OVER FOUNDATION PADS. DO NOT POSITION SAW CUTS BETWEEN FOUNDATION PADS.
- 7 - SAW CUTS TO BE A MINIMUM OF 25mm DEEP.
- 8 - END (NON LOAD BEARING) WALLS TO HAVE PADS SPACED AT 3m MAXIMUM CNTRS.
- 9 - FRONT ENTRANCE WALL TO HAVE PADS SPACED AT 1.5m MAXIMUM CNTRS.

CONSTRUCTION:

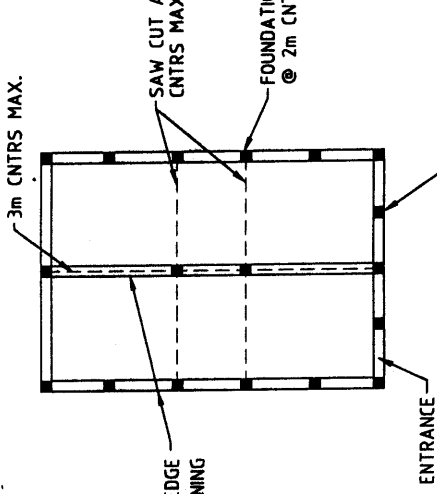
- 1 - FOR THE PURPOSE OF THIS FOUNDATION DESIGN THE TYPE OF CONSTRUCTION SHALL BE LIMITED TO:-
 - (1) LIGHT TIMBER FRAME
 - (2) LIGHT WEIGHT STEEL ROOFING
 - (3) LIGHT WEIGHT STEEL CLADDING
- 2 - FOUNDATION SIZE LIMITATIONS
 - LENGTH = UNLIMITED
 - SPAN = LESS THAN 9.0m
- 3 - GARAGE LIMITATIONS:-
 - MAXIMUM STUD HEIGHT TO BE 3.0m
 - ONE STORY ONLY
- 4 - CONCRETE TO BE IN ACCORDANCE WITH THE RELEVANT NEW ZEALAND STANDARDS.

CONCRETE SPECIFICATION:
(GARAGE FOUNDATION ONLY)

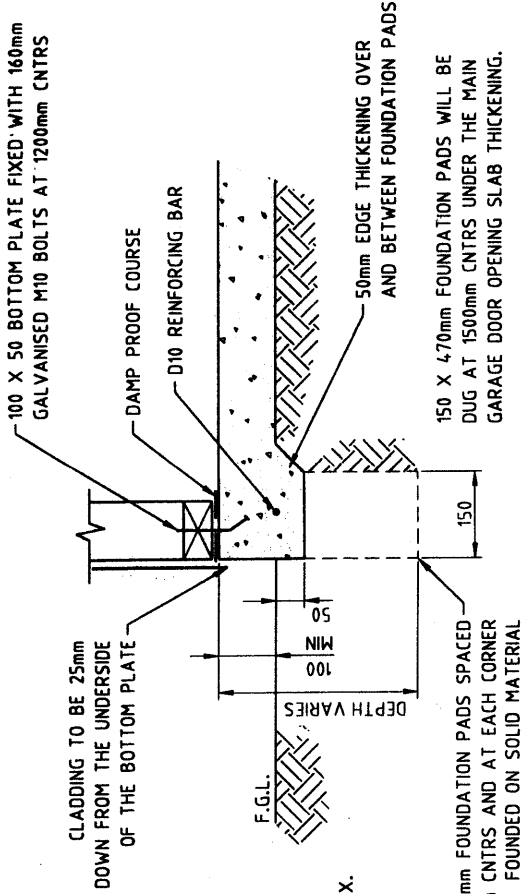
CONCRETE STRENGTH 20 MPa
 MAXIMUM AGGREGATE SIZE 20mm
 MINIMUM CEMENT CONTENT 235kg/m³
 MAXIMUM WATER/CEMENT RATIO 0.70



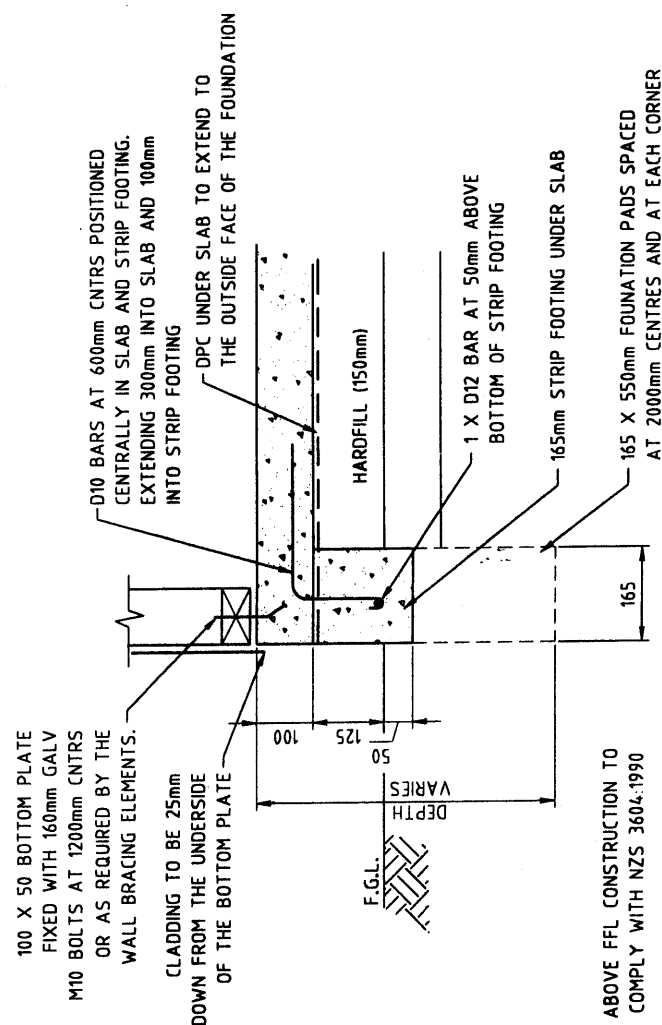
6 X 6 PLAN
DISTORTED SCALE



6 X 9 PLAN
DISTORTED SCALE



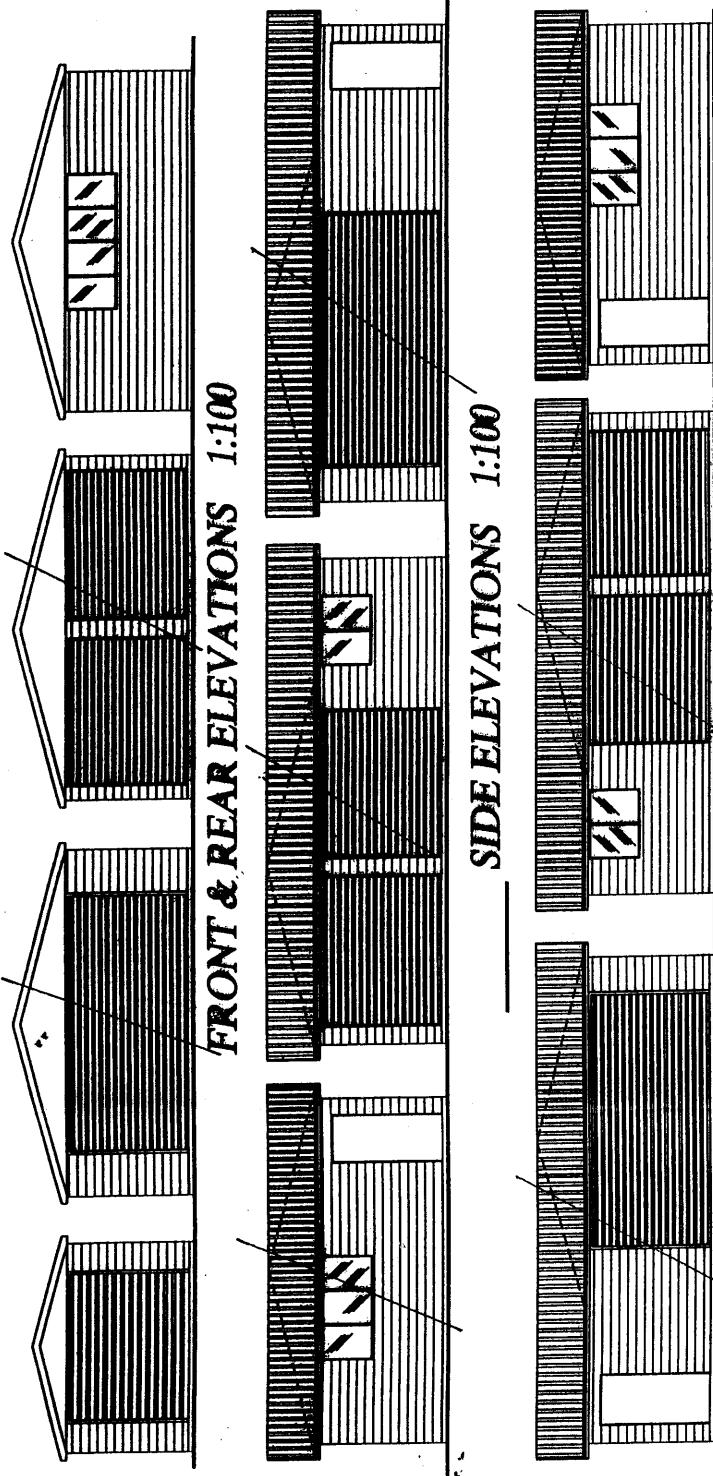
TYPICAL GARAGE FOUNDATION
SCALE 1:10



TYPICAL HABITABLE BUILDING FOUNDATION
SCALE 1:10

| | | | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| <p>Beca Carter Hollings & Ferner Ltd. Auckland, Wellington, Christchurch, New Plymouth, Tauranga, Melbourne, Sydney, Port Moresby, Jakarta, Singapore, Brunei</p> | | <p>Consulting Engineers</p> | |
| <p>1. APPROVED FOR CONSTRUCTION</p> | <p>2. APPROVED TO EXCAVATE PADS</p> | <p>3. APPROVED FOR CONSTRUCTION</p> | <p>4. APPROVED FOR CONSTRUCTION</p> |
| <p>DATE: 10/10/92</p> | <p>DATE: 10/10/92</p> | <p>DATE: 10/10/92</p> | <p>DATE: 10/10/92</p> |
| <p>BY: [Signature]</p> | <p>BY: [Signature]</p> | <p>BY: [Signature]</p> | <p>BY: [Signature]</p> |
| <p>CHKD: [Signature]</p> | <p>CHKD: [Signature]</p> | <p>CHKD: [Signature]</p> | <p>CHKD: [Signature]</p> |
| <p>DATE: 10/10/92</p> | <p>DATE: 10/10/92</p> | <p>DATE: 10/10/92</p> | <p>DATE: 10/10/92</p> |
| <p>PROJECT NO: 3800015 / S001</p> | <p>FOUNDATION DETAILS</p> | <p>STANDARD DETAILS</p> | <p>FOUNDATION DETAILS</p> |
| <p>AS SHOWN</p> | <p>AS SHOWN</p> | <p>AS SHOWN</p> | <p>AS SHOWN</p> |

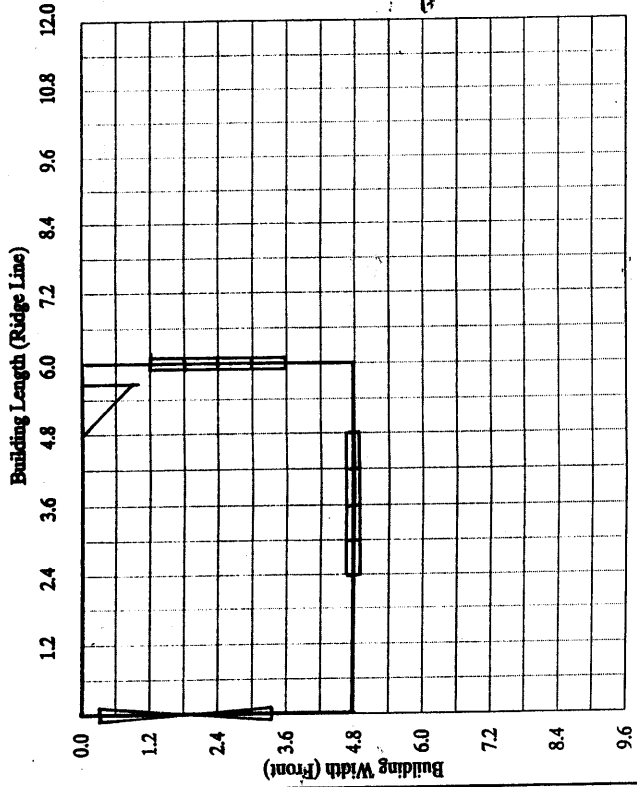
CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO STARTING • ALL DIMENSIONS IN MM UNLESS STATED



FRONT & REAR ELEVATIONS 1:100

SIDE ELEVATIONS 1:100

SIDE ELEVATIONS 1:100



FLOOR PLAN 1:100 FLOOR AREA: 25.8 m²

GENERAL
 Refer to comply with the New Zealand Building Code. This specification and drawings shall be read in conjunction with Gangraill Producer Statement for Design, dated 12 July, 1998, CR6800-98 Series.

FOUNDATIONS
 Concrete floor shall be 17.5 MPa, 100mm thick. Footing as detailed.

WALL FRAMING
 All timber shall be machine graded and treated to T.P.A. specification H1 or Chemical Free Dry Frame. Studs shall be 90x45 dry frame at 600 c/s and housed into plates with 'Average' housed into studs. Lay 'Supercoat' d.p.c. under all plates. Refer Gangraill Producer Statement CR6800/107 for timber grade options and specification.

ROOF FRAMING
 Purlins shall be 90mm x 45mm on edge at 1800 max on edge to Gangraill 15 degree trusses at centres shown below. Fit purlins and trusses as detailed in Gangraill Producer Statement for Design.

SIDE ENTRY OPENING LINTELS
 Refer to New Zealand Concrete Ltd Producer Statement for Design, dated February 1997, for side entry lintels table below relative to Low Wind, up to 0.3 Snow (S_g), Refer Producer Statement for others.

| Grade | Span | Lintel | Truss | Truss | Total |
|-------|------|----------------------|----------------------|----------------------|----------------------|
| 1.0 | 1.8 | 240 x 45 LVL Lintels | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses |
| 2.0 | 2.4 | 240 x 45 LVL Lintels | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses |
| 3.0 | 3.0 | 240 x 45 LVL Lintels | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses |
| 4.0 | 3.6 | 240 x 45 LVL Lintels | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses |
| 5.0 | 4.2 | 240 x 45 LVL Lintels | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses |
| 6.0 | 4.8 | 240 x 45 LVL Lintels | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses |
| 7.0 | 5.4 | 240 x 45 LVL Lintels | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses |
| 8.0 | 6.0 | 240 x 45 LVL Lintels | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses |
| 9.0 | 6.6 | 240 x 45 LVL Lintels | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses |
| 10.0 | 7.2 | 240 x 45 LVL Lintels | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses |
| 11.0 | 7.8 | 240 x 45 LVL Lintels | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses |
| 12.0 | 8.4 | 240 x 45 LVL Lintels | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses | 240 x 45 LVL Trusses |

Trusses bolted to lintel with 90 x 95 lumberhook plate hanger.

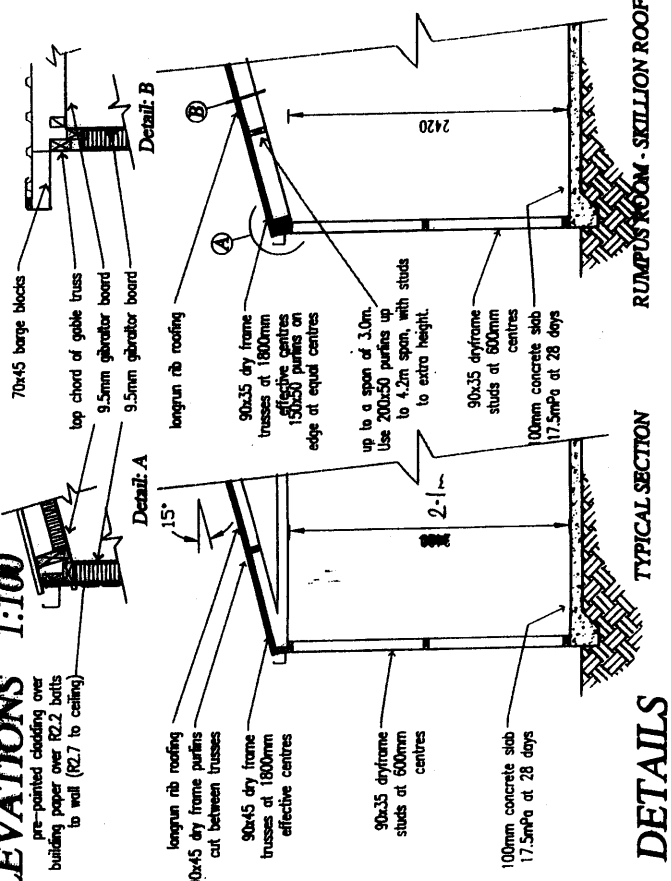
ROOFING
 Shall be 0.4 B.M.T. steel longrun r/b roofing, fixed with 65/75mm weatherseal spiral shank nails, over building paper on Ultra-Violet heat lashing.

WALL CLADDING
 Shall be Versatiles
 Fit in accordance with Gangraill Producer Statement for Design.

ROOF BRACING
 For all buildings fit Lumberhook roof plane strap bracing in accordance with Gangraill Producer Statement for Design.

WALL BRACING
 For buildings fit horizontal weatherboard fix 28 x 22 x 1.2 metal angle bracing in accordance with NZS 3804. For steel sheet weatherboard cladding no metal angle bracing is required, refer Gangraill Producer Statement.

SPECIFICATIONS



TYPICAL SECTION

DETAILS

FOUNDATION DETAIL

Note: Construction to comply with NZS 3804 (1999) and the New Zealand Building Code 1992 REFER TO PRODUCER STATEMENT

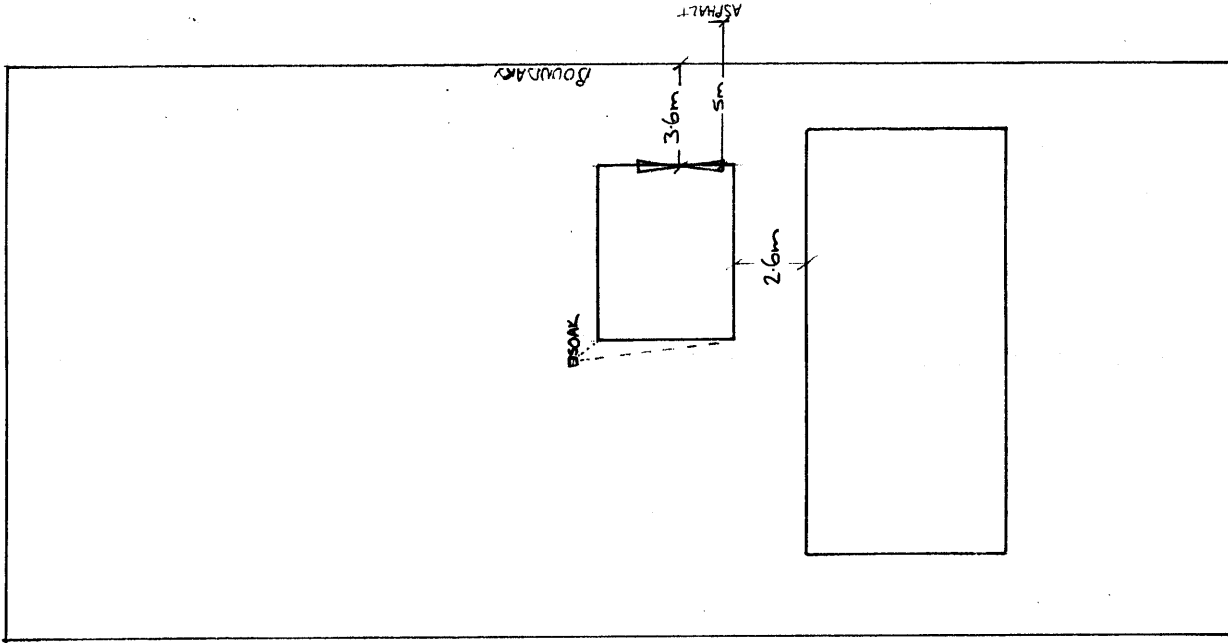
SCALE: 1:100 DATE: Sep '99
 DRAWN: B.O'Connor VG-1301B
 SHEET: 1 OF 1

VERSATILE GARAGE

Proposed Garage For:

VERSATILE BUILDINGS
 HEAD OFFICE: 112 WATERLOO ROAD
 PH: (08) 348-4704
 FAX: (08) 348-4088

CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO STARTING • ALL DIMENSIONS IN MM UNLESS STATED

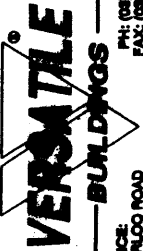


MOKIA CRES

BAYLEY ROAD

SITE DETAILS

LOT: 4
DP: 6751
CT: 166/220



HEAD OFFICE:
112 WATERLOO ROAD
PH: (03) 344-8704
FAX: (03) 344-0068

PROJECT TITLE
M.L. W. BARTLETT - 63 BAYLEY ROAD NEW PLYMOUTH

DRAWING TITLE

SITE PLAN

OFFICE COPY

PLANS AND SPECIFICATIONS APPROVED FOR TYPE USE, SITING, COVERAGE AND CONSTRUCTION, AS IN ACCORDANCE WITH ALL RELEVANT ACTS, REGULATIONS AND BY-LAWS ADMINISTERED BY THE NEW PLYMOUTH DISTRICT COUNCIL.

APPROVED: *[Signature]* DATE: 27.6.00

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF THE NEW PLYMOUTH DISTRICT COUNCIL.

33249/50 Nel 26/6/00

Note: Construction to comply with NZS 3604 (1999) and the New Zealand Building Code 1992 REFER TO PRODUCER STATEMENT

SCALE: 1: N.T.S.
DATE: FILE:
DRAWN: DATE:

SHEET: 1 OF 1

3/4
rlt

BUILDING CONSENT

80277P

PROPERTY ID

017202



80277P

Rodge 0272410562

Deanna Temple

63 Bayley Rd.
New Plymouth

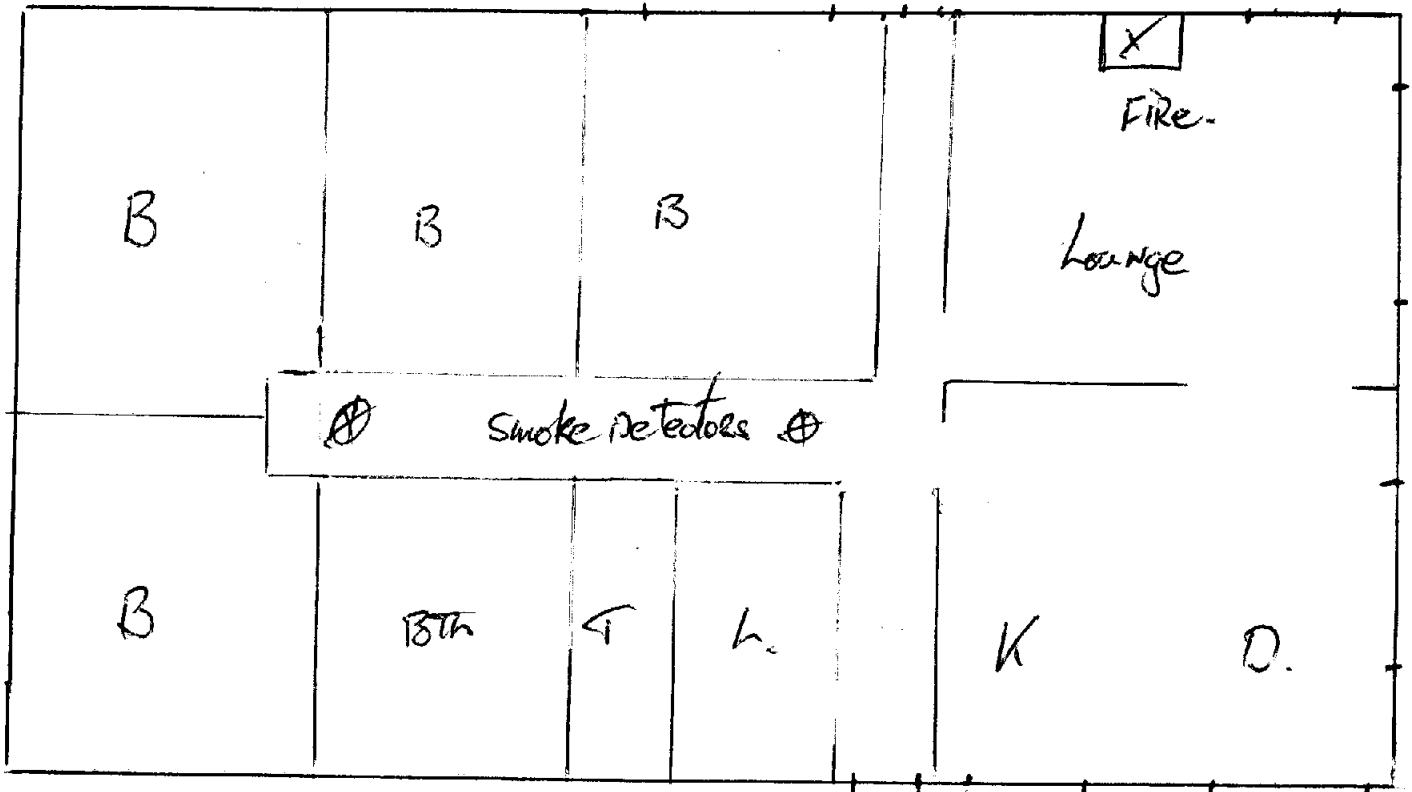
PH 7510411

NPDC Approved
23 FEB 2006

Install Petrol Fire.

NPDC OFFICE COPY
This Building Consent is approved under the Building Act and is limited to new work only as shown on these plans and related specifications
Approved..... Date 23/2/06

ENTER



ENTER

NPDC Approved
23 FEB 2006

NPDC OFFICE COPY
This Building Consent is approved under the Building Act and is limited to new work only as shown on these plans and related specifications
Approved..... Date.....



SHERWOOD INDUSTRIES IS AN ENVIRONMENTALLY RESPONSIBLE COMPANY. THIS MANUAL IS PRINTED ON RECYCLED PAPER.

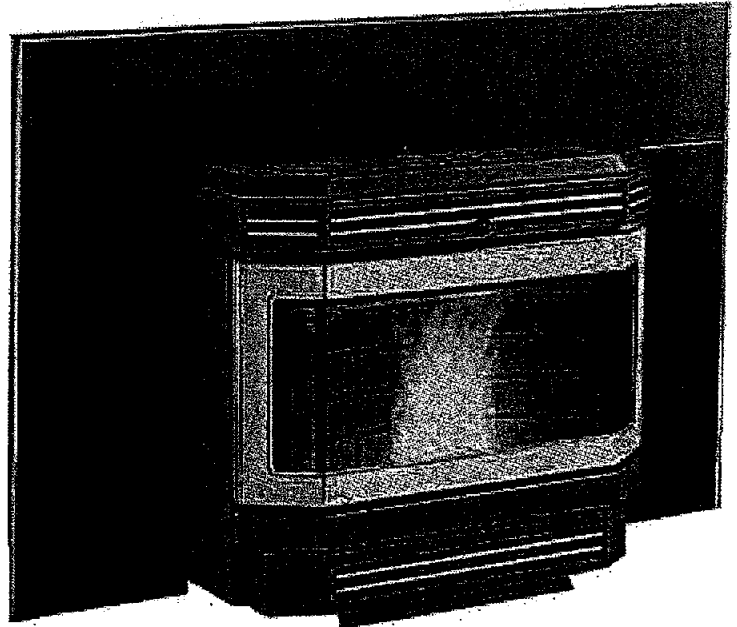
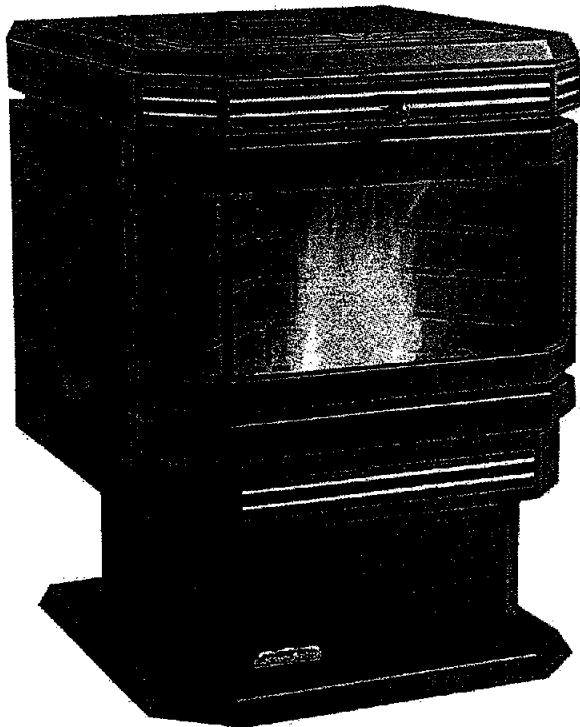
PLEASE KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE



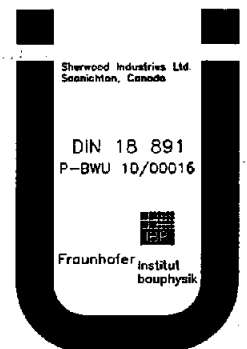
PELLET STOVE *Head Install*
Free Hole
EF3 0800 735538
027 2085208

Freestanding, Fireplace Insert,
and Built-In Heater *John W Conroy*
027 2462878

TECHNICAL MANUAL



PLEASE READ THIS ENTIRE MANUAL BEFORE INSTALLATION AND USE OF THIS PELLET BURNING ROOM HEATER. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN PROPERTY DAMAGE, BODILY INJURY, OR EVEN DEATH.



Contact your building or fire officials about restrictions and installation inspection requirements in your area.

TABLE OF CONTENTS

| | |
|---|----|
| Introduction..... | 3 |
| Rating Label Location..... | 3 |
| Important Safety Data..... | 3 |
| Safety Warnings And Recommendations..... | 3 |
| Installation..... | 5 |
| Deciding Where to Locate your Pellet Appliance..... | 5 |
| Removing Pellet Stove From Pallet..... | 5 |
| Dimensions - Freestanding..... | 6 |
| Dimensions - Fireplace Insert and Built-In Heater..... | 6 |
| Clearances to Combustibles - Freestanding..... | 7 |
| Clearances to Combustibles - Fireplace Insert..... | 7 |
| Clearances to Combustibles - Built-In Heater..... | 8 |
| Pedestal Installation..... | 8 |
| Vent Termination Requirements..... | 9 |
| Outside Fresh-Air Connection..... | 10 |
| Exhaust And Fresh Air Intake Locations..... | 10 |
| Mobile Home Installation - Freestanding..... | 11 |
| Corner Through Wall Installation - Freestanding..... | 11 |
| Horizontal Exhaust Through Wall Installation - Freestanding..... | 12 |
| Through Wall With Vertical Rise and Horizontal Termination Installation - Freestanding..... | 13 |
| Inside Vertical Installations - Freestanding..... | 14 |
| Outside Vertical Installations - Freestanding..... | 14 |
| Hearth Mount Installation - Freestanding..... | 15 |
| Masonry Fireplace Installation - Fireplace Insert..... | 16 |
| Installation For A Built-In Heater..... | 18 |
| Installation of Control Panel into Surround Panel - FPI and BIH..... | 18 |
| Installation and Removal of The Surround Panels - FPI and BIH..... | 19 |
| Thermostat Installation - Circuit Board Model Only..... | 20 |
| Slider/Damper Installation - Timer Controlled Model Only..... | 21 |
| Slider/Damper Setting..... | 21 |
| The Tube Scraper Rod..... | 22 |
| Troubleshooting..... | 23 |
| Wiring Diagram..... | 28 |
| Timer Control..... | 28 |
| Circuit Board..... | 29 |
| Parts List..... | 30 |
| Parts List - Options..... | 33 |
| Parts Diagram - Components..... | 34 |
| Parts Diagram - Steel..... | 35 |
| Warranty..... | 36 |
| Installation Data Sheet..... | 37 |

INTRODUCTION

RATING LABEL LOCATION:

Freestanding: The rating label is located on the inside of the hopper lid.

Insert: The rating label is located on the hopper cover.

IMPORTANT SAFETY DATA:

Please read this entire Owner's Manual before installing or operating this ENVIRO Pellet Stove. Failure to follow these instructions may result in property damage, bodily injury or even death. Contact your local building or fire official to obtain a permit and any information on installation restrictions and inspection requirements for your area.

To prevent the possibility of a fire, ensure that the appliance is properly installed by adhering to the installation instructions. An ENVIRO dealer will be happy to assist you in obtaining information with regards to your local building codes and installation restrictions.

Be sure to maintain the structural integrity of the home when passing a vent through walls, ceilings, or roofs.

The stove's exhaust system works with negative combustion chamber pressure and a slightly positive chimney pressure. It is very important to ensure that the exhaust system be sealed and airtight. The ash pan and viewing door must be locked securely for proper and safe operation of the pellet stove.

Do not burn with insufficient combustion air. A periodic check is recommended to ensure proper combustion air is admitted to the combustion chamber. Setting the proper combustion air is achieved by adjusting the slider damper located on the left side of the stove.

When installing the stove in a mobile home, it must be electrically grounded to the steel chassis of the home and bolted to the floor. Make sure that the structural integrity of the home is maintained and all construction meets local building codes.

Minor soot or creosote may accumulate when the stove is operated under incorrect conditions such as an extremely rich burn (black tipped, lazy orange flames).

If you have any questions with regard to your stove or the above-mentioned information, please feel free to contact your local dealer for further clarification and comments.

SAFETY WARNINGS AND RECOMMENDATIONS:

Caution: Do not connect to any air distribution duct or system.

Do not burn garbage or flammable fluids such as gasoline, naphtha or engine oil. Unit hot while in operation. Keep children, clothing and furniture away. Contact may cause skin burns.

SOOT: Operation of the stove with insufficient combustion air will result in the formation of soot which will collect on the glass, the heat exchanger, the exhaust vent system, and may stain the outside of the house. This is a dangerous situation and is inefficient. Frequently check your stove and adjust the slider/damper as needed to ensure proper combustion. **See: "INSTALLATION SLIDER/DAMPER SETTING".**

INTRODUCTION

ELECTRICAL: The use of a surge protected power bar is recommended. The unit must be grounded. The grounded electrical cord should be connected to a standard 220-240 volts (2.26-2.46 Amps), 50 hertz electrical outlet and also must be accessible. If this power cord should become damaged, a replacement power cord must be purchased from the manufacturer or a qualified ENVIRO dealer. Be careful that the electrical cord is not trapped under the appliance and that it is clear of any hot surfaces or sharp edges. This unit's maximum power requirement is 520 watts.

GLASS: Do not abuse the glass by striking or slamming the door. Do not attempt to operate the stove with broken glass. The stove uses ceramic glass. Replacement glass must be purchased from an ENVIRO dealer. Do not attempt to open the door and clean the glass while the unit is in operation or if glass is hot. To clean the glass, use a soft cotton cloth and mild window cleaner, gas or wood stove glass cleaner, or take a damp paper towel and dip into the fly ash. This is a very mild abrasive and will not damage the glass.

FLAMMABLE LIQUIDS: Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in the heater. Keep all such liquids well away from the heater while it is in use.

SMOKE DETECTOR: Smoke detectors should be installed and maintained in the structure when installing and operating a pellet burning appliance.

OPERATION: The ash pan and door must be closed securely for proper and safe operation of the pellet stove. Also ensure all gaskets on the door are checked and replaced when necessary.

INSTALLATION: Be sure to maintain the structural integrity of your home when passing a vent through walls, ceilings, or roofs. It is recommended that the unit be secured into its position in order to avoid any displacement.

DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS UNIT.

DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

FRESH AIR: Fresh air is mandatory on all units installed in "Mobile Homes" and "Air Tight" homes (R2000). Fresh air intake is strongly recommended on all installations. Failure to install intake air may result in poor performance, smoke, property damage, house fire, bodily injury, or death under certain conditions.

If you have any questions with regards to your stove or the above-mentioned information, please feel free to contact your local dealer for further clarification and comments.

SINCE SHERWOOD INDUSTRIES LTD. HAS NO CONTROL OVER THE INSTALLATION OF YOUR STOVE, SHERWOOD INDUSTRIES LTD. GRANTS NO WARRANTY IMPLIED OR STATED FOR THE INSTALLATION OR MAINTENANCE OF YOUR STOVE. THEREFORE, SHERWOOD INDUSTRIES LTD. ASSUMES NO RESPONSIBILITY FOR ANY CONSEQUENTIAL DAMAGE(S).

SAVE THIS INSTRUCTION MANUAL FOR FUTURE REFERENCE

INSTALLATION

DECIDING WHERE TO LOCATE YOUR PELLET APPLIANCE:

1. Check clearances to combustibles.
2. Do not obtain combustion air from an attic, garage or any unventilated space. Combustion air may be obtained from a ventilated crawlspace.
3. Do not install the stove in a bedroom.
4. You can vent the stove through an exterior wall behind the unit or connect it to an existing masonry or metal chimney (must be lined if the chimney is over 6" (15 cm) diameter, or over 28 inches² (180 cm²) cross sectional area). An interior vent can be used with approved pipe passing through the ceiling and roof.
5. Locate the stove in a large and open room that is centrally located in the house. This will optimize heat circulation.
6. The power cord is 8 feet (2.43 m) long and may require a grounded extension cord to reach the nearest electrical outlet.

REMOVING PELLET STOVE FROM PALLET:

To remove your new stove from its pallet, open the left and right side panels. There are two (2) wood screws that are holding the bottom of the stove to the pallet. Remove the screws. Close the side panels. See "PEDESTAL INSTALLATION - FIREPLACE INSERT" and "PEDESTAL INSTALLATION - FREESTANDING" to install the pedestal.

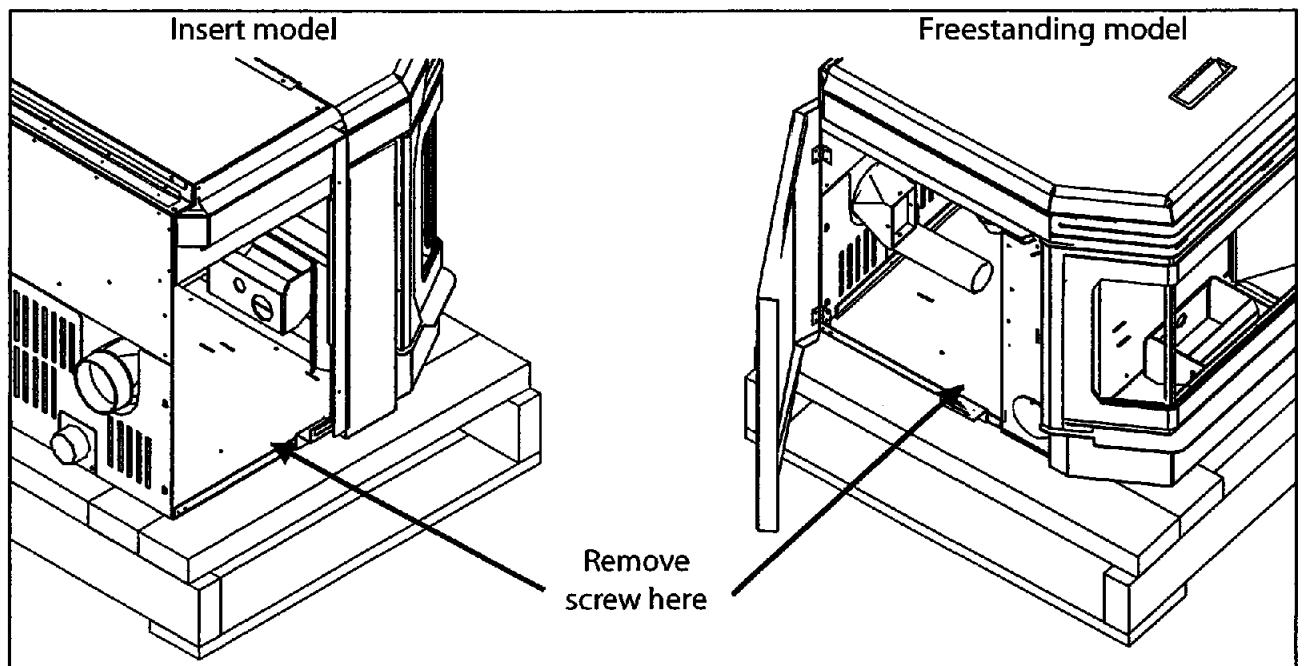


Figure 1: Screws to take out to remove stove from pallet.

INSTALLATION

DIMENSIONS - FREESTANDING:

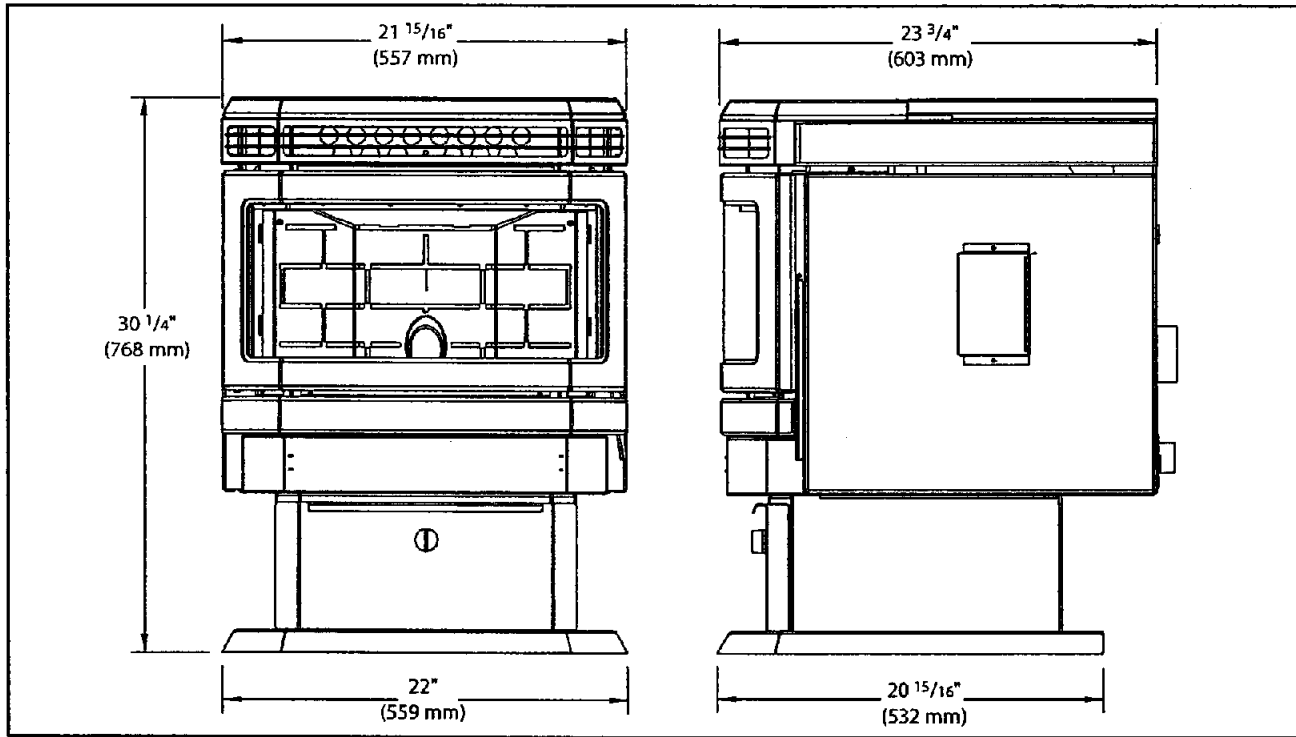


Figure 2: Dimensions of EF3 Freestanding.

DIMENSIONS - FIREPLACE INSERT AND BUILT-IN HEATER:

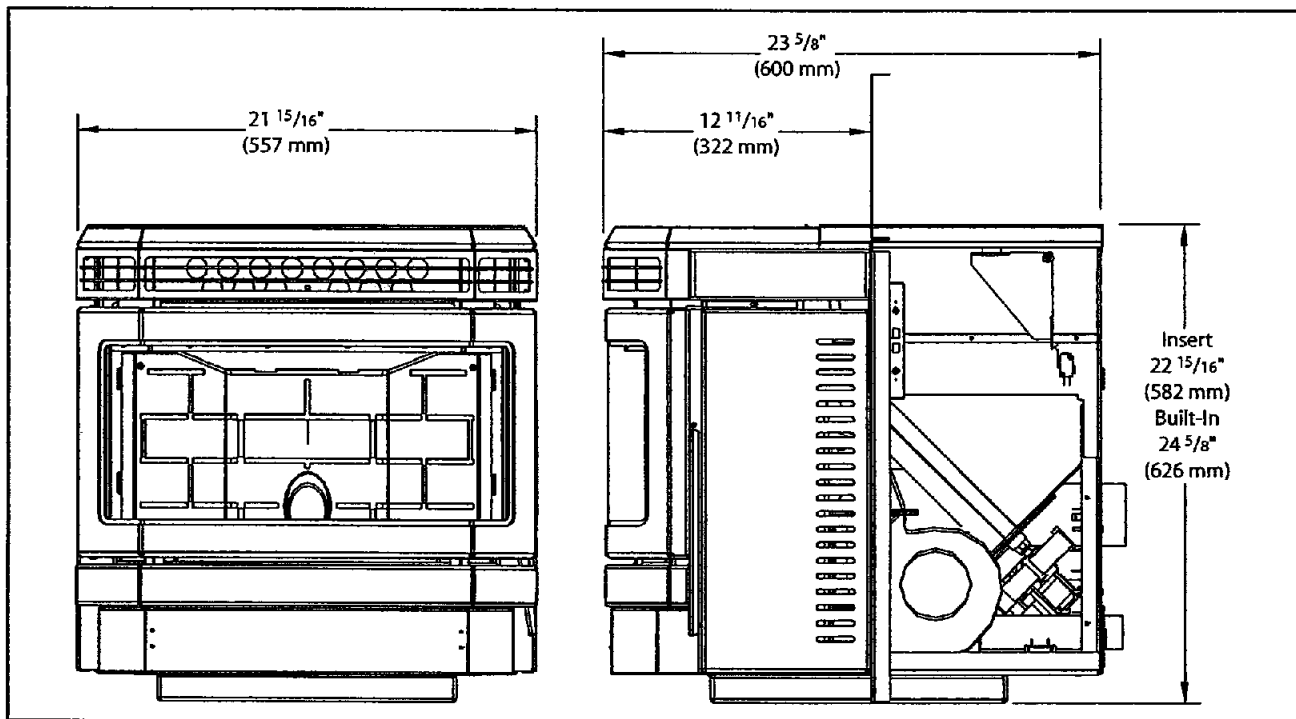


Figure 3: Dimensions of EF3 Fireplace Insert.

INSTALLATION

CLEARANCES TO COMBUSTIBLES - FREESTANDING:

When installing this unit on a combustible floor (for example linoleum, hardwood flooring) a non-combustible hearth pad must be under the unit. The pad must extend at least the width of the appliance [22" (558 mm)] and at least the depth of the appliance plus 6" (153 mm) in front of the appliance [26 ¹⁵/₁₆" (547 mm)].

| | | |
|--|------------|----------|
| Side wall to unit | - 6 inches | (15 cm) |
| Back wall to unit | - 1 inches | (2.5 cm) |
| Corner to unit | - 1 inches | (2.5 cm) |
| Door front to edge of floor protection | - 6 inches | (15 cm) |

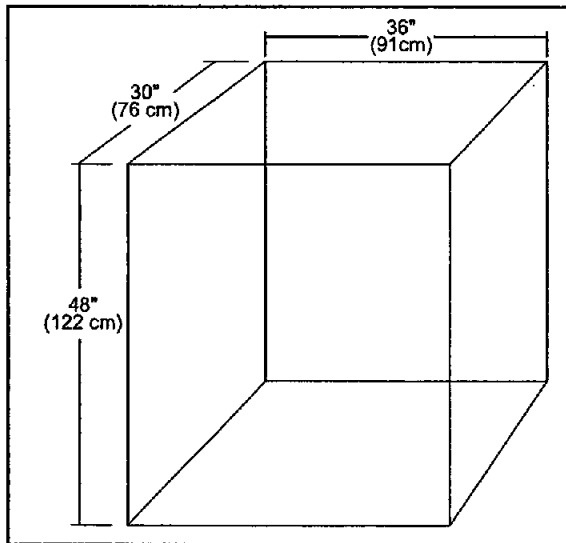


Figure 5: EF3 Freestanding Minimum Alcove Size.

These dimensions are minimum clearances but it is recommended that you ensure sufficient room for serving, routine cleaning and maintenance.

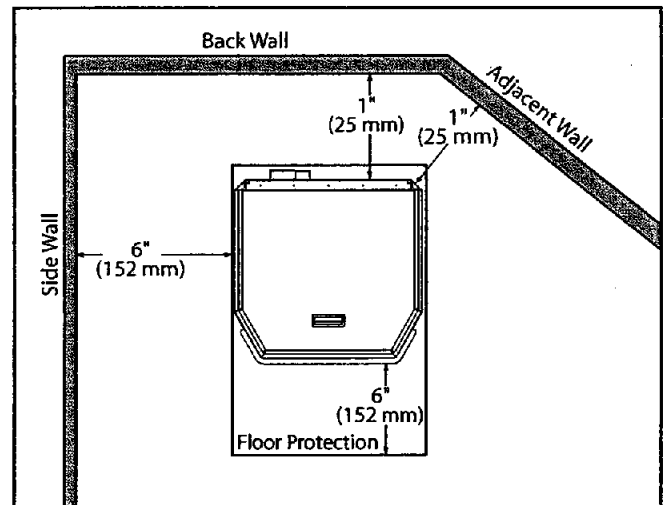


Figure 4: EF3 Freestanding Clearance to Combustibles.

| | | |
|-----------------------|-------------|----------|
| Minimum Alcove width | - 36 inches | (91 cm) |
| Minimum Alcove height | - 48 inches | (122 cm) |
| Minimum Alcove depth | - 30 inches | (76 cm) |

CLEARANCES TO COMBUSTIBLES - FIREPLACE INSERT:

Refer to Figure 6.

| | | |
|-----------------------|-------------|-----------|
| Side wall to unit | - 8 inches | (20.3 cm) |
| Mantel projection | - 10 inches | (25.4 cm) |
| Mantel to top of unit | - 8 inches | (20.3 cm) |
| Top facing to unit | - 8 inches | (20.3 cm) |
| Side facing to unit | - 6 inches | (15.2 cm) |
| Floor protection | - 6 inches | (15.2 cm) |

on either side and to the front must be protected by non-combustible material.

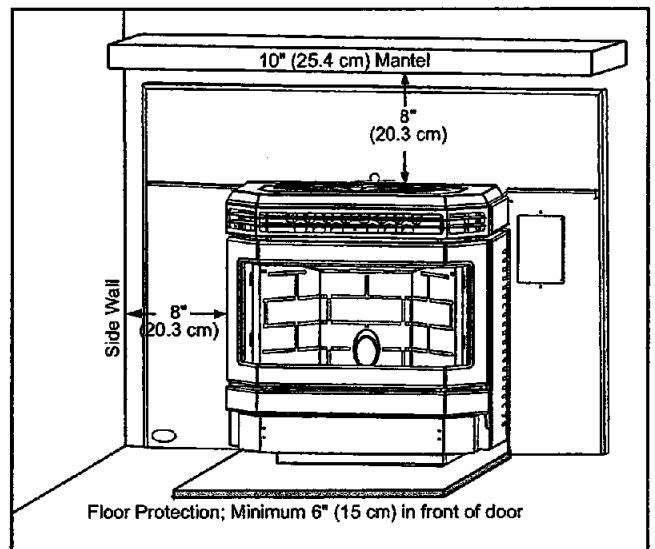


Figure 6: EF3 Fireplace Insert Clearance to Combustibles.

INSTALLATION

CLEARANCES TO COMBUSTIBLES - BUILT-IN HEATER:

Refer to Figures 6, 7, and 8.

| | | |
|---|-------------|-----------|
| Side wall to unit | - 8 inches | (20.3 cm) |
| Mantel projection | - 10 inches | (25.4 cm) |
| Mantel to top of unit | - 8 inches | (20.3 cm) |
| Top facing to unit | - 8 inches | (20.3 cm) |
| Side facing to unit | - 6 inches | (15.2 cm) |
| Floor protection | - 6 inches | (15.2 cm) |
| (on either side and to the front must be protected by non-combustible material) | | |
| Sides and rear walls to standoffs: | - 0 inches | (0 cm) |
| Recess depth: | - 11 inches | (30 cm) |

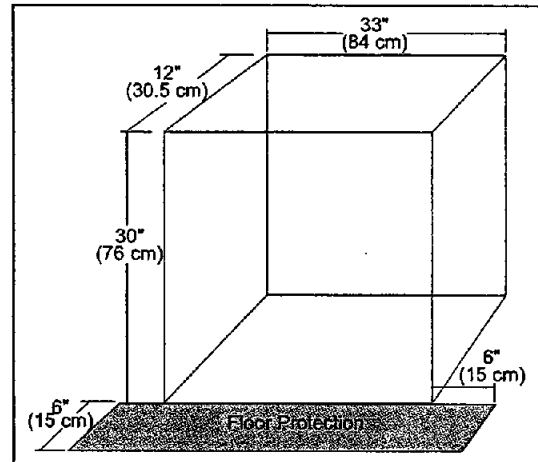


Figure 7: EF3 Built-In Heater recommended framing.

PEDESTAL INSTALLATION:

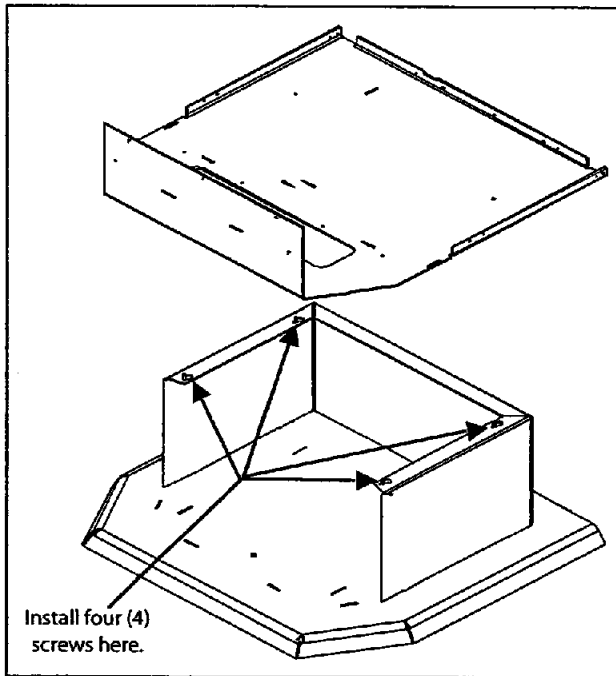


Figure 8: Freestanding Pedestal.

- Place the unit on its back on the pallet.
- Back the four (4) T-20 screws in the base off three (3) to four (4) full turns.
- Align the keyholes in the pedestal with the screws, lock into place.
- Secure the two (2) pieces by tightening the four (4) screws from the inside of the pedestal for the freestanding or from the outside of the pedestal for the FPI or BIH.

The all models comes with a pedestal that has to be attached prior to installation:

- Remove the unit from the box
- Remove the freestanding pedestal from the box. Remove the FPI or BIH pedestal from the hopper

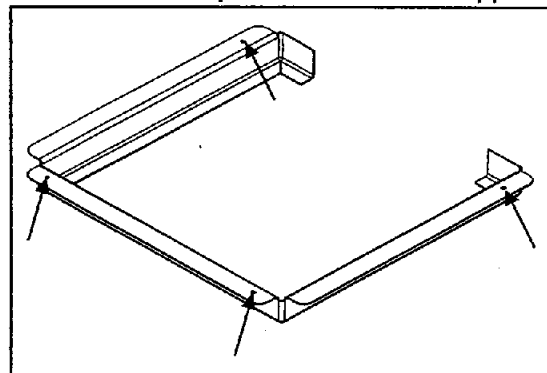


Figure 9: Fireplace Insert Pedestal.

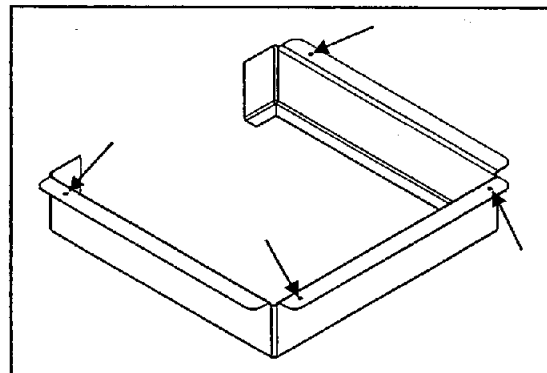


Figure 10: Built-In Heater Pedestal.

INSTALLATION

VENT TERMINATION REQUIREMENTS:

IT IS RECOMMENDED THAT YOUR PELLET STOVE BE INSTALLED BY AN AUTHORIZED DEALER/INSTALLER.

Table 1: Use in conjunction with Figure 11 for allowable exterior vent termination locations.

| Letter | Minimum Clearance | Description |
|--------|--|--|
| A | 24 in (61 cm) | Above grass, top of plants, wood, or any other combustible materials. |
| B | 48 in (122 cm) | From beside/below any door or window that may be opened. |
| C | 24 in (61 cm) | From above any door or window that may be opened. |
| D | 24 in (61 cm) | To any adjacent building, fences and protruding parts of the structure. |
| E | 24 in (61 cm) | Below any eave or roof overhang |
| F | 12 in (30 cm) | To outside corner. |
| G | 12 in (30 cm) | To inside corner, combustible wall (vertical and horizontal terminations). |
| H | 3 ft (91 cm) within a height of 15 ft (4.5 m) above the meter/regulator assembly | To each side of center line extended above natural gas or propane meter/regulator assembly or mechanical vent. |
| I | 3 ft (91 cm) | From any forced air intake of other appliance |
| J | 12 in (30 cm) | Clearance to non-mechanical air supply inlet to building, or the combustion air inlet to any appliance. |
| K | 24 in (61 cm) | Clearance above roof line for vertical terminations. |
| L | 7 ft (2.13 m) | Clearance above paved sidewalk or paved driveway located on public property. |

1. Do not terminate the vent in any enclosed or semi-enclosed areas such as a carport, garage, attic, crawlspace, narrow walkway, closely fenced area, under a sundeck or porch, or any location that can build up a concentration of fumes such as stairwells, covered breezeway, etc.

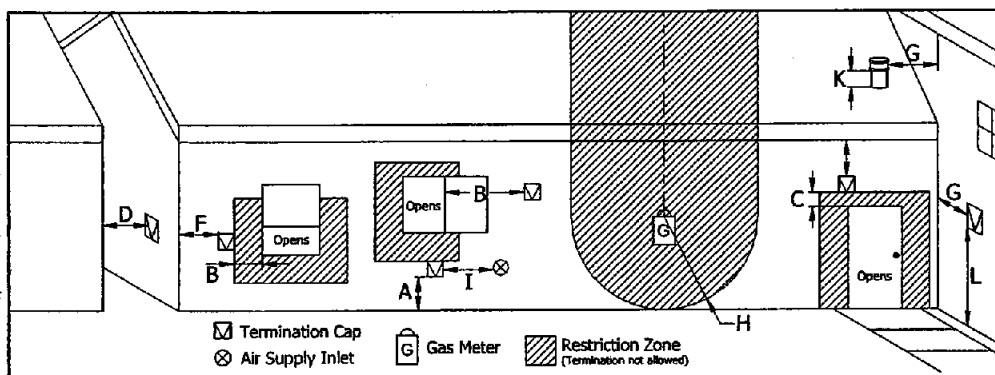


Figure 11: Use in conjunction with Table 1 for allowable exterior vent termination locations.

2. Vent surfaces can become hot enough to cause burns if touched by children. Non-combustible shielding or guards may be required.

3. Termination must exhaust above the inlet elevation. It is recommended that at least five feet of vertical pipe be installed outside when the appliance is vented directly through a wall, to create some natural draft to prevent the possibility of smoke or odor during appliance shut down or power failure. This will keep exhaust from causing a nuisance or hazard from exposing people or shrubs to high temperatures. In any case, the safest and preferred venting method is to extend the vent through the roof vertically.

4. Distance from the bottom of the termination and grade is 12" (30 cm) minimum. This is conditional upon the plants and nature of grade surface. The exhaust gases are hot enough to ignite grass, plants and shrubs located in the vicinity of termination. The grade surface must not be lawn.

5. If the unit is incorrectly vented or the air to fuel mixture is out of balance, a slight discoloration of the exterior of the house might occur. Since these factors are beyond the control of Sherwood Industries Ltd, we grant no guarantee against such incidents.

6. When installing an FPI the chimney must be fully lined. Unless the chimney's inside diameter is less than 6" (15 cm) around or has a cross section area of 28 inches² (180.6 cm²), we strongly recommend lining all masonry chimneys.

NOTE: Venting terminals shall not be recessed into walls or siding.

INSTALLATION

OUTSIDE FRESH-AIR CONNECTION:

Outside fresh air is mandatory when installing this unit in airtight homes and mobile homes.

A Fresh-air intake is strongly recommended for all installations. Failure to install intake air may result in improper combustion as well as the unit smoking during power failures.

When connecting to an outside fresh air source, do not use plastic or combustible pipe. A 1 5/8" minimum (42 mm) ID (inside diameter) steel, aluminum or copper pipe should be used. It is recommended, when you are installing a fresh air system, to keep the number of bends in the pipe to a minimum.

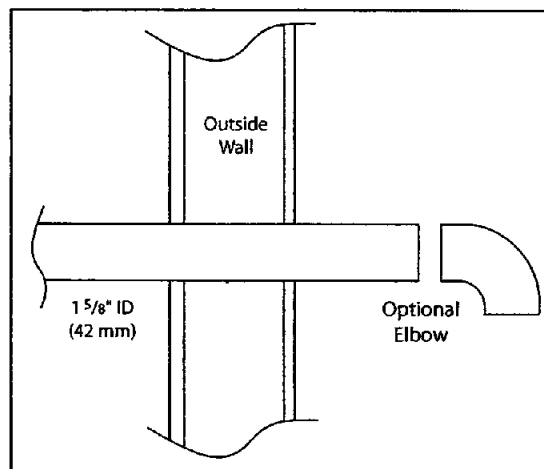


Figure 12: Outside Air Connection.

EXHAUST AND FRESH AIR INTAKE LOCATIONS:

EXHAUST

| | Freestanding | Fireplace Insert | Built-In Heater |
|----------------------------------|-------------------|-------------------|-------------------|
| Base of unit to center of flue | 16 3/8" (41.5 cm) | 9" (22.8 cm) | 10 3/4" (27.3 cm) |
| Side of unit to center of flue | 5 3/16" (13.2 cm) | 5 3/16" (13.2 cm) | 5 3/16" (13.2 cm) |
| Center of unit to center of flue | 5 3/4" (14.6 cm) | 5 3/4" (14.6 cm) | 5 3/4" (14.6 cm) |

FRESH AIR INTAKE.

| | | | |
|------------------------------------|-------------------|-----------------|-----------------|
| Base of unit to center of intake | 10 3/4" (27.3 cm) | 3 3/8" (7.4 cm) | 5 1/8" (8.6 cm) |
| Side of unit to center of intake | 12" (30.4 cm) | 12" (30.4 cm) | 12" (30.4 cm) |
| Center of unit to center of intake | 1" (2.5 cm) | 1" (2.5 cm) | 1" (2.5 cm) |

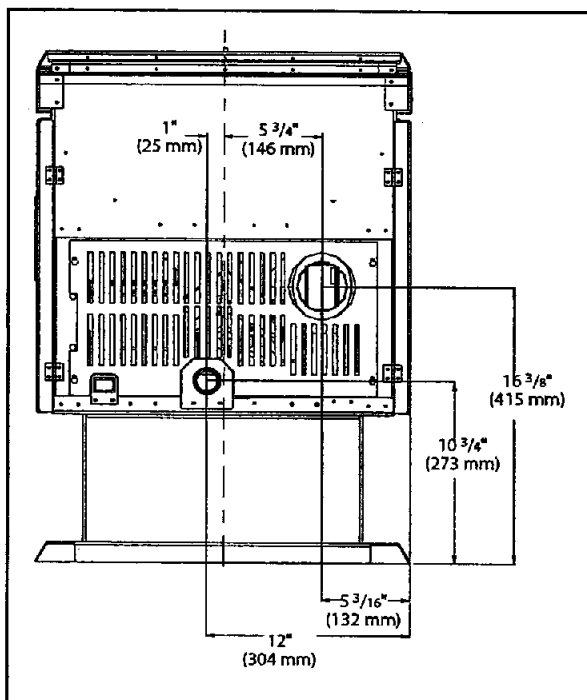


Figure 13: EF3 Freestanding Inlet and Outlet Location.

INSTALL VENT AT CLEARANCES SPECIFIED BY THE VENTING MANUFACTURER

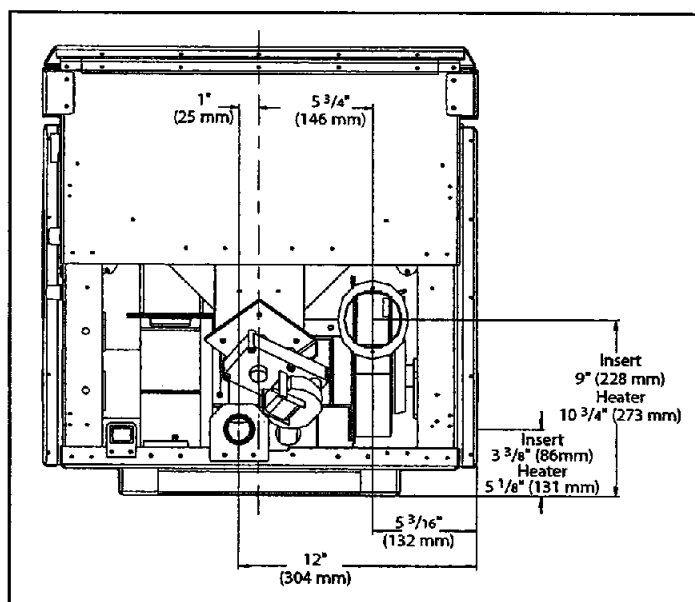


Figure 14: EF3 Fireplace Insert Inlet and Outlet Location.

INSTALLATION

MOBILE HOME INSTALLATION - FREESTANDING:

- Secure the heater to the floor using the two holes in the pedestal.
- Ensure the unit is electrically grounded to the chassis of your home (permanently).
- Do not install in a room people sleep in.
- Outside fresh air is mandatory. Secure outside air connections directly to fresh air intake pipe and secure with three (3) screws evenly spaced.

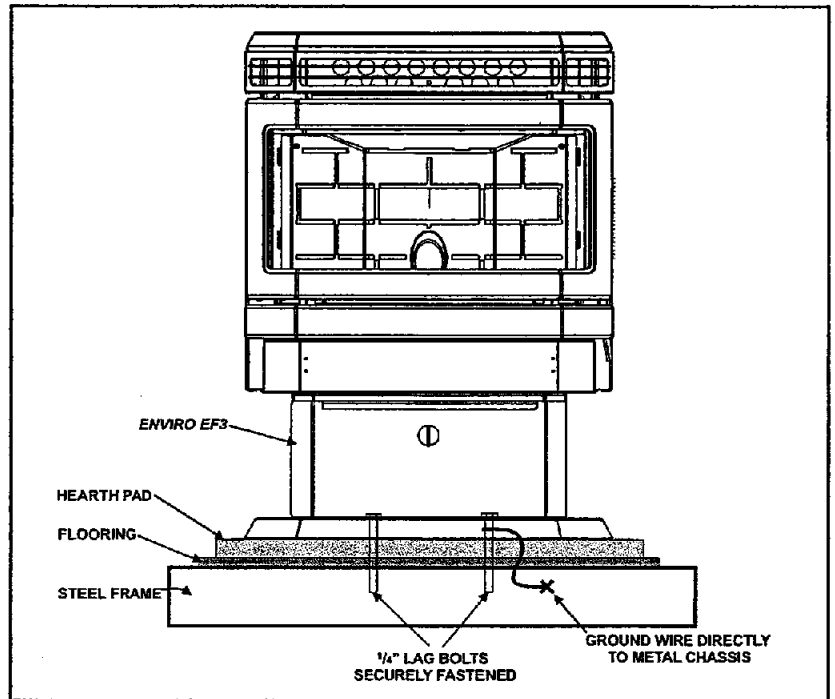


Figure 15: Mobile home installation.

CAUTION: THE STRUCTURAL INTEGRITY OF THE MANUFACTURED HOME FLOOR, WALL AND CEILING/ROOF MUST BE MAINTAINED.

CORNER THROUGH WALL INSTALLATION - FREESTANDING:

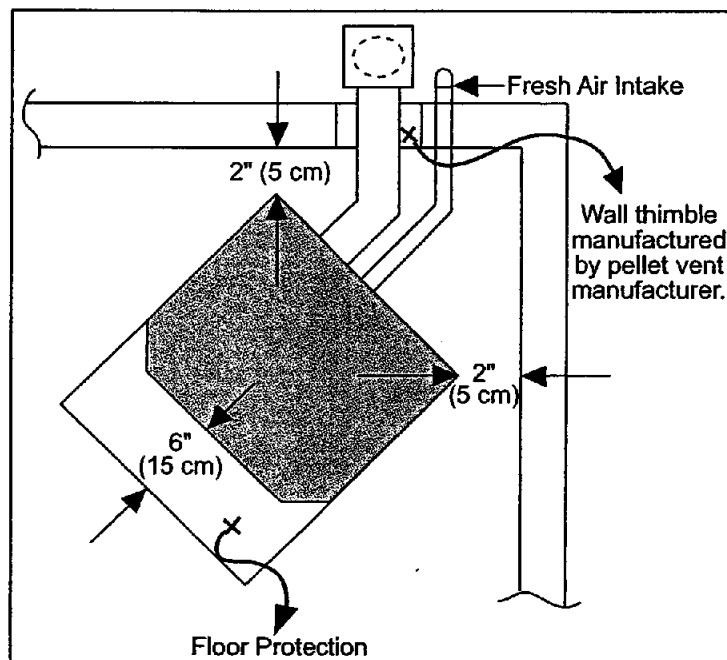


Figure 16: Corner Installation.

INSTALLATION

HORIZONTAL EXHAUST THROUGH WALL INSTALLATION - FREESTANDING:

Vent installation: install vent at clearances specified by the vent manufacturer.

A chimney connector shall not pass through an attic or roof space, closet or similar concealed spaces, or a floor, or ceiling. Where passage through a wall or partition of combustible construction is desired, the installation shall conform to CAN/CSA-B365 Installation Code for Solid-Fuel-Burning Appliances and Equipment. Only use venting of L or PL type with an inside diameter of 3 or 4 inches (7.6 or 10.1 cm).

1. Choose a location for your stove that meets the requirements stated in this manual and allows installation with the least amount of interference to house framing, plumbing, wiring, etc.
2. Install a non-combustible hearth pad (where necessary).

3. Place the appliance 15" (37.5 cm) away from the wall. If the stove is to be set on a hearth pad, set the unit on it.

4. Locate the center of the exhaust pipe on the stove. Extend that line to the wall. Once you have located the center point on the wall, refer to pellet vent manufacturer installation instructions for correct hole size and clearance to combustibles.

5. Install the wall thimble as per the instructions written on the thimble. Maintain an effective vapour barrier in accordance with local building codes.

6. Install a length of 3" (76 mm) or 4" (101 mm) vent pipe into the wall thimble. The pipe should install easily into the thimble.

7. Install the fresh air intake (see OUTSIDE FRESH AIR CONNECTION).

8. Connect the exhaust vent pipe to the exhaust pipe on the stove. Seal the connection with high temperature silicone.

9. Push the stove straight back, leaving a minimum of 2" (5 cm) clearance from the back of the stove to the wall. Seal the vent pipe to the thimble with high temperature silicone.

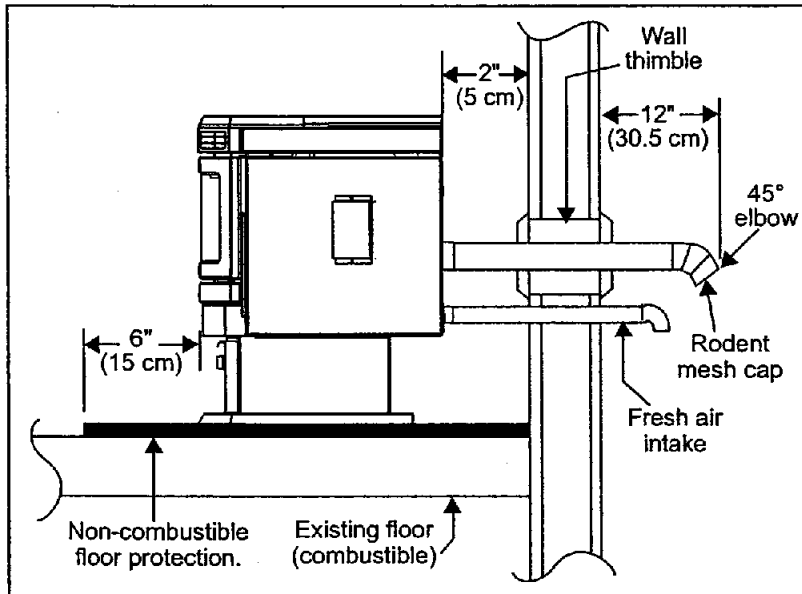


Figure 17: Straight through wall Installation.

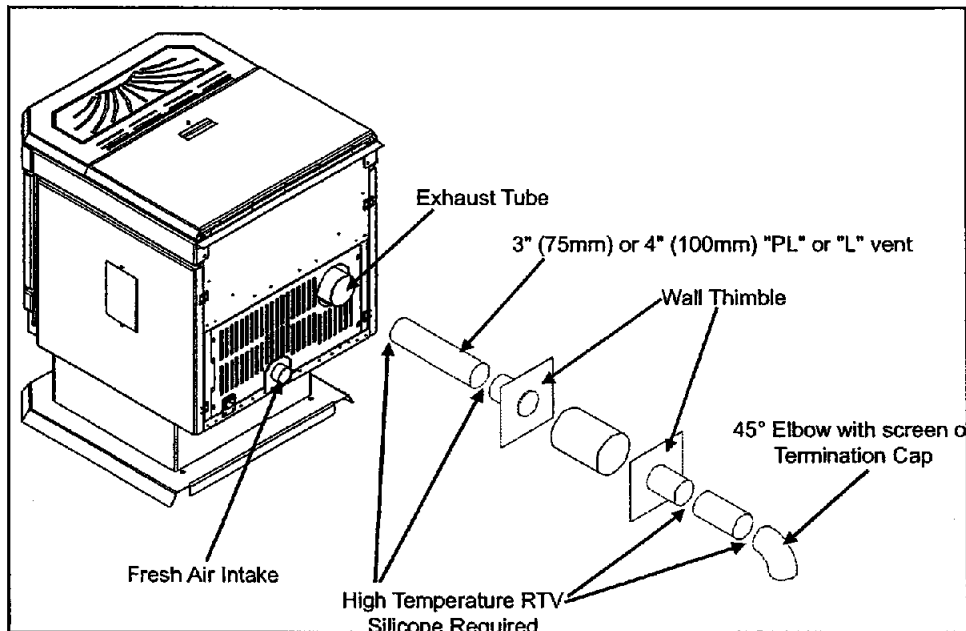


Figure 18: Venting to use with straight through wall Installation.

INSTALLATION

10. The pipe must extend at least 12" (30 cm) away from the building. If necessary, bring another length of pipe (PL type) to the outside of the home to connect to the first section. Do not forget to place high temperature silicone around the pipe that passes through the thimble.
11. Install a vertical pipe, or if all requirements for direct venting are met, install vent termination. The stainless steel cap termination manufactured by the vent manufacturer is recommended. However, when the vent terminates several feet above ground level and there are no trees, plants, etc. within several feet, a 45° elbow can be used as termination. The elbow must be turned down to prevent rain from entering.

NOTE:

- Some horizontal through wall installations may require a "T" and 3 to 5 feet (91 to 152 cm) of vertical pipe outside the building to help naturally draft in the unit.
- This may be required if a proper burn cannot be maintained, after the stove has been tested and the airflow set.
- This is due to the back pressure in the exhaust caused by airflow around the structure.
- All sections of pipe must have three (3) screws evenly spaced and all horizontal vent sections must have a bead of high temperature silicone installed on the male end of the pipe before installation to create a gas tight seal.

THROUGH WALL WITH VERTICAL RISE AND HORIZONTAL TERMINATION INSTALLATION - FREESTANDING:

A 45° elbow with a rodent screen may be used in place of the termination cap (or stainless steel termination hood).

Figure 19 is the recommended installation set up.

Figure 20 is the installation to use if there is a concrete or retaining wall in line with exhaust vent on a pellet stove. The termination must be 12" (30 cm) from the outside wall and 12" (30 cm) above the ground.

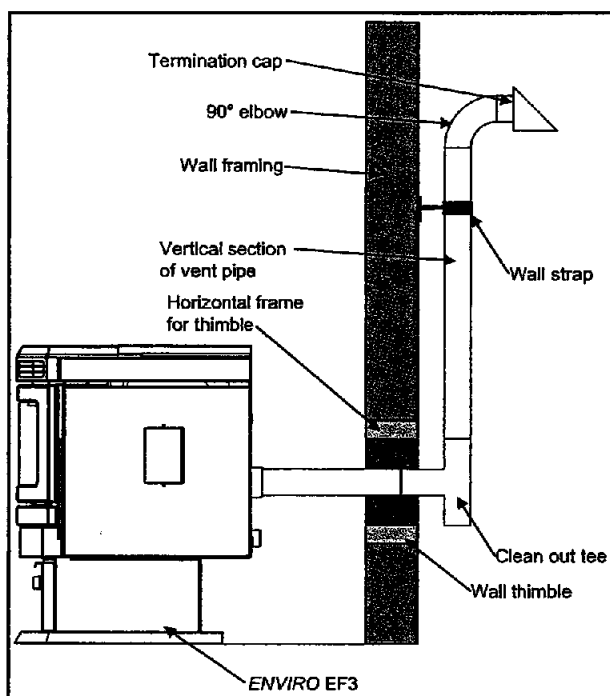


Figure 19: Venting horizontally with rise.

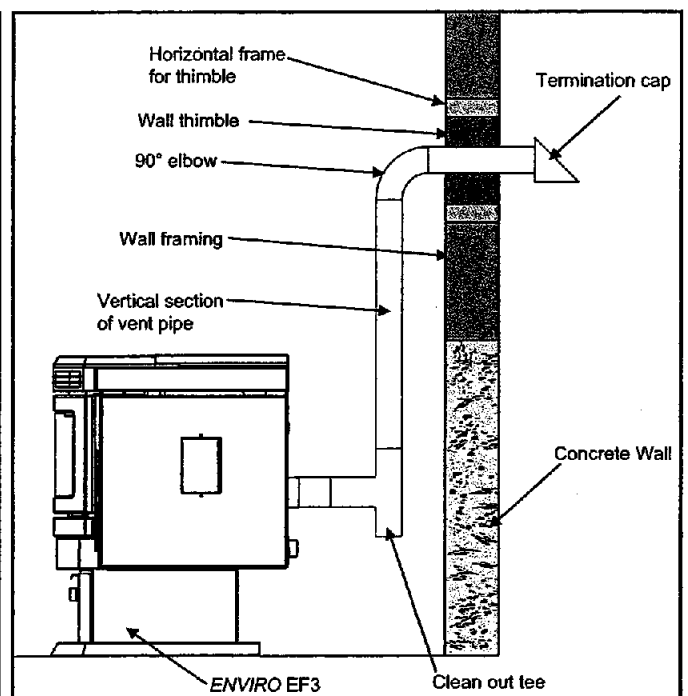


Figure 20: Venting with concrete wall behind unit .

INSTALLATION

INSIDE VERTICAL INSTALLATIONS - FREESTANDING:

1. Choose a stove location that is ideal. See the section "DECIDING WHERE TO LOCATE YOUR PELLET APPLIANCE."
2. Place a non-combustible hearth pad where necessary.
3. Place the unit on the hearth pad (if installed on a carpeted surface) and space the unit in a manner so when the pellet vent is installed vertically, it will be 3" (7.6 cm) away from a combustible wall.
4. Locate the center of the fresh air intake pipe on the unit. Match that center with the same point on the wall and cut a hole about 1 5/8" (41 mm) in diameter.
5. Install the fresh air intake pipe.
6. Install the tee with clean out.
7. Install the pellet vent upward from there. When you reach the ceiling, make sure that the vent goes through the ceiling fire stop. Maintain a 3" (7.6 cm) distance to combustibles and keep attic insulation away from the vent pipe. Maintain an effective vapor barrier.
8. Finally, extend the pellet vent to go through the roof flashing.
9. Ensure that the rain cap is approximately 36" (900 mm) above the roof.

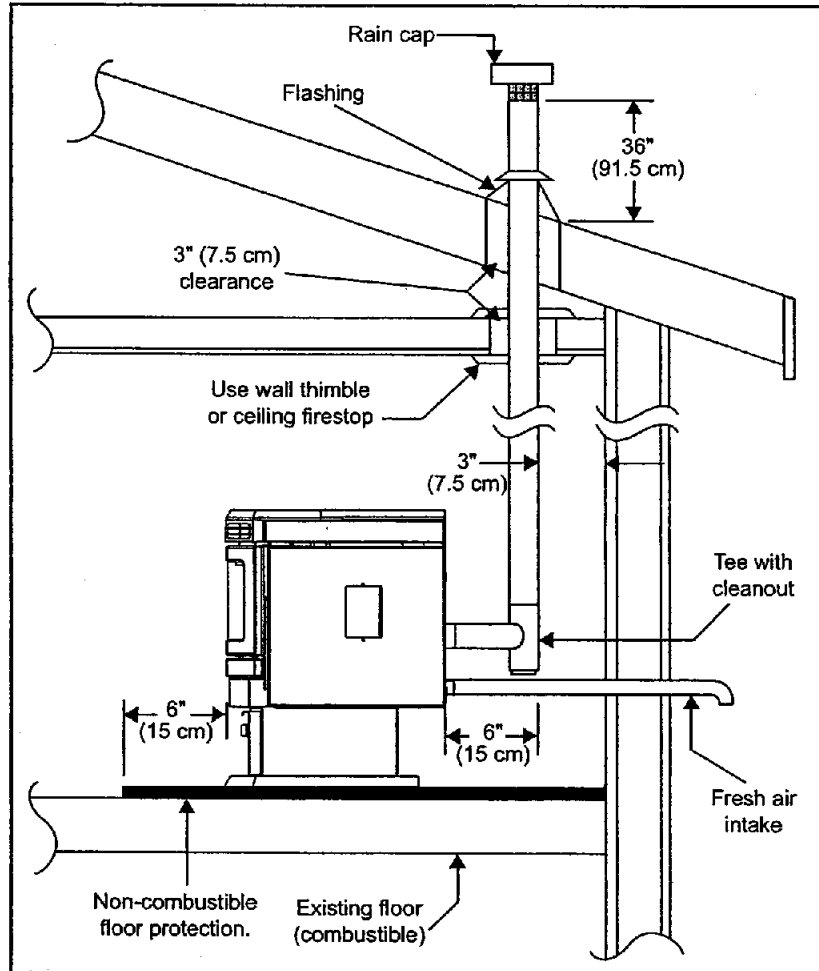


Figure 21: Inside Vertical Installation.

OUTSIDE VERTICAL INSTALLATIONS - FREESTANDING:

To accomplish a outside vertical pipe installation, follow steps 1 through 5 in the "INSIDE VERTICAL INSTALLATIONS - FREESTANDING" section and then finish it by performing the following (refer to Figure 22).

1. Install a tee with clean out on the outside of the house.
2. Install PL vent upward from the tee. Make sure that you install support brackets to keep the vent straight and secure.
3. Install ceiling thimble and secure the flashing as you go through the roof.
4. Ensure that the rain cap is approximately 36" (91.5 cm) above the roof.

INSTALLATION

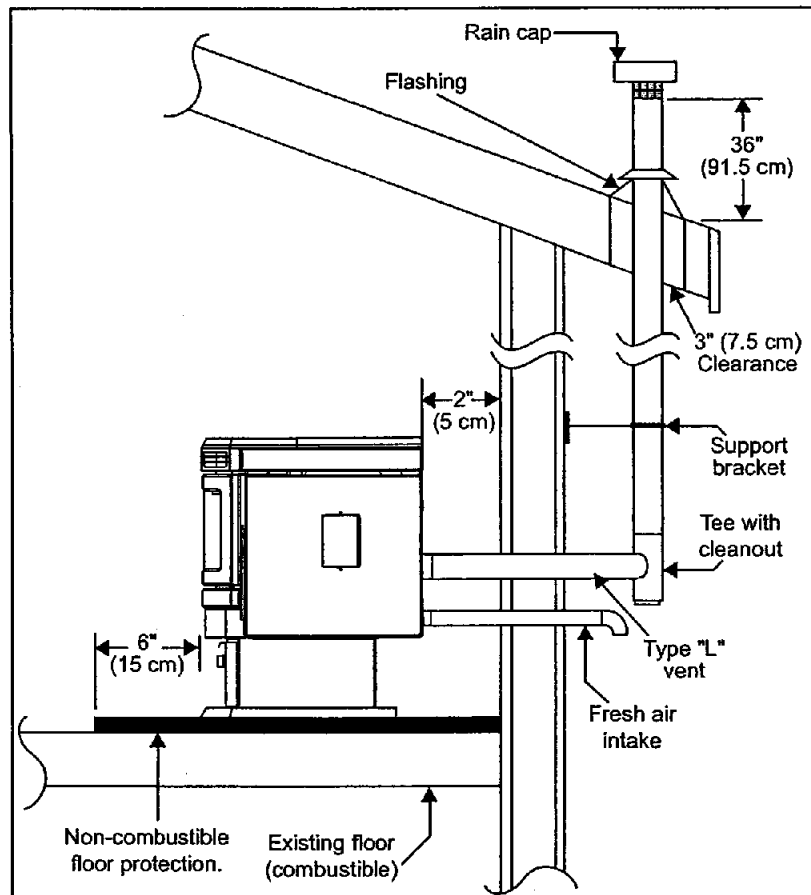


Figure 22: Outside Vertical Installation.

HEARTH MOUNT INSTALLATION - FREESTANDING:

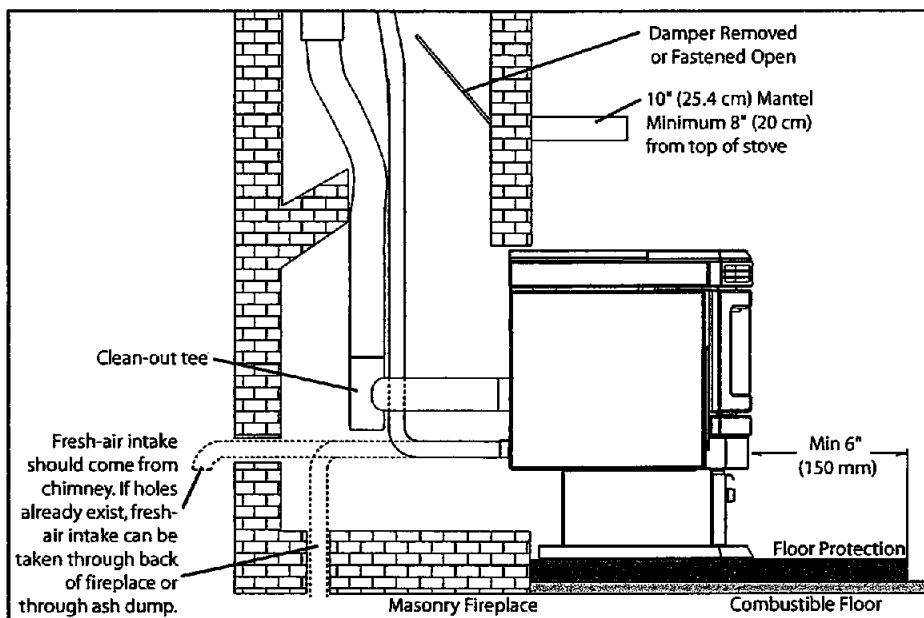


Figure 23: Freestanding hearth mount installation.

- Refer to Figures 23 and 24.
1. Install the hearth pad.
 2. Lock fireplace damper in the open position.
 3. Install a positive flue connector at the fireplace dampers.
 4. Connect a tee or a 90° elbow to the exhaust pipe.
 5. Install flexible stainless steel liner or listed pellet vent to the top of the chimney.

INSTALLATION

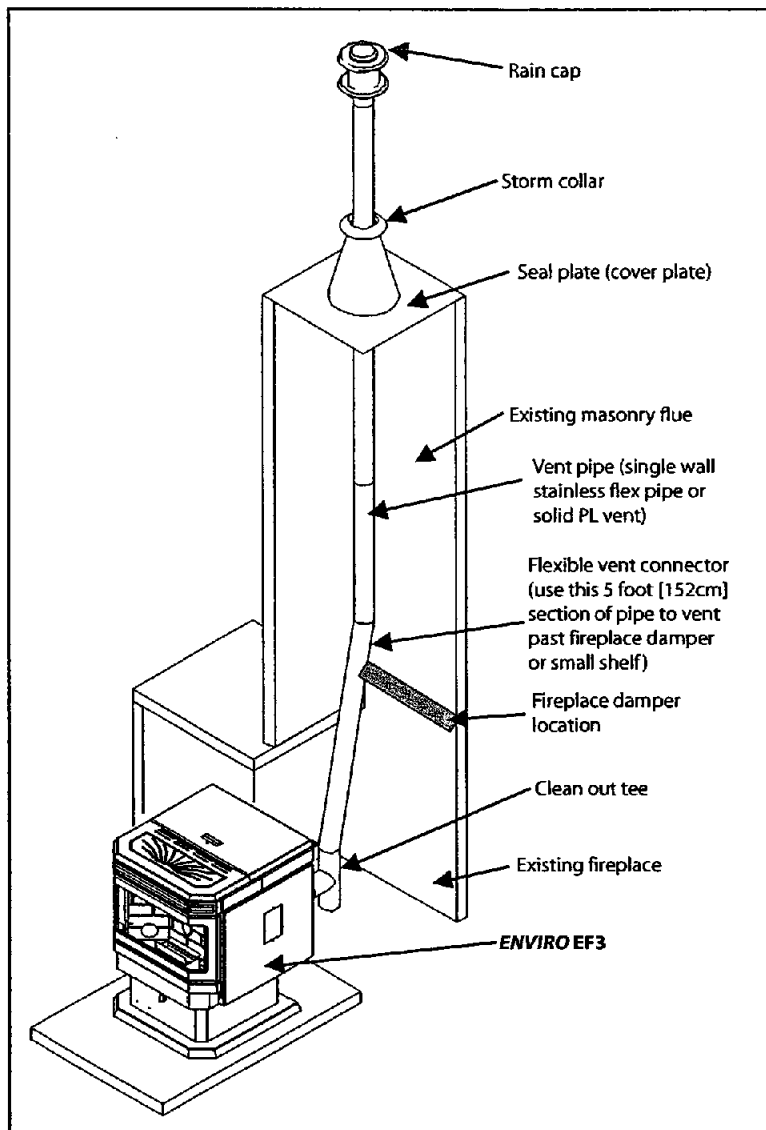


Figure 24: Freestanding hearth mount installation overview.

MASONRY FIREPLACE INSTALLATION - FIREPLACE INSERT:

The fireplace insert model requires a surround panel and a pedestal. When installing this unit, ensure that the pedestal is removed from the inside of the hopper and installed on the bottom of the unit (see "PEDESTAL INSTALLATION").

Assemble surround panel (see "ASSEMBLING THE SURROUND PANEL - FIREPLACE INSERT") before starting installation.

A non-combustible hearth pad must cover combustible flooring underneath, as well as 6" (150 mm) in front of the heater and 6" (150 mm) to the side of the heater.

1. Install the hearth pad.
2. Lock the fireplace damper in the open position.
3. Install a positive flue connector at the fireplace damper.

INSTALLATION

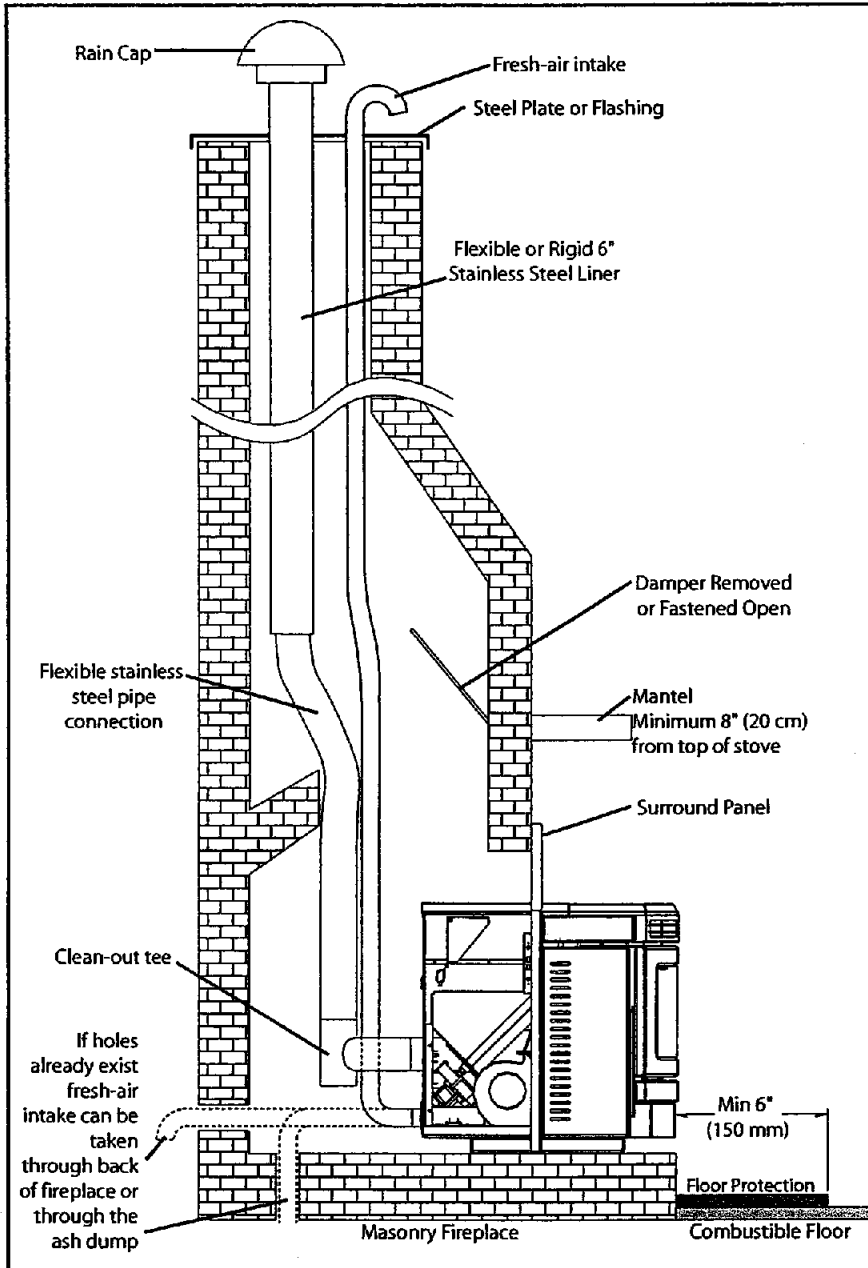


Figure 25: Masonry fireplace installation.

4. Connect a tee or 90° degree elbow to the exhaust pipe.
5. This fireplace insert must be installed with a continuous chimney liner of 3" or 4" diameter extending from the fireplace insert to the top of the chimney. The liner must conform to type 3 requirements of CAN/ULC S635.
6. (Recommended) Install fresh air intake either through the back of the fireplace or through the positive flue connector.

When installing the insert into a masonry fireplace, **DO NOT** remove any bricks or masonry, with the following exception: masonry or steel, including the damper plate, may be removed from the smoke shelf and adjacent damper frame, if necessary, to accommodate a chimney liner. Do this only if their removal will not weaken the structure of the fireplace and chimney, and will not reduce protection for combustible materials to less than that required by the national building code.

When installing the fireplace insert into a zero clearance fireplace, **DO NOT** cut or modify any factory firebox parts. If the fireplace insert does not fit into a zero clearance fireplace, we recommend you use an ENVIRO freestanding model and install as a hearth mounted unit. Install a 3" (76 mm) flex pipe from the stove to the top of the chimney (see "HEARTH MOUNT INSTALLATION - FREESTANDING:").

INSTALLATION

INSTALLATION FOR A BUILT-IN HEATER:

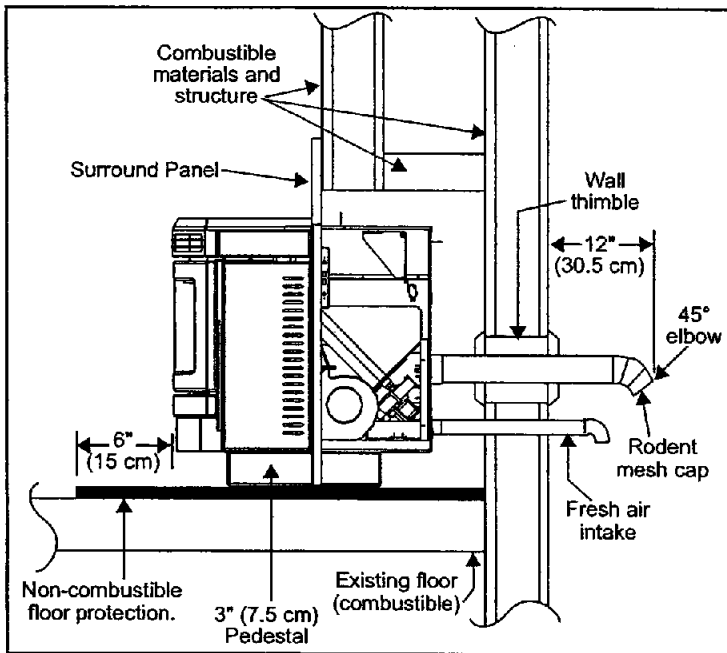


Figure 26: Built-in heater installation.

This unit includes a 3" (75 mm) pedestal and surrounding faceplates. The part of the unit behind the faceplate can be enclosed with combustible material. It has 1" (25 mm) standoffs to establish clearances to combustibles to the back, top and sides.

Refer to "CLEARANCES TO COMBUSTIBLES - BUILT-IN HEATER" and Figure 7 and 8 for the size and placement of the alcove to be built for the unit.

For the venting refer to "HORIZONTAL EXHAUST THROUGH WALL INSTALLATION - FREESTANDING".

INSTALLATION OF CONTROL PANEL INTO SURROUND PANEL - FPI AND BIH:

When installing the control panel into the surround panel, the surround does not need to be assembled. The control board will be found in behind the firebox.

Place the control panel on the backside of the right surround panel so the hinge is on the outside and the top and bottom holes on the control panel line up with those on the surround. Attach using two (2) T-20 screws through the front of the surround into the circuit board control panel.

After the surround has been assembled and is ready to be installed on the unit, plug the wiring harness into the control panel (see Figure 29 or 30).

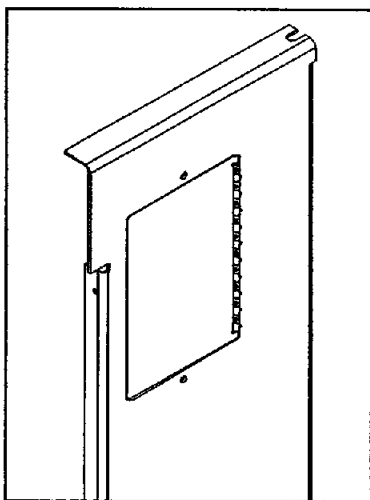


Figure 27: Control Panel Cover.

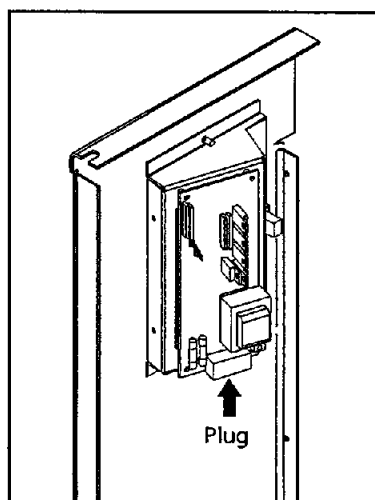


Figure 28: Control Panel Back - Circuit Board.

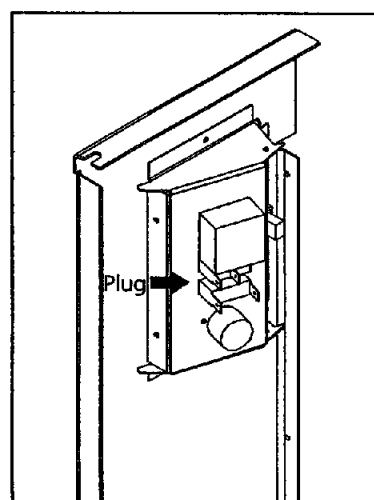


Figure 29: Control Panel Back - Timer.

INSTALLATION

INSTALLATION AND REMOVAL OF THE SURROUND PANELS - FPI AND BIH:

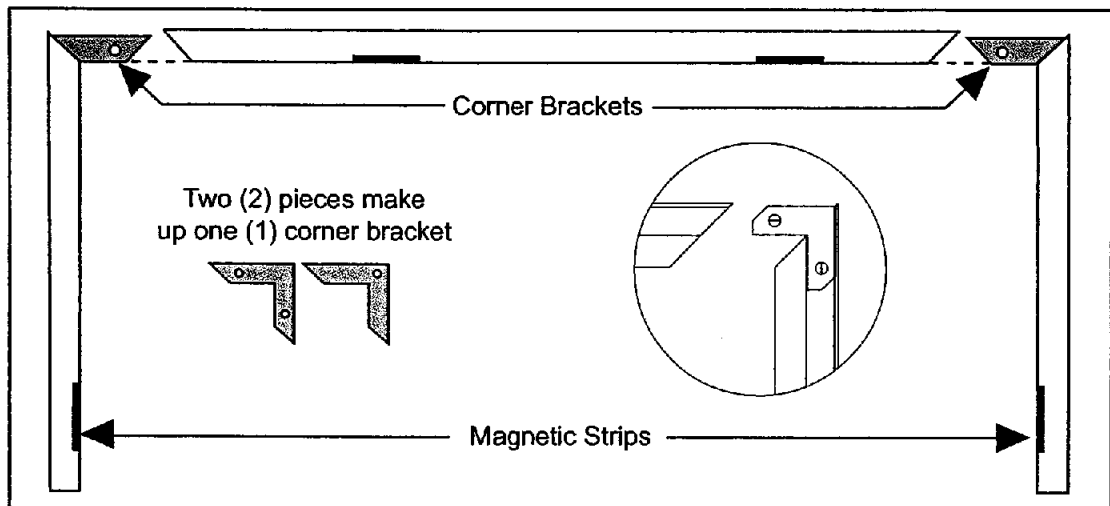


Figure 30: Assembling Trim for Surround Panel.

1. Assemble the trim set using the corner hardware and screws supplied in the surround panel packaging. Install corner hardware into the side trim pieces, then push them into the top trim. Do not over-tighten the corners or the side trim cannot be removed during servicing. See Figure 30.
2. Using three (3) T-20 screws on each side attach the hinges on the side surround panels to the unit's side panels (refer to Figure 31).
3. Plug the wiring harness into the control panel (see Figure 28 or 29).
4. Loosen the front hopper lid screws and center the top surround panel under the hopper lid, tighten screws.
5. Insert each side panel anchor bolt through the top panel into the corresponding side panel holes and tighten using a $7/16$ " wrench or socket (refer to Figure 32).
6. Place assembled trim over the surround assembly.

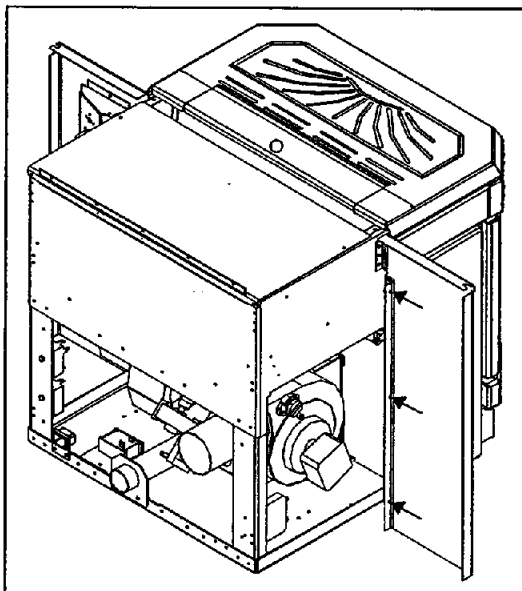


Figure 31: Panel placed on unit.

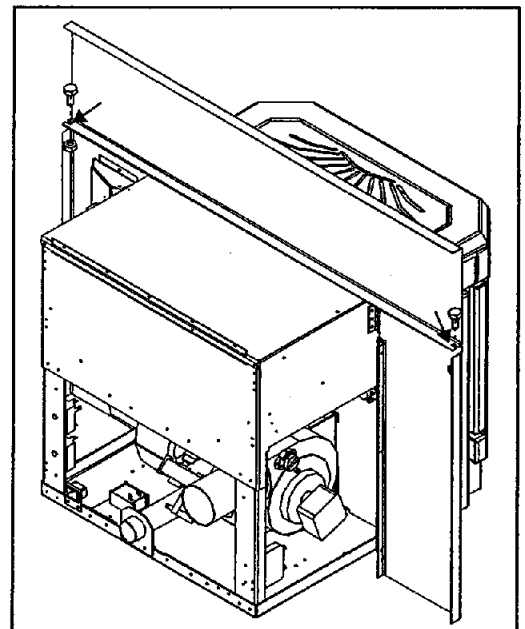


Figure 32: Assembling the Surround Panel, back view.

INSTALLATION

REMOVAL:

When maintenance is required on the unit the surround must be removed. Follow steps 3 through 6 in reverse order.

The side panel can remain attached because they swing forward for easy access (refer to Figure 33).

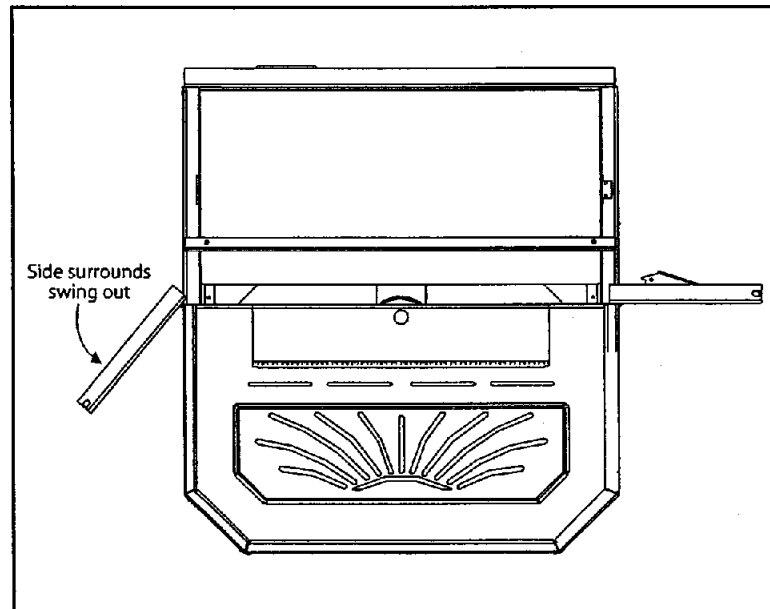


Figure 33: Side surround panel swings forward.

THERMOSTAT INSTALLATION - CIRCUIT BOARD MODEL ONLY:

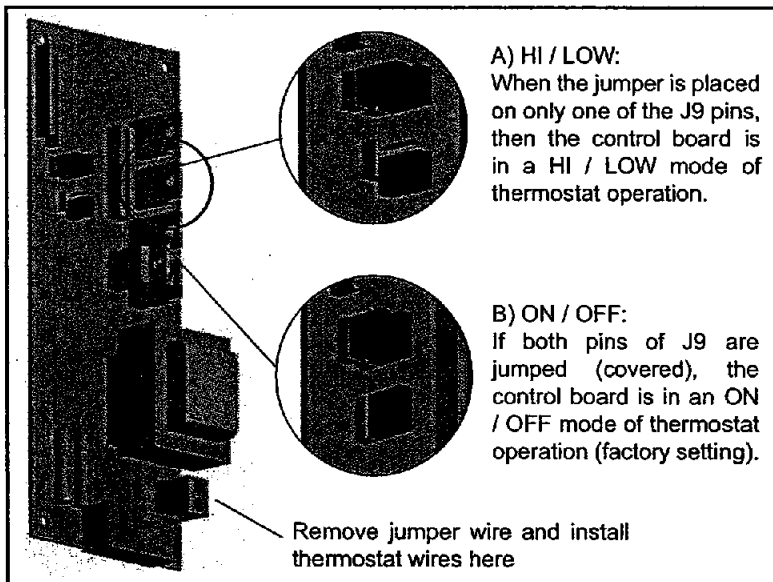


Figure 34: Circuit Board.

A) HI / LOW:
When the jumper is placed on only one of the J9 pins, then the control board is in a HI / LOW mode of thermostat operation.

B) ON / OFF:
If both pins of J9 are jumped (covered), the control board is in an ON / OFF mode of thermostat operation (factory setting).

Remove jumper wire and install thermostat wires here

This control board can be placed into two different modes: When the jumper J9 is not jumped then the control board is in a HI / LOW mode operation. If the control board is placed with J9 jumped (factory setting) then the control board is in a ON / OFF mode of operation. In the ON / OFF thermostat mode, the unit will shut OFF when the thermostat is not calling for heat. When the thermostat calls for heat, the unit will go through an ignition sequence once again and relight.

1. Install the wall thermostat in a location that is not too close to the unit but will effectively heat the desired area.
2. Install a 12 or 24 Volt Thermostat using an 18 x 2 gauge wire from the unit to the thermostat.

If the unit has been placed in the HI / LOW mode, the unit will be taken to a low or idle setting when the thermostat is not calling for heat. When the thermostat calls for heat, the unit will go to the setting that is displayed on the control board Heat Indicator. If the heating load is not great enough when the stove is on low, the high limit switch will turn the stove off and the switch will have to be manually reset. To reset the high limit switch, remove the right cabinet side. The switch is found behind the control panel. Avoid setting off the high limit switch.

INSTALLATION

SLIDER/DAMPER INSTALLATION - TIMER CONTROLLED MODEL ONLY:

Not for installation in Germany.

This is used to regulate the airflow through the pellet stove.

1. Remove the slider rod (short rod with knob and nuts) and the two nuts from their package and open the left side panel.
2. Remove the knob and outer nut from the knob. Push the rod through the hole in the slider. Place the lock nut on the rod and tighten, leaving a $\frac{1}{32}$ " (1 mm) gap between the slider and one of the nuts.
3. Make sure the slider moves freely. Close the side panel and tighten screws after placing the rod through the panel. Screw the knob onto the slider.

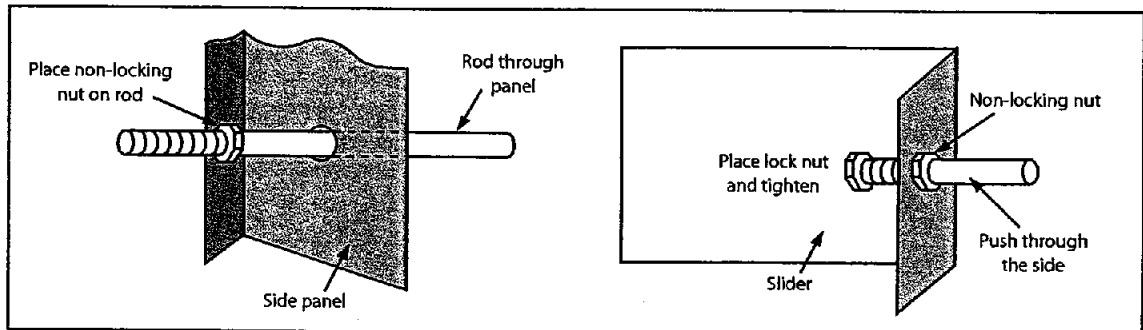


Figure 35: Slider / damper assembly.

SLIDER/DAMPER SETTING:

This is used to regulate the airflow through the pellet stove.

A Qualified Service Technician or Installer should mark the slider rod in the current settings.

The slider damper is located behind the left side panel. To open the left side panel, undo the one screw located in the upper front corner of the cabinet side

SPECIAL NOTES:

Pellet quality is a major factor in how the Pellet stove will operate. If the pellets have a high moisture content or ash content the fire will be less efficient and has a higher possibility of the fire building up and creating clinkers (hard ash build-up).

If the fire should happen to go out and the Dial-A-Fire has been set on the lowest setting, the Slider Damper should be pushed in slightly, decreasing the air in the firebox or the Dial-A-Fire can be turned up slightly.

If, after long periods of burning, the fire builds up and overflows the burn pot or there is a build up of clinkers, this would be a sign that the pellet quality is poor, this requires more primary air, the slider damper must be pulled out to compensate. Pulling the slider damper out gives the fire more air.

The easiest way to make sure that an efficient flame is achieved is to understand the characteristics of the fire.

- A tall, lazy flame with dark orange tips requires more air – Open slider (pull out) slightly.
- A short, brisk flame, like a blowtorch, has too much air – Close slider (push in) slightly.
- If the flame is in the middle of these two characteristics with a bright yellow/orange, active flame with no black tips then the air is set for proper operation.

INSTALLATION

Taking a reading of vacuum pressure inside the firebox with a magnehelic gauge can be used to set the slider for best combustion. **The best settings are a reading of 0.12 to 0.13 inches of water column (30 Pa) on the high fire setting. Some fuels may require higher or lower settings.**

Circuit Board Only: The slider should be set on high output as per pervious page.

The combustion blower determines the adjustment of air from high fire to low fire. The combustion exhaust blower is a variable speed blower controlled by the heat output. When the heat output is turned down the blower speed will slow, decreasing the airflow through the firebox. As the heat output knob is turned up, the blower speed increases drawing more air through the firebox

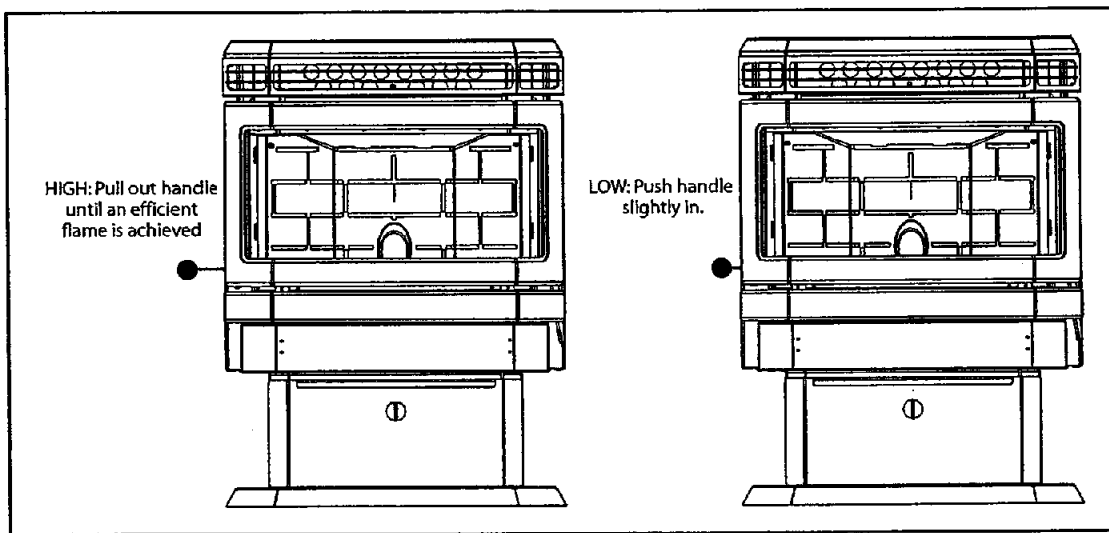


Figure 36: Slider / damper positions.

THE TUBE SCRAPER ROD:

Put the stainless steel rod through the hole in the heat exchanger and thread the rod into the scraper plate.

APPLIED RESEARCH SERVICES LTD

P.O. Box 687, Nelson, New Zealand

Phone (03) 547 7347

Fax (03) 547 2909

Report 02/679

May 2nd, 2002

Page 1/9

Customer: Pellet Fuels NZ Ltd
P.O. Box 11-259
CHRISTCHURCH

Attention: Steve Cunningham

Emissions Testing of the Enviro Fire EF-III Wood Pellet Burning Heater

1.0 Introduction

A sample of the Sherwood Industries Enviro Fire EF-III free standing heater supplied by Pellet Fuels NZ was tested for compliance of its flue gas emissions to the requirements of the joint Australian/New Zealand Standard 4013:1999. The test was carried out in conjunction with a measurement of power output and efficiency using the methods set out in the joint Australian/New Zealand Standard 4012:1999. Deviations from the standard were made to the testing program in consultation with Environment Canterbury - section 3.0 details these changes. The tests were carried out at our Beatty St. laboratory during April and May of 2002 by Chris Mildon and Rob Kay.

Accreditation

This laboratory is accredited by International Accreditation New Zealand (formerly Telarc). The tests reported herein have been performed in accordance with the terms of our accreditation. This accreditation does not extend to any opinions or any interpretations of test results contained in this report.

Laboratory Registration Number 395

A photograph of the fully assembled heater tested by us is shown.

2.0 Details of the Heater

2.1 Overall Dimensions

The assembled heater stands 770mm high, is 560mm wide and 605mm deep. The heater sits on a hearth pad which measures 25.4mm high, 560mm wide and 530mm deep

2.2 Firebox Dimensions

The EF-III pellet fire does not have a conventional firebox. It utilises a small combustion chamber measuring 165mm wide x 80mm deep x 80mm high (at the sides) inside which a three sided ventilated cradle sits which wood pellets are fed into and burnt through forced air combustion. The large chamber in which the small combustion chamber is located is 175mm deep at it's deepest point (rear shield to front of door sill), and 450mm wide at it's widest point (width of rear shield). The height of the large chamber is 370mm at the rear and 410mm at the front, both dimensions measured from the top of the floor underneath the combustion chamber, to the deflector plate positioned beneath the convection ducts.

The pellet fire has a flat glass bay type window fitted in the door. The design of the door leaves an effective glass window of 380mm wide x 210mm high in the main panel, and 55mm wide x 210mm high in the two side panels, which angle back from the main panel at approximately 45°. The lowest edge of the door glass 410mm above the floor.

Fuel is fed into the combustion chamber by means of a single helix auger screw, mounted upwards across the forward side of the fuel storage hopper. The auger feeds pellets upwards from the bottom of the storage hopper, and the pellets roll down a pipe from the end of the auger screw into the combustion chamber. The exit of the pipe is at a centre height of 200mm above the floor underneath the combustion chamber.

2.3 Airways

The pellet fire has only one supply of air for combustion purposes, and the fire uses a variable speed fan combined with an adjustable damper to regulate combustion air supply. Air is drawn in through the rear of the heater and forced through a 31mm ID duct into the combustion chamber. The combustion chamber has a three sided cradle which sits inside it, and the gap between the combustion chamber and cradle effectively forms a plenum chamber into which the combustion air is forced. The air passes through the cradle and into and above the burning fuel bed through a series of drilled holes as follows:

| Cradle Position | Number of Holes | Diameter of Holes | Centre Height Above Base |
|-------------------|-----------------|-------------------|--------------------------|
| Cradle base | 50 | 6.5mm | n/a |
| Cradle front side | 8 | 4.5mm | 38mm |
| Cradle rear side | 8 | 4.5mm | 33mm |
| Cradle rear side | 1 | 6.5mm | 11mm |

For ease of explanation, the holes in the cradle base can be considered to be a primary air supply, and the holes in the front and rear sides of the cradle can be considered to be a secondary air supply.

The total cross sectional area of the air inlet (31 ID duct) is 754.8mm².

The total cross sectional area of the cradle venting holes (primary) is 1659.2mm².

The total cross sectional area of the cradle venting holes (secondary) is 287.7mm².

The cross sectional area of the flue spigot outlet is 4596.3mm².

There is also a 15.9mm ID tube which enters the combustion chamber above and to the right of the 31mm ID inlet duct, although the purpose of this tube is for initial ignition of the pellet fuel. A 240 volt, high resistance heating element is fitted inside this tube which when operating, glows red-hot, thus providing an ignition source from a cold start.

2.4 Cross Sectional Area of Inlets

The cross sectional area of the air inlets does not change for each output setting - the variables that are adjusted for an output change are the feed rate of the wood pellets, and the volume of combustion air fan fed into the combustion chamber. This volume is controlled by a combination of the variable speed fan and the inlet air damper. Damper settings were set as follows:

| <u>Burn Rate</u> | <u>Feed Rate</u> | <u>Damper Setting</u> | <u>Convection Fan</u> |
|------------------|------------------|-----------------------|-----------------------|
| High | 2.4kg/h | fully open | maximum |
| Medium | 1.1kg/h | open 11mm | half scale |
| Low | 0.6kg/h | open 2mm | minimum |

2.5 Baffle Systems

The pellet fire does not have a conventional baffle system. Across the top of the large chamber are a series of convection ducts, running upwards from the inside of the heater to the front at an angle of approximately 45°. These tubes effectively form a baffle around which the exhaust gases circulate before flowing out through the exhaust flue, with convection air passing through the ducts to heat the room. The convection tubes are circular with an ID of 22mm, and are spaced so that there is an 12.5mm gap between all of them. There are 14 convection ducts, and there is a deflector plate positioned immediately below the ducts which lengthens the flame path before striking the ducts.

2.6 Refractory and Insulation Materials

The EF-III does not have any significant refractory material used in it's construction.

2.7 Flue Gas Outlet

The flue gas outlet (spigot) exits through the rear panel of the pellet fire at a centre height of 420mm above the floor, and 140mm from the left edge of the pellet fire when viewed from the front. The spigot has an internal diameter of 76.5mm.

2.8 Gasket Materials

The pellet fire door when closed, forms a seal with the pellet fire by the use of heat resistant rope inserted around the perimeter of the door glass. The door glass is sealed inside the firebox door frame by the use of heat resistant flat rope.

2.9 Outer Shielding and Covering

The pellet fire is enclosed on the sides, rear and top in an outer enclosure of folded and enamelled sheet steel. The top surface of the firebox has a hinged lid covering approximately half the top surface of the pellet fire allowing entry to the fuel storage hopper. The fuel storage hopper holds approximately 15kg of wood pellets. There is also a 340mm wide x 370mm deep x 135mm high ash pan which sits in the lower section of the pellet fire, beneath the combustion chamber. A large cut-out in the floor of the combustion chamber allows ash to fall into the ash pan.

2.10 Catalytic Combustor

The pellet fire is not fitted with a catalytic combustor.

2.11 Bypass Dampers

The pellet fire is not fitted with a bypass damper.

2.12 Air Circulation Fan

Air is forced through the 14 convection ducts by means of a variable speed fan and a large plenum chamber, exiting through a two louvered grille above the pellet fire door and horizontally out into the room. The speed of the convection fan can be manually adjusted by means of a dial, however was set as specified in section 2.4 for the testing reported here. The fan fed air supply for convection is completely separate from the fan fed combustion air supply in that they are two independently controlled and constructed systems.

2.13 Water Heating Device

The pellet fire is not fitted with a water heating device.

3.0 Test Procedures

Tests were carried out using equipment and procedures specified in the joint Australian/New Zealand Standard 4012:1999 and 4013:1999. Deviations to the specified procedures were made to the test program in consultation with Environment Canterbury, due mainly to the automatic fuel feeding mechanism employed in the operation of this heater.

During the tests the heater is stabilised with the heater output control at a chosen position. The heater is then operated for a period of one hour, and emissions, output, efficiency and other data are collected during the one hour period, based on how much fuel is consumed during that time.

3.1 Details of Test Runs

The heater was conditioned with the control set on high and using wood pellets made from compressed *Pinus radiata* sawdust as fuel.

The fuel storage hopper was filled with wood pellets, and an appropriate pre-test burn cycle performed for each output setting.

For tests on high, medium and low output rates the heater output control was not adjusted during one hour test cycles. After warming the heater up at each output setting, and performing a pre-test burn cycle, three test cycles were performed, each lasting one hour. Pre-test burn cycles are reported for those burn rates performed during the same day's testing period, to establish heater stability.

4.0 Results

A summary of the data obtained from these tests is given in Table 2 and an estimate of the uncertainties in individual measurements is given in Table 3.

4.1 Appliance Air Flow Test

An air flow test was not performed for this heater due to the unique operating characteristics employed in supplying air to the combustion chamber. As the chamber is designed to operate under a vacuum with a variable speed fan regulated air supply, the air flow test as specified would not have indicated any possible appliance anomalies that it was designed to highlight during testing.

4.2 Efficiency

Efficiency is estimated on the basis of a gross calorific value of 20.1 (MJ/kg dry weight) for the fuel burned during the test. This value was determined by measurements of samples of similar wood used to prepare the test fuel for solid fuel heaters.

4.2.1 Overall Efficiency

Based on the test results the average overall efficiency of the heater is estimated to be 75.8%. The average is taken over all the tests reported. The overall efficiency takes into account the heat output to air.

4.2.2 Space Heating Efficiency

Based on the test results the average space heating efficiency of the heater is estimated to be 75.8%. The average is taken over all the tests reported. The space heating efficiency takes into account the heat output to air only.

Results for efficiency for each burn cycle and means for each burn rate are detailed in Table 1.

5.0 Compliance

The joint Australian/New Zealand Standard 4013:1999 requires that the particulate emission factor calculated by averaging the results for the high, medium and low burns be not greater than 4.0 g/kg for an appliance without a catalytic converter.

The average particulate emission factor for the runs presented in this report is 0.49 g/kg. On the basis of this result the appliance tested complies with the joint Australian/New Zealand Standard 4013:1999.

Note: Manufacturer supplied drawings have not been appended to this report, however the Owners Technical Manual has been sighted by Applied Research Services.

Any modifications to the equipment as tested may invalidate the compliance results.

This report:

Prepared by: C.J. Mildon _____

Approved by: C.J. Mildon _____

Release Date: _____

This report must not be reproduced except in full. Results are based on material and information supplied by the client. Applied Research Services Ltd. shall not be liable in respect of any loss or damage (including consequential loss or damage) resulting from the use of reports prepared by them.

Table 1 Summary of Data From Test RunsHigh Burn Rate (1st May 2002)

| Run Number | Pre-test | e-12 | e-13 | e-14 | Means |
|------------------------------|----------|------|------|------|-------|
| Time Commenced | 1426 | 1532 | 1639 | 1743 | |
| Burn Time (min) | 60.3 | 61.8 | 60.1 | 60.6 | 60.8 |
| Fuel Consumption (kg/hr) | 2.4 | 2.4 | 2.4 | 2.3 | 2.4 |
| Flue Temperature, Mean (°C) | 183 | 206 | 206 | 200 | 204 |
| Output to Air, Mean (kW) | 10.9 | 10.4 | 10.1 | 9.8 | 10.1 |
| Output to Wetback, Mean (kW) | n/a | n/a | n/a | n/a | n/a |
| Total Output, Mean (kW) | 10.9 | 10.4 | 10.1 | 9.8 | 10.1 |
| Peak Output to Air (kW) | 11.4 | 11.2 | 10.5 | 10.3 | 10.7 |
| Peak Output, Total (kW) | 11.4 | 11.2 | 10.5 | 10.3 | 10.7 |
| Water Heating Efficiency (%) | n/a | n/a | n/a | n/a | n/a |
| Space Heating Efficiency (%) | 90 | 85 | 84 | 82 | 83.7 |
| Overall Efficiency (%) | 90 | 85 | 84 | 82 | 83.7 |
| Emission Rate (g/kg) | n/a | 0.6 | 0.5 | 0.5 | 0.53 |

Low Burn Rate (30th April 2002)

| Run Number | e-03 | e-04 | e-05 | Means |
|------------------------------|------|------|------|-------|
| Time Commenced | 1239 | 1345 | 1448 | |
| Burn Time (min) | 60.3 | 59.9 | 59.9 | 60 |
| Fuel Consumption (kg/hr) | 0.6 | 0.6 | 0.6 | 0.6 |
| Flue Temperature, Mean (°C) | 84 | 83 | 83 | 83.3 |
| Output to Air, Mean (kW) | 2.2 | 2.3 | 2.5 | 2.3 |
| Output to Wetback, Mean (kW) | n/a | n/a | n/a | n/a |
| Total Output, Mean (kW) | 2.2 | 2.3 | 2.5 | 2.3 |
| Peak Output to Air (kW) | 2.3 | 2.5 | 2.6 | 2.5 |
| Peak Output, Total (kW) | 2.3 | 2.5 | 2.6 | 2.5 |
| Water Heating Efficiency (%) | n/a | n/a | n/a | n/a |
| Space Heating Efficiency (%) | 71 | 74 | 78 | 74.3 |
| Overall Efficiency (%) | 71 | 74 | 78 | 74.3 |
| Emission Rate (g/kg) | 0.5 | 0.5 | 0.5 | 0.5 |

Table 2 Summary of Data From Test Runs (Continued)

Medium Burn Rate (1st May 2002)

| Run Number | e-07 | e-08 | e-09 | Means |
|------------------------------|------|------|------|-------|
| Time Commenced | 1002 | 1107 | 1213 | |
| Burn Time (min) | 60.2 | 59.8 | 59.8 | 59.9 |
| Fuel Consumption (kg/hr) | 1.0 | 1.1 | 1.1 | 1.1 |
| Flue Temperature, Mean (°C) | 117 | 122 | 124 | 121 |
| Output to Air, Mean (kW) | 3.4 | 3.8 | 4.0 | 3.7 |
| Output to Wetback, Mean (kW) | n/a | n/a | n/a | n/a |
| Total Output, Mean (kW) | 3.4 | 3.8 | 4.0 | 3.7 |
| Peak Output to Air (kW) | 3.7 | 4.1 | 4.3 | 4.0 |
| Peak Output, Total (kW) | 3.7 | 4.1 | 4.3 | 4.0 |
| Water Heating Efficiency (%) | n/a | n/a | n/a | n/a |
| Space Heating Efficiency (%) | 64 | 70 | 74 | 69.3 |
| Overall Efficiency (%) | 64 | 70 | 74 | 69.3 |
| Emission Rate (g/kg) | 0.4 | 0.4 | 0.5 | 0.43 |

Table 3 Estimate of Uncertainties in Measurement

Note: Absolute uncertainties are given for actual measurements: Uncertainties in calculated data are based on results for runs on a typical heater with the air control at maximum and are expressed as percentages.

Linear Measurements

Primary and Secondary Airways: $\pm 0.5\text{mm}$
All Other Appliance Dimensions: $\pm 2\text{mm}$

Fuel Data

Test Fuel Load Weight: 0.001 kg (wet weight)
Fuel Consumed: 0.1 kg (wet weight)
Burn Time: 0.1 mins
Fuel Consumption Rate: 2%
Fuel Moisture Content: 2% (wet weight basis)
Moisture Released: 2%
Fuel Consumed: 3% (dry weight)

Average Flue Gas Parameters:

Temperature: 2°C
Draught: 0.1 mm water
Oxygen (%): 1 (dry)

Average Dilution Tunnel Parameters

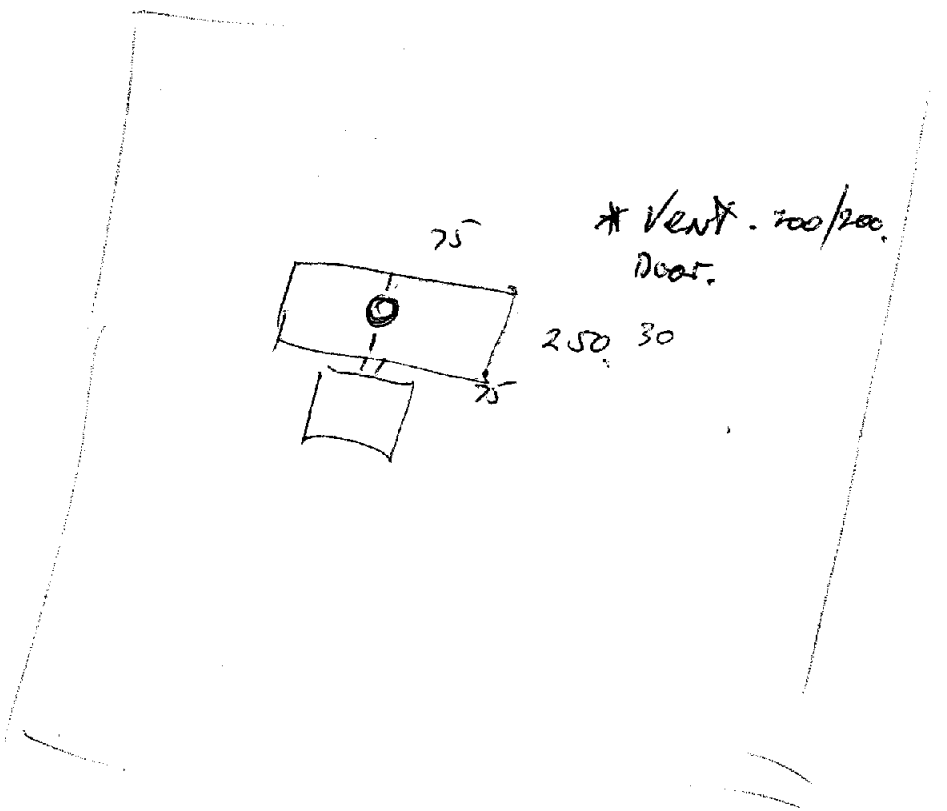
Pitot Differential Pressure (duct centre): 2.5 Pa
Dilution Tunnel Temp: 1°C
Mean Velocity: 2%
Volumetric Flow Rate: 2%
Mass Flow Rate: 2%

Output Data

Heat Output Rate to Air: 5%
Total Heat Output Rate: 5%
Run Time: 0.2%
Total Power Out: 5%

Sample Collection/ Emissions Data:

Total Mass captured: 0.4 mg (10%)
Sample Gas Temp: 1°C
Capture Time: 0.2%
Sampling Rate: 0.7 l/min (4%)
Total Mass Emitted: 16%
Emission Rate g/hr: 16%
g/kg fuel (dry basis): 19%
g/kWh: 21%



* Vent. 700/200.
Door.

250 30

75

75

22
NM

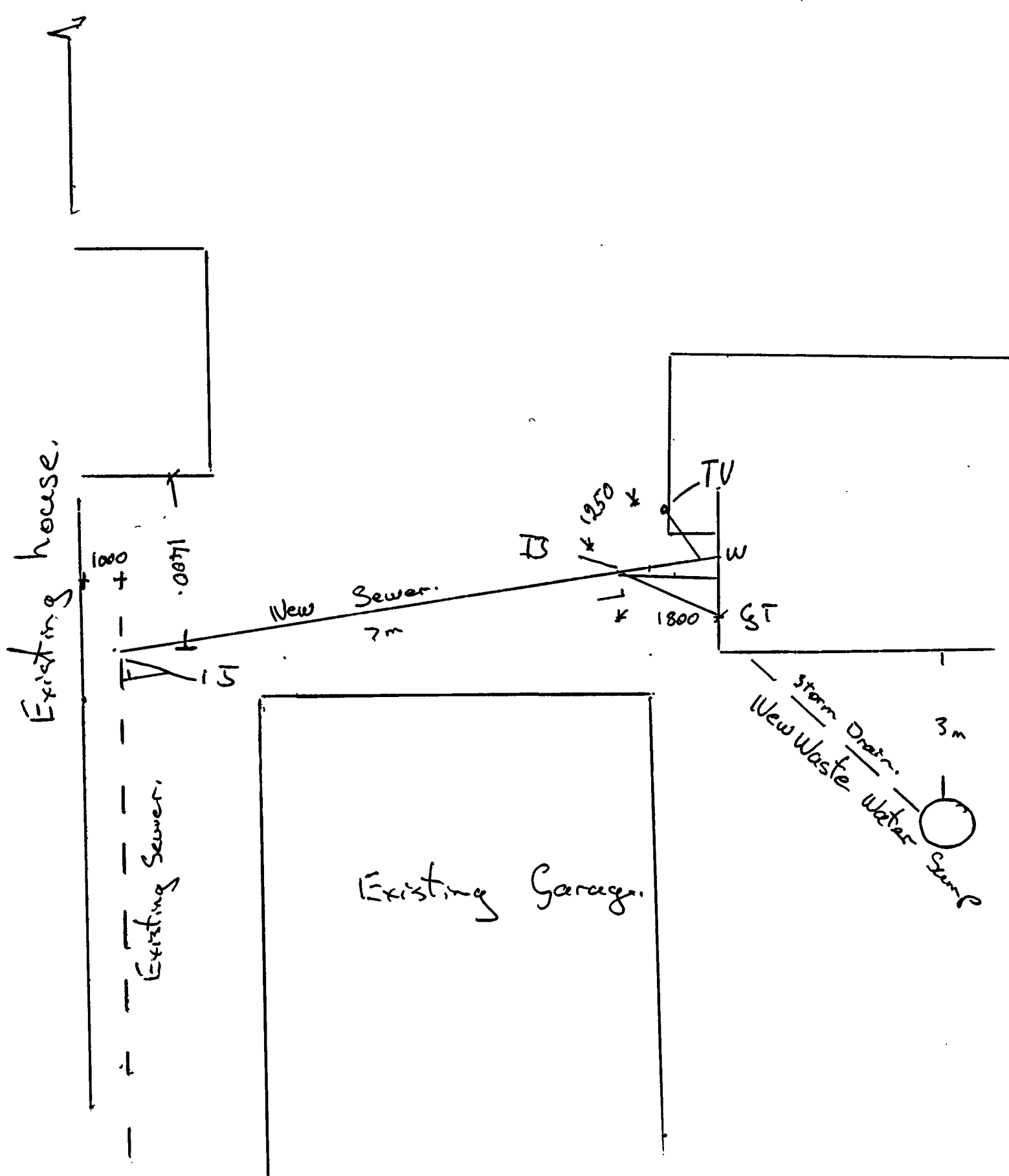
BUILDING CONSENT

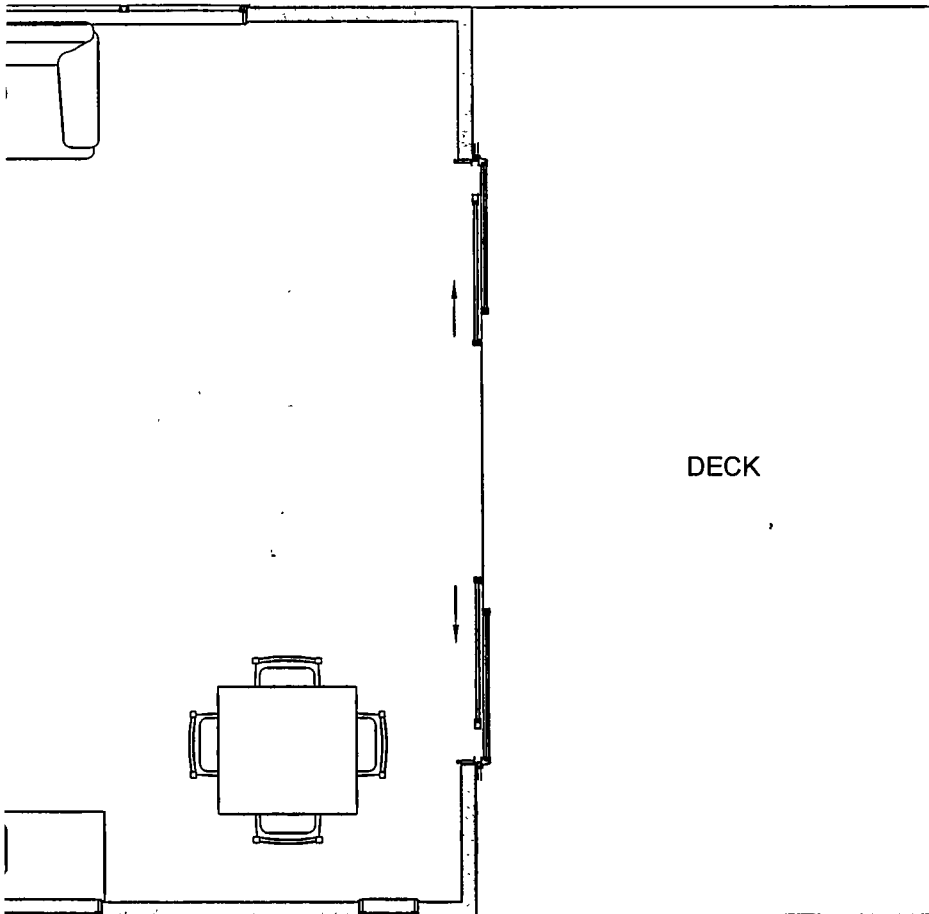
111882P

PROPERTY ID

017201

111882P





NPDC Approved
29 JUL 2011

Note:
 All lintels to be minimum MSG8,
 H1.2
 Glazing to windows W1, W2
 to be obscure safety glass

| | | | | | |
|--|------|---------------|-------|-----------------------------|----------|
| PENMAN DESIGN DRAUGHTING RESIDENTIAL, COMMERCIAL, INDUSTRIAL E-MAIL: penperson@clear.net.nz Mobile 0274 421125 Ph (06) 3432472 Fax (06) 3432462 48 MT VIEW RD WANGANUI | | DRAWING TITLE | | PROPOSED LAYOUT PLAN | |
| | | | | JOB # | 2011/116 |
| | DATE | SCALE | DRAWN | DATE | A200 |
| | | 1:50 @ a3 | Bob P | 08.06.2011 | |



Copyright © 2011. Copied information source from Land Information New Zealand data. Crown Copyright Reserved.
 DISCLAIMER: NPOC assumes no responsibility or liability for the completeness or accuracy of the data displayed on this page. To be used for indicative purposes only.

NEW PLYMOUTH DISTRICT COUNCIL
 newplymouthnz.com
delivering sensational service

PRINTED: 28/06/2011
 PRINTED BY:

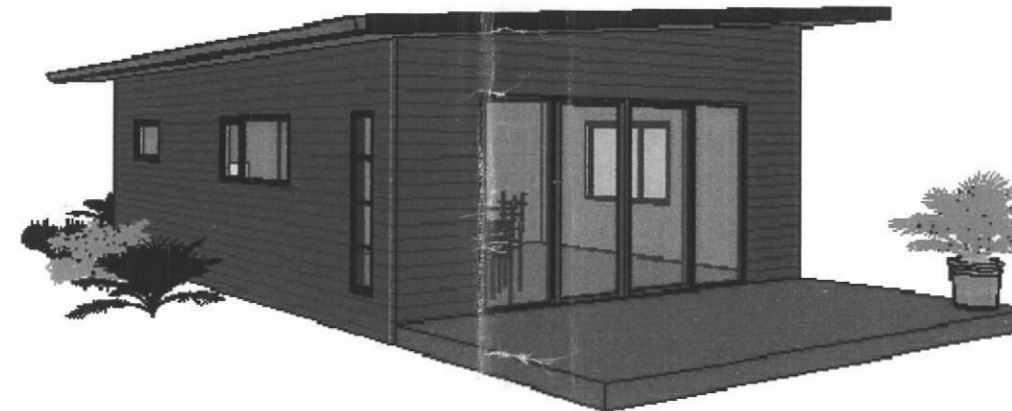
1:500

0 2.5 5 10 15 20 25 m

| Wastewater | | Water Supply | | Stormwater | | Miscellaneous | |
|----------------------|----------------------------------|-----------------|----------------------|------------------------------|---------------------------|----------------------|--|
| Node | Valve | Backflow | Valve | Main | Inlet | Miscellaneous | |
| ● Active | ▶◀ Active | ⊕ Active | ▶◀ Active | — Active Trunk Main | ○ Active | ⊛ Active | |
| ⊙ Expired | ▶◀ Expired | ⊖ Expired | ▶◀ Expired | — Active Filling Main | ⊘ Expired | ⊛ Expired | |
| Miscellaneous | Main | Hydrant | Storage Unit | — Active Distribution Main | ■ Active Well Up Sump | ⊛ Active | |
| ⊛ Active | — Active Trunk Main | ■ Active | ● Active | — Active Scour / Sludge Line | ■ Expired Well Up Sump | ⊛ Expired | |
| ⊛ Expired | — Active Rising Main | ■ Expired | ● Expired | — Active Rural Main | | ⊛ Expired | |
| Pumpstation | — Active Outfall Main | Node | Miscellaneous | — Active Rider Main | Manhole | — Active | |
| ● Active | — Active Overflow - Pump Station | ● Active | ⊛ Active | — Expired | ○ Active | — Expired | |
| ⊙ Expired | — Active Standard Main | ● Expired | ⊛ Expired | Lateral | ○ Expired | — Active | |
| Manhole | — Expired | Meter | Manhole | — Active | ● Stormwater Pump Station | — Expired | |
| ○ Active | Lateral | ▲ Active | ○ Active | — Expired | | Main Line | |
| ○ Expired | — Active | ▲ Expired | ○ Expired | | | — Active | |
| | — Expired | | | | | — Expired | |
| | | | | | | Channel | |
| | | | | | | — Active | |
| | | | | | | — Expired | |
| | | | | | | Lateral | |
| | | | | | | — Active | |
| | | | | | | — Expired | |

NPDC OFFICE COPY
 This Building Consent is approved under the Building Act and is limited to new work only as shown on these plans and related specifications
 Approved.....*[Signature]*..... Date *29/7/11*

BC11 | 111882 | 27/6/11



PROPOSED SELF-CONTAINED COTTAGE
 63 BAYLY RD
 NEW PLYMOUTH

DRAWING INDEX

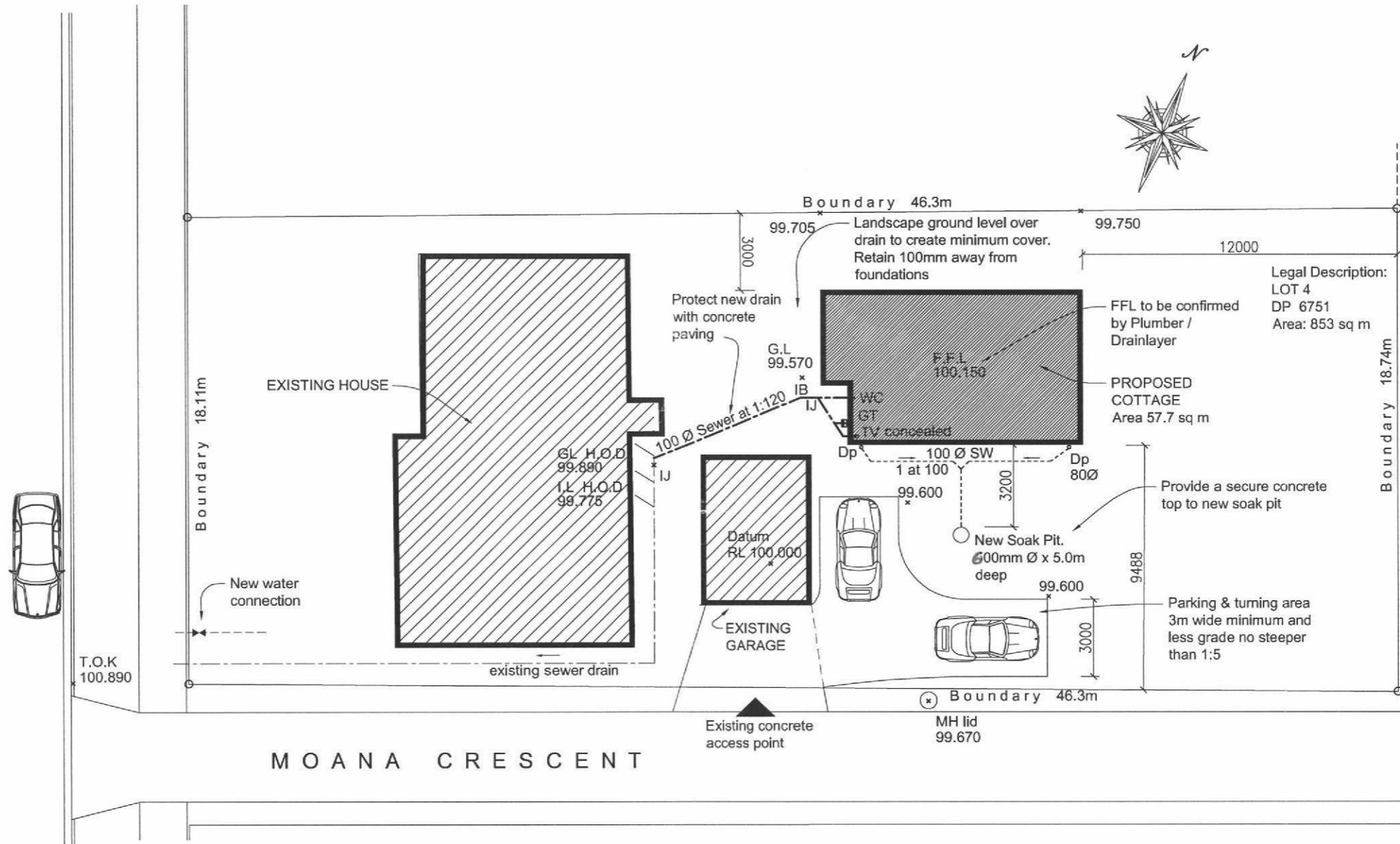
| | |
|------------------------|------|
| SITE PLAN | A100 |
| PROPOSED LAYOUT PLAN | A200 |
| PROPOSED SETOUT PLAN | A201 |
| FOUNDATION PLAN | A202 |
| BRACING PLAN | A203 |
| DRAINAGE PLAN | A204 |
| ELEVATIONS | A300 |
| ELEVATIONS | A301 |
| ELEVATIONS - 3D views | A302 |
| CROSS-SECTION A-A | A400 |
| CROSS-SECTION B-B | A401 |
| DETAILS | A500 |
| DETAILS | A501 |
| PILE FIXING DETAILS | A501 |
| WINDOW & DOOR SCHEDULE | A600 |
| WINDOW DETAILS | A601 |
| DOOR DETAILS | A602 |

NPDC Approved
 29 JUL 2011

BLDG CONSENT ISSUE
 08 06 2011

IL H.O.D 99.860

BAYLY ROAD



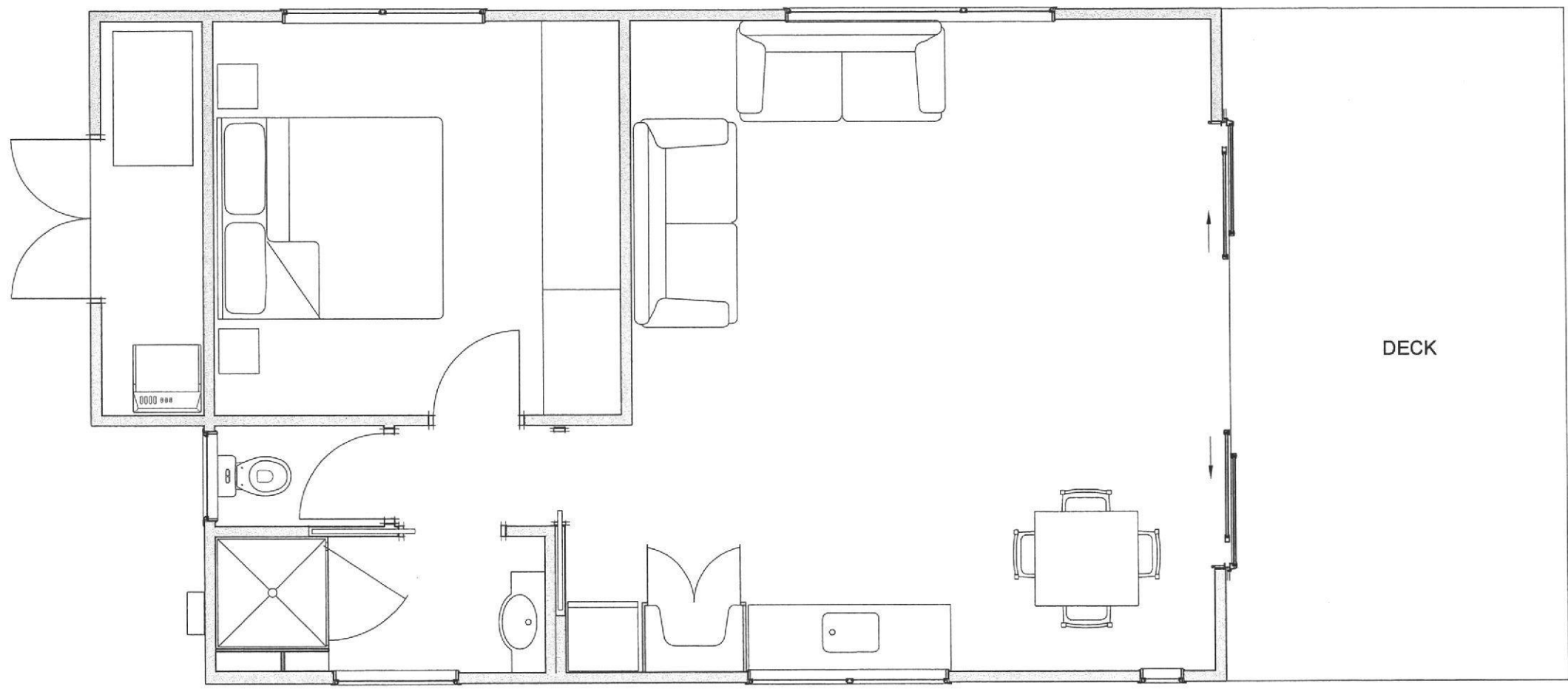
MOANA CRESCENT

NPDC Approved
29 JUL 2011

SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

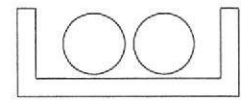
PENMAN DESIGN DRAUGHTING
RESIDENTIAL, COMMERCIAL, INDUSTRIAL
E-MAIL: penperson@clear.net.nz
Mobile 0274 421125
Ph (06) 3432472
Fax (06) 3432462
48 MT VIEW RD
WANGANUI

| | | | |
|---------------|---|-----------|------------|
| DRAWING TITLE | | SITE PLAN | |
| SCALE | 1:200 @ a3 | DRAWN | Bob P |
| DATE | 26 July 2011 | JOB # | 2011/116 |
| AMENDMENTS | R1 Revisions as clouded & drainage gradient | DATE | 13.07.2011 |
| | | SHEET NO | A100 |
| | | | R1 |



NPDC Approved
29 JUL 2011

Note:
All lintels to be minimum MSG8,
H1.2
Glazing to windows W1, W2
to be obscure safety glass

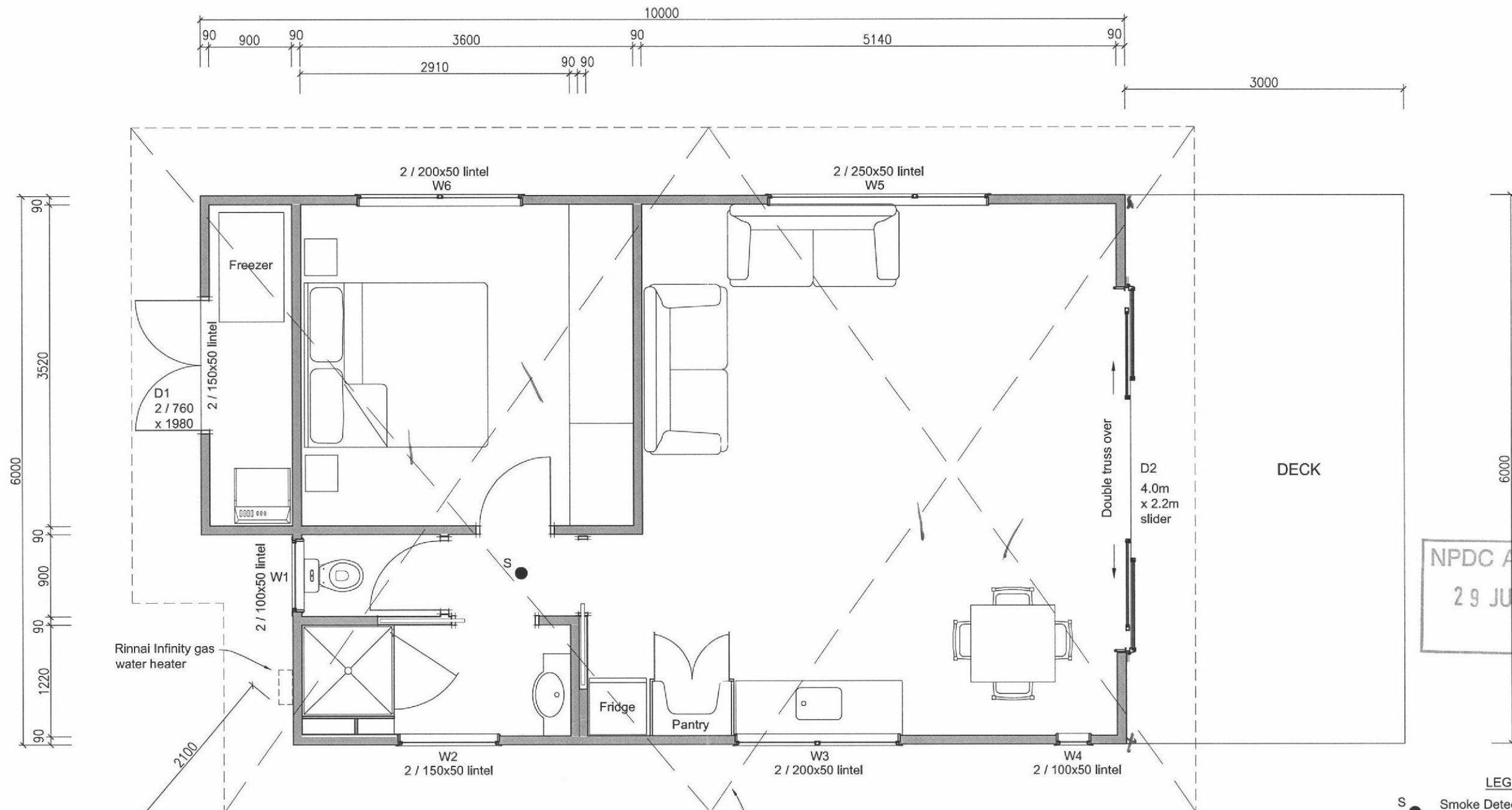


SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
RESIDENTIAL, COMMERCIAL, INDUSTRIAL
E-MAIL: penperson@clear.net.nz
Mobile 0274 421125
Ph (06) 3432472
Fax (06) 3432462
48 MT VIEW RD
WANGANUI

| | | | |
|---------------|-------|-----------------------------|----------|
| DRAWING TITLE | | PROPOSED LAYOUT PLAN | |
| SCALE | DRAWN | JOB # | SHEET NO |
| 1: 50 @ a3 | Bob P | 2011/116 | A200 |
| DATE | | DATE | |
| | | 08.06.2011 | |

Note:
 All lintels to be minimum MSG8, H1.2.
 Glazing to windows W1, W2 to be obscure safety glass
 Concrete strength shall be 20mpa



NPDC Approved
 29 JUL 2011

LEGEND
 S ● Smoke Detector mounted within 3m of Bedroom door. Detector to be fitted with 'Hush' facility

Gas cylinders located on concrete pad 2.0metres away from Infinity unit or windows

WRT AREAS TO HAVE PAINTED AQUALINE AND SEALED TIMBER FLOOR, SEE SPECIFICATION
 SHOWER TO BE ACRYLIC UNIT
 a/h 28/7/2011

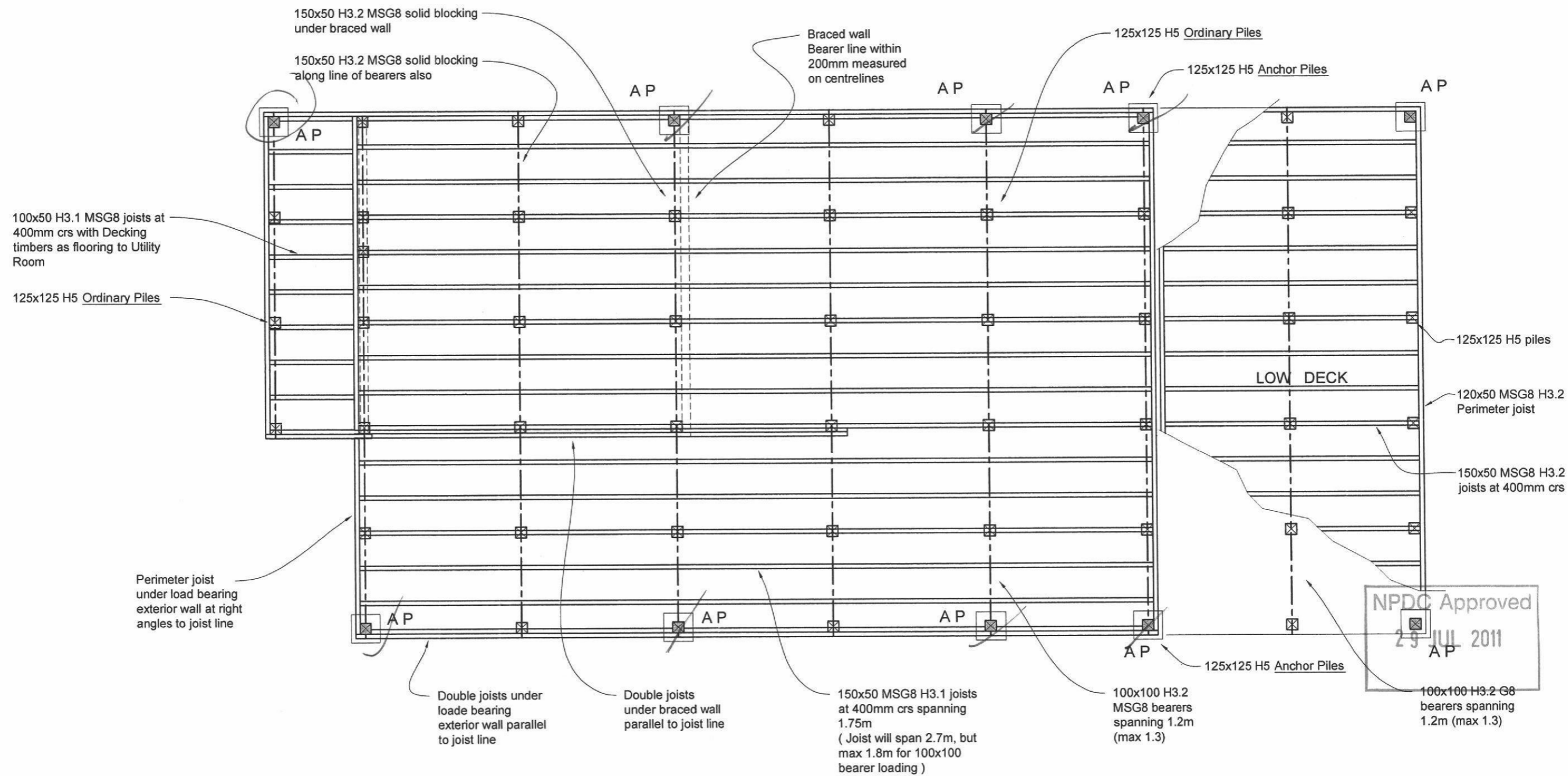
25x1mm diagonal strap bracing, across top of truss top chords

SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
 RESIDENTIAL, COMMERCIAL, INDUSTRIAL
 E-MAIL: penperson@clear.net.nz
 Mobile 0274 421125
 Ph (06) 3432472
 Fax (06) 3432462
 48 MT VIEW RD
 WANGANUI

DRAWING TITLE
SETOUT PLAN

| | | | | | |
|-----------|--------------|-----------|-------|------------|----------|
| REVISIONS | DATE | SCALE | DRAWN | JOB # | SHEET NO |
| R1 | 26 July 2011 | 1:50 @ a3 | Bob P | 2011/116 | A201 |
| | | | | DATE | |
| | | | | 08.06.2011 | R1 |



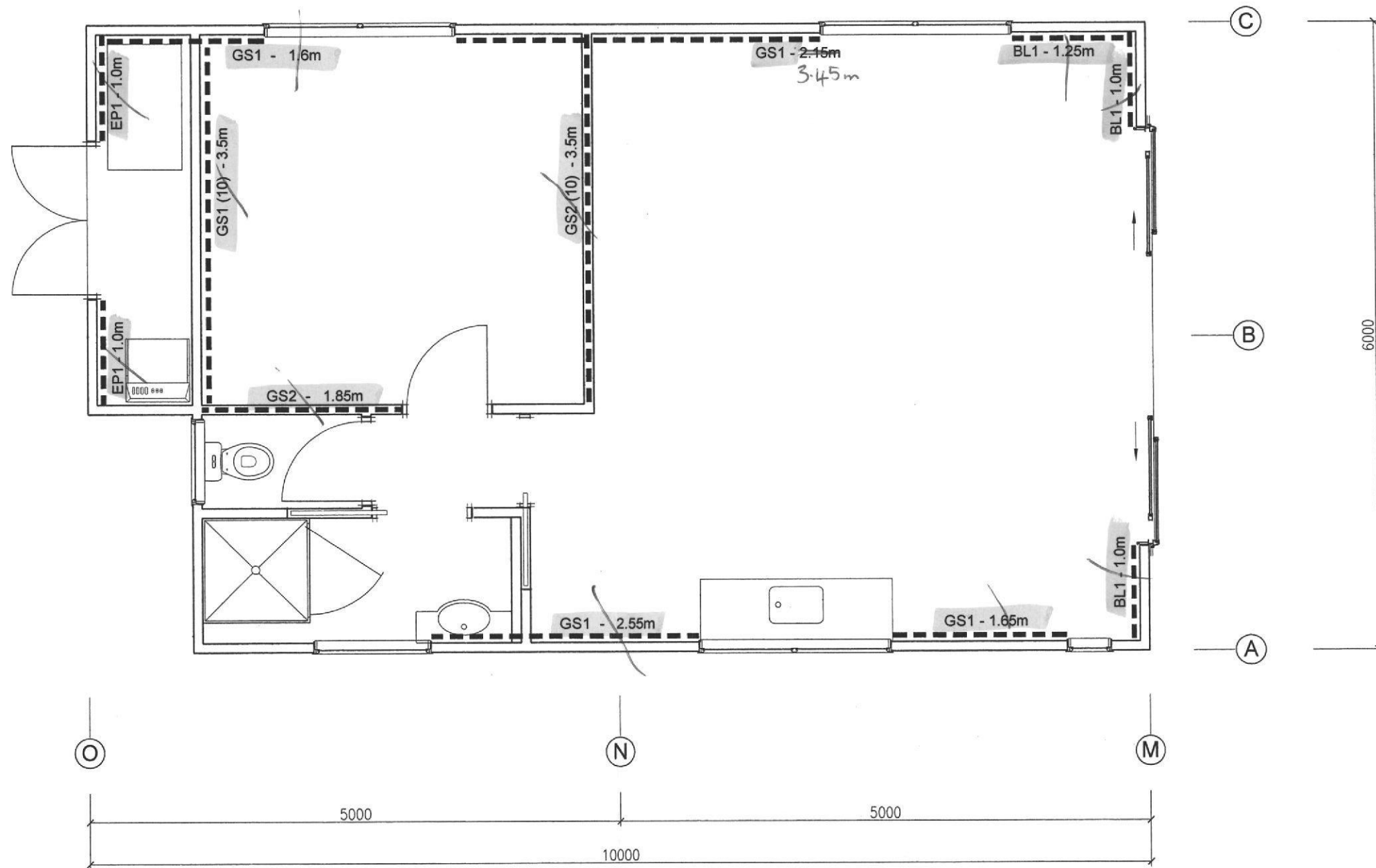
SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
 RESIDENTIAL, COMMERCIAL, INDUSTRIAL
 E-MAIL: penperson@clear.net.nz
 Mobile 0274 421125

Ph (06) 3432472
 Fax (06) 3432462
 48 MT VIEW RD
 WANGANUI

| | | | | | |
|-----------------|-------|------------|--|----------|--|
| DRAWING TITLE | | JOB NO | | SHEET NO | |
| FOUNDATION PLAN | | 2011/116 | | A202 | |
| SCALE | DRAWN | DATE | | | |
| 1:50 @ a3 | Bob P | 08.06.2011 | | | |

| AMENDMENTS | DATE |
|------------|------|
| | |
| | |



NPDC Approved
29 JUL 2011

SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
RESIDENTIAL, COMMERCIAL, INDUSTRIAL
E-MAIL: penperson@clear.net.nz
Mobile 0274 421125

Ph (06) 3432472
Fax (06) 3432462
48 MT VIEW RD
WANGANUI

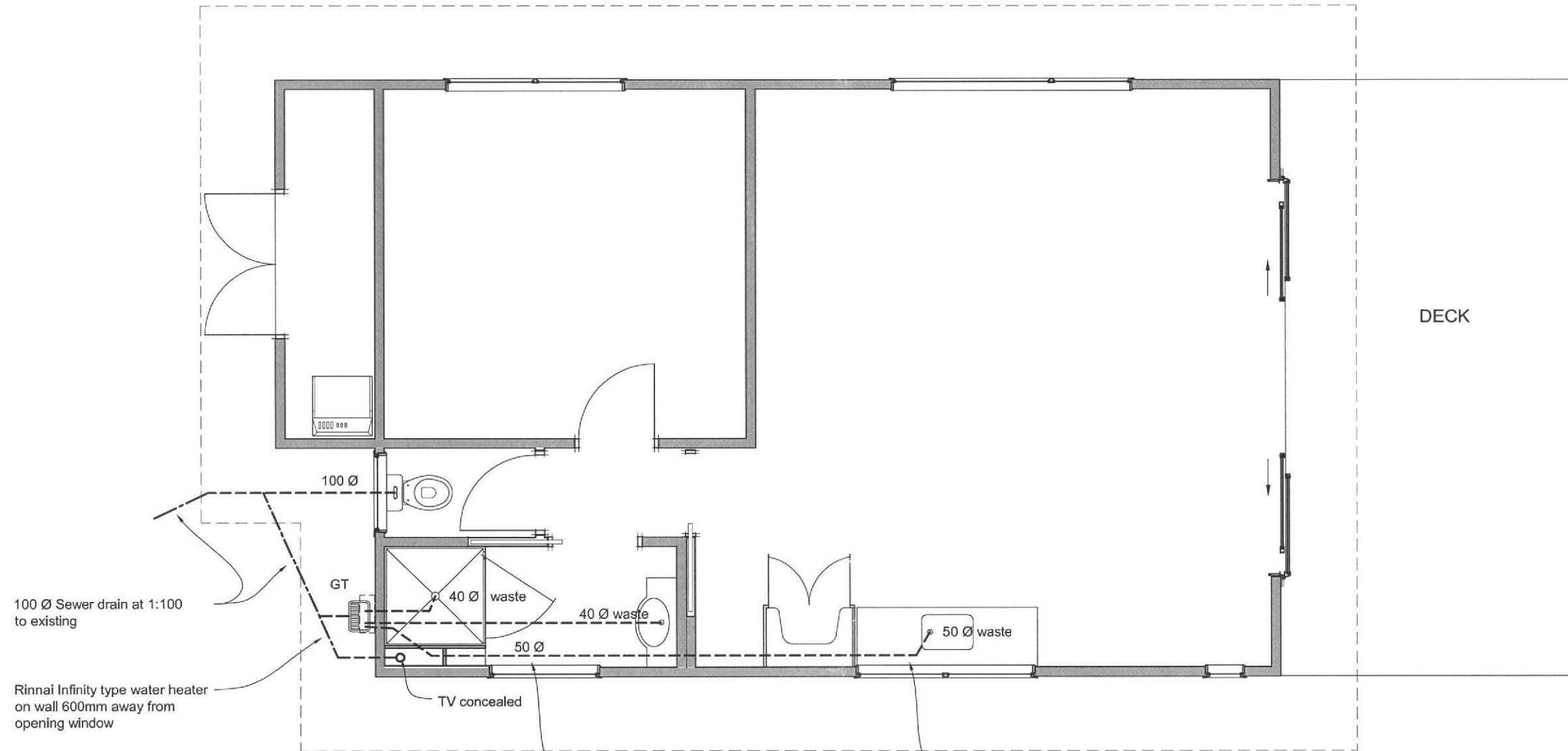
DRAWING TITLE

BRACING PLAN

AMENDMENTS

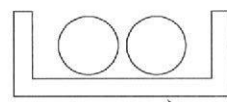
| NO. | DATE |
|-----|------|
| | |
| | |

| | | | |
|------------|-------|------------|----------|
| SCALE | DRAWN | JOB NO | SHEET NO |
| 1:50 @ a3 | Bob P | 2011/116 | A203 |
| DATE | | DATE | |
| 08.06.2011 | | 08.06.2011 | |



100 Ø Sewer drain at 1:100 to existing

Rinnai Infinity type water heater on wall 600mm away from opening window



Gas bottles on concrete pad and concealed behind timber trellis. Minimum distance 2.0m from windows or Gas Infinity unit

Min permitted Gradients for wastes:
 40 Ø waste - 1:40 gradient
 50 Ø waste - 1:40
 65 Ø waste - 1:40
 100 Ø waste - 1:60

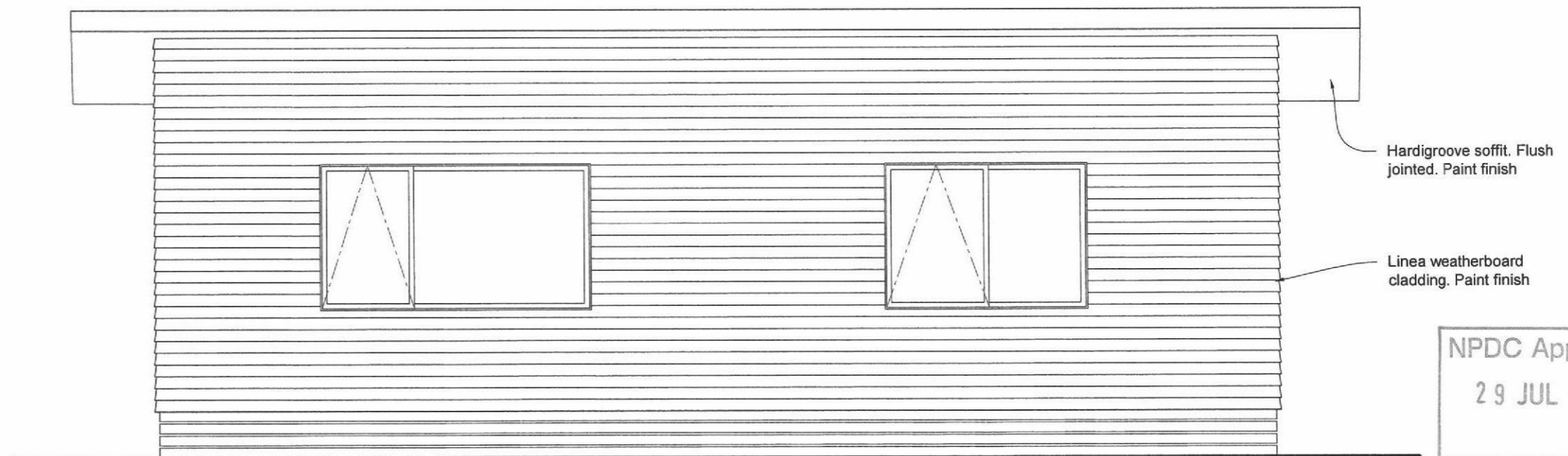
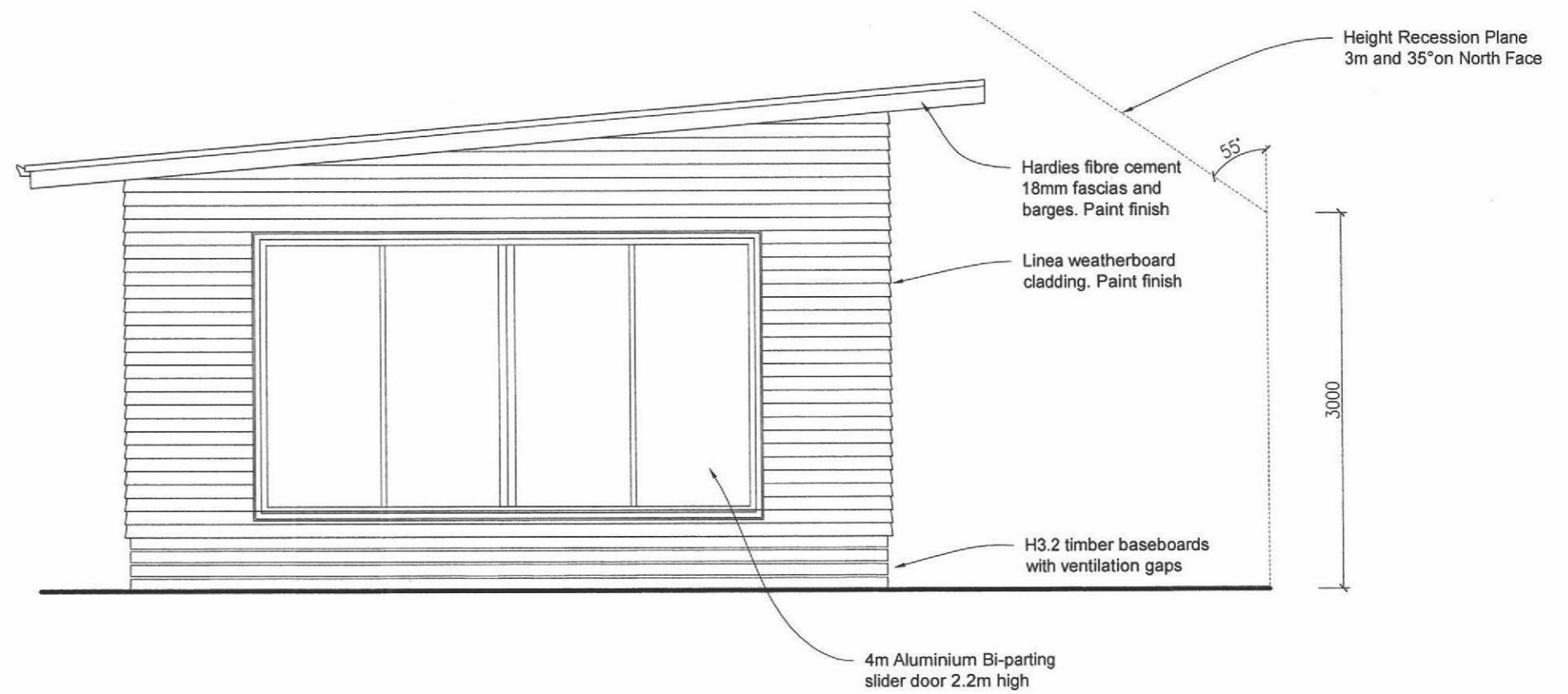
Fit AAV to top of waste run

NPDC Approved
 29 JUL 2011

SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
 RESIDENTIAL, COMMERCIAL, INDUSTRIAL
 E-MAIL: penperson@clear.net.nz
 Mobile 0274 421125
 Ph (06) 3432472
 Fax (06) 3432462
 48 MT VIEW RD
 WANGANUI

| | | | |
|---------------|-------------------------|---------------|--------------|
| DRAWING TITLE | | DRAINAGE PLAN | |
| SCALE | 1:50 @ a3 | JOB NO | 2011/116 |
| DRAWN | Bob P | DATE | 08.06.2011 |
| AMENDMENTS | R1 Revisions as clouded | DATE | 26 July 2011 |
| | | SHEET NO | A204 R1 |



NPDC Approved
29 JUL 2011

Site is approx 650metres from surf,
therefore Colorsteel Endura is
considered suitable

SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
RESIDENTIAL, COMMERCIAL, INDUSTRIAL
E-MAIL: penperson@clear.net.nz
Mobile 0274 421125

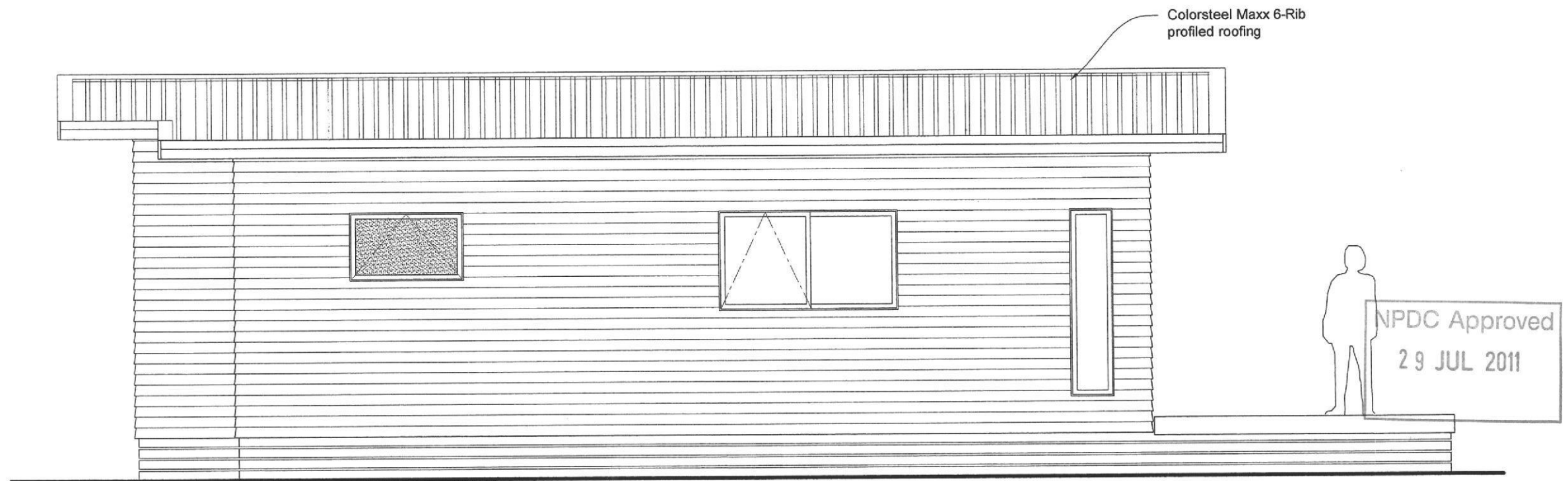
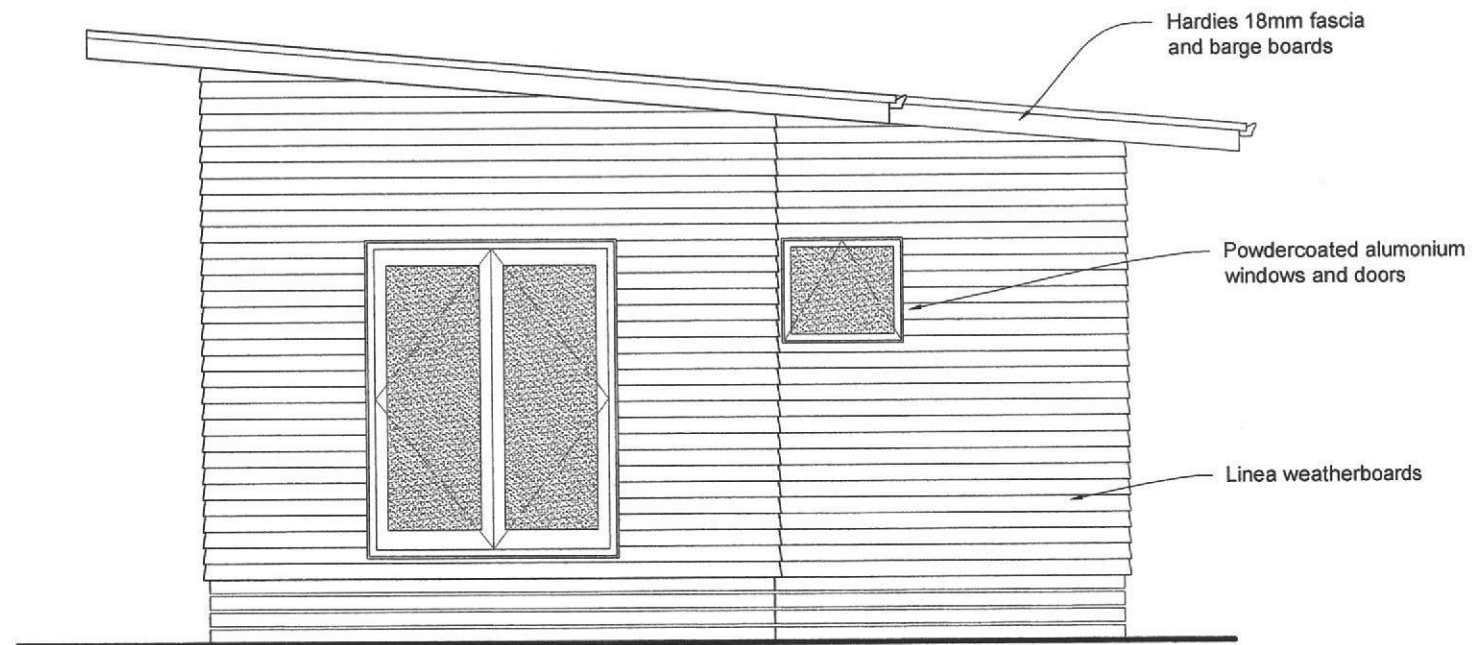
Ph (06) 3432472
Fax (06) 3432462
48 MT VIEW RD
WANGANUI

DRAWING TITLE
ELEVATIONS

AMENDMENTS

| NO | DATE |
|----|------|
| | |
| | |

| SCALE | DRAWN | JOB NO | SHEET NO |
|-----------|-------|------------|----------|
| 1:50 @ a3 | Bob P | 2011/116 | A300 |
| | | DATE | |
| | | 08.06.2011 | |



STAIRS = 280 TREAD
 170 RISE
 SLIP RESISTANCE.
o/c 28/7/11

SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
 RESIDENTIAL, COMMERCIAL, INDUSTRIAL
 E-MAIL: penperson@clear.net.nz
 Mobile 0274 421125

Ph (06) 3432472
 Fax (06) 3432462
 48 MT VIEW RD
 WANGANUI

DRAWING TITLE
ELEVATIONS

AMENDMENTS

| NO. | DATE |
|-----|------|
| | |
| | |

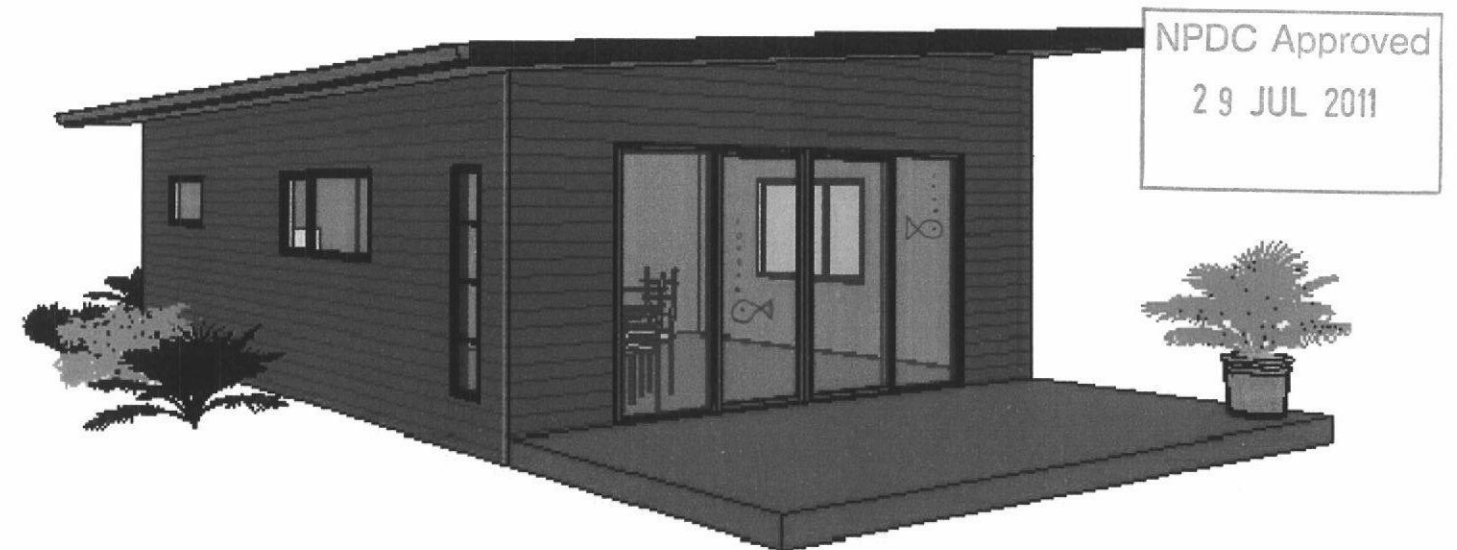
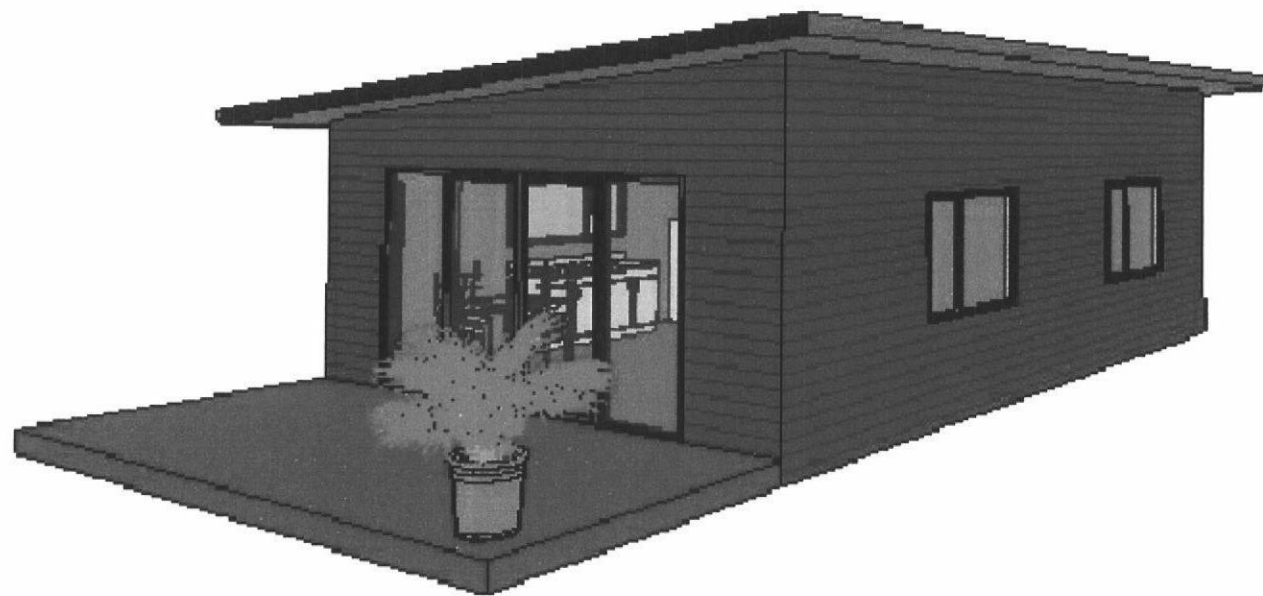
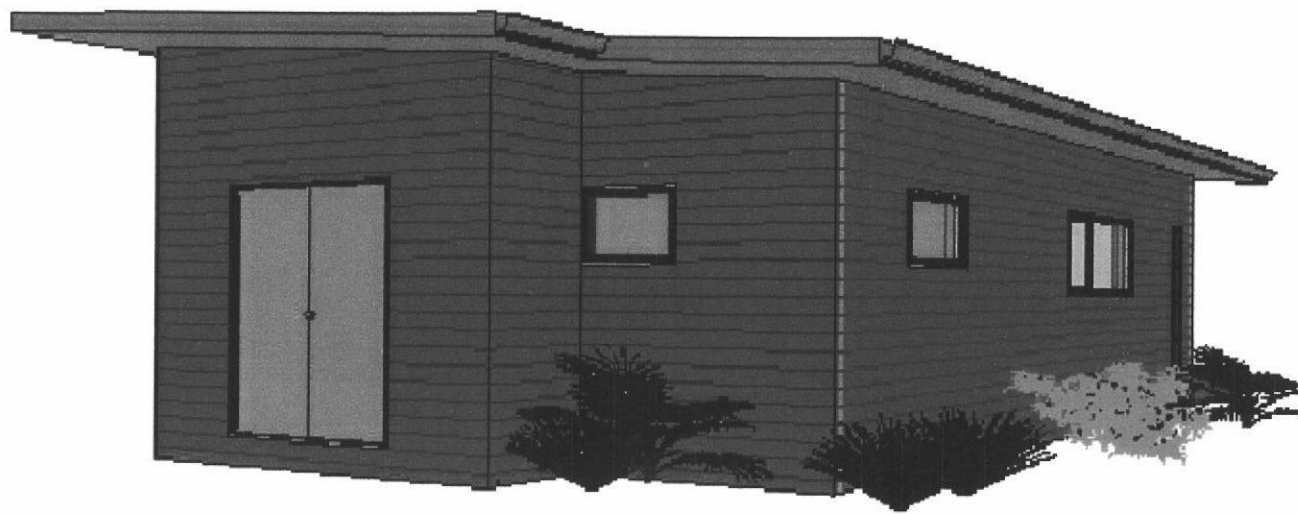
| SCALE |
|-----------|
| 1:50 @ a3 |

| SCALE |
|-----------|
| 1:50 @ a3 |

| DRAWN |
|-------|
| Bob P |

| JOB NO | DATE |
|----------|------------|
| 2011/116 | 08.06.2011 |

| SHEET NO |
|----------|
| A301 |



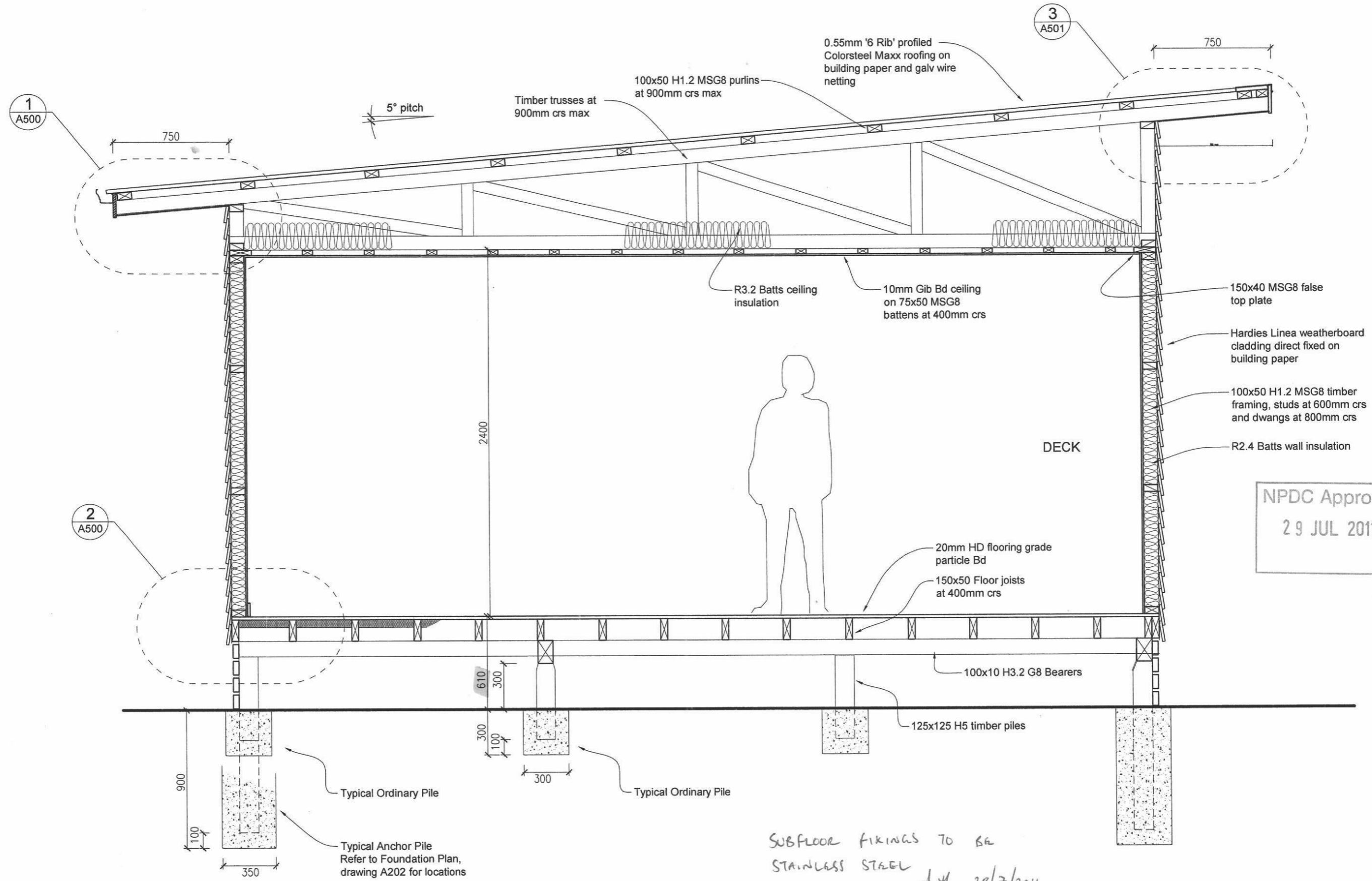
SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
 RESIDENTIAL, COMMERCIAL, INDUSTRIAL
 E-MAIL: penperson@clear.net.nz
 Mobile 0274 421125

Ph (06) 3432472
 Fax (06) 3432462
 48 MT VIEW RD
 WANGANUI

DRAWING TITLE
ELEVATIONS

| AMENDMENTS | DATE | SCALE | DRAWN | DATE | JOB NO | SHEET NO |
|------------|------|-----------|-------|------------|----------|----------|
| | | 1:50 @ a3 | Bob P | 08.06.2011 | 2011/116 | A302 |



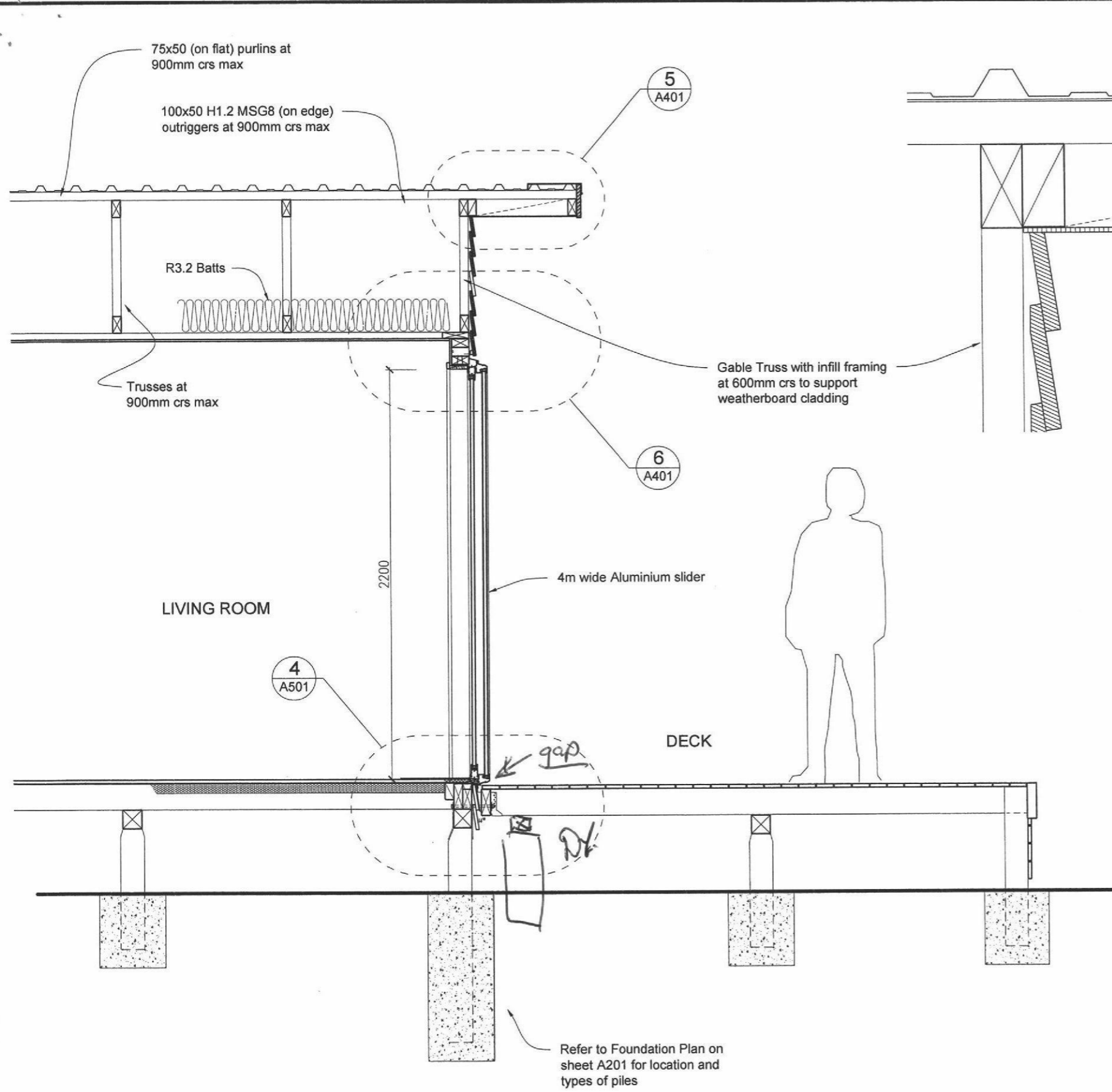
NPDC Approved
29 JUL 2011

SUBFLOOR FIXINGS TO BE
STAINLESS STEEL
d/c 28/7/2011

SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
RESIDENTIAL, COMMERCIAL, INDUSTRIAL
Ph (06) 3432472
E-MAIL: penperson@clear.net.nz
Mobile 0274 421125

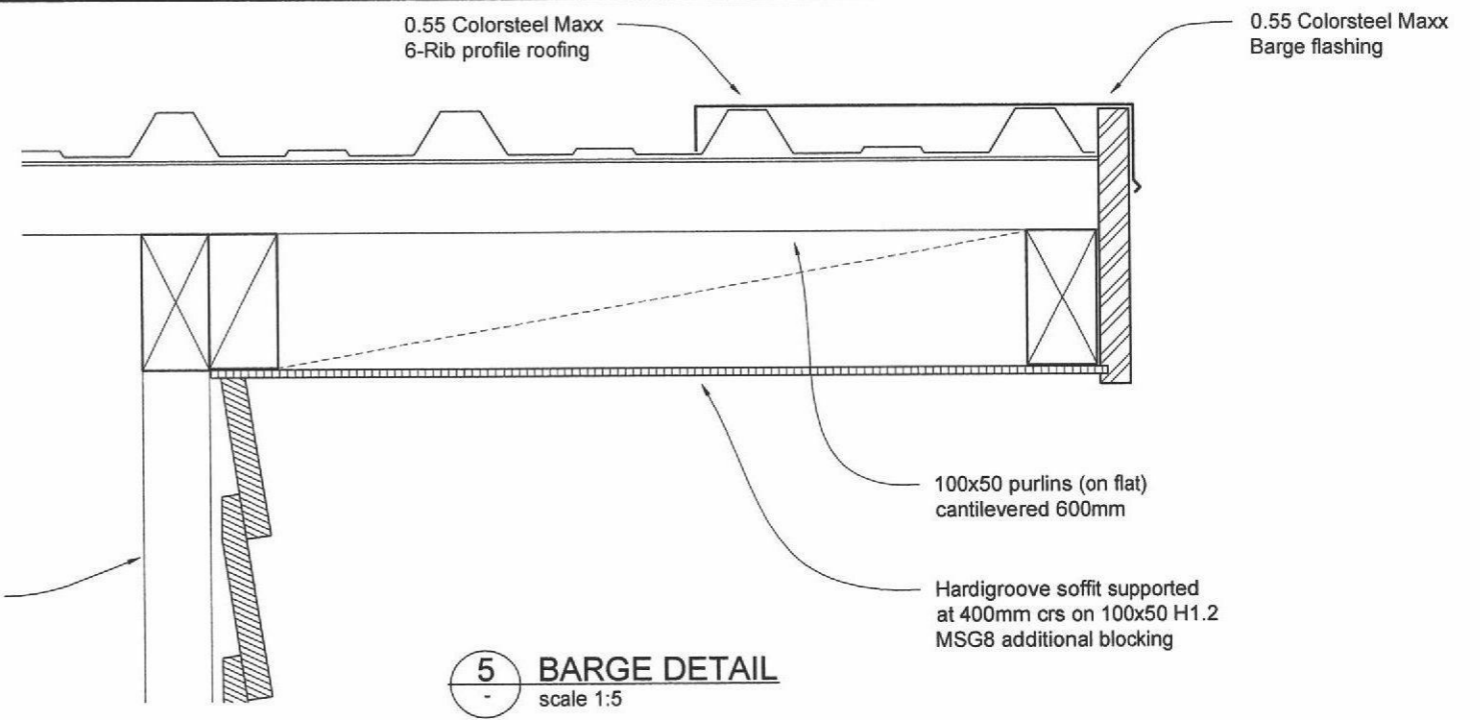
| | | | |
|---------------|-----------|----------------------|-------------------------|
| DRAWING TITLE | | CROSS SECTION | |
| SCALE | 1:25 @ a3 | DRAWN | Bob P |
| DATE | | JOB NO | 2011/116 |
| | | DATE | 08.06.2011 |
| | | | SHEET NO A400 |



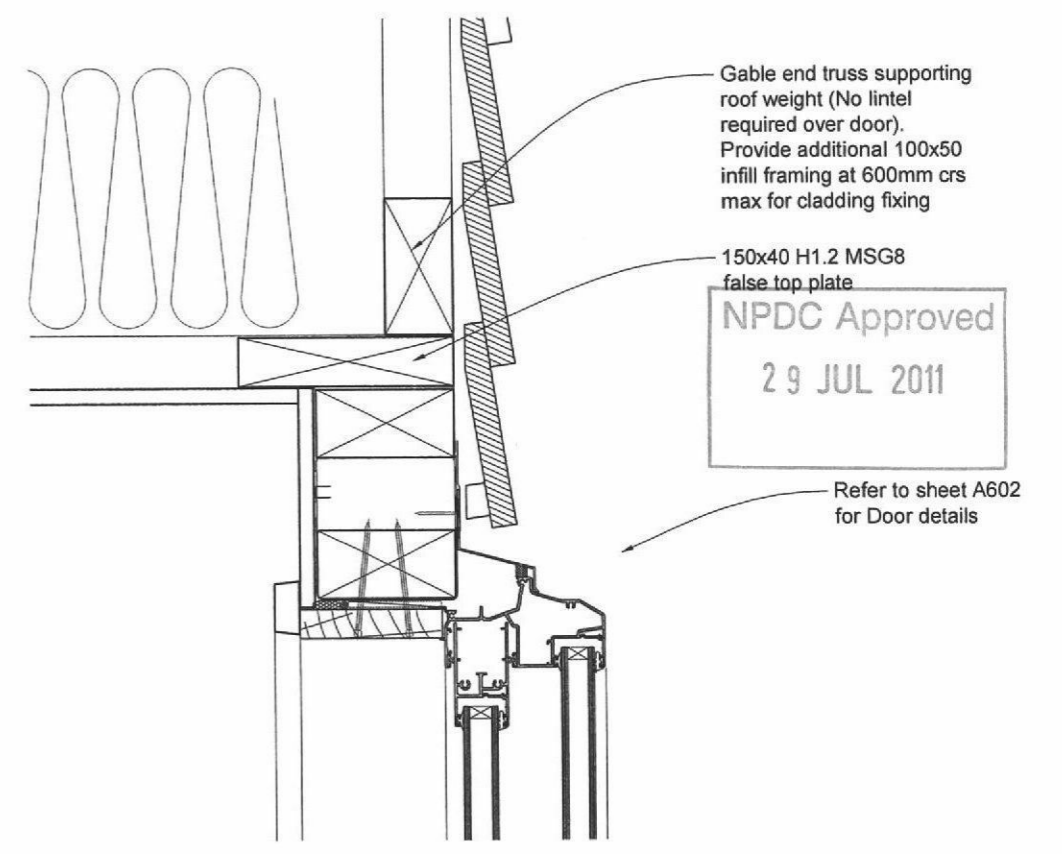
5
A401

6
A401

4
A501



5 BARGE DETAIL
scale 1:5



6 END WALL DETAIL
scale 1:5

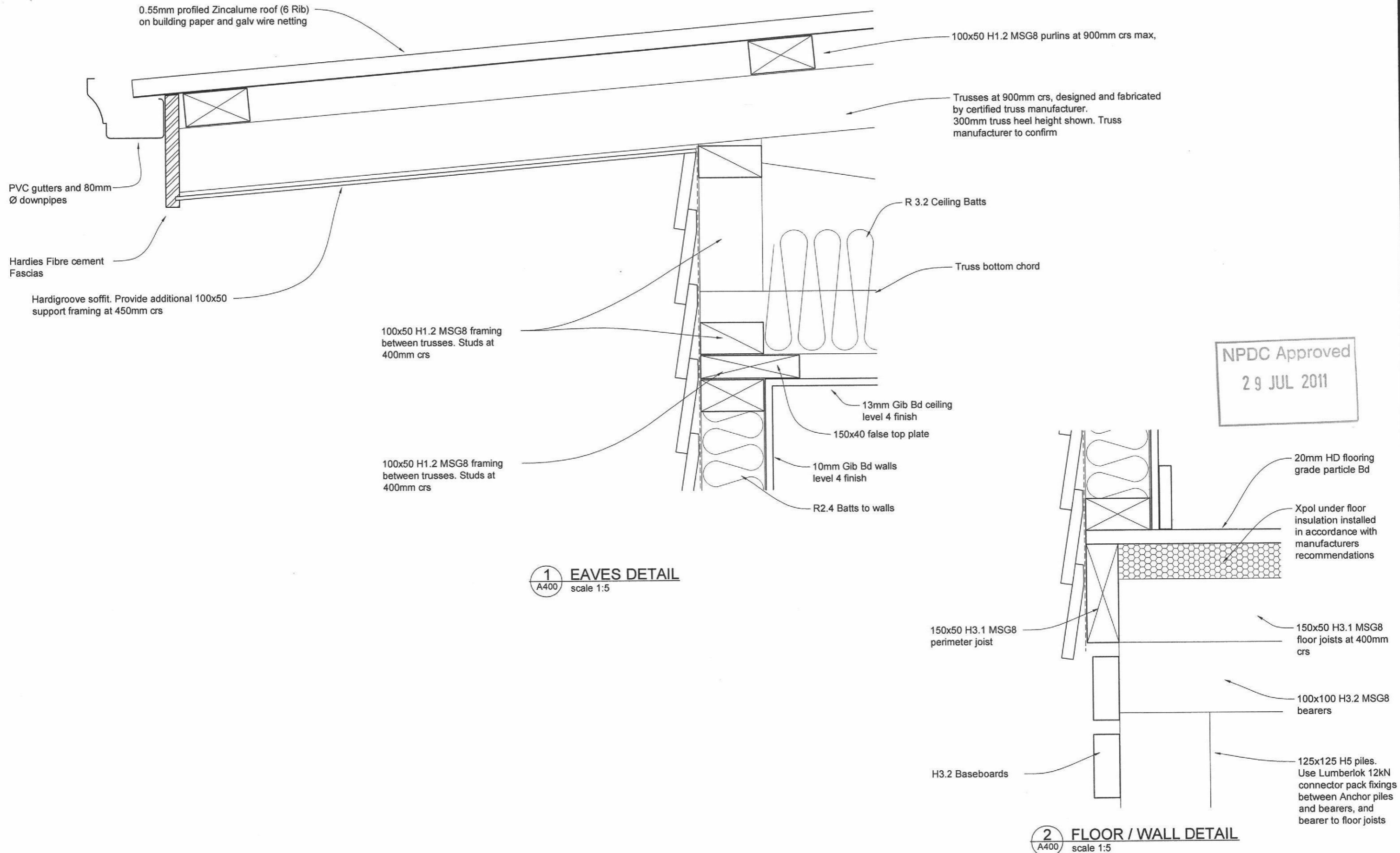
NPDC Approved
29 JUL 2011

SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
RESIDENTIAL, COMMERCIAL, INDUSTRIAL
E-MAIL: penperson@clear.net.nz
Mobile 0274 421125

Ph (06) 3432472
Fax (06) 3432462
48 MT VIEW RD
WANGANUI

| | | | |
|---------------|-----------|---------------|------------|
| DRAWING TITLE | | CROSS SECTION | |
| SCALE | 1:25 @ a3 | DATE | 08.06.2011 |
| DRAWN | Bob P | JOB # | 2011/116 |
| | | SHEET NO | A401 |



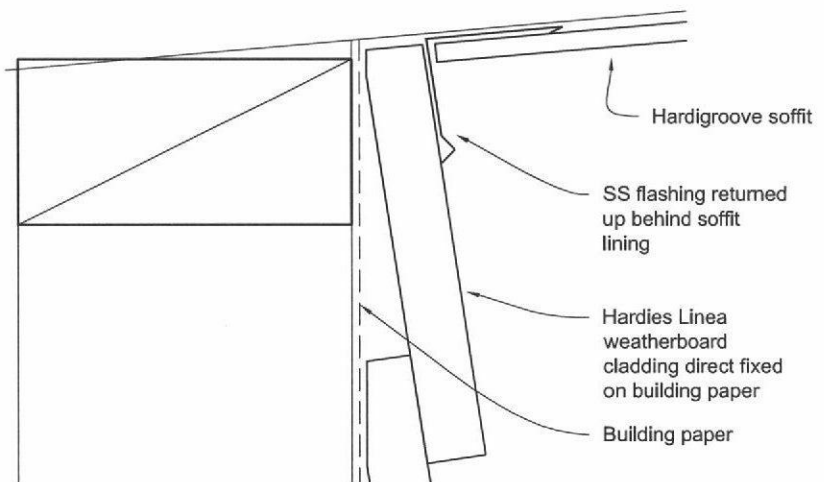
NPDC Approved
29 JUL 2011

SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

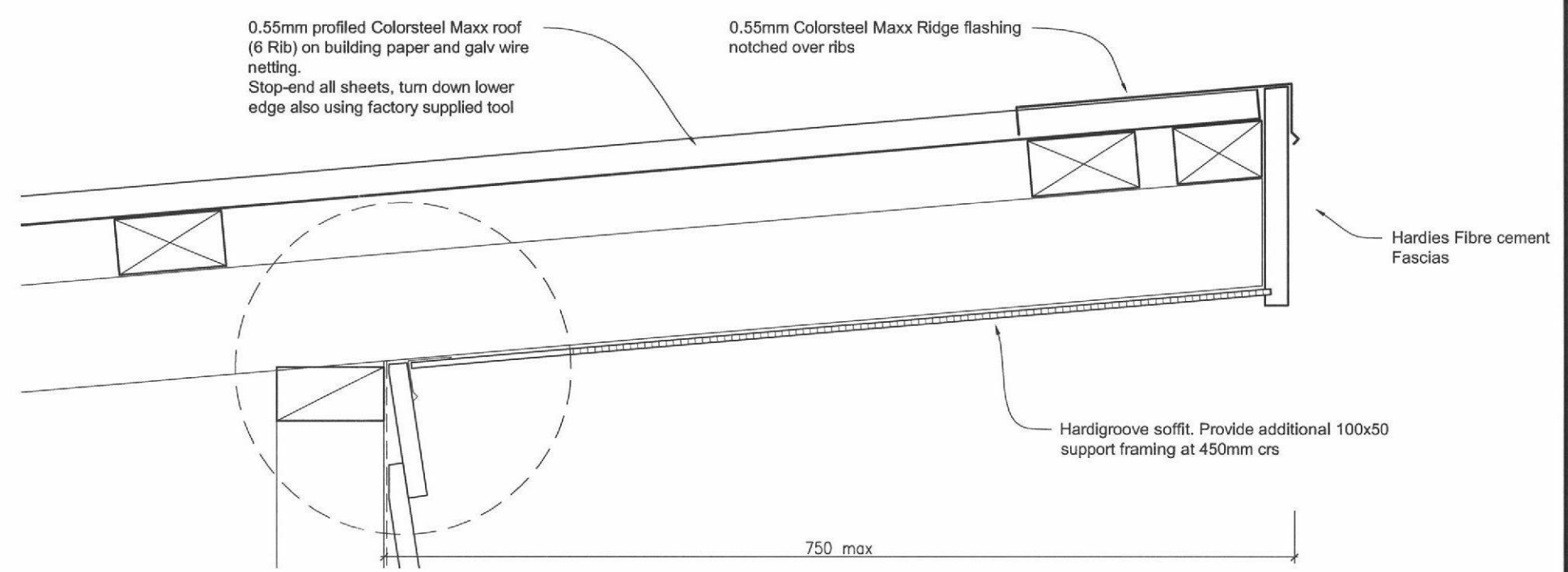
PENMAN DESIGN DRAUGHTING
RESIDENTIAL, COMMERCIAL, INDUSTRIAL
E-MAIL: penperson@clear.net.nz
Mobile 0274 421125

Ph (06) 3432472
Fax (06) 3432462
48 MT VIEW RD
WANGANUI

| | | | | | |
|---------------|-------|------------|--|----------|--|
| DRAWING TITLE | | JOB NO | | SHEET NO | |
| DETAILS | | 2011/116 | | A500 | |
| SCALE | DRAWN | DATE | | | |
| as shown@a3 | Bob P | 25.05.2011 | | | |

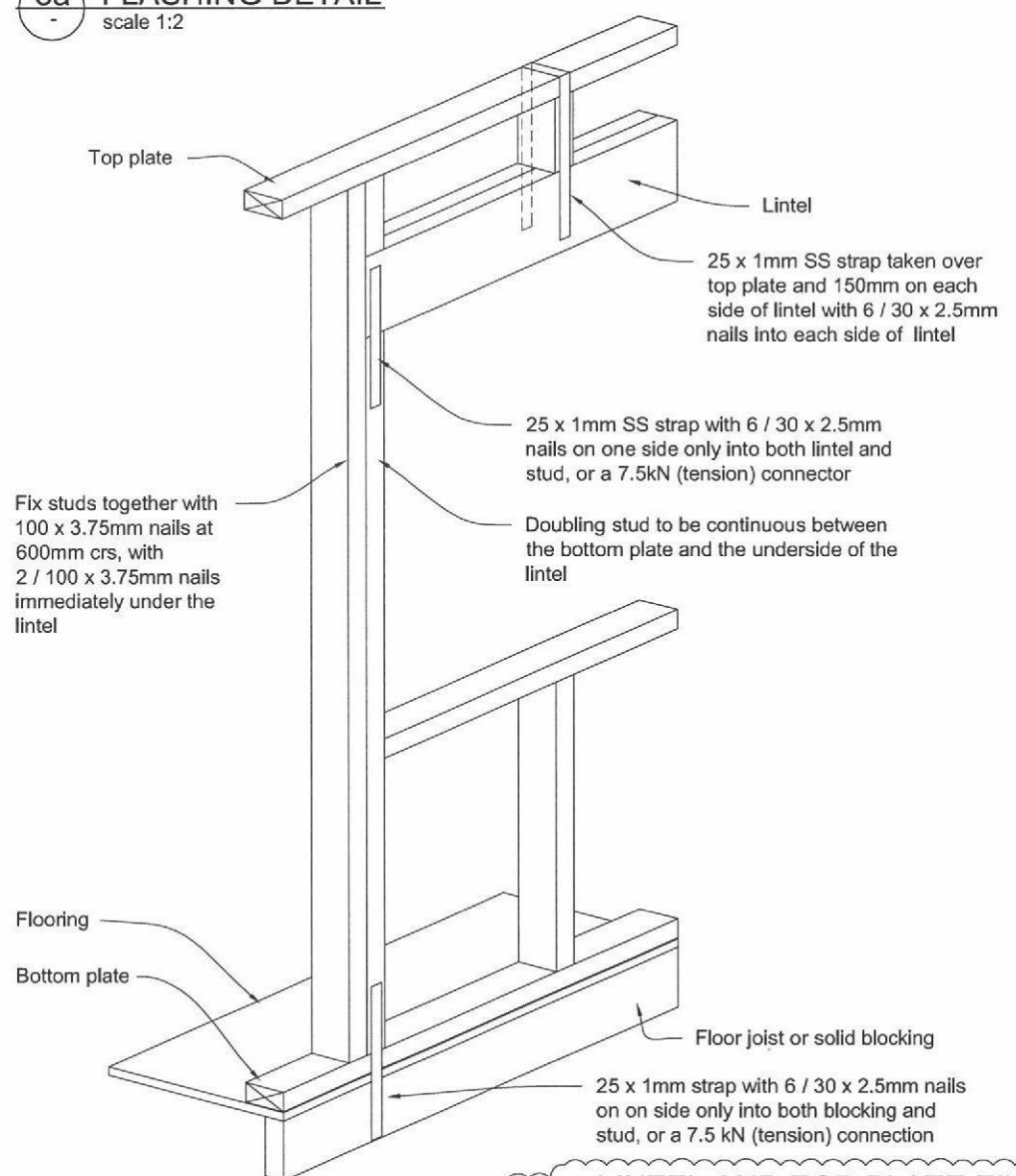


3a FLASHING DETAIL
scale 1:2

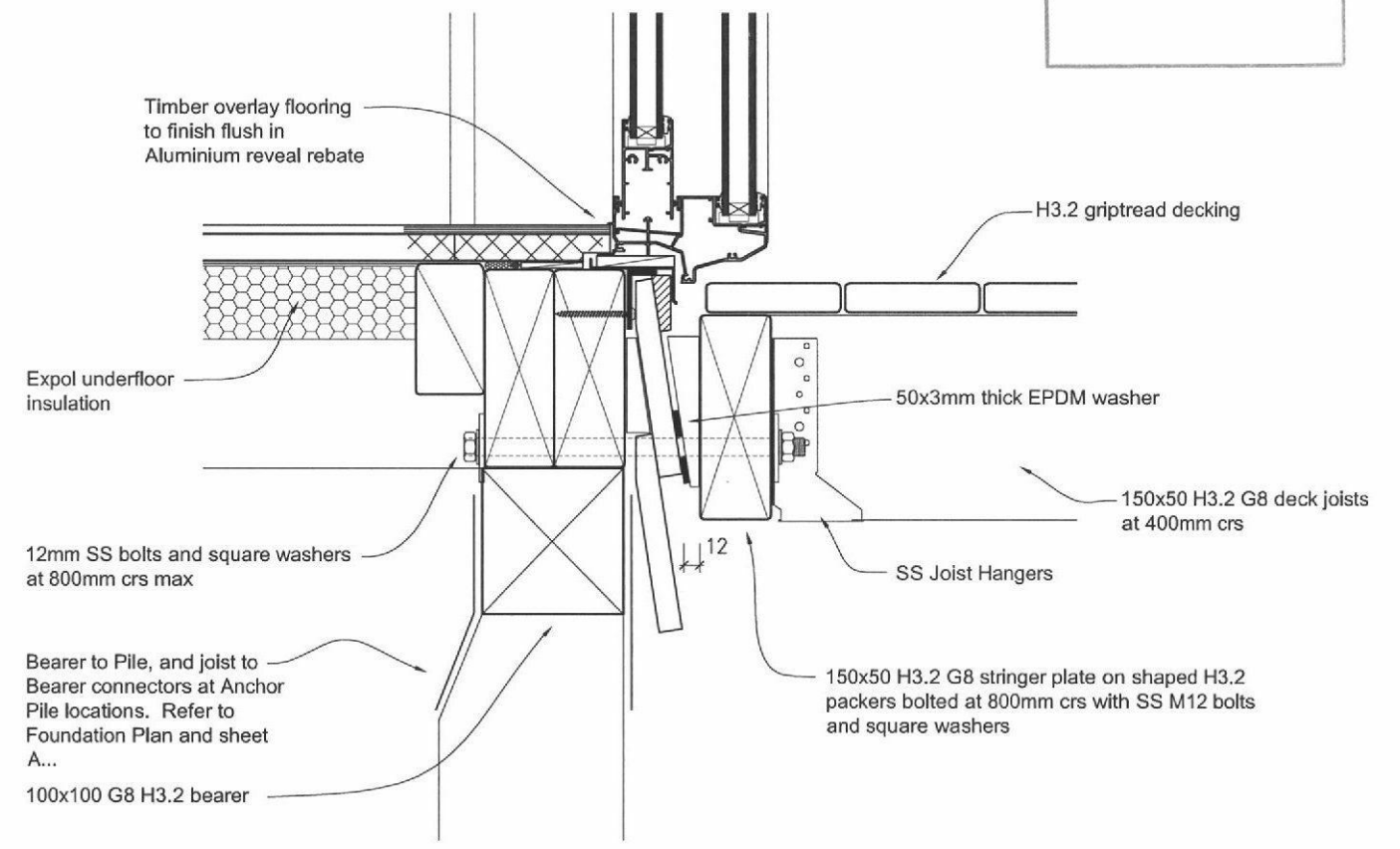


3 EAVES DETAIL
scale 1:5

NPDC Approved
29 JUL 2011



LINTEL AND TOP PLATE FIXINGS
scale: nts



4 FLOOR / DECK DETAIL
scale 1:5

SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
RESIDENTIAL, COMMERCIAL, INDUSTRIAL
Ph (06) 3432472
E-MAIL: penperson@clear.net.nz
Mobile 0274 421125

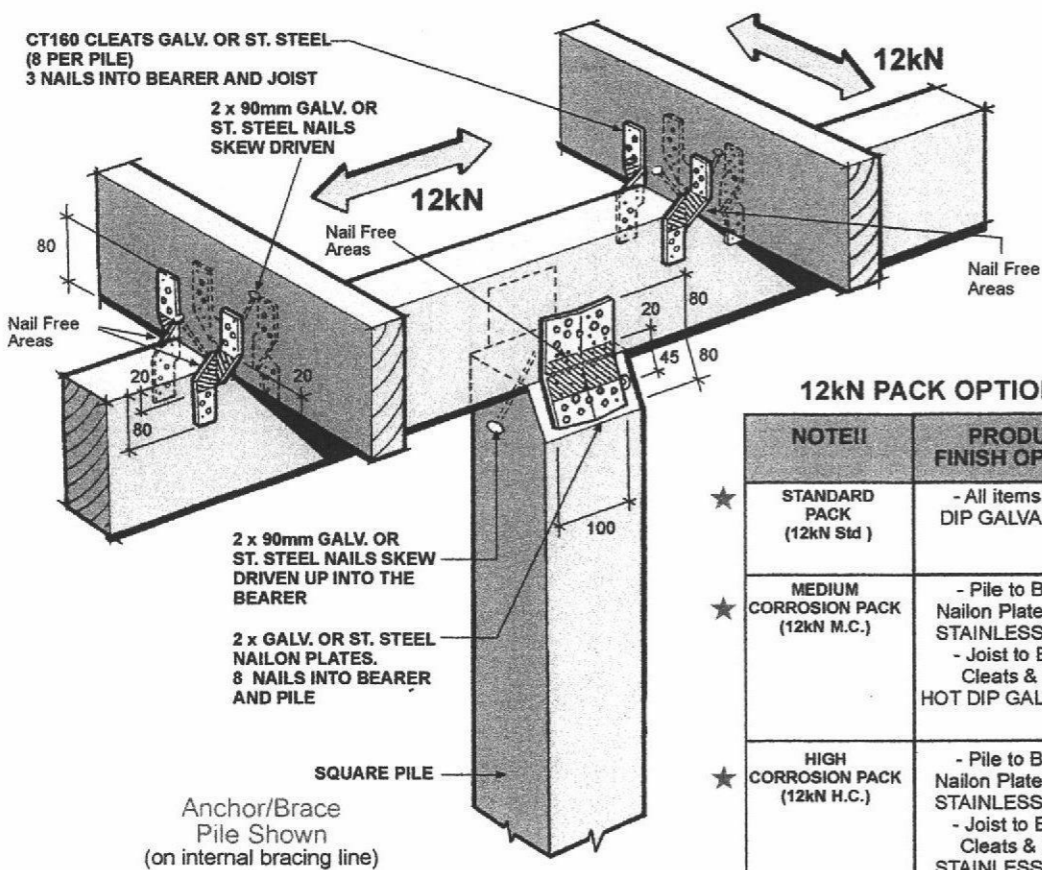
DETAILS

| AMENDMENTS | DATE |
|---|--------------|
| R1 Lintel and Top Plate fixing Detail added | 26 July 2011 |

| | | | | | | | |
|-------|-------------|-------|-------|--------|------------|----------|------|
| SCALE | as shown@a3 | DRAWN | Bob P | JOB NO | 2011/116 | SHEET NO | A501 |
| | | | | DATE | 08.06.2011 | | R1 |

12kN PILE FIXING FOR BRACED PILES OR ANCHOR PILES

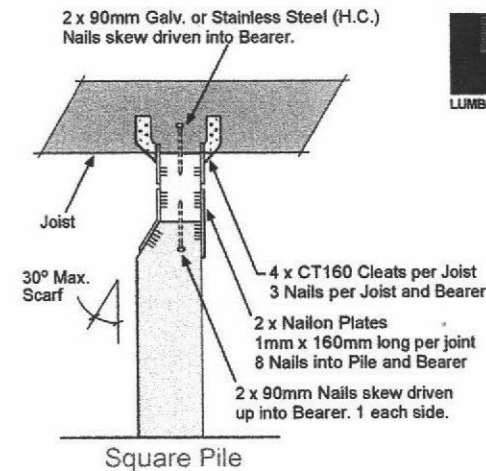
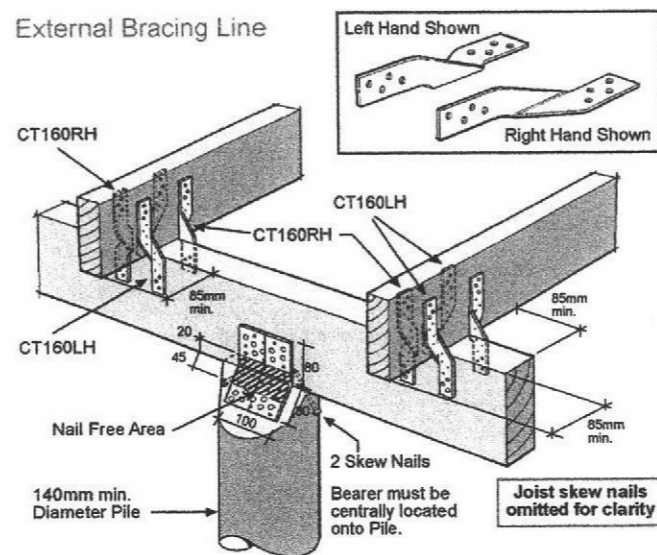
- ★ The 12kN Pile Fixing must be installed in accordance with this brochure
- ★ Auckland University Tested. Test Ref. 4613
- ★ All subfloor construction must be in accordance with NZS 3604:1999
- ★ NZS 3604 requires lines of lateral support to floor joists within 300mm of bearer or bracing lines, refer to Clause 7.1.2



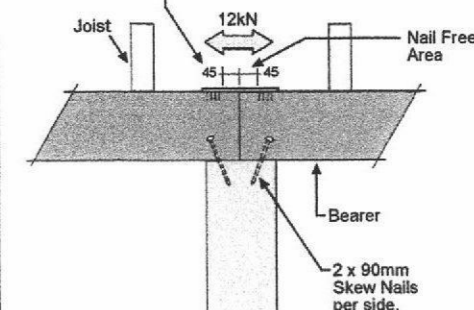
12kN PACK OPTIONS

| NOTE!! | PRODUCT FINISH OPTIONS |
|-------------------------------------|--|
| ★ STANDARD PACK (12kN Std) | - All items HOT DIP GALVANISED |
| ★ MEDIUM CORROSION PACK (12kN M.C.) | - Pile to Bearer Nailon Plate & Nails STAINLESS STEEL - Joist to Bearer Cleats & Nails HOT DIP GALVANISED |
| ★ HIGH CORROSION PACK (12kN H.C.) | - Pile to Bearer Nailon Plate & Nails STAINLESS STEEL - Joist to Bearer Cleats & Nails STAINLESS STEEL |

★ See Over For Corrosion Table.

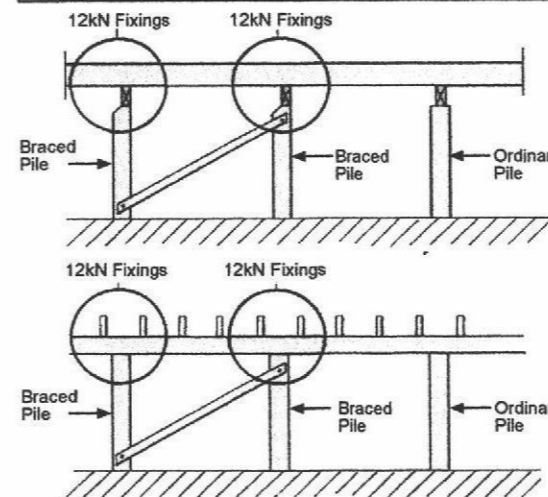


Nailon Plate 1mm x 160mm long (ex 12kN Pack) 8 Nails per end. No Nails within 18mm of timber edge.



NPDC Approved
29 JUL 2011
12kN Bearer Splice
Clause 6.12.7.2
NZS 3604:1999

| CORROSION HAZARD USE TABLE | |
|---|--|
| Standard Pack (12kN Std) - Outside geothermal areas - Outside Sea Spray Zones - All Fixings ABOVE 600mm from Ground level | All items Hot Dip Galvanised. |
| Medium Corrosion Pack (12kN MC) - Outside geothermal areas - Outside Sea Spray Zones - Only Joist to Bearer Fixings ABOVE 600mm from Ground level | Pile to Bearer fixings Stainless Steel (304). Joist to Bearer fixings Hot Dip Galvanised. |
| High Corrosion Pack (12kN HC) - Sea Spray Zones - All Fixings BELOW 600mm from Ground level | All items Stainless Steel (304). |



Sample Subfloor Elevations

12kN Fixing - Pile to Bearer
- Joists to Bearer

12kN Joint Fixing Schedule

- PILE TO BEARER**
- Nailon Plate (2 per joint) 1mm x 100mm x 160mm long
 - 8 Nails per Plate into Pile
 - 8 Nails per Plate into Bearer
 - 2 Skew Nails 90mm (1 per face)
- JOIST TO BEARER**
- CT160 Cleats (4 per Joist) 160mm long
 - 3 Nails per Cleat into Joist
 - 3 Nails per Cleat into Bearer
 - 2 Skew Nails 90mm (1 per side)
- NAILS**
- 80 x 45mm x 3.55 dia. Spiral Nails
 - 2 x 90mm x 4 dia. St. Steel Nails (M.C. Pack only)
 - 6 x 90mm x 4 dia. St. Steel Nails (H.C. Pack only)

12kN Pile Set Contents

- Each set represents 1 x 12kN Pile Fixing (packed 4 sets per carton)
- 2 x Nailon Plates 160mm long
 - 8 x CT160 Cleats
 - 80 x 45mm x 3.55 dia. Spiral Nails
 - 90mm x 4 dia. St. Steel Angular Groove
 - 2 - M.C. Pack
 - 6 - H.C. Pack

Refer front page for Product Finish Options

90mm Galvanised Nails not included.

Available from leading Builders Supply Merchants throughout New Zealand



© Copyright 2008 MiTek Holdings, Inc. All rights reserved.

MiTek New Zealand Ltd.

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

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

HOME OF GANG-NAIL® BUILDING SYSTEMS

© Copyright 2008 MiTek Holdings, Inc. All rights reserved.

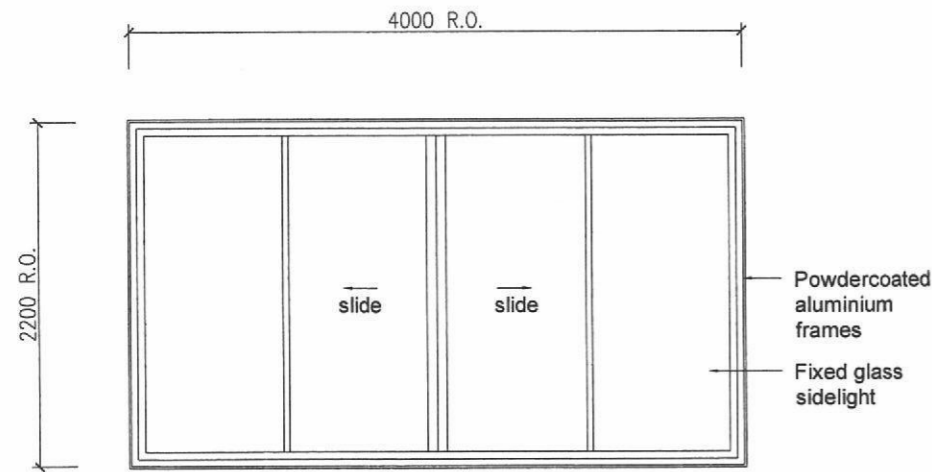
SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
RESIDENTIAL, COMMERCIAL, INDUSTRIAL
E-MAIL: penperson@clear.net.nz
Mobile 0274 421125

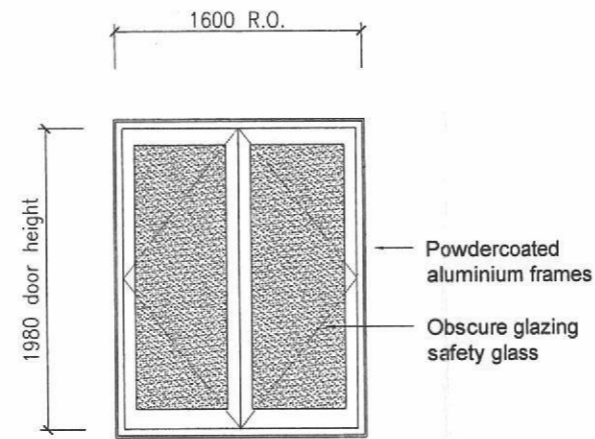
Ph (06) 3432472
Fax (06) 3432462
48 MT VIEW RD
WANGANUI

DRAWING TITLE
ANCHOR PILE DETAILS

| AMENDMENTS | DATE | SCALE | DRAWN | JOB NO | SHEET NO |
|------------|------|-------------|-------|-----------------|----------|
| | | as shown@a3 | Bob P | 2011/116 | A502 |
| | | | | DATE 08.06.2011 | |



D1
Aluminium slider



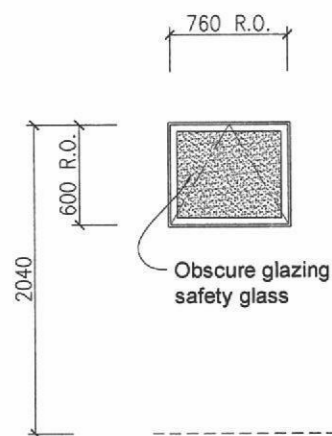
D2
Aluminium Hinged Doors

NOTE:
Glazing shall comply with NZS 4223 in particular part 3, and AS/NZS 2208 where glass could be subject to human impact.

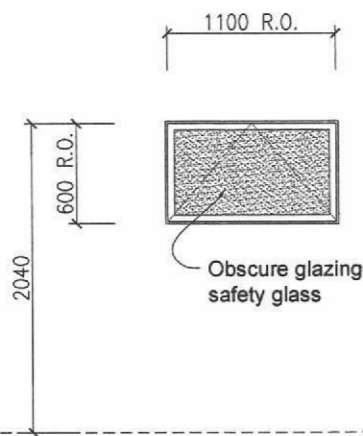
Check all sizes on site prior to ordering or manufacturing frames.

All units shall be double glazed.

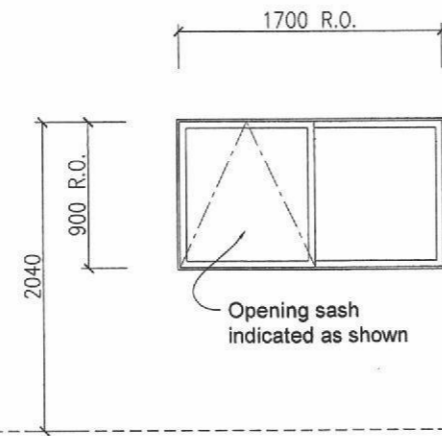
NPDC Approved
29 JUL 2011
1700 R.O.



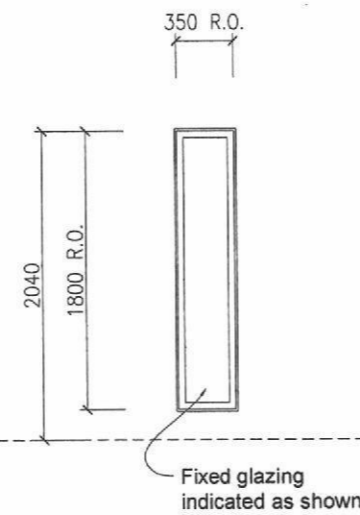
W1
Aluminium Windows



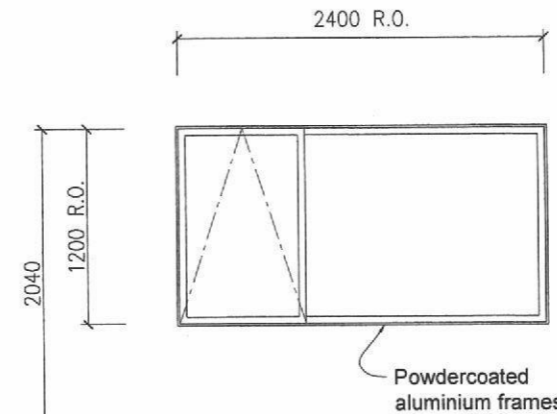
W2



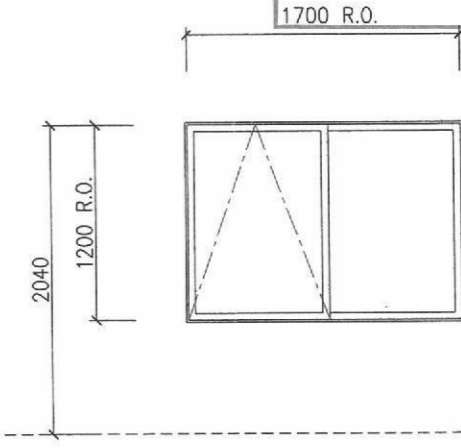
W3



W4



W5



W6

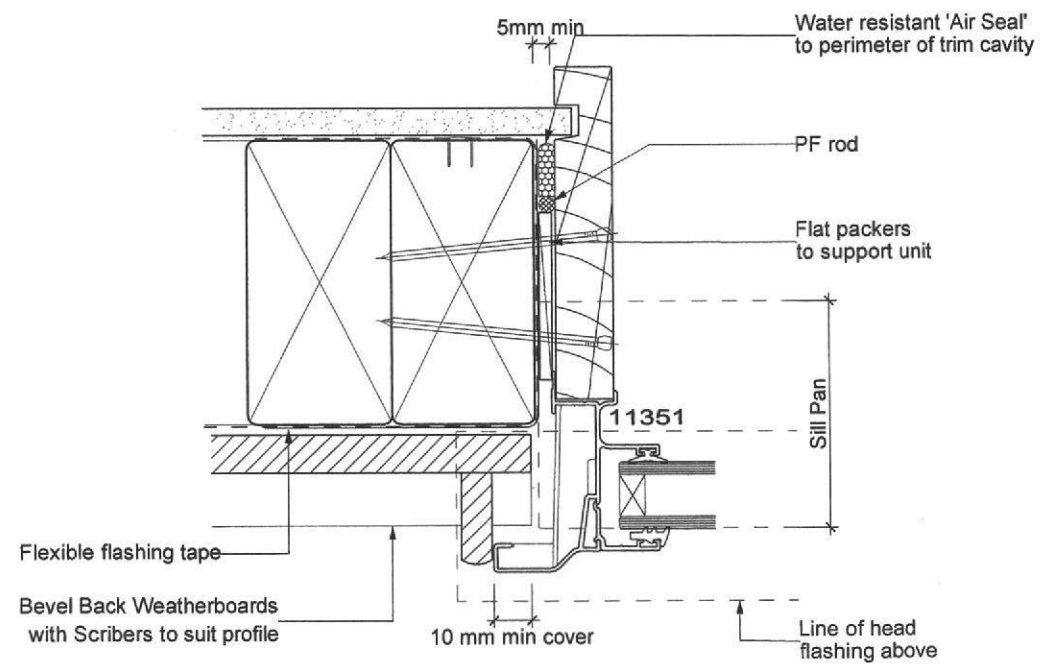
SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
RESIDENTIAL, COMMERCIAL, INDUSTRIAL
E-MAIL: penperson@clear.net.nz
Mobile 0274 421125
Ph (06) 3432472
Fax (06) 3432462
48 MT VIEW RD
WANGANUI

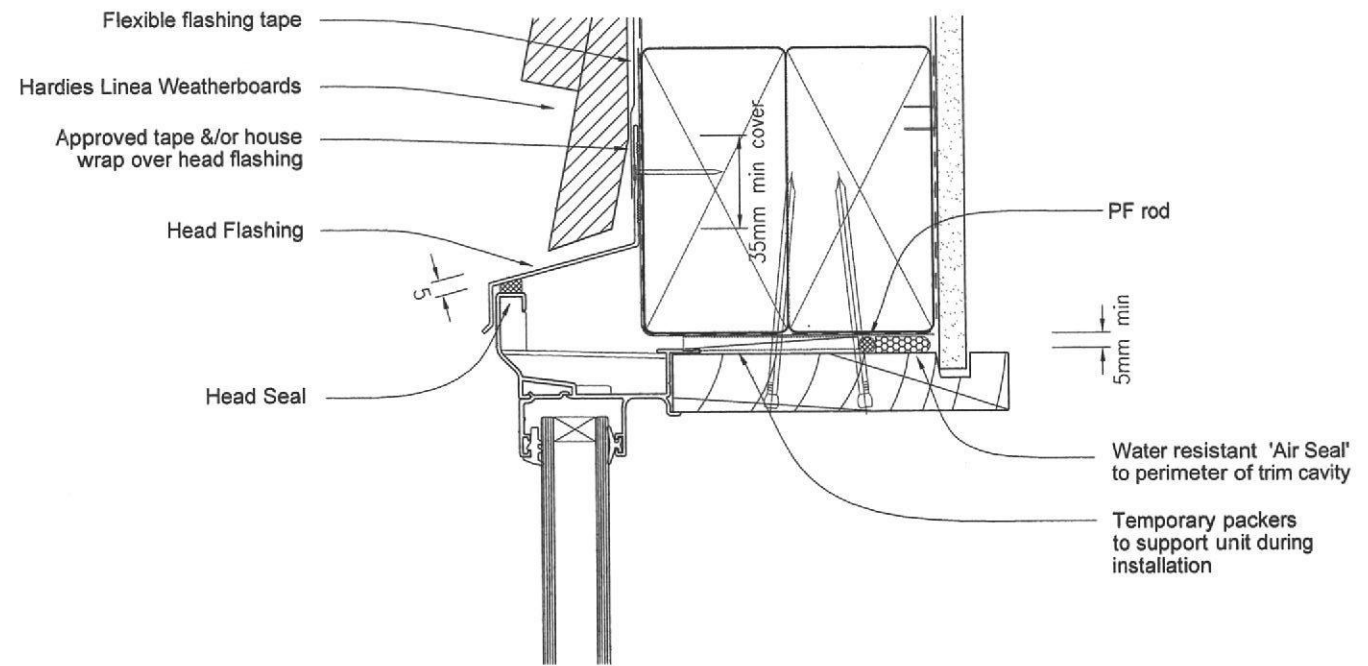
DRAWING TITLE
DOOR & WINDOW SCHEDULE

| AMENDMENTS | DATE |
|------------|------|
| | |
| | |

| SCALE | DRAWN | DATE | JOB NO | SHEET NO |
|-----------|-------|------------|----------|----------|
| 1:50 @ a3 | Bob P | 08.06.2011 | 2011/116 | A600 |

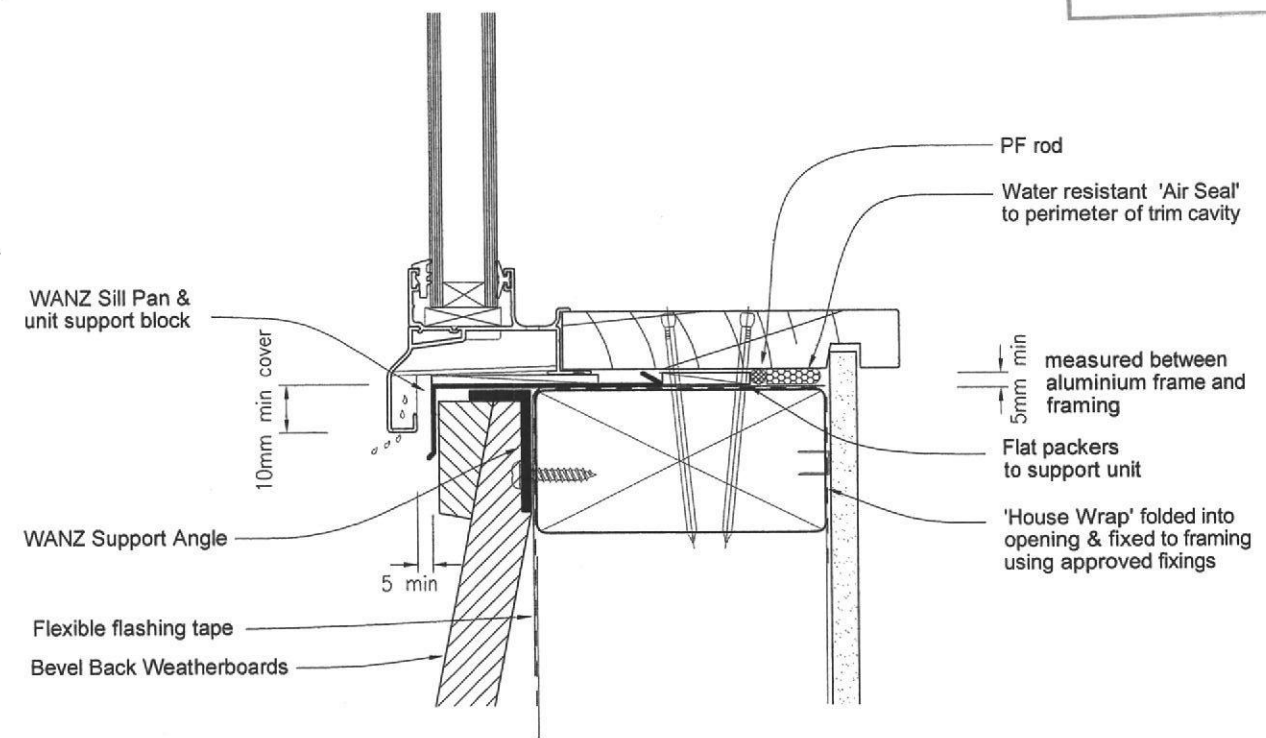


JAMB DETAIL



HEAD DETAIL

NPDC Approved
29 JUL 2011



SILL DETAIL

SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
RESIDENTIAL, COMMERCIAL, INDUSTRIAL
E-MAIL: penperson@clear.net.nz
Mobile 0274 421125

Ph (06) 3432472
Fax (06) 3432462
48 MT VIEW RD
WANGANUI

DRAWING TITLE

WINDOW DETAILS

DATE

| | |
|--|------|
| | DATE |
| | |

SCALE

1: 2.5 @ a3

DRAWN

Bob P

JOB NO

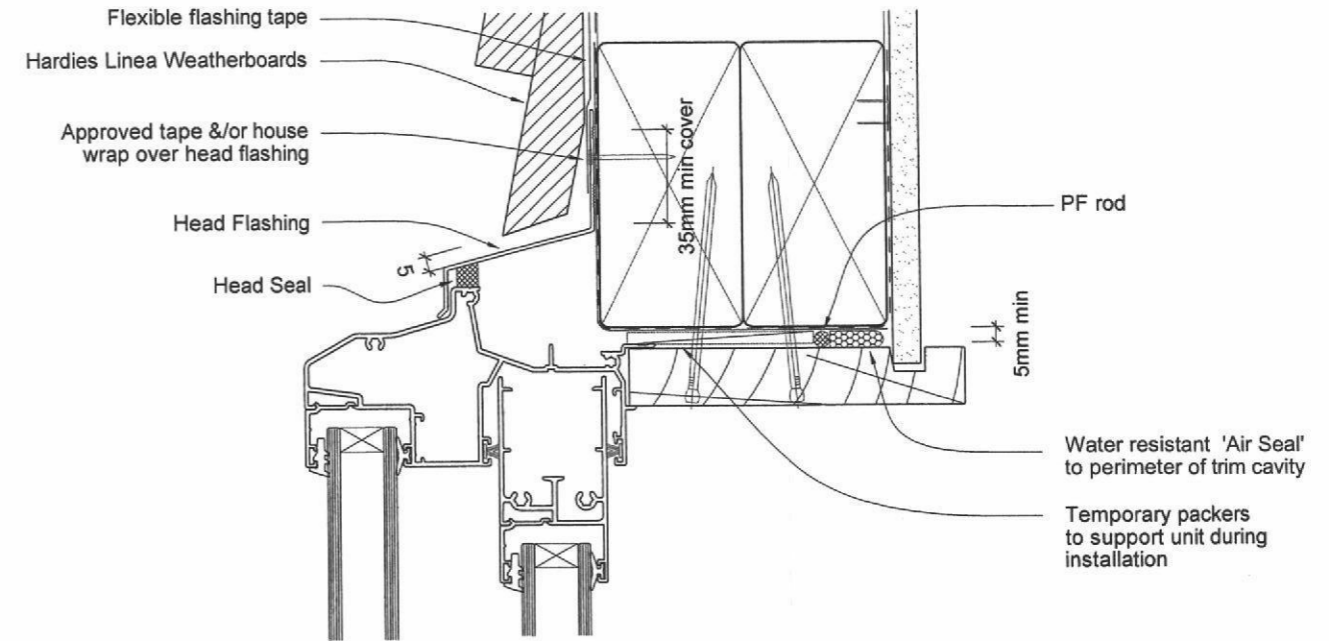
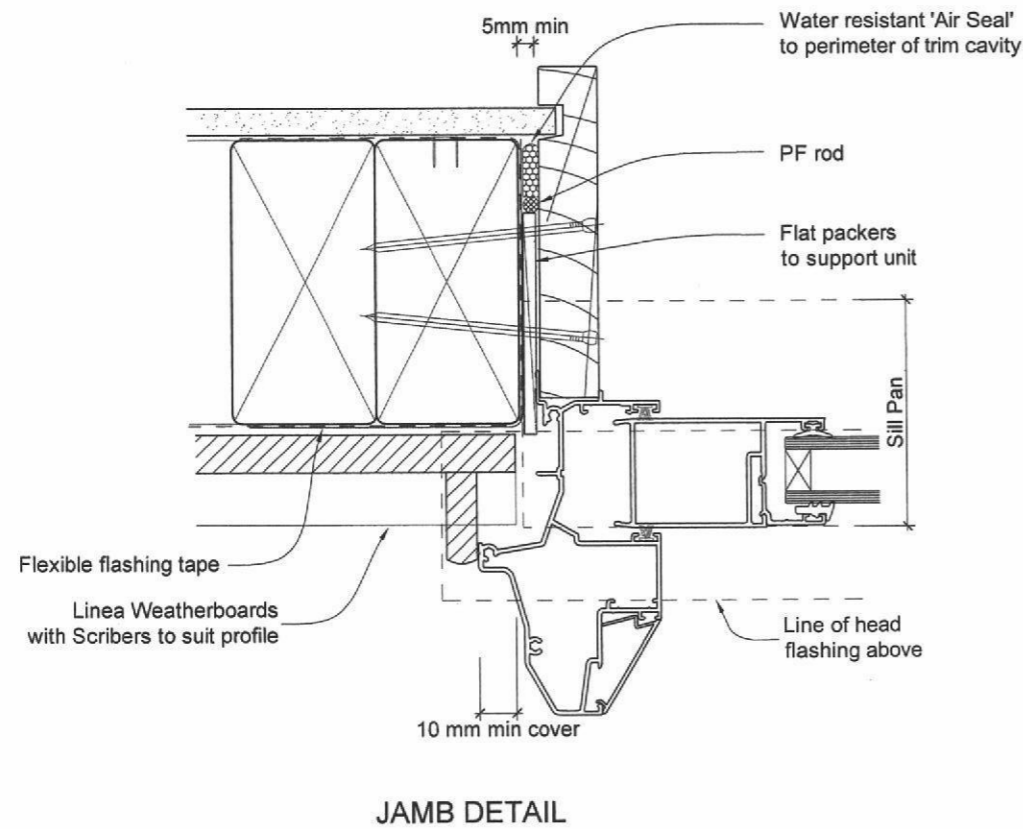
2011/116

DATE

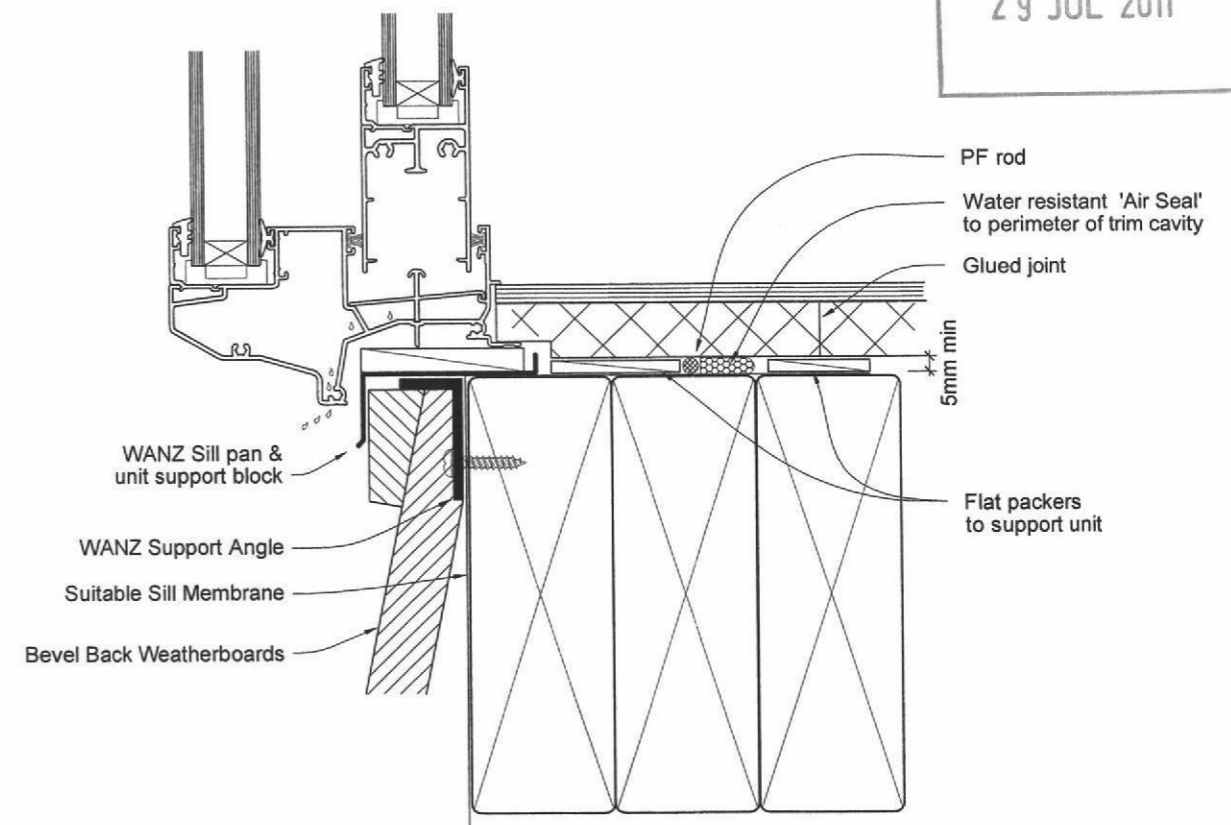
08.06.2011

SHEET NO

A601



NPDC Approved
29 JUL 2011



SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
RESIDENTIAL, COMMERCIAL, INDUSTRIAL
Ph (06) 3432472
E-MAIL: penperson@clear.net.nz
Mobile 0274 421125

DRAWING TITLE
STACKER DOOR DETAILS

REVISIONS

| NO | DATE |
|----|------|
| | |
| | |
| | |

| | | | | | | | |
|-------|-------------|-------|-------|--------|----------|----------|------|
| SCALE | 1: 2.5 @ a3 | DRAWN | Bob P | JOB NO | 2011/116 | SHEET NO | A602 |
| DATE | 08.06.2011 | | | | | | |

18mm 35mm

BUILDING FILE

Code No. 61/41

Subject DW1

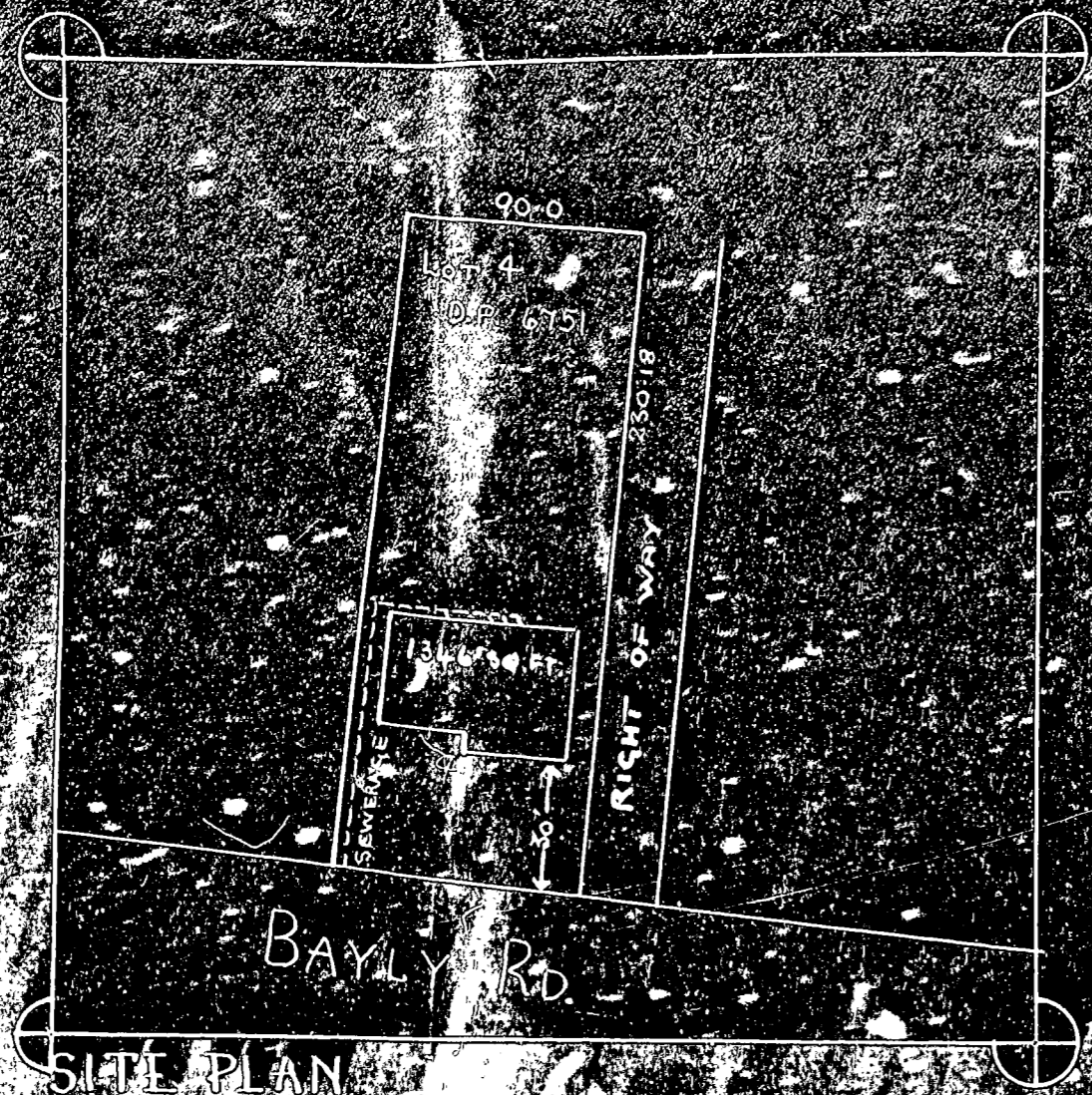
No. Sheets 1

Permit No 2428

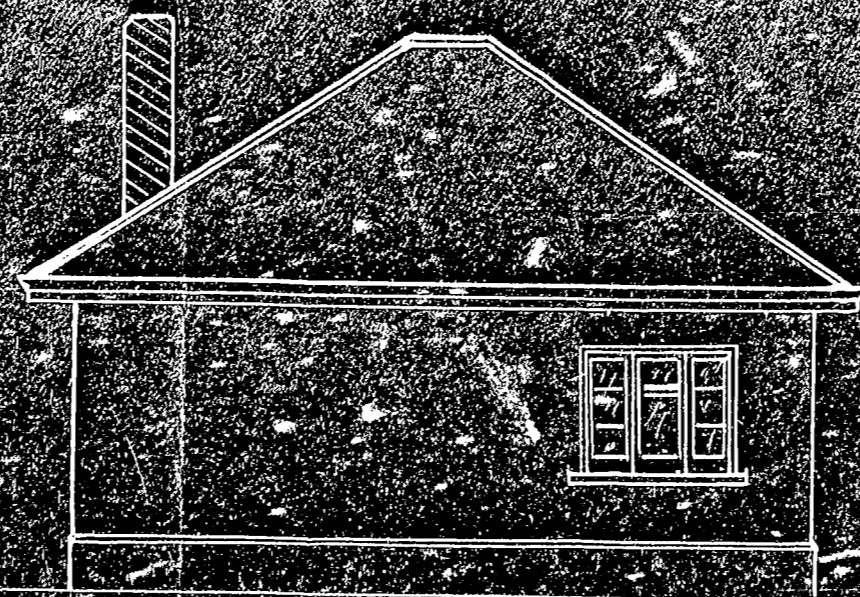
Date 27/2/51



61/41



SITE PLAN



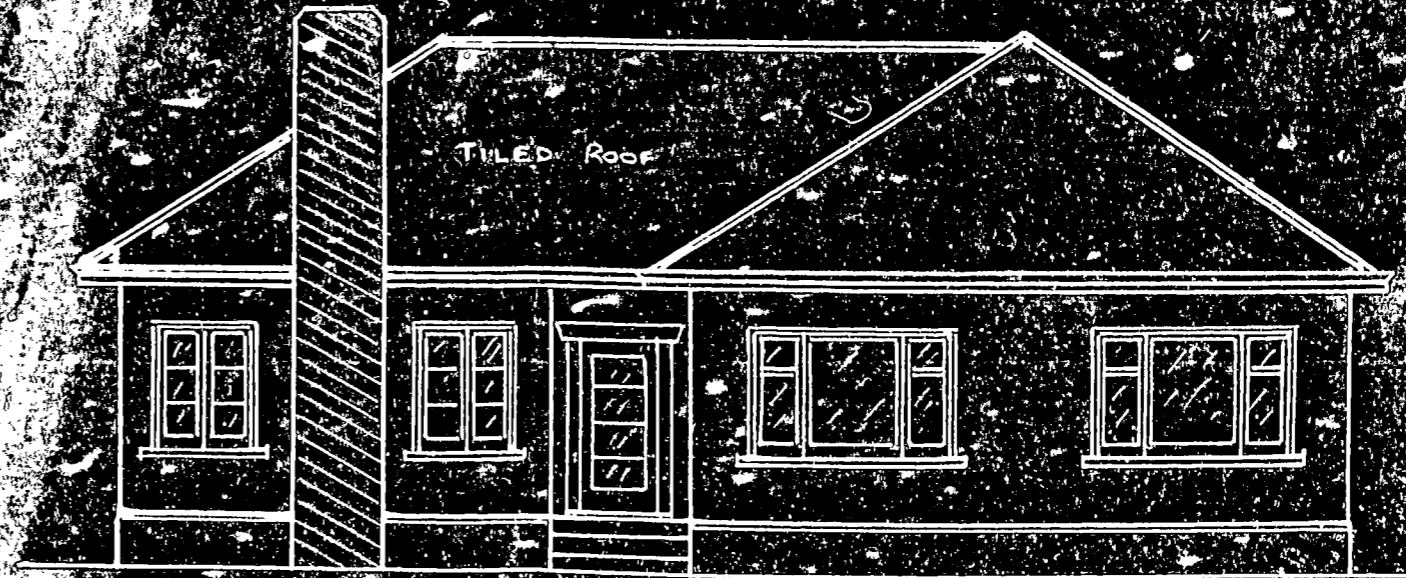
SOUTHERN ELEVATION



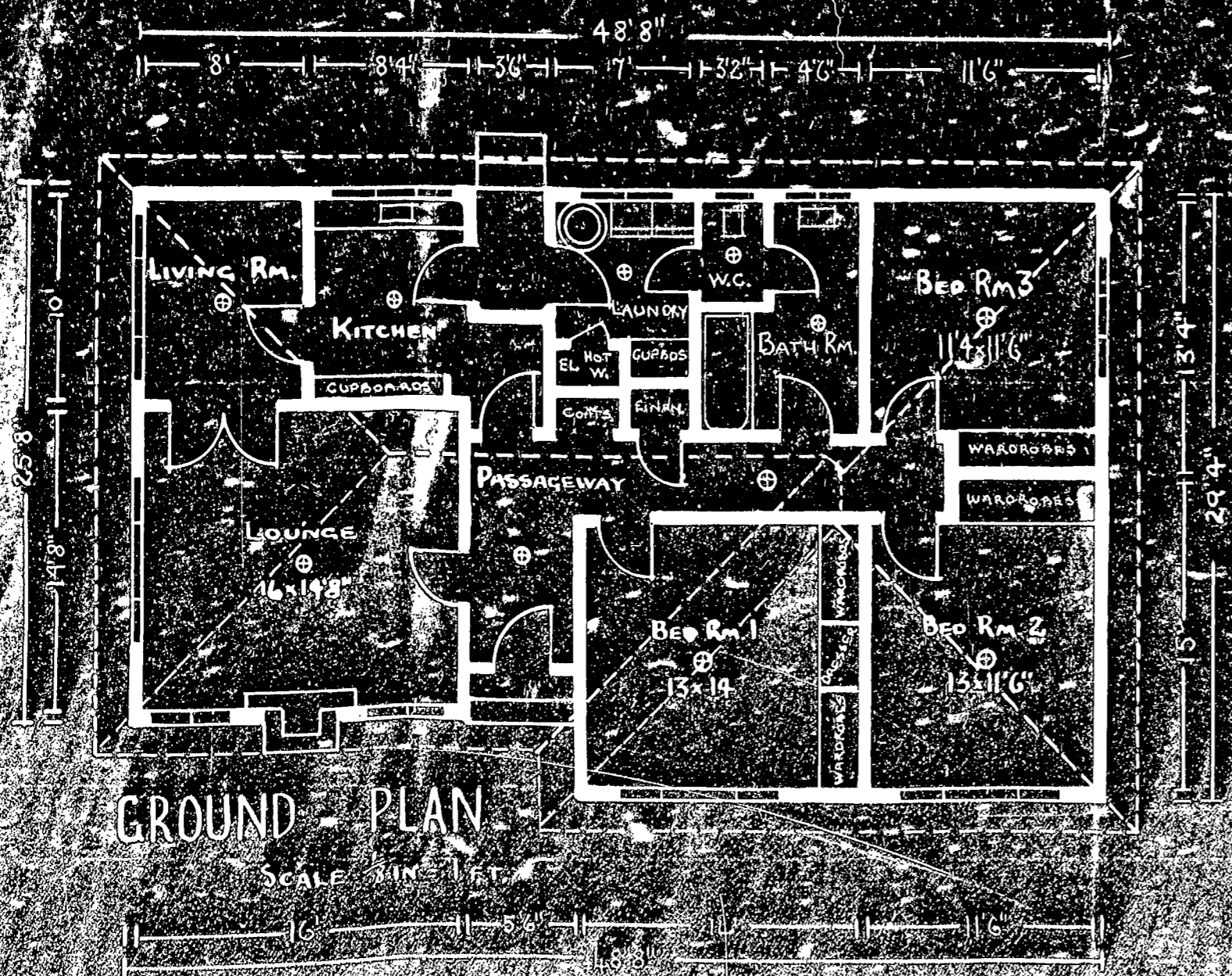
NORTHERN ELEVATION



EASTERN ELEVATION



WESTERN ELEVATION



GROUND PLAN

SCALE 1/4" = 1'-0"

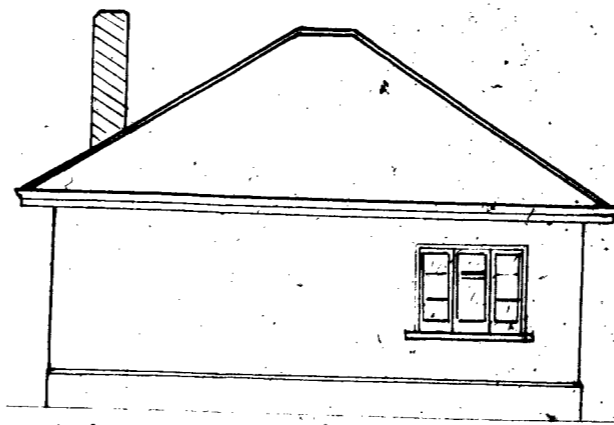
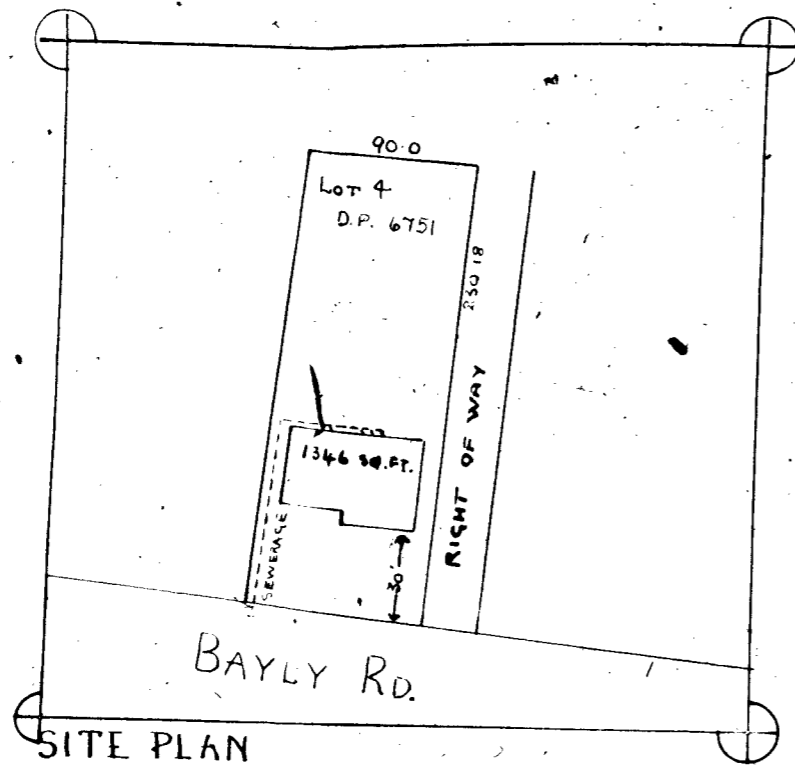
PLAN OF PROPOSED RESIDENCE
 FOR MR. J. BROUGH IN BAYLY RD
 NEW PLYMOUTH

SCALE 1/4" = 1'-0"

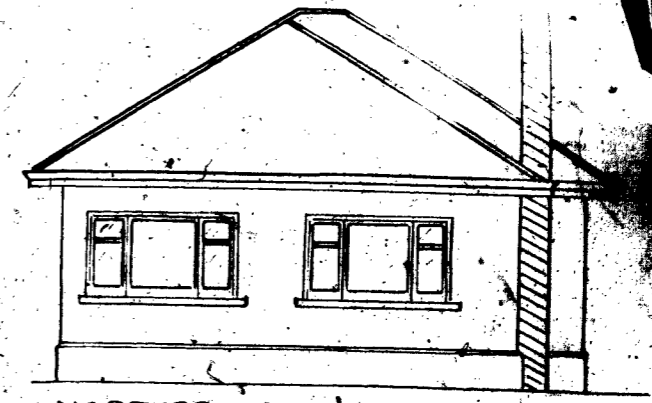
DRAWN BY R.E.D.



61/41



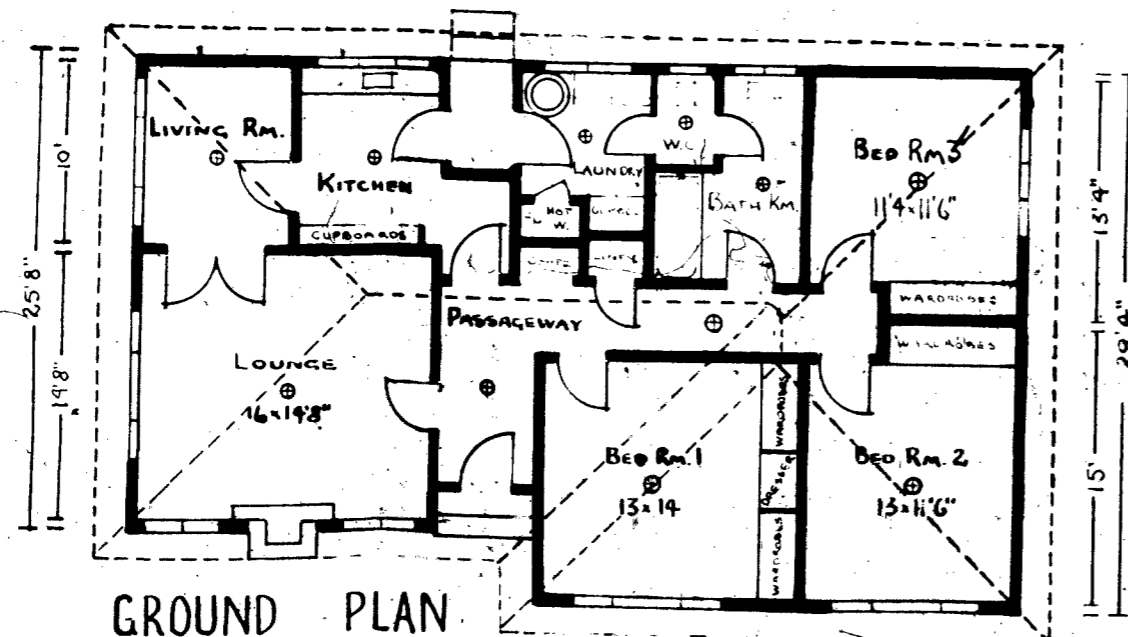
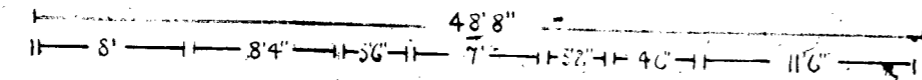
SOUTHERN ELEVATION



NORTHERN ELEVATION

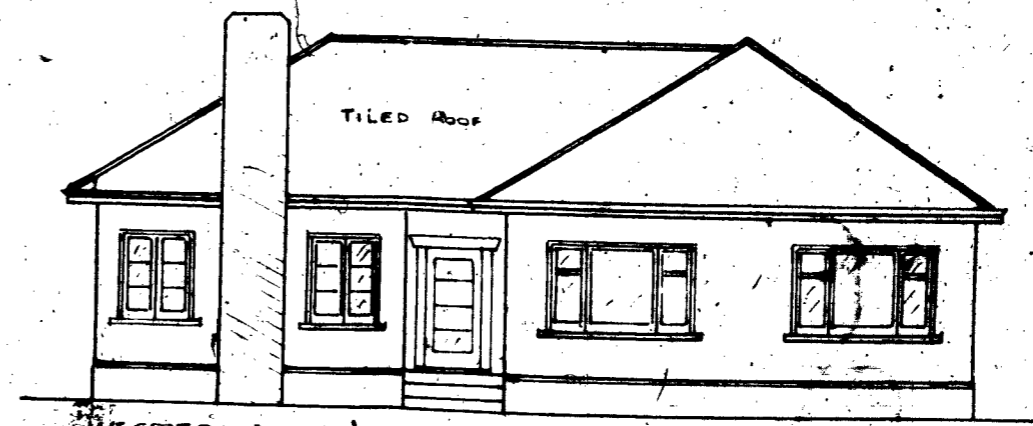
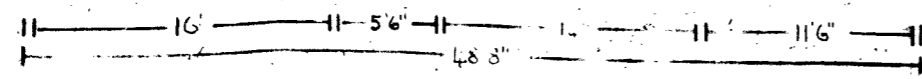


EASTERN ELEVATION



GROUND PLAN

SCALE: 3/8" = 1 FT.



PLAN OF PROPOSED RESIDENCE
FOR MR. J. BROUGH IN BAYLY RD.
NEW PLYMOUTH

SCALE: 3/8" = 1 FT.

DRAWN BY R.E.D.

BUILDING FILE

Code No. 61/41

Subject DW1

No. Sheets 7

Permit No 2428

Date 27/2/51

NEW PLYMOUTH BOROUGH COUNCIL

BUILDING APPLICATION FORM

Date 29-2-1951

To the Borough Engineer,
NEW PLYMOUTH.

Sir,

I hereby apply for permission to

61/41
Erect *Dwelling*
at (House No. & Street) 61 Bally Rd for (Owner) J. J. Brown
of (Address) 29A Vinandra St according to locality plan and detailed plans
elevations, cross-sections, and specifications of building deposited herewith in duplicate.

Particulars of land: Lot No. 4675 Deposited plan No. DP 6751

Section No. P. B. I. D.

Length of frontage..... Area.....

Particulars of building: Foundations.....

Walls Weather Board Roof Tiles

Area of ground floor 1346 square feet

Area of outbuildings..... square feet

Estimated cost: Building £ 1500

Plumbing and Drainage £ 265

TOTAL £1765

Proposed purpose for which every part of building is to be used or occupied (describing separately each part intended for use or occupation for a separate purpose):

Proposed use or occupancy of other part of building:

Yours faithfully,

Postal address..... J. J. Brown Owner

Builder

NEW PLYMOUTH BOROUGH COUNCIL BUILDING BY-LAWS.

Two copies of plans and specifications must be deposited. One set of these will be returned duly stamped when permits issued.

Note: Any receipt issued on deposit of plans is NOT a permit.

All plans must be signed by the architect, engineer or designer responsible for their production.

FEES AND DEPOSITS (By-law 212 [a] STANDARD CODE)

Every applicant for a permit under this By-law shall, before the issue of a permit, pay to the Council the following fees and deposit:-

- (1) Fees for building permit, including sewer and water charges.
 - (2) Fees for any plumbing and drainage permit.
 - (3) Cost of any permanent vehicular crossing as required under any by-law.
 - (4) Deposit for possible damage to streets during building operations. The amount of such deposit, unless prescribed by law, shall in all cases be fixed by the Engineer.
- (b) No permit in respect of the work or any part of the work shall be issued until all the said amounts have been paid.

Plumber..... B. Bevan

Drainlayer..... W. Revell

C.y. of concrete..... 2.0 yds

Depth of sewer at bdy..... 1.00

McL. & S. Ltd. - 5423 8 for North St

SPECIFICATIONS

61/41

Specifications of labour and materials required in the erection of a dwelling in Bayly Road, New Plymouth for Mr. J. Brough.

All grass and vegetation to be removed before building operations commence. Remove all old timber and cuttings as floors are laid. All work in all trades concerned to be carried out by competent tradesmen in an efficient and expedient manner.

FOUNDATIONS

Excavate for all wall foundations, chimney foundations and piles to solid clay formation to depths and sizes specified below. Trenches shall be cut straight and clean and bottoms shall be level. Excavate to proper falls for all drains, sumps and sewage pits as directed.

CONCRETE

Shall be clean river shingle in the proportion of six parts shingle to one part cement. The whole to be well mixed and deposited in water-tight boxing, all to be thoroughly tamped and consolidated. The use of excess water will not be allowed.

FOUNDATION WALLS

To be continuous wall 6" thick on footings 12" wide and 6" deep, bottom of footing to be not less than 18" below surface of ground, and top of wall to stand not less than 18" above surface of ground, to be properly stepped and chamfered to take wall plate and outside covering.

REINFORCING

Reinforce wall footings with two $\frac{1}{2}$ " M.S. rods set round corners. Provide and fix 9" x $\frac{3}{4}$ " rag bolts at not more than 4'6" centres in top of wall to secure wall plate.

DAMP COURSE

Place a strip of three ply malthoid between all timber and concrete or brick surfaces in contact.

AIR VENTS

Provide and fix at not more than 6'0" centres and not more than 3'0" from each corner 12" x 9" precast concrete vents fitted as close up to wall plate as possible.

PILES

To be 6" x 6" precast concrete on 12" x 12" x 6" footings to same depths and heights as foundation walls. Piles to be in rows not greater than 6' centres and to be spaced not more than 4'6" centres in the rows. No. 8 wire to be securely embedded in each pile and left long enough to pass over sleeper plates and staple on top. All joints of sleepers must be supported with pile underneath.

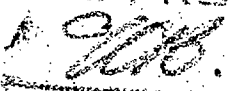
CHIMNEY FOUNDATION

To be 6" R.C. Slab on concrete walls 6" thick as for foundation walls.

STEPS

Form steps at both entrances to finish with rise of not more than 7" and treads of not less than 13".

APPROVED


BUILDING SUPERINTENDENT

61/41

DRAINAGE

Lay all necessary drains in 4" glazed earthenware socket jointed pipes to uniform grade. Joints to be set in cement compe and inside pipes to be wiped clean and left with true bore as work proceeds. Provide and fix all necessary bends, junctions, terminal vents, gully traps, inspection pipes etc to conform with local By-Laws. Trenches not to be filled until the work has been passed by Health Inspector or local Authority.

GULLY TRAPS

Form concrete dish round each gully trap of sufficient height to prevent overflow of waste water.

STORMWATER

Put down soakage pits six feet clear of foundations and connect to downpipes with 4" earthenware pipes.

CHIMNEY

Erect precast chimney to Maker's instructions.

CARPENTER

All timber below floor line shall be Building Heart.

SLEEPER PLATES

4"x2" on all concrete wall foundations securely bolted with rag bolts at not more than 4'6" centres, laid in long lengths, halved at angles and scarfed at joints.

STRINGERS

4x3 on edge securely stapled to piles in rows not more than 6' centres and spaced not more than 4'6" centres in the rows.

FLOOR JOISTS

5x2 at not more than 18" centres, laid true and level and double nailed to sleepers.

TOP & BOTTOM PLATES

4x2 laid in long lengths, halved at angles and joints. Bore two holes for ventilation between each pair of studs.

STUDS

4x2 to all walls and 4x3 to all openings greater than 6'. All studs to be cut true and square and double nailed to plates.

TRIMMERS

Trim openings up to 3'6" wide with 4x2, to 5' wide with 4x3 and over 5' wide with two 6x2s spiked together.

DWANGS

Fit two rows of 4x2 dwangs to all walls, each dwang to be bored with two holes for ventilation.

BRACES

6x1 cut in wherever practicable at an angle of 45 degrees from bottom to top plate. All braces to be fitted tight and flush.

CEILING JOISTS

4x2 on edge at not more than 20" centres fitted across the short way of the room.

CEILING RUNNER

4x2 on edge fitted to all spans over 9' wide and kept clear of centre of room for electric conduit.

CEILING DWANGS

3x2 fitted between joists at all joints to ceiling sheets.

61/41

RAFTERS

4x2 spaced at not more than 18" centres and birdsmouthed over top plate.

STRUTS

4x2

UNDER FURLINE

4x3

RIDGE BOARDS

6x1 in long lengths supported at joints and intersections with 4x2.

COLLAR TIES & HANGERS 6x1 fitted to alternate pairs of rafters.

EAVES AND SOFFITS

Shall be boxed and lined with flat asbestos sheets, joints shall be covered with 1" button head, and finished with 1" quad.

FASCIA BOARD

6x1 Heart dressed and primed before fixing.

FLOORING

To be Heart Rimu or Natal closely cramped and double nailed. Flooring to be laid in long lengths, joints to be scattered or finished under partitions, no shorts permitted.

SHELVING

To be 1" dressed.

SKIRTINGS

To be 4x1 bullnosed to all walls.

ARCHITRAVES

To be 3x1 to all openings, double bullnosed.

EXTERIOR COVERING

Securely nailed weatherboard, laid in long lengths, joints scatted, no shorts permitted.

J O I N E R Y

OUTSIDE DOORS

To be standard size exterior doors of Heart Rimu on Heart frames. Front door to Owner's choice.

INSIDE DOORS

To be No. 1 quality flush doors to standard sizes.

WARDROBE DOORS

To be No. 1 quality flush doors.

WINDOWS

To be to type and size as indicated on Plan. Side lights on landscapes to be split sashes. All frames and sashes to be of Heart timber properly constructed and fitted.

BATHROOM CABINET

Fit standard type cabinet in bathroom wall where requested.

CUPBOARDS

Build cupboard units to Owner's detail.

HARDWARE.

Allow a P.C. sum of £..... for all hardware such as locksets, fan and casement stays, towel rails, cupboard catches and pulls etc.

L I N I N G S

WALLS

Walls of Kitchen, Washhouse, Bathroom, W.C., Wardrobes, linen press etc to be lined with N.2. Hardboard, wetted to makers' instructions before fixing. Walls of three Bedrooms, Living room, Dining room and Passageways to be lined with Gibraltar Board.

6/41

CEILING

Line all ceilings with Fibrous Plaster sheets, flush finish, plaster cornices selected by Owner.

ELECTRICIAN

Wire for and instal electric lighting as indicated on Plan and for power points in Dining Room, Living Room, One Bedroom and Laundry, also for hot water cylinder and range. Provide and fix meter. All work to be carried out in accordance with latest Wiring Regulations. Allow a P.C. sum of £..... for electric range.

PLUMBER

FLASHINGS

Do all necessary flashings to chimney, terminal vent, hot water exhaust and wherever else necessary to make building watertight.

WASH HAND BASIN

Provide and fix 22" x 16" porcelain hand basin complete.

BATH

Provide and fix 5'6" porcelain bath complete.

SINK

Provide and fix 20" x 14" sink complete with all fittings.

TUBS

Provide and fix set of concrete tubs.

PAK

Provide and fix white lavatory pan with low down flushing cistern and connect to sewer.

HOT WATER CIRCULATOR

Supply and fix approved hot water circulator complete with boiling compartment.

HOT WATER PIPES

From hot water circulator connect to bath, basin, sink and tubs with copper pipes well lagged.

COLD WATER PIPES

From stop cock at street line carry water to circulator, bath, basin, flushing cistern, sink, tubs, copper and two hose taps in required positions, all to be in 1/2" G.I. pipes.

TAPS

All taps and extensions to be G.P. with the exception of hose taps.

SPOUTING AND DOWNPIPES

Copper.

PLASTERER

FOUNDATION WALLS ETC

Plaster with two coats of cement plaster.

TILER

ROOF

Roof to be covered with Marseilles pattern tiles, fitted by experienced fixers to Makers' Specifications. Tiler to provide and fix tile battens.

6114

PAINTER AND PAPERHANGER

EXTERNAL PAINTING

The whole of the exterior woodwork to be primed and then to receive two coats of approved paint

INTERIOR WORK

All interior work to be enamelled. All skirting, architraves etc and walls of Kitchen, Washhouse and bathroom to be enamelled in shade to Owner's approval.

GENERAL

Provide protection against paint drops, putty stains and other risks and against climatic conditions.
Any work that becomes spotted by rain or affected by frost or other inclemencies of the weather shall be sanded off and repainted.
Dust all work before painting.
Prime and stop all nail holes.

PAPERING

All walls not already specified to be papered with paper to selected pattern at the P.C. sum of 5/6 per roll. All papering to be done by qualified and efficient tradesmen.

GENERAL

PERMITS AND FEES

The Contractor shall obtain all necessary permits and approvals and pay all necessary fees.

INSURANCE

The Contractor shall insure all workmen against accident for the duration of the Contract. A Builder's Risk policy shall be obtained by the Contractor and shall operate until the building is handed over to the Owner.

COMPLETION

At completion the whole job shall be left tidy and clean and ready for occupation. It is to be noted that the contract does not include the providing or fixing of concrete paths or any boundary fence.

.....



Te Kaunihera-ā-Rohe o Ngāmotu

NEW PLYMOUTH DISTRICT COUNCIL

newplymouthnz.com

Code Compliance Certificate
Form 7, Section 95, Building Act 2004

The Building

Street Address of building: 63 Bayly Road NEW PLYMOUTH 4310

Legal Description of land where building is located: LOT 4 DP 6751

Current, lawfully established use: Dwelling

Year first constructed: 2011

The Owner

Name of owner: David Allen Rex Thomson

Phone number: (Bus.) 06 347 7891

Contact Person: David Allen Rex Thomson

(Pvt.) 027 221 1757

Mailing Address: 12 Onetere Drive

Facsimile number: -

WANGANUI

Building Work

Building Consent number:

BC11/111882

Description of work:

New self contained cottage on the rear of the property

Issued by:

New Plymouth District Council

Code Compliance

The building consent authority named below is satisfied, on reasonable grounds, that –

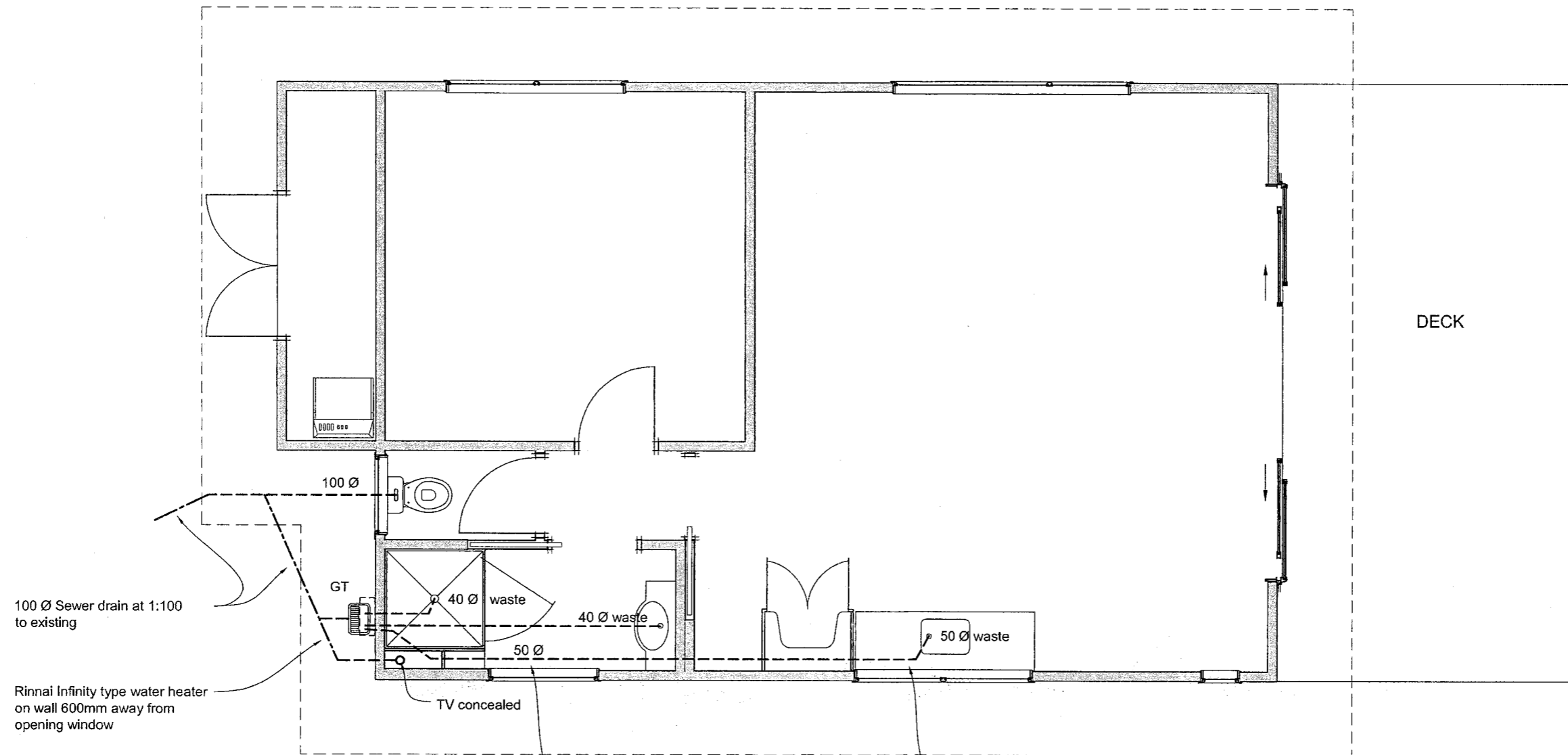
(a) the building work complies with the building consent.

This is a final code compliance certificate issued in respect of all of the building work under the above building consent.

CODE COMPLIANCE CERTIFICATE

Team Leader Inspectorate

Date Issued: 18 December 2012



100 Ø Sewer drain at 1:100 to existing

Rinnai Infinity type water heater on wall 600mm away from opening window



Gas bottles on concrete pad and concealed behind timber trellis. Minimum distance 2.0m from windows or Gas Infinity unit

100 Ø

GT

40 Ø waste

40 Ø waste

TV concealed

55 Ø waste

DECK

Min permitted Gradients for wastes:
 40 Ø waste - 1:40 gradient
 50 Ø waste - 1:40
 65 Ø waste - 1:40
 100 Ø waste - 1:60

Fit AAV to top of waste run

NPDC Approved
 29 JUL 2011

BG# 111882 PID# 017201

SELF CONTAINED COTTAGE
63 BAYLY RD, NEW PLYMOUTH

PENMAN DESIGN DRAUGHTING
 RESIDENTIAL, COMMERCIAL, INDUSTRIAL
 E-MAIL: penperson@clear.net.nz
 Mobile 0274 421125
 Ph (06) 3432472
 Fax (06) 3432462
 48 MT VIEW RD
 WANGANUI

DRAWING TITLE
DRAINAGE PLAN

| | | | | | | | | | | | | |
|-----------|----|----------------------|------|--------------|-------|-----------|-------|-------|-------|------------|----------|------|
| REVISIONS | R1 | Revisions as clouded | DATE | 26 July 2011 | SCALE | 1:50 @ a3 | DRAWN | Bob P | JOB # | 2011/116 | SHEET NO | A204 |
| | | | | | | | | | DATE | 08.06.2011 | | R1 |

No. 61

PT

Sec. B FD. Lot 4 6751 D.P.

BAYLY Street

DRAINAGE AND PLUMBING REGISTER

OWNER J.B. BROUGH.

ADDRESS 29A TIMANDRA ST.

BUILDER J.B. BROUGH.

PLUMBER B.A. BEAVAN

DRAINLAYER B.A. BEAVAN.

PERMITS.

BUILDING No. 8118

VALUE £3000

REC. No. _____

NATURE OF WORK NEW DWELLING

W.C.'s _____ BATHS _____ BASINS _____ SINKS _____ TUBS _____

PLAN SUBMITTED _____ / _____ / _____ DRAIN TESTED 16 / 7 / 51

PLANS APPROVED _____ / _____ / _____ PLUMBING PASSED 17 / 8 / 51

PERMIT ISSUED _____ / _____ / _____

FALL NORMAL

J. J. Francis
Inspector.



Code Compliance Certificate: 22235
Section 95, Building Act 2004

Issued: 03May06

The Building

Street Address of building: 63 BAYLY ROAD, NEW PLYMOUTH 4601
Legal Description of land where building is located:
LOT 4 DP 6751
Current, lawfully established use: Fire
Year first constructed: 2006

The Owner

Name of owner: Deanna Maree RIDDICK
Contact Person: ROGER WILSON
Mailing Address: C/-R WILSON
9A KERERU PLACE
NEW PLYMOUTH 4601

Street address/registered office: 63 BAYLY ROAD
NEW PLYMOUTH 4601

Phone number: 757 3551 (Bus.)
759 9998 (Pvt.)

Facsimile number:
Email address:
Website:

First point of contact for communications with
council/building consent authority:

New Plymouth District Council
Private Bag 2025
NEW PLYMOUTH
Ph: 06 7596060
Fax: 06 7596072
Email: enquiries@npdc.govt.nz

Building Work

Building Consent number: 80277
Issued by: New Plymouth District Council

Building Consent number: 80277

Code Compliance

The building consent authority named below is satisfied, on reasonable grounds, that -

Building work complies with the building consent.

Council Charges

The Council's total charges payable on the uplifting of this code compliance certificate in accordance with the attached details are: \$0.00

This is a final code compliance certificate issued in respect of all of the building work under the above building consent

1: CODE COMPLIANCE CERTIFICATE



Signature

Coordinator Building Inspections

Position

On behalf of: New Plymouth District Council

Date: 03 May 2006

POWERED BY

ownly

Licensed REAA 2008

move.

darrell paterson

OWNER & SALESPERSON

📞 027 493 7134
✉️ darrell@bestmove.co.nz
🌐 bestmove.co.nz

michelle habib

SALESPERSON

📞 027 371 1420
✉️ michelle@bestmove.co.nz
🌐 bestmove.co.nz

riley blair

SALES ASSOCIATE TO DARRELL PATERSON

📞 027 441 6308
✉️ riley@bestmove.co.nz
🌐 bestmove.co.nz