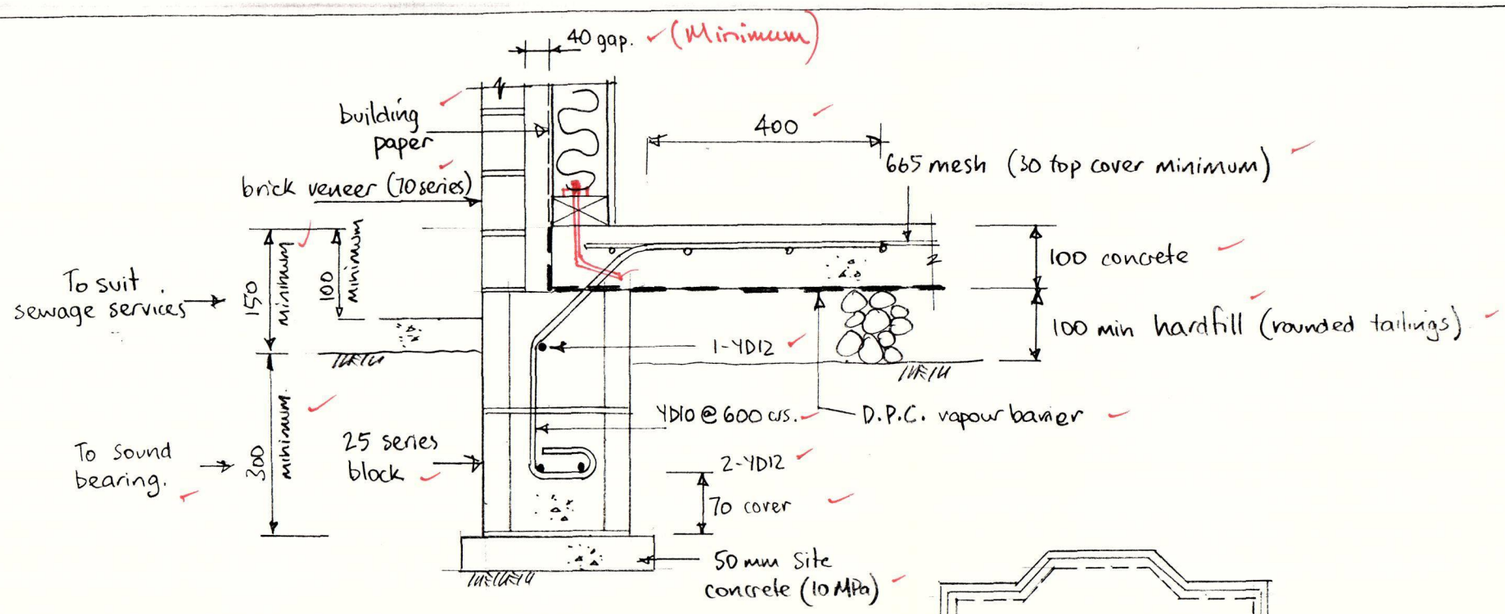
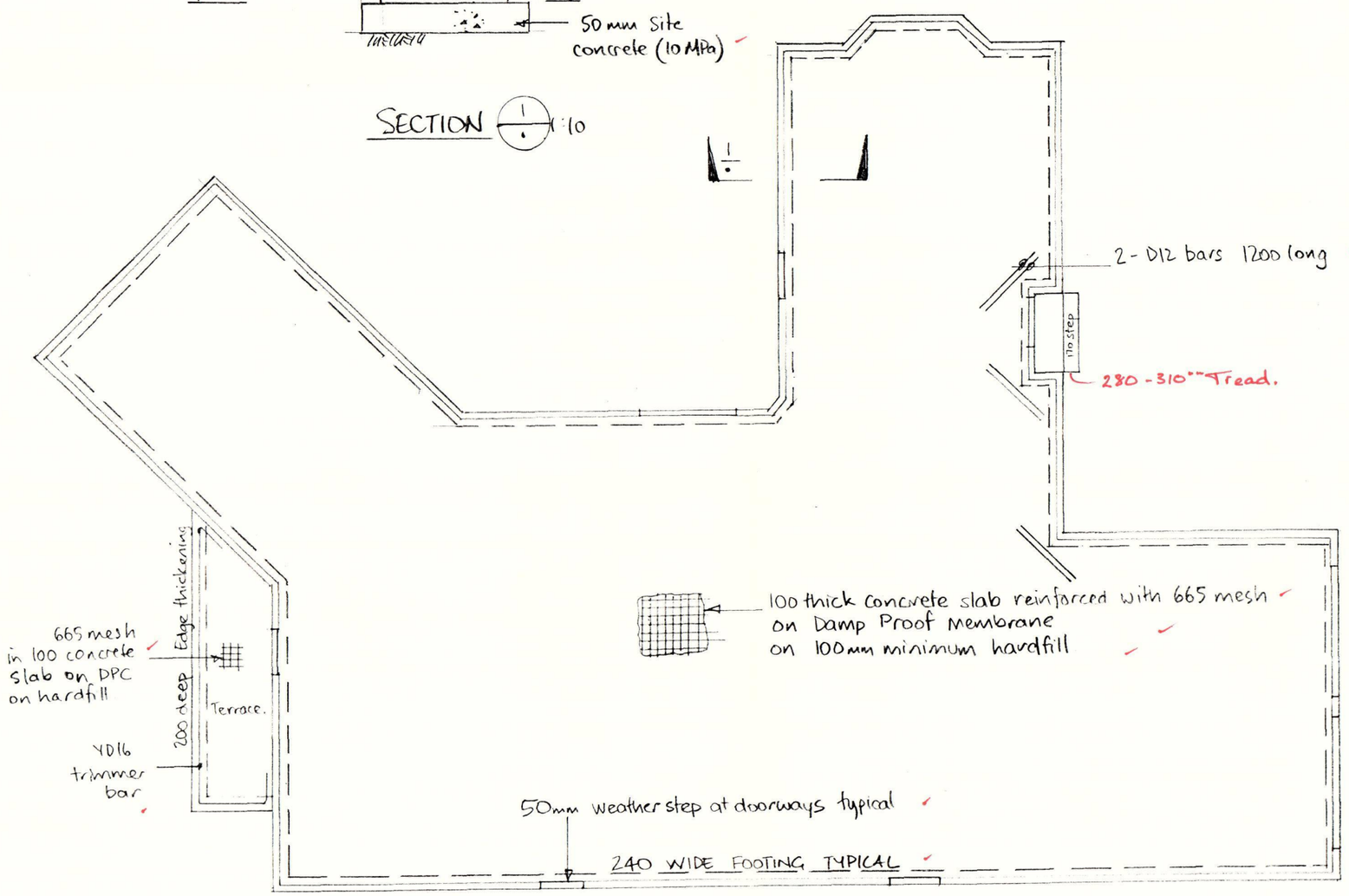


SECTION 1/1 1:10



NOTES:

ISSUE	REASON	DATE	INITIAL
1	CONSENT	24/10/97	JBM

JOB NAME:

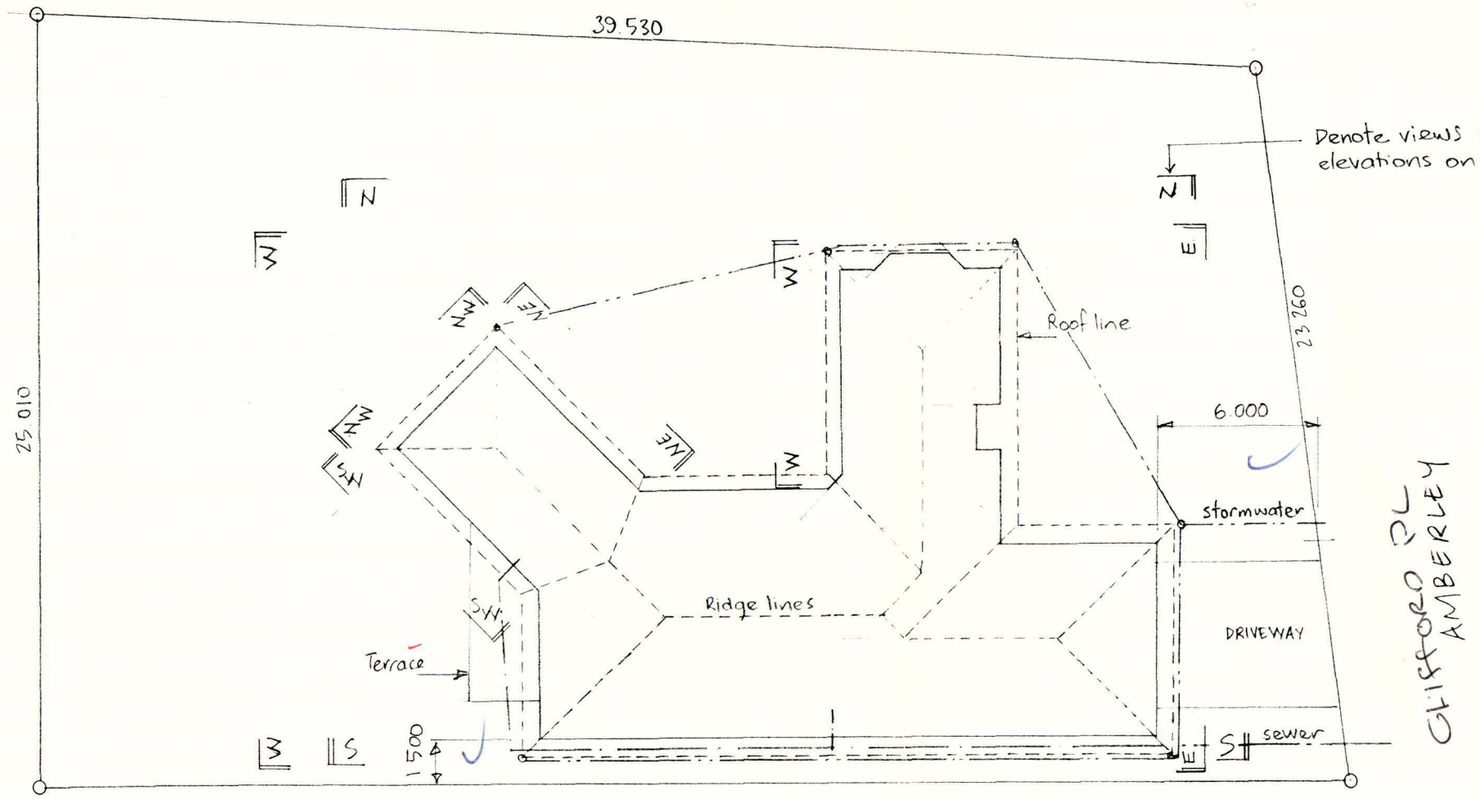
PAT & CLEM
INWOOD
RESIDENCE

DRAWING TITLE:

FOUNDATION PLAN

DRAWN BY:	SCALE:
John Marshall	1:100, 1:10
DATE: Oct'97	
DRAWING NO. 1012 - S2	REV. 1

NORTH



NOTES: - GENERAL

1. The contractor is to confirm all dimensions with the owner prior to commencing work.

2. Refer NZS 3604:1990 for additional information, details and connection requirements.

3. Submit gangnail truss design with these drawings for consent.

ISSUE	REASON	DATE	INITIAL
1	CONSENT	24/10/97	JBM

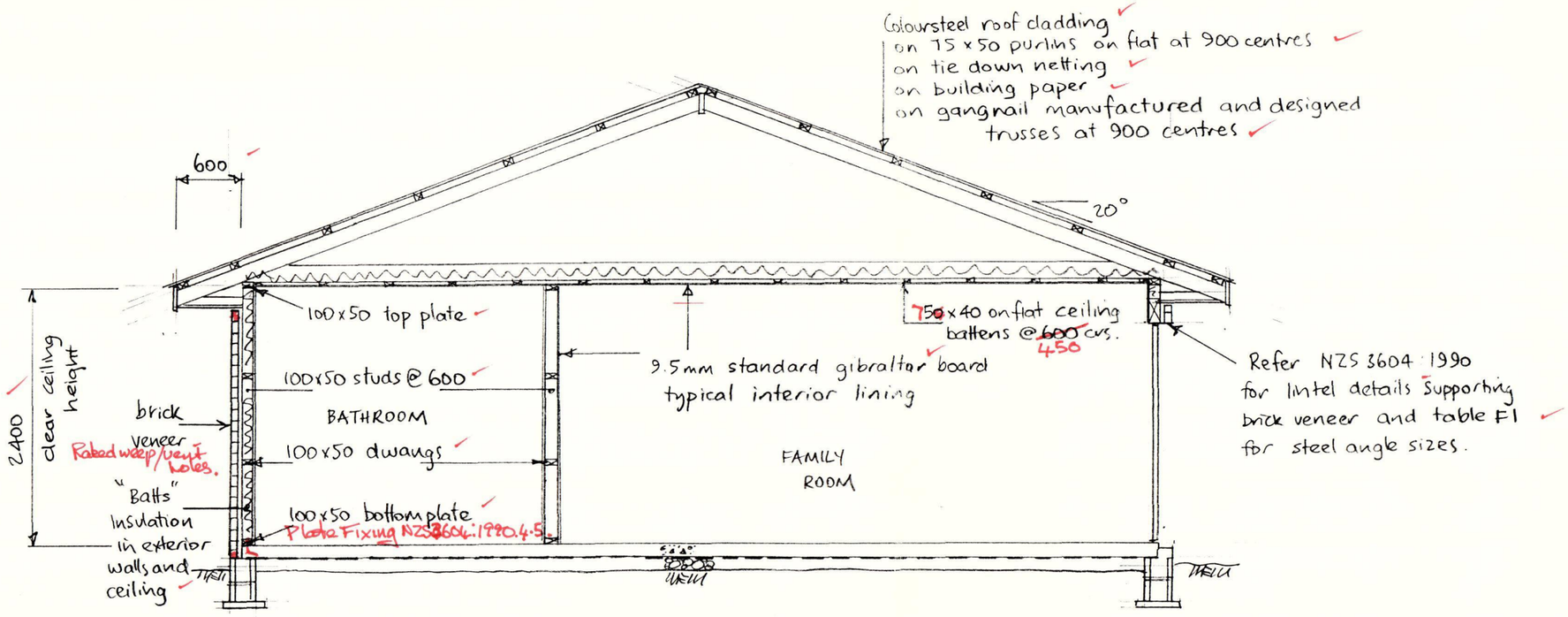
JOB NAME:

PAT & CLEM
INWOOD
RESIDENCE

DRAWING TITLE:

SITE PLAN

DRAWN BY:	SCALE:
John Marshall	1200
DATE: Oct. 97	
DRAWING NO. 1012 - S1	REV. 1



SECTION (2/S3)

NOTES:

Use heavy duty brick ties at 600 centres horizontally & 400 centres vertically or 450 centres in each direction.

ISSUE	REASON	DATE	INITIAL
1	CONSENT	24/10/97	JBM

JOB NAME:

PAT & CLEM

INWOOD

RESIDENCE

DRAWING TITLE:

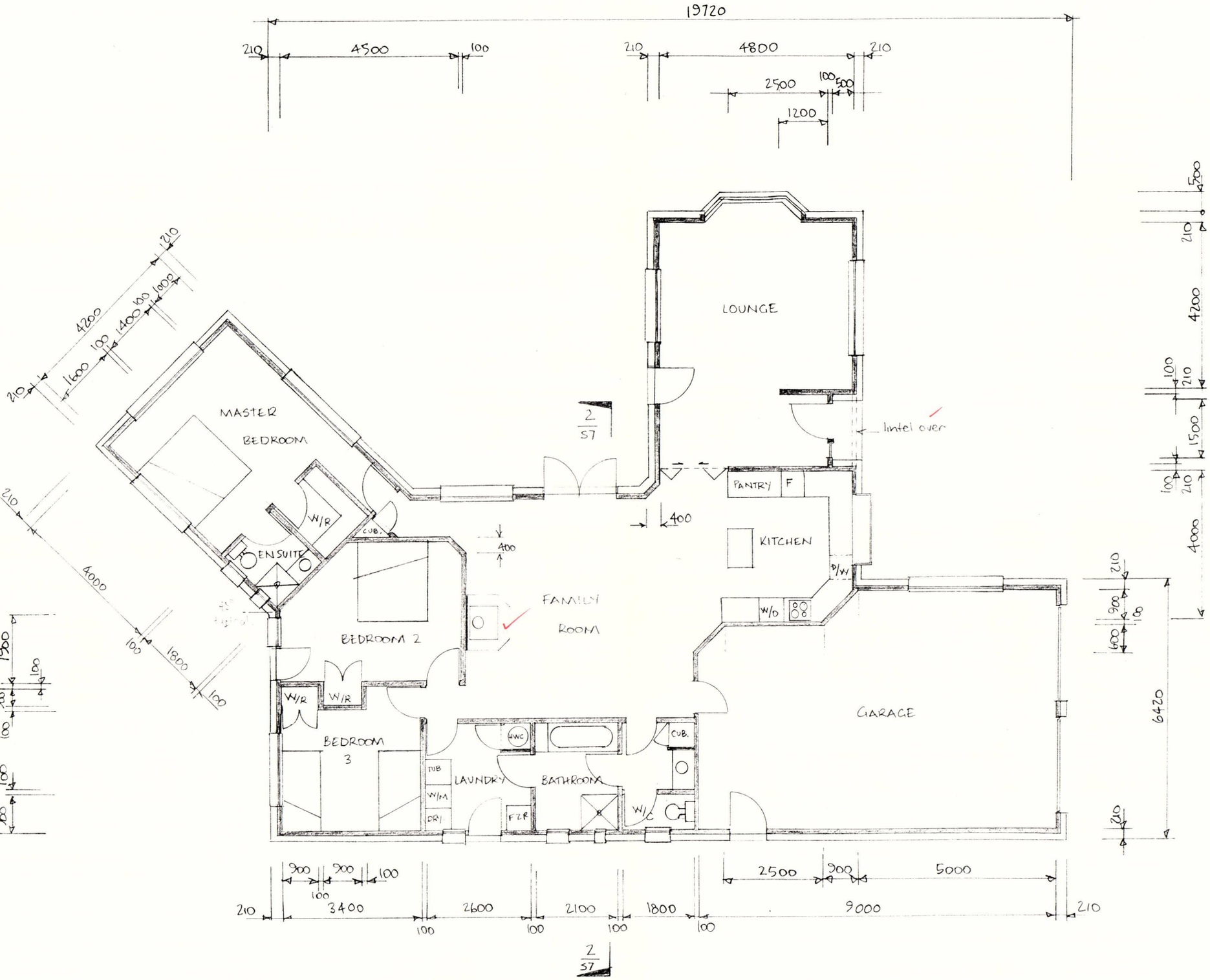
CROSS SECTION

DRAWN BY:	SCALE:
John Marshall	1:50
DATE: Oct'97	

DRAWING NO. 1012 - S7

REV. 1

NOTES:



ISSUE	REASON	DATE	INITIAL
1	CONSENT	24/10/97	JBM

JOB NAME:

PAT & CLEM
INWOOD
RESIDENCE

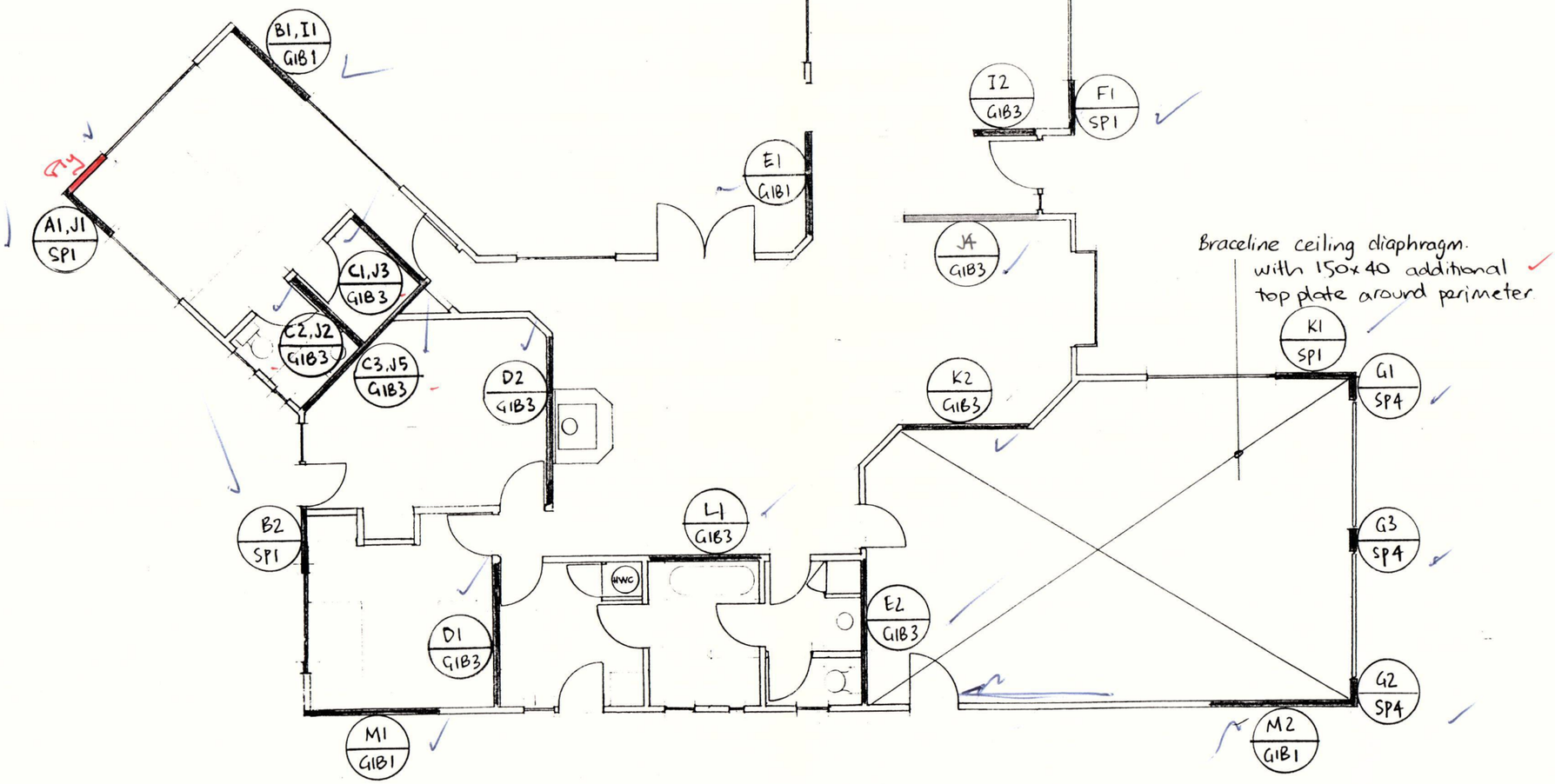
DRAWING TITLE:

GROUND FLOOR PLAN

DRAWN BY:	SCALE:
John Marshall	1:100
DATE: Oct'97	

DRAWING NO. 1012 - S3

REV. 1



NOTES:

1. Refer to the wall bracing design sheets and associated wall sketches for additional detail.

ISSUE	REASON	DATE	INITIAL
1	CONSENT	24/10/97	JBM

JOB NAME:

PAT & CLEM
INWOOD
RESIDENCE

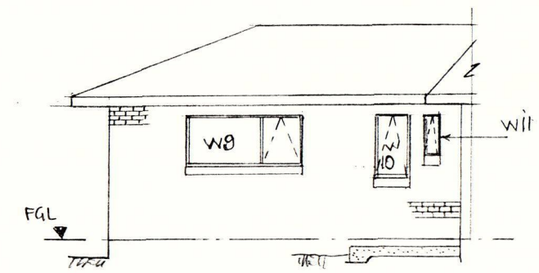
DRAWING TITLE:

WALL BRACING PLAN

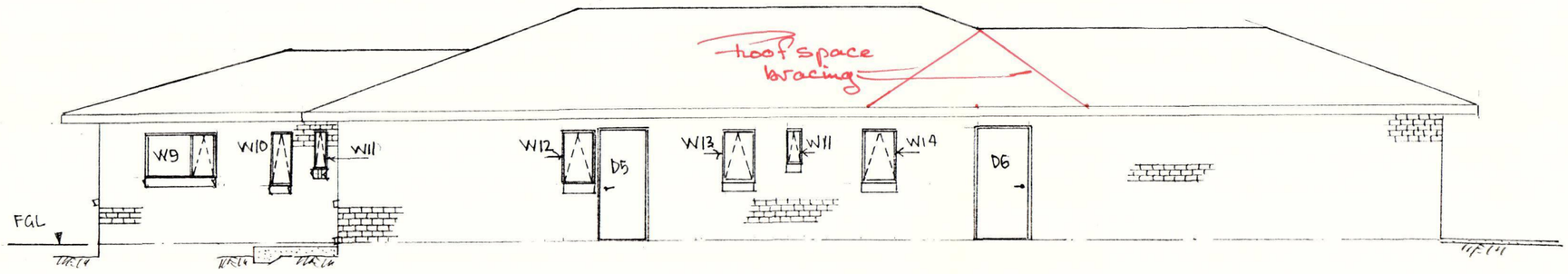
DRAWN BY:	SCALE:
John Marshall	1:100
DATE: Oct '97	

DRAWING NO. 1012 - S4

REV. 1



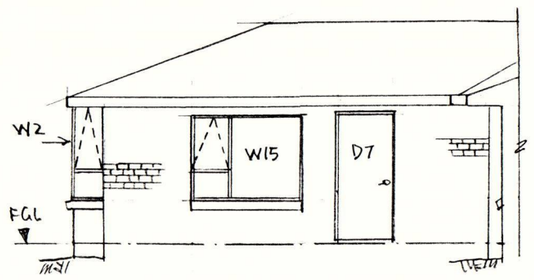
SOUTH - WEST

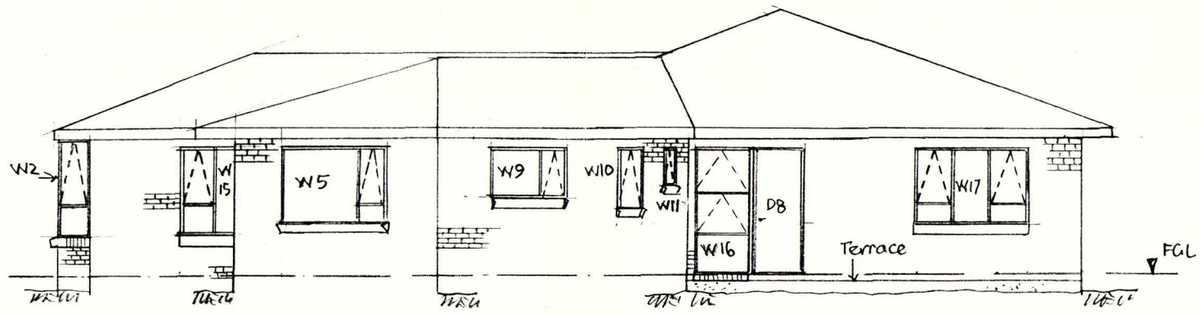


SOUTH

WINDOW & DOOR SCHEDULE

W9	1.8 x 0.8	0.6 wide opening
W10	0.6 x 1.0	opening
W11-2 No	0.3 x 0.6	opening
W12	0.6 x 1.0	opening } 1 unit
D5	0.82 x 2.05	}
W13	0.6 x 1.0	opening
W14	0.6 x 1.0	opening
D6	0.91 x 2.05	
W15	1.8 x 1.4	0.6 x 1.0 opening
D7	0.91 x 2.05	
W16	0.95 x 2.05	2 - 0.95 x 0.6 openings } 1 unit
D8	0.82 x 2.05	}
W17	1.8 x 1.2	2 - 0.6 x 1.0 openings





WEST

NOTES:

ISSUE	REASON	DATE	INITIAL
1	CONSENT	24/10/97	JBM

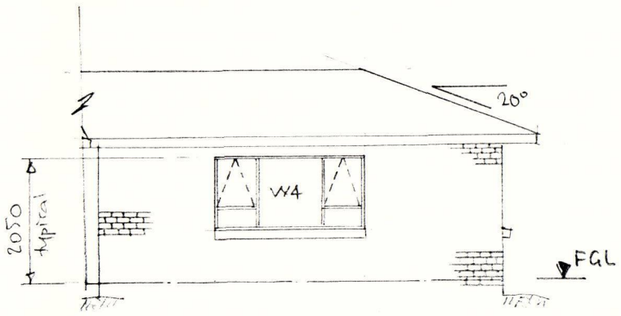
JOB NAME:

PAT & CLEM
INWOOD
RESIDENCE

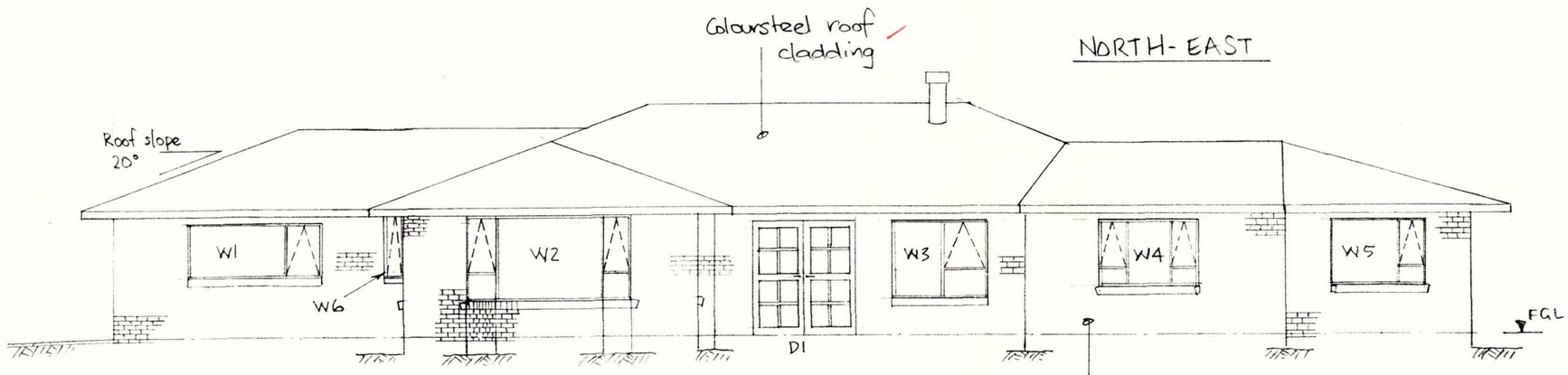
DRAWING TITLE:

ELEVATIONS

DRAWN BY: John Marshall	SCALE: 1:100
DATE: Oct '97	
DRAWING NO. 1012 - S6	REV. 1



NORTH-EAST



NORTH

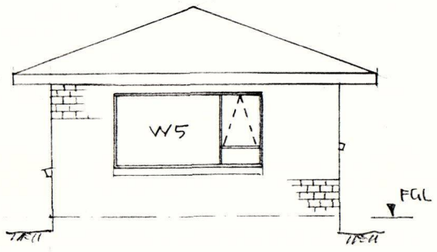
WINDOW & DOOR SCHEDULE

W1	2.4 x 1.0	0.6 w. opening
W2	3.0 x 1.4 bay	2-0.7x1.0 openings
D1	1.8 x 2.05	French doors
W3	1.8 x 1.4	0.9 x 1.0 opening
W4	2.4 x 1.2	2 - 0.6x1.0 openings
W5	2.4 x 1.2	0.6x1.0 opening
D2 & D3	2.05 x 2.5	garage doors
W6	1.8x1.0 x 0.4 box	2-0.35x1.0 side openings.
W7	0.3x2.05	
D4	0.9 x 2.05	
W8	2.4x1.4	0.6x1.0 opening

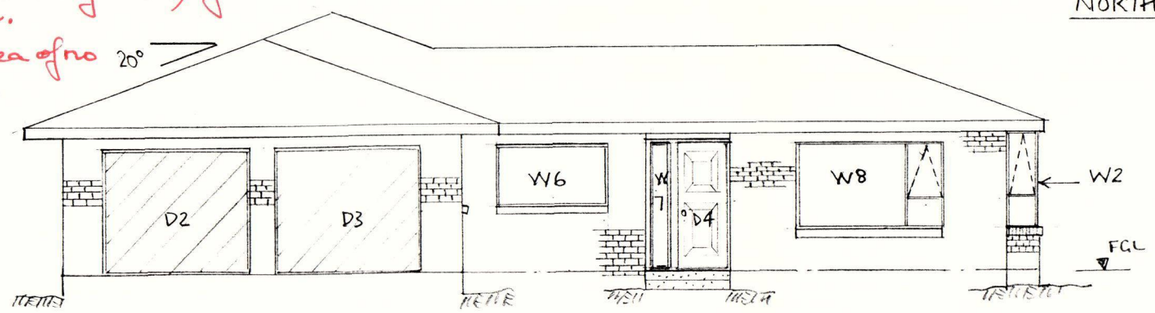
G4/AS1 Natural Ventilation, achieved by providing a net operable area of windows (excluding doors) of no less than 5% of the floor area.

G7/AS1 Natural Light. A window area of no less than 10% of the floor area.

Glazing in Buildings
NZS 4223:Pt3:1993.
Human Impact Safety Requirments.



NORTH-WEST



EAST

NOTES:

ISSUE	REASON	DATE	INITIAL
1	CONSENT	24/10/97	JBM

JOB NAME:

PAT & CLEM
INWOOD
RESIDENCE

DRAWING TITLE:

ELEVATIONS

DRAWN BY: John Marshall	SCALE: 1:100
DATE: Oct'97	
DRAWING NO. 1012 - S5	REV. 1

1724/14

Quotable Value New Zealand Limited

Valuation Reference: 2143014117

Local Authority Name **Hurunui District Council**	Local Authority Address: Postal Address: **PO Box 13, Amberley** Town:
Previous Owner:	**Clem Inwood and Patricia Anne Inwood**
New Owner:	**Alistair Donald Campbell & Nicola Kay Campbell**
New Postal address for Valuation and Rates Notices:	**14 Clifford Place, Amberley**
Area of Property: 977m^2	**Certificate of Title Reference(s)** **Canterbury** Registry **43C/1130**
Legal Description:	**Lot 8 Deposited Plan 75914**
Situation Address of Property:	**14 Clifford Place, Amberley**
Details of Transaction	**Sale**

RECEIVED 18 AUG 2003 Hurunui District Council

Date offer accepted: 19/6/03	**Settlement date: 15/8/03**	**Possession date: 15/8/03**	**Buildings on the Land? yes**	**Is there a known relationship between vendor and purchaser?** If so, what is the relationship? **No**	
Gross Consideration: **$232,000.00**	Land and Buildings: **$232,000.00**	Chattels:	Plant/Stock:	Other (Crop/Goodwill):	
Does Gross consideration include GST:	Amount of GST included in Gross Consideration: $		Which parties are registered for GST for this transaction?	If multi-property, is there any specific rate sharing agreement, and what is the agreed portion for this share?	

POSTED 18 AUG 2003

Details of Lease

Lease Number:	Annual rental Excl GST:	Lease Term:	Start Date:	Date of Last Rent Review:
How often are rent reviews due:	Who is responsible for rates, insurance etc?	Is there a right of renewal?	Compensation for Improvement?	If applicable, was the deferred payment licence transferred?

Other Details

Purchaser's Solicitor's details: Trainor MacLean, P O Box 189, Christchurch (Ray MacLean)	Signature:
Vendor's Solicitor's details: **Helmore Bowron Scott, DX WP 29502, Rangiora (K Hales)**	Signature:
Real Estate Agent: **Nationwide, Amberley**	

1724/14

NOTICE OF CHANGE OF OWNERSHIP OR OCCUPANCY

Pursuant to Section 49m, Rating Act 1967

Valuation Ref: 14117
Hurunui District Council
P O Box 13
AMBERLEY

Valuation NZ
P O Box 13-443
CHRISTCHURCH

PREVIOUS OWNER/OCCUPIER Seavale Farming Co Ltd

NEW OWNER/OCCUPIER Clem INWOOD and Patricia Anne INWOOD
Occupation: Both retired
Postal Address: 28 Seadown Crescent, Amberley
(for notices of rate demands)

DETAILS OF PROPERTY
Description: Lot 8 DP 75914
Area: 977m²
Certificate of Title: 43C/1130
Property Address: 14 Clifford Place, Amberley

ACTION	
COPY	MSS/FOR
FILE No.	971215037

DETAILS OF TRANSACTION
Nature of Transaction: Sale and Purchase
Date Offer Accepted:
Date of Settlement: 4th December 1997
Date of Possession: 4th December 1997

Did Gross Consideration incl GST: Yes
Gross Consideration (GST incl): $44,000.00
Land & Buildings (GST incl): $44,000.00
Subject to Tenancy: n/a
Vendor Finance: n/a
If so, amount: n/a
Term: n/a

POSTED
14 JAN 1998

Buildings on Land: no

DETAILS OF LEASE
Lease No:
Rental: **Term:**
Right of Renewal:
Compensation for Improvements:
OTHER DETAILS:

OWNER OR AGENT NAME: Fraser Venning & Crerar
Address: P O Box 46, Rangiora
(Mr D Crerar)

Signature: .....

1724/14

Quotable Value New Zealand

Valuation Reference: 2143014117

Local Authority Name	Local Authority Address
Hurunui District Council	Postal Address: P O Box 13 Town: Amberley ~~8251~~ 7441

~~PREVIOUS~~ Owner/Occupier/Lessee Name

Alistair Donald CAMPBELL & Nicola Kay CAMPBELL

NEW Owner/Occupier/Lessee Name

C 15415

Patricia Lillian Ann Barrell, Margaret Louise Barrell and Mary Joan Travaille as to a 1/2 share as Executors and C 32253 C 32537

Patricia Lillian Ann Barrell as to a 1/2 share

NEW Postal address for Valuation and Rates notices

Postal Address:

14 Clifford Place

Town:**Amberley**

Area of Property	Certificate of Title Reference(s) including Land Registry Name
977Square Metres	CT Number:**CB43C/1130** Land District: **Canterbury**

Legal Description

Lot 8 Deposited Plan 75914

Physical Address of Property

Street No:**14** Unit: Street Name:**Clifford Place** Town:**Amberley**

1681

Details of Transaction

STATE IF: **SALE:** (Normal arms-length:☒, Mortgagee: ☐, Family: ☐), **TRANSFER TO TRUST:** ☐, **GIFT:** ☐, **WILL:** ☐, **JFH:** ☐, **EXCHANGE :**☐, **LEASE** (New: ☐,Transfer: ☐, Surrender: ☐)

Date offer accepted	Settlement Date	Possession date	Buildings on the Land?	Is there a known relationship between vendor and purchaser?
11/04/10	**02/06/11**	**02/06/11**	Yes:☒ No: ☐	If so, what is the relationship? Yes: ☐ No: ☒ Relationship:

Gross Consideration	Land and Buildings	Chattels	Plant/Stock	Other (Crop, Goodwill etc)
$345,000	**$345,000**	**$0**	**$0**	**$0**

Does Gross consideration shown above include GST?	Amount of GST included in Gross Consideration	Which parties are registered for GST for this transaction?	If multi-property, is there any specific rate sharing agreement, and what is the agreed portion for this share?
Yes: ☒ **No:**☐ **Zero Rated:** ☐	$	**Vendor:** ☐ **Purchaser:** ☐	**Yes:**☐ **No:**☐ **Portion:**

Details of Lease

State if: GROUND LEASE: ☐, LEASE OF LAND AND BUILDINGS: ☐, DEFERRED PAYMENT LICENCE: ☐,OTHER: ☐

Lease Number	Annual rental Excl GST	Lease Term	Start Date	Date of Last Rent Review

How often are Rent reviews Due?	Who is responsible for Rates, Insurance etc?	Is there a right of renewal	Compensation for Improvement?	If applicable, was the deferred payment licence transferred?
	LESSEE☐, **LESSOR** ☐	**YES** ☐, **NO** ☐	**YES** ☐, **NO** ☐	**YES** ☐, **NO** ☐

Other Details

Purchaser's Solicitor's NAME, ADDRESS, TELEPHONE, FAX numbers	Signature:
Michael Walker, Walker : Rodger, P O Box 13-553 Christchurch, Ph: 03 365 7930, Fax: 03 365 7982	
Vendor' s Solicitor's NAME, ADDRESS, TELEPHONE, FAX numbers **Tess Wethey, Mitchell Mackersy, P O Box 29301 Christchurchm Ph: 03 351-4140, Fax: 03 351-4144**	Signature:
Real Estate Agent Name and Company handling sale	

POSTED
- 9 JUN 2011

1724-14

WATER APPLICATION 970217

Application No	970217	Mail No	971209028
Valuation No	2143014117	Units	0.00
Name	INWOOD CLEM		
Scheme	Amberley Township		
Application Type	Connection to Township High Pressure		
Serviceman	Terry Green	Paid on	09-Dec-97
Fee	$250.00	Capital Contribution	

Rec'd application on	09-Dec-97	Letter - approval to appl	10-Dec-97
On Wtr Tracking - NCS	09-Dec-97	To Serviceman on	10-Dec-97
Letter - appl. in system		Connected on	11-Dec-97
To Engineer on		Updated Plans on	31-Jul-98
To Duffill's (Ashley)		To Rates on	23-Feb-98

Upgrading Required		Copy to	
Duffill's Notified		Application Withdrawn	☐

Comments	14 CLIFFORD PLACE

970217.

HURUNUI DISTRICT COUNCIL
HIGH PRESSURE WATER SUPPLY
APPLICATION FOR CONNECTION

The General Manager
Hurunui District Council
PO Box 13
AMBERLEY

ACTION	
COPY	LAO
FILE No.	97120928

I CLEM INWOOD

of 28 SEADOWN CRES AMBERLEY

hereby make application for connection to the: AMBERLEY ~~CULVERDEN~~ ~~HANMER SPRINGS~~ HAWARDEN ~~WAIAU~~ ~~WAIKARI~~ ~~WAIPARA~~
High Pressure Water Supply (delete those that do not apply)

Address of Property 14 CLIFFORD PLACE AMBERLEY

Valuation Roll No ~~2143017116~~ 2143014117

Legal Description LOT 8

Contact Phone No BUS 03/3157416 AH 3149484

I hereby submit the connection fee (including GST) of:

$ 250.00 for a 15mm connection
~~$ 500.00~~ for a 20mm connection
$1250.00 for a 50mm connection
(delete those that do not apply)

The connection fee provides for a pipe installation from the main line to the property (up to a distance of 4 metres) a toby box, valve and water meter, and footpath reinstatement if required. For distances over 4 metres a Works Order Form will be required with this application if Council staff are required to install the additional water lines. The lines may however be installed by the applicant.
Excess water charges will be applied on consumption greater than 300m^3 per year.
I understand that water rates will be apportioned from the date of the connection.

C Inwood — 8 - 12 - 97

Signature — Date

FOR OFFICE USE			
Receipt Number	162179.	Date	9-12-97
Connection Made By	PAUL ROBBINS	Date	11/12/97
Rated By	DMS as from 1.7.98	Date	27.2.98
Drawn on Plans By	JRM.	Date	31-7-98.
Extra Costs Charged By	MS	Date	27.2.98
Original Filed By		Date	

Updated Sept 1997

(R)

Received with thanks by 2/01
Hurunui District Council

9-12-97 10:10 Receipt no.162179

COPY *COPY* *COPY*
GL 19010152
INWOOD 14 CLIFFORD PLACE
CQ TBC NELSON 250.00-
C OR PA INWOOD 250.00
TOTAL RECEIPTED 250.00

970217.

HURUNUI DISTRICT COUNCIL
HIGH PRESSURE WATER SUPPLY
APPLICATION FOR CONNECTION

The General Manager
Hurunui District Council
PO Box 13
AMBERLEY

ACTION	
COPY	LAO
FILE No.	971209028

I CLEM INWOOD

of 28 SEADOWN CRES AMBERLEY

hereby make application for connection to the: AMBERLEY CULVERDEN ~~HANMER SPRINGS~~ HAWARDEN WAIAU ~~WAIKARI~~ ~~WAIPARA~~
High Pressure Water Supply (delete those that do not apply)

Address of Property 14 CLIFFORD PLACE AMBERLEY

Valuation Roll No ~~2143017116~~ 2.14301411 7

Legal Description LOT 8

Contact Phone No BUS 03/3157416 AH 3149484

I hereby submit the connection fee (including GST) of:

$ 250.00 for a 15mm connection
$ 500.00 for a 20mm connection
$1250.00 for a 50mm connection
(delete those that do not apply)

The connection fee provides for a pipe installation from the main line to the property (up to a distance of 4 metres) a toby box, valve and water meter, and footpath reinstatement if required. For distances over 4 metres a Works Order Form will be required with this application if Council staff are required to install the additional water lines. The lines may however be installed by the applicant.
Excess water charges will be applied on consumption greater than 300m^3 per year.
I understand that water rates will be apportioned from the date of the connection.

C Inwood — 8-12-97

Signature — Date

FOR OFFICE USE			
Receipt Number	162179.	Date	9-12-97
Connection Made By		Date	
Rated By		Date	
Drawn on Plans By	JRM	Date	31-7-98.
Extra Costs Charged By		Date	
Original Filed By		Date	

PROPERTY
COPY

Nicola Johnson

10 December 1997

C Inwood
28 Seadown Crescent
AMBERLEY

Dear Sir

AMBERLEY HIGH PRESSURE WATER SUPPLY APPLICATION NUMBER 970217

Your application to connect to the Amberley High Pressure Water Supply has been approved. This connection will be supplied in accordance with the Hurunui County By-law No 4 (1986) Rural Water Supplies.

You are required to supply and lay a 20mm Class D HDPE line to a depth of 500mm from the Council's main to your proposed tank. Prior to pipe purchase would you please telephone me to arrange a site meeting with Terry Green, Council's Serviceman, to discuss pipe route and any problems that may arise with your proposal.

Twenty-four hours notice is then to be given to him prior to any pipe being laid so that this can be supervised on site, and that the connection can be made.

Yours sincerely

Nicola Johnson
ENGINEERING ADMINISTRATION OFFICER

cc Terry Green

1724/14

Mel Hansen
Managing Director
Mobile 025 326 016
A/H (03) 313 8534

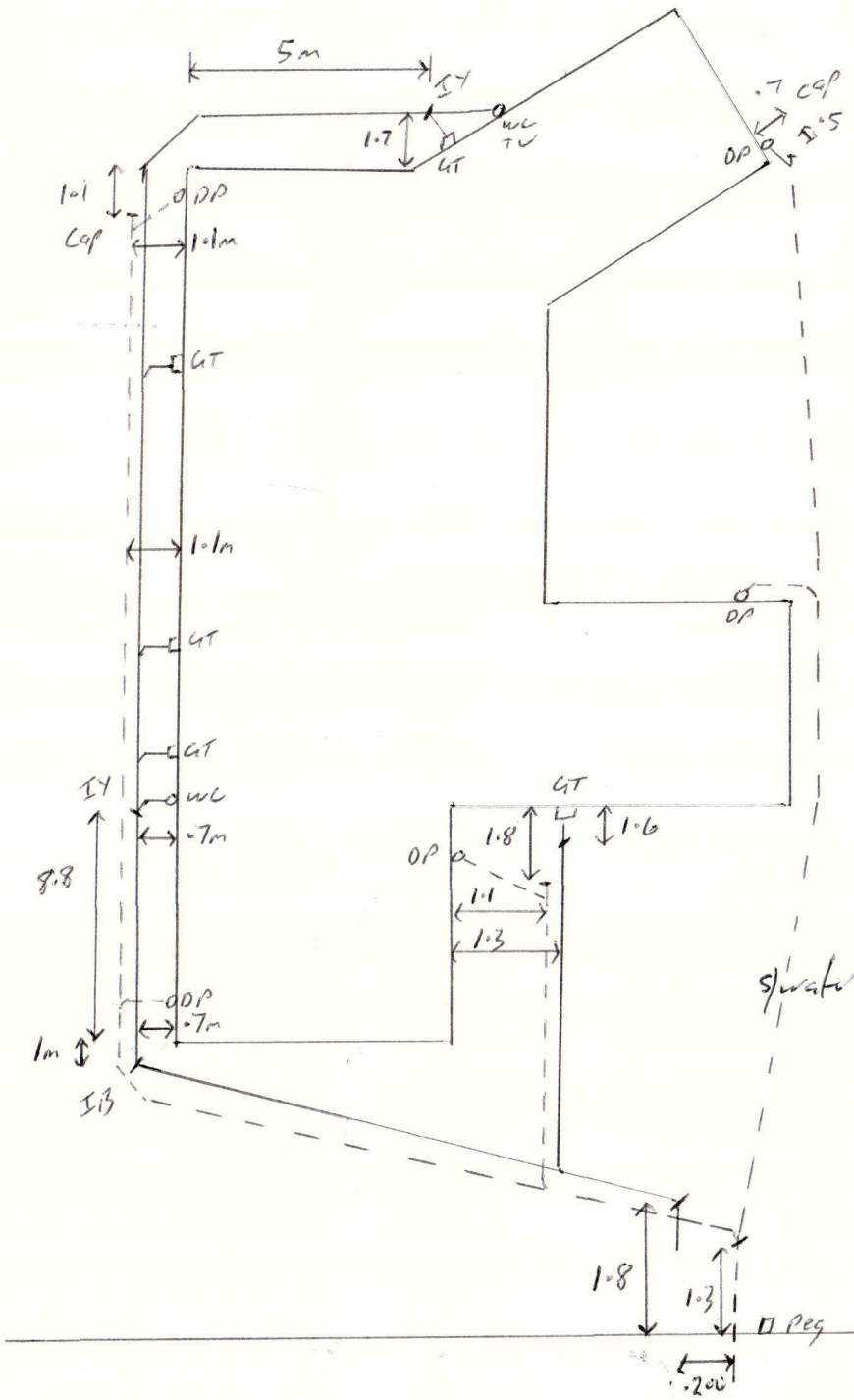
Malcolm Linton
Operations Manager
Mobile 025 334 089
A/H (03) 327 7483

DRAINAGE EXCAVATION

MEL HANSEN CONTRACTORS LTD.

REGISTERED DRAINLAYERS P.O. BOX 32, RANGIORA, PHONE/FAX (03) 313-8418

14/5/98



Builder steps Inward

Sub (~~Lot Cochrane Rd~~ ~~Amberley~~
lot 8 Clifford Pl
Amberley)

As laid.

HURUNUI
District Council

P.O. BOX 13,
AMBERLEY 8251
NEW ZEALAND
TELEPHONE:
AMBERLEY (03) 314-8816
FAX: (03) 314-9181
E-MAIL: info@hurunui.govt.nz

Code Compliance Certificate

Section 43(3), Building Act 1991

Application

C Inwood 14 CLIFFORD PL. AMBERLEY	No. Issue date	970436 24/02/00

Project

Description	NEW CONSTRUCTION BEING STAGE 1 OF AN INTENDED 1 STAGES Erect a new Dwelling with attached Garage
Intended Life	INDEFINITE, BUT NOT LESS THAN 50 YEARS
Intended Use	Residential
Estimated Value	$180,000
Location	14 Clifford Place, Amberley 1724/14
Legal Description	LOT 2 DP 41715 LOT 2 DP 70939 BLK VIII T EVIOTDALE
Valuation No.	2143015000

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

Signed for and on behalf of the Council:

Name: [signature] **Date:** 24/2/00

HURUNUI DISTRICT COUNCIL

SITE INSPECTION REPORT

2073

CONSENT No. 970436

Name of Owner / Owners Agent: Inwood

Site Address: 1724 / 14 Clifford Pl

Description of Consent: Dwelling

COMMENTS: 2 x D16 Rods with D12 Starter Ties at 600 ctrs

Good Job well Tied Steel.

INSPECTION TYPE

Block Found

Delete that which is not applicable.

INSTRUCTION TO OWNER / OWNERS AGENT:

All work inspected is in accordance with the Building Consent. ✓

Some work is not satisfactory as detailed above and rectification is required.

A formal notice to rectify will be issued.

SIGNED: Contractor ..... Officer ..... DATE: 20/2/96

HURUNUI DISTRICT COUNCIL

SITE INSPECTION REPORT

2028

CONSENT No.

970436

Name of Owner/Owners Agent: Inwood

Site Address. Cl. Hard St Amberley

Description of Consent: Dwelling

COMMENTS: Footings for Sit. Conc. Block work
350 wide 300 + Deep into clay
Siting OK.

INSPECTION TYPE

Site Conc
for Block found.

Delete that which is not applicable.

INSTRUCTION TO OWNER/OWNERS AGENT:

All work inspected is in accordance with the Building Consent. ✓

Some work is not satisfactory as detailed above and rectification is required.

A formal notice to rectify will be issued.

SIGNED: Contractor..... Officer..... DATE: 12/5/88

HURUNUI DISTRICT COUNCIL

SITE INSPECTION REPORT

3493

CONSENT No. 970436

Name of Owner/Owners Agent: C Inwood

Site Address: 1H Clifford Pl Amberley

Description of Consent: New Dwelling with attached Garage.

COMMENTS: All wastes enter The gully Traps. All D.P's are connected to The stormwater system. Yunca Quels fire has been installed to The manufacturers species. Cylinder is restrained. Tempering valve is in place. A neat and tidy job. Drainage plan to be forwarded to Council please. Otherwise all O.K.

INSPECTION TYPE

Final

Delete that which is not applicable.

INSTRUCTION TO OWNER/OWNERS AGENT:

All work inspected is in accordance with the Building Consent. ✓

Some work is not satisfactory as detailed above and rectification is required.

A formal notice to rectify will be issued.

SIGNED: Contractor C Inwood Officer J W Arthur DATE: 15/2/00

HURUNUI DISTRICT COUNCIL

SITE INSPECTION REPORT

2156

CONSENT No.

970436

Name of Owner/Owners Agent: C Inwood

Site Address: 14 Clifford Pl, Amberley

Description of Consent: Dwelling with attached Garage

COMMENTS:

Pre-lining inspection. Tidy workmanship. Bradford Gold insulation to exterior walls except garage. Wall fastened, joist hangers to trusses & nailed at plates. Moisture below 16%. Copper hot water, PVC cold. Lagging underway by owner. Pressure test to 1000 kPa. held.

INSPECTION TYPE

Prelining

Plumbing

Delete that which is not applicable.

INSTRUCTION TO OWNER/OWNERS AGENT: Stage Inwood

All work inspected is in accordance with the Building Consent.

Some work is not satisfactory as detailed above and rectification is required.

A formal notice to rectify will be issued.

SIGNED: Contractor ..... Officer ..... DATE: 21/4/98

HURUNUI DISTRICT COUNCIL

SITE INSPECTION REPORT

2132

CONSENT No.

970436

Name of Owner / Owners Agent: C. Inwood

Site Address: 14 Clifford Place Amberley

Description of Consent: New Dwelling with Garage

COMMENTS:

D12 floor starters at 600 ctrs. Bent into slab and 668 mesh tied to same. Held up off .250 micron Black plastic on mesh Chairs. 20-40 " wash tailings hard fill. Wastes Denso tape protected.

INSPECTION TYPE

Concrete Floor
Vapour Barrier

Delete that which is not applicable.

INSTRUCTION TO OWNER / OWNERS AGENT: Owner.

All work inspected is in accordance with the Building Consent. ✓

Some work is not satisfactory as detailed above and rectification is required.

A formal notice to rectify will be issued.

SIGNED: Contractor ..... Officer K B Roberts DATE: 27/2/98

FIELD CHECK SHEET

Owner ..... Address .....

Construction .....

Location within site ..... Site Pegs / Flagged.....

FOUNDATIONS Bearing ..... Piles / Poles : Timber / Concrete .....
Anchor : ..... Braced ..... Cantilevered .....Ordinary .....
Concrete Perimeter / Internal Piles ..... Steel .....
Concrete Floor : aggregate ..... Vapour Barrier.....
Slab Fastening : ..... Mesh / Slab Cutting .....
Insulations ..... Engineer Designed .....

Sub-Floor Fastening : Galv. Bolts ..... Galv Brackets.....

Sub-Floor / Layout / Insulation / Flooring : (as per plan) .....

Fixing of framing above floor : Bolts ..... Steel Dowel .....
Tri-fold ..... Tru Bolts ..... Other .....

FRAMING : Studs ..... Centres ..... Dwangs .....
BRACES & FIXING : Walls ..... Roof .....
Moisture % ..... Insulation ..... Building Paper .....

TRUSSES : ..... Rafters ..... Joists ..... Fixing .....
PURLINS : ..... Tile Battens ..... Beams .....

CEILINGS BATTENS : ..... Dwangs ..... Ceiling Runners .....
Insulation ..... Moisture % .....

ROOFING : Galvanized Iron ..... Colour Steel .....
Concrete Tile ..... Membranes ..... Gutter .....
Building Paper ..... Roofing Underlays ..... Sarking .....

EXTERIOR JOINERY : Aluminium ..... Timber .....
Other ..... Flashings : Head ..... Side .....

EXTERIOR CLADDING : Brick / Block veneer ..... Ties .....
Timber ..... Purpose made W / B .....Plaster.....
Cement Sheet ..... Concrete .....

INTERIOR LININGS : Gypsum Plaster Bd. ..... Fibreboard .....
Softwood Fibre ..... Hardboard : ..... Other .....

INTERIOR JOINERY : Doors ..... Painted ..... Joinery ..... Melimine .....

COMBUSTION FIRE : Hearth ..... Tiled ..... Wall Protection ..... NO .....
Roof / Ceiling Clearances ..... Good ..... Make and Model ..... Yunca Quebs .....

PLUMBING : Water ..... HP ..... LP ..... County ..... Own .....
Pressure Test ..... Tank Restraints ..... Tank Tray ..... Overflow .....
Pressure Reducer ..... Mains Cylinder ..... Rheems .....
Circulators ..... Wet Back ..... Solar Heater ..... Lagging Felt & fibre glass protection
Clipping ..... Wastes ..... Soil Stack ..... Vents .....

TV ..... BV's ..... Room Ventilation: ..... Fan ..... Natural .....
Cylinder restraints ..... Tempering valve ..... Pressure Reducing Valve .....
Mains Cylinder Safety Valves ..... Filter ..... Drain Cock .....
WC ..... 2 ..... Vent ..... Overflow ..... Seals etc .....
Wastes ..... PVC ..... Traps ..... PVC ..... Taps and Coding .....
Stormwater ..... Spoutings/gutters ..... Downpipes ..... PVC .....

DRAINAGE : Stormwater ..... Outfall/soak hole .....
Sewer Drains ..... Septic Tank ..... Disposal system .....
AS LAID PLAN ..... Sewer ..... Stormwater .....

Notes :

14/1/98 Building Sited OK 350 wide footings min 300 Deep into clay
Some soffer material has been removed to good solid bearing
Site Care only for Block found also

27/2/98 Tidy. Vapour Barrier placing over wasted ground. Stainless bent into floor slab & fixed to frame. Wall pipes done to Rod. K.B. Robert. Docket 2132.

21/4/98 Tidy well constructed Bldg to date. Plate wall secured with Tri-fold + shot nails plus bolt at Brace ends. Bldg tapes to top Plate. Braces as fixed. Moisture content General 16% (Max 16%) Plumbing Pressure tested to 1500 kPa - Held. Pipework in ceiling being felt insulated. Walls protected by Bradford Gold Insulation. Trusses shew. Roof fastened. Under way to roof. K.B.

14/5/98 Drain Ins. PVC Sewer & S/water drains to Connections (Henson Contracts) Drain under test OK

15-2-00 All waste enter The gully Traps. Yunca Quebs installed to manufacturers species. All down pipes connected to stormwater. Cylinder restrained. Tempering Valve on. A neat & tidy job. Drainage plan to be forwarded to Council.

J.W.A

NEW ZEALAND SPECIFICATION

FOR

STANDARD SPECIFICATION FOR LIGHT TIMBER FRAME BUILDINGS

OWNER

C & P INWOOD

BUILDER

S & C INWOOD

NOTE: This specification is issued subject to the requirements of the New Zealand Building Code 1992 (NZBC) using NZS 3604 Light Timber Frame Buildings Not Requiring Specific Design and NZS 4229 Concrete Masonry Buildings Not Requiring Specific Design as a means of compliance with the NZBC. Both NZS 3604 and NZS 4229 are acceptable solutions under the NZBC 1992 code.

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SPECIFICATION

For the erection of ..... NEW DWELLING .....

at ..... CLIFFORD PLACE .....

for ..... C & P INWOOD .....

This is the specification referred to in an "Agreement"(1) between

..... C & P INWOOD ..... as Owner, and

..... S INWOOD ..... as Builder,

dated ..... 1-12-97 ..... and if not mentioned the Agreement (1) takes notice of the following completion and penalty clauses.

Time for completion ..... weeks from acceptance of tender.

Liquidated damages for delayed completion shall be $ ..... per week. Extensions to contract period for extra work or for contingencies beyond the control of the contractor to be as agreed between the parties at the time and added to the time for completion. (2)

*** PAYMENTS AND BONDS**

Standard monthly progress claims that allow ready assessment of the quality and value of the work carried out shall, subject to compliance with contract requirements, be processed within 10 days of receipt.

For purposes of ensuring adequate and fair performance throughout, catering for a 30 day Maintenance (Defects Liability) period as under P & G No. 10, 10% of the contract sum shall be retained as a form of Contractor's Bond in accord with:-

(a) Addendum D of the N.Z.I.A. General Conditions of Contract,

(b) Form F.H.4 from N.Z.M.B.F., or

(c) As agreed between the owner's lawyer and the builder's lawyer.

ARBITRATION:

If dispute or difference should arise between the Owner and Contractor the Contract shall be subject to arbitration under the Arbitration Act 1908.

*Foot Notes:

(1) The Agreement referred to and a suitable form of contract (Conditions of Contract) shall be provided by the Owner ..... C INWOOD ..... or Contractor ..... S INWOOD ..... and is to be completed by all parties before the site work is commenced.

(2) All additions and deletions made in this Specification before signing of the Agreement shall be dated not later than the date of Agreement. Any subsequent additions, omissions or variations to the contract shall be authorised in writing and an agreed price stated.

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IT IS IMPORTANT TO READ "LIMITATIONS" AND "GUIDANCE" PRINTED BELOW. CURRENT COPIES OF THE NEW ZEALAND STANDARDS MENTIONED PARTICULARLY IN CLAUSE 1 OF "PRELIMINARY AND GENERAL" (PAGE 2), CAN BE PURCHASED FROM THE HOME IDEAS CENTRE'S, CHRISTCHURCH, WELLINGTON AND AUCKLAND OR THEIR AUTHORISED AGENTS AND SHOULD BE KEPT ON SITE.

LIMITATIONS

The full title of the current Light timer Frame Code (NZS 3604) and the masonry code NZS 4229 is given on the cover but otherwise referred to simply as NZS 3604 and NZS 4229.

NZS 3604 provides for so many variables, via new techniques and materials and its greater engineering approach, that a short standard specification of this type has to be limited to a "Guidance Only Format."

To use THIS specification for building consent application purposes, and for accurate pricing, it becomes more important than before to DELETE non-applicable clauses and to ADD new or more appropriate clauses - according to the owner's, designer's and builder's greater freedom of choice.

GUIDANCE

Please do not neglect to make the necessary deletions and additions to this specification. Also ensure that your drawings for the house are corrected according to the deletions and additions made.

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PRELIMINARY & GENERAL

1. **SCOPE :**
   This specification conforming with the attached Agreement and Conditions of Contract describes the work to be done and the materials to be used in the construction of the house shown on the attached drawings. The Contractor is expected to be familiar with the site and the Local Building Bylaws, especially where relevant clauses of NZS 3604 and NZS 4229 (or NZS 4230 Code of Practice for the Design of Masonry Structures Part 1 & 2 (1990)) apply to the contract. The above numbered N.Z. Standards shall be included in the contract documents and kept on site and made available as necessary for purposes of supervision by the owner or his agent to ensure compliance of work during and on completion of the contract.

2. **BUILDING CONSENT:**
   The owner or their appointed agent shall be responsible for the application of a (Building Consent) and all charges and fees associated with the application. No work shall begin until a Building Consent is issued by the local authority.

3. **CONSTRUCTION ACT:**
   The provision of the Construction Act 1959 and regulations are deemed to be part of this contract.

4. **PROVIDE & FIX:**
   The words "provide" and "fix" shall be construed to mean "provide" and "fix" where mentioned separately unless otherwise mentioned.

5. **INSURANCE/INDEMNITIES:**
   The Contractor to have all of his employees covered against accident by an Employers' Liability Policy and to take out insurance agains fire and theft of materials off-site for a sum sufficient to cover the full amount of the Contract Sum, both policies to remain in force until the building is taken over by the Owner; the fire insurance to be in the joint names the Owner and Contractor.

6. **INTERPRETATION:**
   Work or materials shown on the drawings or specified and not shown, must be supplied as though both shown and specified. Materials shown but not specified must be of the kinds commonly employed for the service they are intended to perform in compliance with the NZBC. All figured dimensions shall be taken in preference to scale. The Contractor shall be held responsible for the setting out of work and he shall make good at his own expense any errors that occur through his lack of checking or faulty workmanship.

7. **STABILITY:**
   The Contractor shall carefully brace and support all parts of his work against damage by wind and protect work from the elements as necessary during construction.

8. **PROTECTION OF PROPERTY:**
   The Contractor shall protect adjoining properties during the contract and shall make good all damage at his own expense.

9. DAMAGE:

The Contractor shall make good at his own expense and to the satisfaction of controlling authorities, any damage done to footpaths, kerbs, drainage etc., or other property under control os such authorities.

Each trade shall take care of prevent damage or disfigurement of the work of other trades and will be responsible for cost of restoring same.

10. MAINTENANCE:

Period to be a minimum of thirty days or to a time agreed on by both parties and entered into the Agreement after the Owner has taken possession or a code compliance certificate is issued. Any defects in materials, workmanship or any part or parts that require replacing or adjusting, which have been included in the Contract, shall be adjusted or replaced at the Contractor's expense.

11. MATERIALS:

Any materials herein specified that are not procurable at the time they are required, thus tending to retard the progress of the Contract, may be substituted with other similar materials, providing that the substituted materials conform to the requirements of the NZBC and the owners written consent. NB: It is the owners responsibility to notify the local authority of any changes prior to them being made. The Contractor shall notify the Owner of any changes proposed and at the completion of the Contract will adjust any difference in cost.

12. CONTINGENCIES:

Provisiion is to be made by the Builder and Owner to meet any contingencies that may arise due to the fluctuations in the price of various materials or labour. Should there be either a rise or fall in the price of labour or materials, from the date that the tender is submitted until final payment, an adjustment to the Contract Price, is to be made accordingly provided that the Contract Price has been affected by such rise or fall in prices. The sum of $ is allowed in the Contract Price as a Contingency Fund. The Owner will expect the Builder to submit proof of any increases claimed for by way of invoices or labour costs.

13. VISIT SITE:

Tenderers shall visit the site and ascertain the nature and extent of the work and the rights and interests that may be interfered with and any other matter that may influence the making up of a tender or the carrying out of the Contract in its entirety. The levels shown on the drawings are approximately correct but tenderers shall verify these as no claims for extra will be allowed on the basis of incorrect levels shown.

14. WORKMANSHIP:

All work shall be carried out in accordance with the best trade practice, in strict conformity with the drawings and specification and to the satisfaction of the Owner. All defective or damaged work shall be removed and made good to the satisfaction of the Owner.

15. CLEANING:

The Contractor, at the conclusion of the Contract, shall be all ceilings, walls and woodwork carefully dusted and wiped down, windows washed and glass free from scratches, floors brushed and wiped down and the entire building left in a perfectly clean condition for occupation.

EXCAVATOR

1. **PRELIMINARY & GENERAL:**
   Note where Preliminary and General clauses apply to this trade.

2. **ALLOWANCE IN TENDERING:**
   Allow for foundation depths as shown on drawings (450mm below cleared ground level as if in expansive clay). Any variations from dimensions shown to be adjusted in terms of Clause (Insert Clause No.) of the General Conditions of Contract.

3. **SETTING OUT:**
   Set out the work as shown or implied on the drawings. Check accuracy in terms of position, levels and square.

4. **CLEAR SITE:**
   Remove vegetation, trees, roots and 150mm top soil* within area to be covered by the building, driveway, paths, terraces and steps. Do not remove any other trees within Owner's consent.
   • Note: Alternatively with consent of Owner and Local Building Authority, leave topsoil in place where excavation would otherwise cause ponding under timeber ground floors (ses Clause 3.4.1 of N.Z.S. 3604).
   Deposit top soil in heap as directed and avoid covering with subsoil subsequently excavated.

5. **LEVELLING AND BULK EXCAVATION:**
   Excavate for all site levelling, foundation walls and/or piles, underground services and subsoil drains etc. to correct levels, to firm bearing or to obtain sufficient frictional resistance* to satisfy the NZBC.
   • **Note: Item 5 allows for driven timber piless to NZS 3605.**

6. **FOUNDATION TRENCHES:**
   Take out trenches straight, level and to proper width and keep free of water and loose material. Concrete shall not be placed until excavations approved. If, other than under item 2 of this section, trenches are dug too deeply then such excess depth shall be filled with concrete, as specified for foundations, at the Contractor's expense.

7. **HARDFILL:**
   Use only approved fill not less than 75mm thick and well compacted under concrete ground floors and where otherwise specified. Blind surface of fill with not less than 5mm of ~~sand.~~ Pea gravel.

8. **SITE DRAINAGE:**
   Take out land drainage trenches to adequate depth and falls to prvent dampness under the building. Provide for field tile drains (or perforated plastic drainage pipe) bedded on scoria. Back fill with clean graded scoria from 50mm to fine.

9. **HOUSEHOLD DRAINAGE:**
   See Drainlayer Section.

10. **BACKFILL AND TOPSOIL:**
    Backfill and well consolidate in 100mm layers to foundation walls, pile footings and service trenches. Spread previously excavated top soil as directed. Do not damage any waterproof coatings or polythene protecting foundation walls from ground water entry.

CONCRETE & REINFORCING

1. **PRELIMINARY & GENERAL:**
   Note all clauses under Preliminary and General of this specification which shall apply to this section of the work.

2. **EXTENT OF WORK:**
   Comprises the setting out, boxing and placing of concrete in the foundations, floor slabs, walls, beams and bands and any other concrete work shown in the drawings.

3. **MATERIALS:**
   Concrete which shall be ordinary grade and comply with requirements of NZS 3109 Builders mix may be used if agreed by Owner, providing the minimum crushing strength is 17.5 MPa at 28 days standard cure is unaffected.

4. **FORMWORK:**
   Formwork shall be so constructed that the concrete thickness and shapes required are obtained as detailed without removal causing damage. Times of removal of formwork, methods of construction and pouring and curing of concrete shall be as set down in NZS 3109.

5. **CONCRETE FOUNDATION WALLS:**
   Foundation footings, walls and reinforcing shall be to the sizes shown on drawings in accordance with Table 4 and relevant clauses of NZS 3604, supporting single storey or two storey as appropriate. Such walls shall finish not less than 225mm above finished ground level but not measure more than 2m above the bottom footings.

   NOTE: A full (2.3m) storey concrete (or concrete masonry) foundation wall is outside the scope of NZS 3604 but is permissible either by:-
   a) Construction to NZS 4229 for example using concrete block masonry,
   or
   b) Specific Design using concrete or masonry.
   It is then permissible to erect one or more storeys to NZS 3604 on top of such foundation walls.
   Reinforcing steel shall be lapped at least 40 rod diameters for plain rods and not less than 30 diameters for deformed bars in concrete. (See Concrete Blocklayer for other laps.)

6. **CONCRETE PILES:**
   Ordinary concrete piles to NZS 3604 shall for this project be precast piles embedded into insitu footings. All other concrete piles, i.e. anchor piles, braced piles and cantilever piles shall be formed insitu where indicated on drawings, reinforced and to depths in accord with NZS 3604.

7. **CONCRETE FOOTINGS FOR EMBEDDED TIMER PILES:**
   The minimum plan dimensions of square or circular footings, thickness of pile footings and embedment of the respective timer piles into such footings shall all accord with NZS 3604 for ordinary, anchor, braced and cantilever piles with any ends cut on site uppermost and brush treated according to Timer Preservation Authority requirements.

8. **CONCRETE SLAB-ON-GROUND FLOORS:**
   Floors having foundations walls that suppor only one storey need not be reinforced providing that shrinkage control joints are provided at 3m spacings for 75mm thick slabs

or 4m spacings for 100mm thick slabs. In all other cases concrete slab-on-ground floors and porches shall not be less than 100mm thick on well compacted granular fill and reinforced with a layer of 668 welded reinforcing mesh lapped 225mm at joins (or 665 mesh if cast in more than 15mm maximum dimension in one operation.) Reinforced slab-on-ground proches may be cast separately from foundation walls but shall be securely anchored to them with R 6 bars at 600mm c/cs lapped not less than 300mm with the slab reinforcing.

Where floor slabs occur in rooms for habitation they shall have 0.25mm thick polythene sheet under, either welded into one continuous sheet or with joints lapped not less than 150mm and sealed with self adhesive tape to manufacturers' specification. The Contractor shall not use any other vapour barrier without approval in writing and shall protect from punctures and tears before and during placement of concrete. Any damage done to the vapour barrier during provision of underslap or in the slab services shall also be made good before placing concrete. Refer to NZS 3604 for floor heights.

9. **BUILD-IN BOLTS ETC:**

Provide in concrete for openings for vents or as required by other trades and for holding down bolts in accordance with NZS 3604. Timber grounds where required for fixing door frames etc. shall be heart totara dovetailed and where required water bars shall be of brass or galvanised steet. Powder powered tool fixings can be used where appropriate.

10. **PATHS:**

Where shown on drawings paths shall be laid not less than 75mm thick reinforced with 668 mesh. The surface shall be graded evenly to provide suitable drainage and left with a uniform finish using a wooden float.

11. **COMPLETION:**

Leave all clean and tidy at finish and made good any defective work.

CONCRETE BLOCKLAYER

1. **PRELIMINARY & GENERAL:**

Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. **EXTENT OF WORK:**

Refer to drawings for layout and extent of work. Build ther whole of the reinforced and unreinforced 200mm concrete blockwork. Build in as the works proceeds all reinforcing steel, bolts and all other lugs, conduits, sleeves and openings for vents etc., required for the work of other trades. Keep surface clean and free from mortar, perpends true and faces true to line and vertical. Blocks are to be kept dry before laying.

Reject all blocks not complying with NZS 3102. Reinforced masonry foundation walls not exceeding 2m in height from the underside of the footings shall be to NZS 3604 or to NZS 4229 (specify preference). Where exceeding 2m in height construct in accord with NZS 4229.

3. **BOND:**

Blocks shall be laid in stretcher or stack bond as shown. All joints shall be full and struck to provide a fair faced finish to both faces. Complete bond shall be secured between the

blocks and mortar. Ensure that bond is not broken by making adjustments to blocks after mortar has taken a set.

4. **MORTAR**:
The mortar for all blockwork shall be composed and mixed according to the relevant NZS clauses; water shall be potable; sand shall comply to NZS 3109 for grout filing of masonry cavities and NZS 3103 'Sands for Mortar, Plaster & External Renderings" for mortars.

All cement shall comply with NZSS 3122 and shall be properly stored at the site and adequately protected from dampness.

5. **MINIMUM REINFORCING STEEL REQUIREMENTS**:
Minimum reinforcing steel requirements in concrete masonry on this contract shall relative to the height of the masonry, accord with the following:-
a) Where shown less than 2m in height from underside of footings to top of foundation wall to NZS 3604.
b) Where exceeding (a) above, where a full 2.4m or higher storey height is shown, be to NZS 4229.

6. **JOINTS TO BLOCKWORK**:
All blockwork joints shall be neatly tooled with a 10mm rod jointer to form a neat concave recess to a good line, level and of consistant depth of approximately 6mm.

7. **WATERPROOFING**:
The Contractor shall ensure all blockwork above and below ground prevents the entry of water into the inside of the building. The Contractor shall provide warranties and prices for waterproofing from a number of manufacturers or their approved applicators and the type and price for the work shall be agreed. Internal strapping and lining as necessary to comply with insulation standards shall not proceed until evidence that the blockwork is free from leakage is demonstrated.

8. **WEEP HOLES**:
Provide weep holes in concrete blockwork at least 50mm below all bottom plates and below finished ground level, and above intermediate floor level, at approximately 800mm intervals. Dill or rake out weep holes to base of mortar bedding so as not to entrap any rain that might enter the walls.

BRICKLAYER

1. **PRELIMINARY AND GENERAL** :
Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. **RELEVANT SPECIFICATIONS**:
All work shall be in accordance with the requirements of NZS 3604 and NZS 4229 as appropriate.

3. **MATERIALS**:
(a) Bricks: Bricks for external veneers and foundation walls shall be of the colour and

type selected and shall comply with NZS 366 Clay Building Bricks Grade A or B. All fair face brickwork shall be laid with their best face outwards.

(b) Cement: Shall be ordinary Portland Cement and at the time of use shall comply with NZSS 3122 Portland Cement.

(c) Plasticizers: Plasticizers shall be used in accordance with the manufacturer's instructions and no other additives are to be used in conjunction with these materials. On no accound will further additions be made at the time of retempering mortars.

(d) Water: Water shall be potable.

(e) Sand for Mortars: Sand used shall be Mercer No. 1 sand and/or shall comply with the relevant clauses of NZSS 3103, Sand or Mortar, Plasters and External Renderings.

4. **PREPARATION OF MORTAR:**

Mortar shall be prepared by mixing in an approved mixer. Measurement of materials shall be by volume using suitable containers. Mortar shall be mixed until a homogenous mass is obtained but for not less than 5 minutes. All mortar whether on the boards or left in the mixer shall be used within 90 minutes. Mortar not used in this time shall be discarded.

5. **BRICKLAYING:**

Bricks shall be laid in stretcher bond true to line and level and plumb and in accordance with the best trade practice. All work shall be laid from the lowest corner and no corner shall be raised more than 900mm above wall line. Corners shall be racked back. On no account will toothing be permitted. All joints will be completely filled with mortar and the bricks shall be disturbed as little as possible after initial positioning. Joints shall, unless otherwise specified, be not more than 9.5mm thick and shall be tooled as directed as work proceeds. Where tapestry bricks are used care shall be taken to use a tool slightly smaller than joint width to prevent pushing mortar into the brick striations.

6. **BRICK FOUNDATION WALLS:**

Note where the following are shown on drawings and construct accordingly:-

(a) Reinforced clay brick masonry foundation walls not exceeding 2m in height, minimum width 130mm supporting single storey only; 190mm if supporting 2 storey or brick veneer and wall plate - all per NZS 3604.

(b) Reinforced clay brick masonry foundation walls exceeding 2m in height to be build by a "Registered Mason" to Specific Design.

(c) System A and System B continuous single - wythe clay masonry foundation walls, supporting single storey only - strictly in accord with Fig. 15 of NZS 3604 with extra width of concrete beam and step detail for masonry veneer. Contractor to consult owener on size and position of access door.

7. **MASONRY VENEER:**

(a) Building Paper

Run ordinary black bituminous breather type building paper to NZS 2295 (or fire resistant breather type) horizontally and well secure to outside face of framing from bearer to top plate. Repair tears and holes before constructing veneer.

(b) Clay Brick Veneer

Construct brick veneer with approved face fixed ties at correct spacings in accordance with Appendix F of NZS 3604 and with materials and workmanship to NZS 4210.

A cavity of not less than 40mm and not more than 75mm shall be maintained between building paper and veneer. Where necessary weep holes shall be left every third joint for the discharge of water, as under Contrete Blocklayer. Keep the cavity and upstand clean, free from mortar protrusions and droppings. Keep pipes or electrical wire, junction boxes etc., out of the cavity. Build in the required number of subfloor vents to provide not less than 3500mm2 of ventilation per 1m2 of floor area. Keep top of vents below bottom of bearers. Throughly clean down the face of work on completion leave free of mortar stains and efflorescence.

(c) Vermin Proofing:

Secure galvanized wire mesh to bottom plates, slope downwards and across cavity and embed each length of mesh at least 25mm in mortar joints. Vermin proof dividing wall and wherever else necessary.

(d) Sills:

Sills to be brick on edge, brought to underside of wooden sills or aluminium joinery. Junction between to be filled with a suitable sealant as recommended by the Joinery Manufacturer and overpointed with cement mortar.

(e) Split Stone or Concrete Block Veneer:

Cement composite bricks for external veneer and foundation wall shall be .....
.....
of the colour and type selected and shall be manufactured in accordance with NZS 3102 "Specification for Concrete Masonry Units." Construction shall accord with all earlier relevant clauses of this section.

8. CHIMNEY:

Construct chimney as per NZBC Acceptable Solution B1/AS3.

9. FIREFRONT & HEARTH:

Allow the P.C. Sum of $ .....500..... for selected firefront and hearth.

CARPENTER AND JOINER

1. PRELIMINARY AND GENERAL:

Read and note all clauses of the Preliminary and General which apply to all works of this section.

2. EXTENT OF WORK:

The work of this section shall include all labour, materials, equipment necessary to carry out and complete the carpentry as shown, or as further required by this specification. Together with any other items of work reasonably inferred as part of this section.

3. **ATTENDANCE AND PROTECTION:**
Attend upon all other trades providing all blockings, fixings, trims, nogging as necessary for the full completion of their respective works and make good after all trades.

4. **MATERIALS AND WORKMANSHIP:**
All material used shall be the best of their respective class and type specified. Any materials which in the opinion of the Owner, Loan Body or Local Authority are not up to standar, to be removed immediatley from the site. All work shall be carried out in a workmanlike manner in accordance with best trade practice and as or where especially specified. Any work that is inteded or implied but not specifically shown, mentioned or specified as necessary for the proper completion of the building shall be included. All work shall comply with re relevant NZS requirements, particularly NZS 3604.

5. **TIMBER:**
All timber used shall conform to NZS 3602 requirements, "Code of practice for specifying timber and wood - based products for use in building." Timbers shown in the Schedule of Timbewrs to be treated with an approved preservative process in plants licensed by the Timber Preservation Authority.

6. **DAMP PROOFING:**
All timber to be protected from dampness with 3-ply bituminous felt or other approved damp roofing material when in contact with concrete or brickwork, except as provided for under Clause 2.1.4 of NZS 3604

7. **PRIMING:**
All exterior finishing timber, all timbers in contact with concrete blockwork and all external faces, rebate, etc., of all doors, windows, frmaes and all woodwork of sashes, shall be primed before fixing unless otherwise specified in Painter.

8. **CLEANING:**
The Contractor at the conclusion of the contract shall have all ceilings, walls and woodwork carefully dusted and wiped down. Windows washed and glass free from scratches and pain. Floors brushed and the entire building site left in a clean condition for occupation.

9. **FASTENING AND FABRICATION:**
(a) The Contractor should especially note that all aspects of fastening and fabrication of timber framing members and wood-based products on this contract shall accord with the following clauses of NZS 3604:-
Clause 2.5.1 - General.
Clause 2.5.2 - Adhesives for timber & wood-based products.
Clause 2.5.3 - AND APPENDIX A - for nailing and use of wire dogs.
Clause 2.5.4 - for bolting and screwing.
(b) Reference shall also be made to Appendix A of NZS 3604 for the proper fixing of sheet lining and cladding materials for walls and ceilings that are not wood-based e.g. Gibraltar board, fibrous plaster or wood cellulose sheeting; especially where such materials are used as diaphragms and for wall bracing.
(c) Mild steel structural components used in sub-floor spaces, exposed to the weather or in position where condensation or dampness will occur shall be hot dipped galvanised after forming and shall provide the necessary "capacities" called for by NZS 3604 dependent on function and location.

(d) In all other cases, select and use connectors according to manufacturers' literature conforming to NZBC 3604 requirements and the NZBC.

10. INSULATION:

Refer to NZBC Clause H1. Install insulation as required in NZBC Acceptable Solution H1/AS1. All insulation materials are to be installed in accordance with manufacturer's recommendations and the NZBC.

11. MOISTURE CONTROL:

Where a vapour barrier is required in the form of foil or polythene film, this barrier shall be fixed according to B.R.A.N.Z. Bulletin No. 217* Foil or polythene film shall not be used as a substitute for building paper. Building paper shall be properly fixed to bottom plates, especially in veneer construction, to prevent entry of subfloor air into stud cavities. Brick veneer cavities shall be closed off at and by means of soffits so as not to connect with roof cavities. There should be no unsealed openings for service pipes and wiring etc. There should be no discharge from cooking extractors or clothes driers into any wall, roof or floor cavity. Linings shall not be fixed until moisture content of framing has been tested and approved. A proper solvent based paint or varnish finish must be used for plasterboard (Gibraltar board or fibrous plaster) linings to 'wet' rooms, such as kitchens, bathrooms and laundry.

Water based emulsion paints must not be used.

TIMBER SCHEDULE COMMENCES PAGE NO. 12

• B.R.A.N.Z. Paper C1 and Information Bulletins on thermal insulation and on many other building topics can be purchased from the Building Centre.

SCHEDULE OF TIMBERS (For Guidance Only)

LOCATION	SIZE mm x mm	GRADE AND TREATMENT For alternatives refer to NZS 3602 or BRANZ Bulletins 130 & 175	REMARKS
SUBFLOOR FRAMING		ALL subfloor framing No. 1 Radiata Pine* Pressure Treated to Commodity Specification H3 of T.P.A. Specification e.g. Tanalith or similar	
Wall Plates	100 x 50		Bolted or dowelled
	min 75 x 50		For 75mm wide studs only.
Bearers supporting jackstuds	100 x 100		
on piles	min 100 x 75		Can be 2/100 x 50's.
Subfloor jackstuds	min 100 x 75		
Stud in subfloor wall	min 100 x 50		At 600 c/cs.
Ditto where doubled under bearer	2/100 x 50		
Top plate to jackstuds or subfloor wall	100 x 50		
Bearers on jackstuds or timber stud subfloor wall	100 x 100		
Stringer to side of foundation wall	125 x 50		Fixed with M12 bolts at 1M spacing for single storey only.
Subfloor braces	min 100 x 75		Not exceeding 3M Fixed with M12 bolts (or appropriate nail plates).
GROUND FLOOR FRAMING			
Floor joists for max. 1.5KPa loading	150 x 50)	Treated No. 1 Radiata Pine to H1 of T.P.A. Specification e.g. Tanalith or Boron Type treatments.	600c/cs. Up to 2.6m Max. span where continuous over 2 or more spans. See plan for other sizes and spans. (Along subfloor bracing lines, at right angles to joists and mid point of any span exceeding 2.5M and under load bearing walls).
Herringbone strutting	40 x 40)		
Solid Blocking	150 x 50)		
Boundary joists	150 x 25		At outer ends of floor joists.
FLOOR DECKING			
Refer to plans for type and location.			
a) T & G strip	100 x 22	Dressing A. Heart Rimu or Matai	Dry dressed
b) Particle board	2400 x 1200 x 20	High Density	Joins between sheets made over supports or on 50 x 50mm blocking between joists.
WALL FRAMING			
Bottom plates	100 x 50	No.1 treated Radiata Pine	Long lengths
	min 75 x 50		

continued . . .

LOCATION	SIZE MM X MM	GRADE & TREATMENT For alternatives refer to NZS 3602 or BRANZ Bulletins 130 and 175	REMARKS
WALL FRAMING - continued			
Studs	100 x 50 75 x 50	No.1 or No.2 or Building Radiata Pine as appropriate Treated	600 c/cs.
Top plates	100 x 50 100 x 50 75 x 50	PLUS 150 x 40 ALL No.1 Treated Radiata Pine	Where supporting upper floors, heavy roofs and where ceiling battens necessary
Trimming studs*	100 x 50	Treated No.1 Radiata Pine	Up to max 3m span of lintel in single storey, top storey or non load brg. wall only.
* See Remarks column for greater spans or in other locations refer to Table 15 of NZS 3604 and use doubling studs as necessary.			
Lintels (generally)	2/ 100 x 50	Treated No. 1 Radiata Pine	Select built-up lintels from Table 16 NZS 3604
dependent on span	up to 2/200 x 50		
Sill and Head		Treated No. 1 Radiata Pine	
Trimmers	same width as studs, thickness per span as follows:		Head Trimmers shall be used instead of lintels only in non load bearing walls.
Span 2M .....40mm 2.4M .....50 3M .....75 3.6M .....100 or (2/50mm)			
Dwangs (or noggings)	50 x 50 75 x 40	Treated No.1 Radiata Pine	Min 2 rows for 2.4 high studs except where a greater or lesser number indicated by lining or cladding manufacturer.
Bracing	100 x 25	Treated No.1 Radiata Pine	(Continuous let-in brace)
(No dog legs permitted)	75 x 40	Treated No.1 Radiata Pine	(Cut between braces in diagonally opposing pairs). (Delete both above if using continuous steel strip or steel angle).

ROOF FRAMING: To pitch and style shown on plan Note 1) Individual requirements and options permissible under NZS 3604 preclude meaningful scheduling here. Designer and Builder shall refer to NZS 3604 and dimensions drawings to satisfaction of Local Building Authority. 2) All timbers as relevant in (a) (b) or (c) below shall be treated No.1 Radiata Pine or shall be Douglas Fir. Exposed ends of Douglas Fir rafters in Type c roofs shall be capped.

(a) Trusses — To approved size and dimensions as shown on plans and manufactured by .....

or

(b) Framed (couple-close) Roofs

or

(c) Monopitch, skillion and exposed rafter roofs) as fully detailed on drawings in accord with NZS 3604. NOTE. Purlins (roof battens) on edge or on flat shall be sufficient to accomodate the thickness of thermal insulation material necessary to comply with by-laws, advise and agree with owner.

continued . . .

LOCATION	SIZE mm x mm	GRADE & TREATMENT For alternatives refer to NZS 3602 or BRANZ Bulletins 130 and 175	REMARKS
ROOF BRACES			
Roof space braces Roof plane braces Ceiling plane braces	min 100 x 50) 100 x 25) 100 x 50)	Treated No.1 Radiata Pine	(Alternative - specify opposing pairs of continuous steel strip braces instead of 100 x 25 roof plane braces.)
ROOF SARKING			
Hit and Miss diagonal sarking	75 x 25	Treated No.1 Radiata Pine or Douglas Fir.	60 degrees to ridge, if used delete roof plane braces above.
Sheet Sarking (e.g. 6mm plywood or 6mm particle board)			Again, omit roof plane braces.
ROOF TILE BATTENS (or purlins)	75 x 50 75 x 50	Treated No.1 Radiata Pine or Douglas Fir.	Light roof, on flat at 900 c/cs. Heavy Roof, on edge at 900 c/cs.
Dragon Ties	100 x 40	Treated No.1 Radiata Pine	As required.
Eaves Framing	75 x 40	Treated No.1 Radiata Pine	
Barge & Eaves Boards	150 x 25 up to 225 x 25	Treated No.1 Radiata Pine	
Ceiling Battens	75 x 40		or as required by manuf. of ceiling lining.

WEATHERBOARD: Dressing A Heart Rimu or Treated A Rimu or Matai or imported Cedar.
Horizontal or Vertical Finishing grade. Weatherside or Hardiplanks. (Delete that which is not applicable).

INTERNAL DOORS		
Jambs	25mm	(Dressing A Rimu
Architraves	75 x 12mm	(
Skirtings	75 x 12mm	(or by agreement
Sill Boards	25mm	(
Aprons	25mm	(

ALL OTHER INTERNAL FINISHING TIMBERS NOT SPECIFICALLY MENTIONED TO BE DRESSED A RIMU

Window Jambs	150 x 40mm	D.A.H. Rimu
Window Sills	150 x 65mm	D.A.H. Rimu or Matai or Cedar
Mullions	75 x 65mm	D.A.H. Rimu or Matai or Cedar
Cornices	40mm	D.A.H. Rimu or Matai or Cedar
Facings ext.	75 x 25mm	D.A.H. Rimu or Matai or Cedar
Door Sills	150 or 200 x 65 with 12mm Steel Weather Bar.	
Scribers	50 x 12mm	Totara or Heart Rimu

12. SUB-FLOOR FRAMING:

(a) Driven Timber Piles shall be included in this section of the work and all driving, testing, sizes and spacing of piles shall accord with Appendices C & D of NZS 3604 & drawings.

(b) Bearers shall be 100 x 100mm, supported at 1.3m centres along length and spacing between bearers to be max. 2.5m except where spacing and size of joists and bearers are shown differently in plan. Jack studs to be securely fixed to foundation piles and wall plates or bearers as shown. Brace with 100 x 75mm as required. Floor joists shall be guaged over plates to uniform levels. Joists shall be 150 x 50mm. Laps not less than 150mm spiked. Nail plates may be used in place of lapping. Provide double joints under all load bearing walls.

(c) Plates shall be 100 x 50mm dowelled or bolted to foundation walls.

13. GENERAL FRAMING:

All framing to be 100 x 50mm stud or 75 x 50mm stud with 50mm wide studs to all openings not exceeding 3m span where supporting only one storey. Top and bottom plates to be same size as studs in long lengths, halved or nail plated at wall junctions and jointed over studs. All studs at 600mm c.c. Provide two (2) rows of dwangs to full height each wall unless otherwise stated on drawings.

14. WALL BRACING:

Provide all wall bracing as shown on drawings and wall bracing calculation sheets as is intended to satisfy the NZBC. Keep strictly to the "Type", Lengths and Locations shown on plan and elevations.

15. WALL LININGS:

Generally shall be of 9.5mm Gibraltar Board and shall be fixed to external walls only after placement of thermal insulation (bulk insulants). All wall linings to be nailed or fixed as per Appendix A of NZS 3604 or manufacturer's instructions and stopped to manufacturer's instructions; in particular where contributing to wall bracing.

16. ROOF CONSTRUCTION: (See Drawings and Schedules of Timbers for types)

(a) Trussed Roofs: Drawings showing clearly the type, pitch, span, spacing and overhangs of roof trusses and details of roof claddings hall be provided to the truss manufacturer ..RANGIORA TIMBER & TRELLIS to allow him to comply with Clause 10.2.3 of NZS 3604. Thereafter, the Contractor shall match construction with the drawings and details provided by the truss manufacturer throughout all stages of fixing and bracing. The Contractor shall especially accord with the manufacturer's instructions for tying down where over-hangs exceed 750mm. In all cases anchorage of all trusses to plates shall be with not less than 2/100mm skew nails plus 2/4.9mm wire dogs.

(b) Framed Roofs: Roof to be framed up to pitch indicated on plans and to detail properly checked, bird mouthed and well fixed. Fix valley board, ridge etc. Fix both under-purlins and collar ties where shown and where rafters exceed 10 degrees pitch. Collar ties are to be at 1.8m centres or to every 3rd set of rafters whichever is the closer. Ceiling Joists to be generally 100 x 50mm spaced as required (refer to Plan) and to be well spiked to all plates. Provide adequate ceiling runners to spans of 2400mm and over.

(c) Monopitch, skillion and exposed rafter roofs: Construct as drawings in accord with NZS 3604.

17. PURLINS, EAVES, GABLE ENDS:

Size of framing, spacing, overhangs and sheathing type as shown on plan.

18. FASCIA BOARDS ETC.:

Fix fascia, barge, frieze etc., to suit roofing selected (See ROOFING CONTRACTOR).

19. POST AND BEAMS:

Where within maximum permitted by NZS 3604 secure in equivalent manner and with equivalent materials as in Clauses 7.1, 7.2 and 7.3 thereof.

20. FLOORING:

Timber joisted ground floors shall be insulated with .....(brand) type perforated aluminium foil carefully laid, lapped and drooped 100mm between joists and stapled on top side all per manufacturer's instructions before laying flooring.

(a) Particle Board Flooring shall be 21mm High Density. All aspects of handling, storage, sheet layout and fixing shall be to manufacturer's recommendations. Nailing or stapling of pre-laid particle board floorings shall be done in two (2) stages to reduce the risk of floors squeaking. First secure at perimeter of floor, along the plate positions for internal walls and sufficient elsewhere to hold the sheets flat construction. Complete remainder of fixing to manufacturer's specification after the house has been totally "closed-in" and just prior to sanding. The Contractor shall be responsible for any damage done and for cost of repair or replacement of the flooring if not closed-in sufficiently early (normally within 2 months of laying) or if the floor is not otherwise adequately protected up to completion of the house.

Heads of fixings shall be punched to allow a reasonable depth of stopping, unless otherwise stated. Ceilings below particle board (or any other flooring) shall not be secured until all nailing or stapling above has been done.

OWNER TO SPECIFY ANY ALTERNATIVES TO 20 (A) e.g.:-

i) Particle board, laid only after closing in
ii) Tongue and Grooved (T & G) flooring, with or without secret nailing
iii) Glue laminated timber flooring
iv) As (ii) and (iii) above but also forming ceiling to a room or number of rooms below.

(b) Finishing of Particle Board Flooring

Contractor to follow manufacturer's recommendations and sequence in sanding, sealing, stopping and application of coatings to provide a minimum 3 coat flat, smooth hard wearing polyurethane finish. Contractor should also follow manufacturer's recommendations for floor areas to be covered with vinyl flooring or carpeting as advised by owner and such finish of the particle board to be approved before either is laid.

OWNER TO AMEND 20 (b) if wishing to undertake all or part of finishing personally.

21. TIMBER TERRACES:

If shown on plan construct to detail or best trade practice. All nail fixing with galvanised nails, all bolt fixing with galvanised bolts, and all timber to be treated to the correct preservative retention as specified by The Timber Preservation Authority.

22. EXTERIOR WALL COVERINGS:

(a) Breather type building paper and masonry veneer shown on drawings shall be as given under "BRICKLAYER' NOTE 1. Other exterior wall covering shown on the drawings and mentioned in Section 8 of the NZS 3604 should be fixed in accordance with all requirements therefore. Should the owner specify overwide boards and any finish other than paint and not adequately maintain, the responsibility for any resultant poor performance should not be apportioned to the "Contractor".

NOTE 2. Reference is made to wood cellulose flat sheets in NZS 3604 and should be taken to include such sheets that can be purchased with various finishes already applied, e.g. aggregate finish or imitation stone work and brick work finishes, as well as where sheets are used as a base for in situ finishes.

(b) Other exterior wall coverings shown on the drawings shall be ..... CLAY BRICK .....
fixed in accord with .....
and finished with .....

23. EXTERIOR JOINERY:

All windows shall be to NZS 4211 to suit location.

(a) Aluminium Joinery

Provided p.c. sum of $ ..... for windows and glazed doors to size, type and location shown on plan. Obtain joinery from .....complete with glazing, frictional restraints and catches, and fix plumb both ways and in correct alignment and flash all in accord with manufacturer's instructions. Sliding patio dorrs shall be safety glazed and fixed to timber sub frames as per Code.

NOTE: Owner should check with manufacturer regarding manner or type of safety glazing (also in shower screens). Also seek advice on satisfying the need for simple secure means of maintaining a little ventilation at night or when house is empty. Options can include substituting double spur catches for single, fixing security fasteners or provision of small sliding panes, or louvre or grill at high level.

(b) Timber Joinery

Unless otherwise specified sashes and frames shall be of finger-jointed radiata pine treated to the requirements of the Timber Preservation Authority, primed before leaving the factory, and to sizes and type shown on plan. Fix window frames plumb both ways to wall framing at not more than 750mm intervals with full width folding wedges, or to heart Totara dovetailed grounds in masonry walls. Cut all facings and scribers to fit neatly and fix quadrant under external sills. Provide and fix standard galvanized steel flashings unless otherwise specified. Hang all sashes as required with suitable hinges or frictional restraints and fix stays and catches as supplied under P.C. sum (see Hardware).

24. DOORS & FRAMES (TIMBER):

External door frames shall be of 40mm full width material rebated, and internal shall be 40mm rebated or 25mm material

with 12mm planted stops. Doors shall comply with NZSS 1158, where external shall be framed, ledged and braced or timber or glass panel as shown on drawings, all properly constructed with stiles and rails out of 50mm material. Internal doors shallnot be under 40mm hollow-core faced with plywood or hardboard with clashing strips fixed to lock stiles. All timber core material shall be treated and doors shall be of approved manufacture. Doors over 1400mm in height shall be hung on one and one half pairs of 100 x 70mm antique butt hinges.

25. CEILINGS:

(a) Gibraltar Board: Fix painting quality 9.5mm gibraltar board to joists and rafterswith 30mm flat head galvanised clouts, with nails punched and stopped and all joints flushed up to a true even smooth surface. In particular fix all ceilings serving as structural ceiling diaphragms under terms of NZS 3604. (See Winstone (Auck) Ltd. taped joint system). Check that each wall under or connected to has adequate bracing for a diaphragm.

(b) Pinex: First quality tiles or planks as directed by Owner to be fixed to manufacturer's specification. In particular note where dragon ties have been specified on drawings and refer to NZS 3604 for their proper fixing. Also check that each wall relative to the dragon ties having the prescribed bracing values.

(c) Fibrous Plaster: (See Fibrous Plasterer Section).

26. WARDROBES:

To be lined full height. Provide inside each with 300 x 25mm full width shelf at 1.7m from floor and 20mm galvanised pipe coat rail at 75mm below shelf. Provide cupboards over wardrobe where required.

27. LINEN & COAT CUPBOARDS:

Lined full height inside and to have 25mm shelving. Full depth for linen at approximately 400mm c.c. Coat cupboard to have hat shelf at 1800mm from floor and coat hooks to side and rear.

28. KITCHEN CUPBOARDS:

Construct cupboards and dresser unit to sizes shown on plans, with doors and shelves to Owner's approval.

29. SINK TOP:

Provide for standard sink top. Unit to have standard 450 x 300mm stainless steel sink. Fix on unit either indicated on plan or to Owner's final approval. Units to be generally 900mm high and 500mm in depth, 100mm toe space. Provide flush cupboard doors to front and shelving to approval. Timber used in doors to be approved by Owner.

30. HOT WATER CUPBOARD:

To be constructed where shown and fitted with slat shelving above cylinder spaced at 15mm apart. Provide two flush doors with thermostat boxed in.

31. ARCHITRAVES, SKIRTINGS ETC:

Finish all windows internally, door openings and wherever required with 50 x 12mm rounded or splayed architraves. Finish at junction of floor and wall with 75 x 12mm skirtings neatly mitred at angles and scribed to floor. Supply and fix beads, half rounds and where required scotia mould at ceiling junction and

all trim as required to complete the work.

32. **BATHROOM:**
Provide and fix in bathroom one toilet cabinet 550 x 400mm recessed into wall with mirrored door. Bath to be build in and suppported with 75 x 50 mm framing on edge. Fix bath panels as agreed by Owner. Allow for toe space. All wall linings other than Gibraltar board to be fixed to manufacturer's specification. Provide for all sanitary fittings shown on plan and given under "Plumber".

33. **METER RECESS:**
Provide recess for Electric Meter Board where directed to the satisfaction of the Local Electric Supply Authority.

34. **MANHOLE:** NZS3604:1990.12.3.1.
Provide manhole in ceiling 600 x 500mm where directed.

35. **HARDWARE:**
Allow the P.C. sum of $ ....1000.00..... for the supply of all hardware required. Door handles, locks, window fittings, door and drawer pulls, stops, angles, vents, towel rails etc. Allow to take delivery and fix. The supply of hinges and butts for all doors and windows is not included in the P.C. sum.

36. **INTERNAL WOOD STAIRS:**
Consult with owner on construction of internal wooden stairs.

ROOFING CONTRACTOR

1. **PRELIMINARY & GENERAL:**
Read and note all clauses under Preliminary and General of this specificiation where they apply to this trade. (Also see Plumber).

2. **ROOF FRAMING AND WALLS:**
Roof framing shall provide adequate support and fixings for purlins (roofing battens). No member shall be overloaded by landing heavy, localised, stacks of cladding on them prior to such loading until roof cladding is complete and wall linings subsequently fixed.
In roof types (B) and (C) of timber schedule, the size of purlins if not shown or stated shall be such as to accommodate the required thickness of thermal insulation to comply with the bylaws; advise and agree with owner.

3. **ROOFING UNDERLAY:**
Underlay shall be breather type building paper to NZS 2295. Run horizontally with upper sheets lapped 75mm over lower sheets and with bottom edges turned over fascia into gutters. Such underlay shall be provided under all metal roofs and be adequately supported unless self-supporting type.
Where other roof claddings are specified and where at less than 12-1/2 degree pitch undertake all work in accord with a method approved in writing from the cladding manufacturere for the particular job.

4. PREPARATORY WORK:

Provide all gutters, valleys and underflashings before cladding commences. Except where stated, valleys shall be of 0.6mm galvanised steel at least 400mm wide with folded edges and with lower end finishing well into spouting. Use 0.7mm aluminium valley for aluminium roofing. For profiled metal roofing set out purlins to give reduced span at eaves and between top purlin and ridge as recommended. For tiled roofs provide anti-ponding boards at eaves as shown to support building paper. Allow tiles to adequately project into spouting and set out so that when laid there is a full height course of tiles both at eaves and ridge.

Ensure all edges of roof cladding are adequately supported around projectiosn such as pipes, ducting and roof lights.

5. SARKING TO ROOFS, DECKS AND GUTTERS:

Profiled metal roofing shall not be laid at less than 5 degree pitch except where shown and only when adequately supported by hit-and-miss type sarking or full sheet sarking so as to prevent ponding.

Sarking for roofs, decks and gutters that are to be covered by Nuralite or Butynol shall be of material and fixed in a manner approved by the manufacturer.

6. ROOF CLADDING MATERIALS AND COMPONENTS:

Roof cladding shall be ..... COLOUR STEEL .....

(nominated colour and type), manufactured by ..... ROOFLINE PRODUCTS. .....

Materials selected shall be set out and fixed by appproved FIXERS and all shall accord with the manufacturer's specification and in all cases with NZS Specifications or others where appropriate i.e. -

NZS 3403: 1978 Hot-dipped galvanised corrugated steel sheets for building purposes.
NZS 3441: 1978 Hot-dipped zinc-coil steel coil and cut lenghts.
NZS 4206: 1973 Concrete interlocking roofing tiles.
NZS 4217: 1980 Pressed Metal Tile Roofs
BS 4300/6: NS31 sheet and strip (Part 6 is one of a series covering wrought aluminium and aluminium alloys).

Thickness of materails unless otherwise specified shall not be less than the following:-

Aluminium cladding, valleys and flashings	0.7mm
Galvanised steel cladding, spouting, downpipes and overflows	0.6mm
Copper flashings, gutters and sumps	0.6mm
Lead flashings to small diameter vent pipe with pvc flashing cone	1.7mm
Other lead flashings and soakers	2mm

7. UNPAINTED GALVANISED STEEL ROOFING:

Areas which are inaccessible for maintenance such as laps in the roofing cladding and between cladding and metal flashings and cappings shall be primed and top coated on both surfaces before fixing.

8. FACTORY PREFINISHED MATERIAL:

Treat all such material with great care and obtain matching colour for making good minor damage and covering fixings made through the face of the claddings.

9. **CAPPINGS AND OVERFLASHINGS (ALSO SEE PLUMBER):**
Adequately and neatly secure all ridgings, cappings and overflashings wherever needed to make and keep roof watertight. As much as possible use only materials compatible with the roof cladding. If dissimilar metals are used keep from aking contact.
Sealants shall not be used except where approved. Remove all traces of flux after welding, soldering or brazing. Do not leave swarf, broken rivets, screws, nails or wast metal on roof, nor in gutters or spouting.

10. **BIRD PROOFING:**
Where indicated bird proof eaves with purpose-made foam plastic impregnated with bitumen.

11. **SPOUTING AND DOWNPIPES - SEE PLUMBER**

PLUMBER

1. **PRELIMINARY & GENERAL:**
Read and note all clauses in the Preliminary and General of this specification which shall applly to all work in this section. (ALSO SEE ROOFING CONTRACTOR) All plumbing work to comply with the requirements of the NZBC refer to sections G1-G4 and G10-G15.

2. **GENERAL:**
Inclusion of roof flashings, provision of roof drainage and other general flashing requirements in this section shall mean that all shall be of the quality expected of work customarily done by plumbers. The foregoing shall apply whether or not the ROOFING CONTRACTOR employs a plumber to execute or supervise, or if the builder himself fixes flashings to windows and external doors. No connections to sanitary fittings or main shall be made except by a Registered Plumber.

3. **FLASHINGS:**
Wherever possible use flashings that are readily available but purpose-made by the roof cladding manufacturer to suit the roofing material and profile selected. Otherwise provide flashings as recommended but not supplied by cladding manufacturer and adequately secure. Flash wherever needed to make and keep roof watertight. Prime and topcoat both surfaces at laps with galvanised steel.
Flashings to each window head and door shall be provided in one piece, each 150mm longer than the head it is to protect.

4. **SPOUTING AND DOWNPIPES:** E1. (NZBC)
Spouting shall be that manufactured by the roof cladding manufacturer, or standard 125mm quadrant type galvanised steel, or approved white P.V.C. Provide and fix as recommended with even fall to downpipes. Provide all necessary stopped ends, mitred returns and outlets and ensure all joints in metal spouting are adequately soldered or welded, or for P.V.C. are made with solvent cement except where joints provide for thermal movement. Connect outlets to 80mm diameter downpipes fixed at not more than 1200mm centres. Downpipes to discharge stormwater into soakways or street channel, NOT into foulwater drainage system.

NOTES AND ASSUMPTIONS RELEVANT TO CLAUSES 5 - 10.

Very careful consideration needs to be given to the design of household plumbing and selection from a wide range of materials nowadays available in supply pipe for both hot and cold water services; and from a similarly wide range of materials for sanitary fittings and waste pipes from them. Every effort should be made to consult with manufacturers and plumbers BEFORE completing this specification in order to attain plumbing to suit individual circumstances. Local Authority plumbing inspectors can advise on such matters as water pressure and volume obtainable from mains and materials approved. The following is offered for guidance to help in the completion of the plumbing specification similar to the clauses given but other clauses might also be necessary if choice differs from the assumptions made.

(a) Cold water can be obtained from a Local Authority mains normally providing adequate water pressure and volume; so avoiding the need for a cold water supply tank in or on the roof.

(b) Water heating is to be mainly by means of a low-pressure thermal stoage electric water heater; with cold water feed into Hot Water Cylinder through a pressure-reducing valve and separate non-return valve. Alternatives include:-

B1. Use of a break-pressure tank installed above hot water cylinder OR

B2. A mains pressure water heater; with check valve (gate valve) between two stopvalves OR

B3. Provision for gas water heater or heaters OR

B4. Provision for wet-back, e.g. from free-standing fireplace or stove, or solar water heating; supplementary to main method of water heating OR

B5. Water heating for space (room) heating as well as serving sanitary fittings.

(c) Proximity of sanitary fittings to Hot Water Cylinder will normally be in order of most frequent use; e.g. kitchen sink, bath or lavatory basin, bath/shower, tub and washing machine.

(d) Cold and hot water supply to ALL fittings is assumed to be by 12mm nominal bore pipes with temperature-compensating mixer valve to shower to reduce severe temperature changes when taps are turned on or off elsewhere in house. This practice is now common in many areas having reasonable water pressure. Check if permitted and satisfactory in your area and discuss alternative methods of reducing shower temperature fluctuations (by pipe sizing and positioning) with plumber.

5. **COLD WATER SUPPLY:**

Tap off from mains service pipe in .....25..... mm COPPER/POLYBUTYLENE/U.P.V.C./ or TYPE 3 or TYPE 5 POLYETHYLENE (Polythene). Run pipes not less than 450mm below finished ground level to house with entry through or under the wall foundation. Supply and fix a water meter, box and cover when required by Local Authority.

Provide ...20... mm .....PVC..... pipe to hose taps at front and rear of building and to all fittings including hot water cylinder and washing machine. All branches to be short, straight and at as even gradient as possible with easybends used throughout (NOT ELBOW FITTINGS). Use only approved connections throughout. All pipes are to be adequately supported, well secured and where possible concealed. When using any form of plastic piiping, plumber to discuss, and provide, means of ELECTRICAL EARTHING with electrician.

6. **HOT WATER SUPPLY:**
Supply one (1) pressure electrical hot-water cylinder of ..... litre capacity of approved make and type. Seismic Restra
Provide ..... mm COPPER or POLYBUTYLENE hot water supply pipes and branches to all fittings including washing machine. Tempering Valve.

7. **SANITARY FITTINGS ETC.:**
Provide P.C. sum of $ ..... tor the following. Carefully note dimensions and install where shown on plan and to owners approval (Specification should preferably include the number of each required size, brand, colour, material and where necessary height).

..... Bath/s 1675 mm x 760 mm ....
Vitreoous China/Porcelain enamelled pressed steel/acrylic

..... W.C./s ....
Vitreous china complete with PVC double flap plastic seat

..... W.C. Cistern/s ....
P.V.C. complete with ..... P.V.C. flush pipe or chrome plated flush pipe.

..... ~~Basin/s (on wall brackets) (on pedestal)~~ (or in vanity)
900 mm x 600 mm
vitreous china/porcelain enamel/acrylic

..... Shower tray/s (or Shub Tub) ....
~~Stainless Steel/Porcelain/Enamel/Acrylic/G.R.P.~~

..... ~~Bidet~~ ....
Vitreous china

..... Sink/s and top ..... with single or double drainer.
As per plan with laminated top/stainless steel/or tiled or mosaic top. Height ..... mm

..... ~~Laundry tup~~ ..... mm x ..... mm single or twin tub combination.
Stainless steel/Porcelain enamelled, on stand, with cupboard below. Height ..... mm
SUPER TUB

8. **TAPS, FAUCETS AND VALVES:**
Consult with owner on choice of brands and fixing of all taps, faucets and mixing valves. Provide and fix all other water supply fittings as necessary.

9. **WASTES AND VENTS:**
Provide all necessary traps, waste pipes, soil stacks, back vents and terminal vents. Provide cleaning eyes to all waste pipes at junctions and all necessary overflow pipes.

10. **OTHER MEANS OF HEATING WATER:**
Consult with owner on choice and fitting of free standing fireplace with wet-back/or stove with wet-back/or solar water heating panels to supplement hot water heating system.

DRAINLAYER

1. **PRELIMINARY & GENERAL:**
Read and not all clauses under Preliminary and General of this contract where they apply to this trade. All drainage work to comply with the requirements of the NZBC refer to sections G1 - G4 and G10 - G15.

2. **EXTENT OF WORK:**
Work in this section of the contract comprises all surface and foul water drainage up to above ground level to connect to Plumber's work. Include all pipes and specials, fittings, construction of manholes, all gully traps and connections for terminal vents, soil and wast pipes. The Drainlayer shall confer with the Plumber nad shall arrange with the Contractor before the foundations are laid to fix the exact position of all connections of wastes and drains.

3. **STANDARD OF WORK:**
The whole of this work shall be carried out by experienced tradesmen to the satisfaction of the Owner or agent. The Contractor shall allow accordingly should conflict exist and arrange for all tests.

4. **MATERIALS:**
All materials shall be the best of their respective kinds. All cast iron pipes shall be free from rust and be of first quality and of even wall thickness and shall be hot dipped. Those for the use in foul drains shall have a wall thickness of not less than 4.7mm. Cast iron fittings shall be of similar quality and have inspection plates as required. General drains shall be 100mm diameter first class glazed earthenware with rubber ring joints.

5. **CONNECTION TO EXISTING DRAINAGE:**
The Drainlayer is responsible for verifying the position and depth of the connection and commence laying his drains from this point.

6. **DRAIN TRENCHES:**
The excavation of trenches for drains shall be accurately made with base clean and true to grade so that no unnecessary filling is required. Adequate width shall be allowed in accordance with depth of drain to enable laying and jointing to be properly carried out. Trenches shall be kept firm and dry and shall be opened up only in lengths that can be protected, utilised and refilled within a reasonable time.

7. **LAYING OF DRAINS:**
All drains are to be laid on and surrounded to mid-point with 100mm concrete composed of 6 parts shingle to 1 part Portland Cement. Any cast-iron drains that have been laid on any type of filling are to be set on a continuous bed of concrete 225mm wide x 150mm deep reinforced with three continuous 10mm rods. The pipes are to be laid to straight lines and even grades with socket against fall in all cases.

8. **FITTINGS:**
The plan shows the layout of the system. Additional fittings that are normally required, such as inspection points and inspection bends, etc., that may be required but are not specifically shown must be allowed for by the Drainlayer to comply with normal practice under the regulations or special requirements of Local Council.

9. JOINTING AND BEDDING OF PIPES:

The piipes are to be jointed or caulked with lead in a proper manner and each and every junction or change of direction is to have removable cover plates for inspection.

10. FALL IN DRAINS:

The whole of the soil and stormwater drains are to be laid to a regular and even fall.

11. GULLY TRAPS:

Supply all gully traps and securely bed and build up with 5:1 concrete surround, 150mm above finished ground levels. Form large and deep dishings and finish the surface with blue metal, dust and cement, one to one and steel trowel smooth. All gully traps are to be fitted with large cast iron gratings and also a grating or perforated plate above the wastes discharging into it.

12. SEWER AND STORMWATER CONNECTIONS:

The owner shall Arrange for the Council to connect drain to sewere and stormwater where provided and pay all charges in connection therewith.

13. COMPLETION:

Properly backfill all trenches, consolidate as filling proceeds and leave area in a tidy state.

SOLID PLASTERER

1. PRELIMINARY AND GENERAL:

Read and not all clauses under Preliminary and General of this Specification where they apply to this trade.

2. WORK INCLUDED:

The solid plastering of all interior floors, if on plaan, and the front and back porches, slabs and steps, also terrace if shown.

3. MATERIALS:

Cement	-	shall be as specified under "Concretor".
Sand	-	shall be to NZS 3103 Sands for Mortars, Plaster and External Renderings.
Hydrated Lime	-	shall be mill hydrated of an approved brand.
Bonding Agents	-	if used shall be in accordance with maker's instructions.

4. WORKMANSHIP:

All to be best trade practice and generally where plastering is required by drawings it shall mean finishing to 12mm thickness with a mix of one part cement to three parts sand with 10% of hydrated lime added and finished to a straight and even surface with a wood float.

5. FOUNDATIONS:

Concrete foundation walls shall be prepared by removing projections, making good any defects and finishing with a dash coat of 1 to 3 cement and sand applied to give a regular and satisfactory coverage.

6. **CONCRETE FLOOR (MAIN - See Plan):**
Co-operate with Concretor and allow for plastering of main floor. Float up to true level and steel float finish to remove pattern. Do not over-trowel. A hard dense finish is required.

7. **PORCH AND STEPS AND TERRACE (If shown):**
Plaster up in one operation. One coat 12mm thick to terraces and porch slabs, 12mm thick to verticals and sides etc. Wood float up then give light sweeps with steel float to remove blemishes.

8. **COMPLETION AND CURING:**
Leave all work complete and clear away all plaster droppings. Keep work damp and maintain all finished to completion.

9. **EXTERIOR PLASTER ON METAL LATH OR WIRE MESH:**
Such back grounds and plaster shall be erected according to Appendix G of NZS 3604, either rigid or non-rigid backings, and plastered according to NZS 4251.

FIBROUS PLASTERER

1. **PRELIMINARY AND GENERAL:**
Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. **WORK INCLUDED:**
The manufacture and application of fibrous plaster or plasterglass sheet to wall or ceiling surfaces as specified. The manufacture and application of cornices or other decorative fibrous plaster items as specified.

3. **MATERIALS AND WORKMANSHIP:**
All fibrous plaster or plasterglass sheets and other products shall be manufactured and fixed, strickly in accordance to NZS 4221 or with the Code of Practice of the New Zealand Fibrous Plaster Manufacturer's Assn. The whole of the labour required for the erection, fixing, wadding and stopping shall be that of competent fibrous plaster tradesmen. Admixtures, release agents and stopping materials shall not be of deleterious nature nor used in quantities sufficient to impair the properties of the sheet when used with or without decoration.

4. **FRAMING:**
All noggings, trimmings, straightening and packing of studs or joists, necessary tor the fixing of fibrous plaster products shall be provided and completed by the Builder before the commencement of such work. Timber framing shall comply with NZSS 3631 (framing grades) and shall be pre-dried to an equilibrium moisture content not exceeding 15-16%. The surface to which fibrous plaster is fixed must be clean, straight and dry.

5. **CEILING DIAPHRAGMS:**
Fix all ceilings serving as structural ceiling diaphragms under terms of NZS 3604 (obtain methods of fixing and size limitations from manufacturer). Check that each wall under or

connected to has bracing for a diaphragm.

6. **PAINTING:**
All fibrous plaster or plasterglass sheets and othre products shall be painted strictly in accordance with the specifications outlined below:

SYSTEM	FIRST COAT	SECOND COAT	THIRD COAT
No.1	Varnish based Pigmented Sealer	Primer Undercoat	Full Gloss
No.2	Varnish based Pigmented Sealer	Semi Gloss	Semi Gloss
No.3	Varnish based Pigmented Sealer	Alkyd Flat	Alkyd Flat
No.4	Varnish based Pigmented Sealer	P.V.A. Plastic	P.V.A. Plastic

Allow overnight drying between coats except for system No.4 where one or two hours drying time, according to manufacturers' instructions may be allowed between second and third coats.
N.B. The fibrous plasterer will not accept responsibility for the effect of glancing light on fibrous plaster with a gloss paint finish.

ELECTRICIAN

1. **PRELIMINARY AND GENERAL:**
Read and note all clauses under Preliminary and General of this specification where they apply to this trade.

2. **FEES:**
The Owner is responsible to pay all fees and charges and obtain all necessary consents for this trade.

3. **SCOPE OF WORK:**
Carry out the whole of the electrical installations in strict accordance with the latest Electrical Wiring Regulations. 1993

4. **MATERIALS AND WORKMANSHIP:**
All materials used under this contract shall be of approved British or New Zealand Standard Specification. Allow for all materials necessary to complete the contract whether specified or not. All work shall be carried out by a Registered Electrician in accordance with regulations and best trade practice and in a manner which will cause minimum inconvenience to other workmen and the work as a whole. Do all cutting away, drilling etc., and with timber cut the minimum only away for the entry of cables.

5. **CO-OPERATION:**
Co-operate with the Building Contractor and other sub-contractors in all phases of work. Give ample notice to enable the Contractor to arrange the necessary void, chase data etc.

6. **COMPLETION AND CONNECTION OF POWER:**
Leave work complete. The owner is responsible to arrange for all inspections and tests and for the connection of power to the works. It is the responsibility of the Electrical Contractor to ensure that no delay is occasioned to the job once the contract is completed.

7. **POWER SUPPLY:**
The owner shall arrange with the power supply authority for the connection of an underground, or overhead, supply to the residence.

8. **METER BOX:**
Provide and install recessed meter box where shown on plan. Confer with Carpenter for trimming same.

9. **MAIN SWITCHBOARD:**
Provide and install in recess main switchboard complete with all necessary control and auxiliary equipment.

10. **ELECTRIC STOVE:**
Allow the P.C. sum of $ .1000.00. for the supply only of the stove. Provide and fix a 30-amp flush switch for stove and sufficient cable for connection and allow for installation.

11. **WATER HEATER:**
Allow for the permanent connection of the water heater to the electrical system. Provide and install 3 K/W element and thermostat to 270. litres hot water cylinder provided by the Plumber. Refer clause 3 of this section.

12. **POWER POINTS:**
All wall plugs shall be 230v. 10 amp, 3 pin flush type. Generally install plugs 300mm above the floor or 225mm above bench top. Points to washer/dryer space and refrigerator 1200mm from the floor. The exact position of all power points shall be determined on the job by the Owner.

13. **LIGHTS:**
All lights to be first quality, plastic batten holder shall be reinforced. All roses and holders not covered by fittings shall be white.

14. **LIGHT SWITCES:**
Light switches shall be 10-amp, all insulated P.D.L. micro-gap type or equivalent. Where indicated fit flush type with plain bakelite flush plate. Fix switches generally 1200mm above the floor.

15. **SPECIAL FITTINGS:**
Allow the sume of $ .1000.00 for fittings to be selected by Owner.

16. **LIGHT POINTS:**
Allow for installing a total of .....30..... outlets in building.

17. **POWER POINTS:**
Allow for installing a total of .....30..... power points in the building.

PAINTER AND GLAZIER

1. **PRELIMINARY AND GENERAL:**
   Note all clauses under Preliminary and General of this specification which shall apply to this section of the work.

2. **MATERIALS:**
   Generally all materials shall be of N.Z. manufacture of approved brands and of the paint selected respective coats shall be of the same brand.

3. **WORKMANSHIP:**
   All work shall be carried out in accordance with good trade practice. Surfaces shall be clean and properly prepared before coating and work shall be in accordance with Code of Practice NZS 7703 "Painting of Building".

4. **COLOUR SCHEME:**
   The Owner will select from standard colour charts, colours he will require and Contractor is to allow for picking out sashes, doors, porches or any other reasonable colour change required.

5. **STOPPING:**
   After priming, all nail holes or joints are to be stopped and cleaned off before undercoating for painted work and for varnished work, hotes etc., are to be stopped with matching putty after first coat of sealer.

6. **PAINTING OF EXTERNAL WOODWORK:**
   After priming all external woodwork and adjacent metal work such as flashings, spouting and downpipes is to be given one good coat of undercoat followed by finished coat of high gloss paint. Priming coat before painting shall be well brushed in and all faces shall be covered, ends of laps and tops and sides of sashes, doors etc.

7. **PAINTING OF INTERIOR SURFACES:**
   Refer to plan or separate instructions to accompany this specification. Wallboard and ceilings as required to be given one coat of sealer and finished with two coats of approved paint finishing flat or semi-gloss as required. Where full gloss is required, such as kitchen and bathroom, finishing coat shall be full gloss enamel. over sealer.

8. **VARNISHING:**
   Where varnishing is required such as doors, architraves and skirtings give one coat of approved P.V.A. sealer followed by two coats of clear varnish finishing egg-shell gloss and lightly sanding between coats.

9. **CONCRETE:**
   To concrete base walls or concrete block work apply two coats of exterior quality P.V.A. paint of an approved type finishing semi-gloss.

10. **ROOF:**
    Roof - if corrugated iron prime all laps before fixing. For corrugated iron or galvanised trough section roofing after fixing prime roof with calcium plumbate galv. iron primer

and then apply one good coat of approved roof pain.

11. PAPERHANGING:

All rooms to be papered shall have paper hung to a value of $ ..... per roll. Walls shall be properly prepared by sizing, paper hung straight and true with butt joints, and paste used shall have a fungicide incorporated.

12. GLAZIER:

Glaze all sashes, glass doors or screens in compliance with the NZBC acceptable solution B1/AS1 Clause 7.1 (NZS 4223) with appropriate weight glass properly fixed and puttied or headed into rebates. Where required glazing shall be selected obscure patterned glass.

13. MIRROR:

Provide a 6mm plate glass mirror and mount on bathroom cabinet door with mirror clips.

14. COMPLETION:

The Painter and Glazier is to do all that is required of their trades to leave the work complete and all must be left clean including all glass at completion.

PROVISION FOR VARIATION NO.1

Cost of Variation Order No.1 $ ..... Signatures: .....

Date: .....

PROVISION FOR VARIATION NO.2

Cost of Variation Order No.2 $ ..... Signatures: .....

Date: .....

PROVISION FOR VARIATION NO.3

Cost of Variation Order No.3 $ ..... Signatures: .....

Date: .....

PROVISION FOR VARIATION NO.4

Cost of Variation Order No.4 $ ..... Signatures: .....

Date: .....

PROVISION FOR VARIATION NO.5

Cost of Variation Order No.5 $ ..... Signatures: .....

Date: .....

PROVISION FOR VARIATION NO.6

Cost of Variation Order No.6 $ ..... Signatures: .....

Date: .....

PROVISION FOR VARIATION NO.7

Cost of Variation Order No.7 $ ..... Signatures: .....

Date: .....

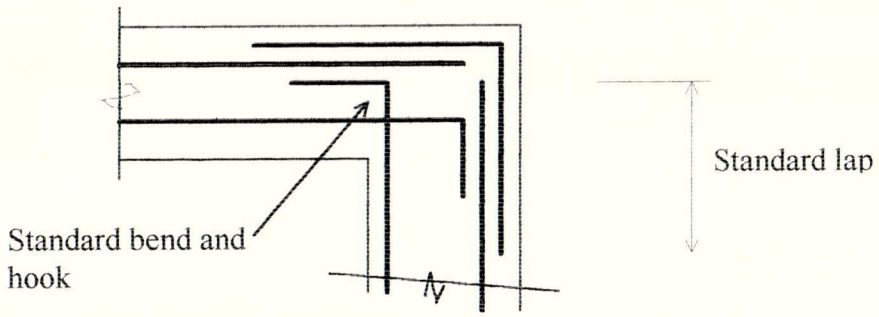
STRUCTURAL SPECIFICATION

1. **No Change or Variation** is permitted unless the engineer provides appropriate written instructions.

2. **Dimensions** : All dimensions shall be checked by the contractor before construction commences.

3. **Foundations** shall bear on solid ground. Safe bearing pressure of 100 kPa has been assumed in design. Any soft spots are to be located by the contractor and referred to the engineer for written instructions.

   All horizontal foundation reinforcing must lap adequately at corners and junctions as indicated below.



   Note: db denotes bar diameter

   All service pipes under slab to pass under foundation beams.

4. **Hardfilling** under floor slabs and foundation beams (where shown on the details) shall be CCC AP65 to CSS : Part 1 : 1992, compacted to at least 90% standard compaction as per NZS 4431. Blind all surfaces to receive a DPC with a 20mm layer of coarse sand.
   Alternatively use rounded tailings without sand binding.

5. **Concrete Work** shall comply with NZS 3109. Concrete strengths shall be 17.5 MPA for foundations, 20 MPA for all other concrete. All surface finishes shall comply with NZS 3114.

6. **Reinforcing Steel** shall comply with NZS 3402 and be placed in accordance with NZS 3109.

   Bar designations are as follows:

R	-	shall be Grade 300 plain round bar
D	-	shall be Grade 300 deformed bar
YD	-	shall be Grade 430 deformed bar.

   All reinforcing steel shall fully lap at all splices, corners of foundation beams, beams, blockwalls etc. Lap lengths shall be as follows:

Concrete: YD12=500mm
YD16=600mm

Blockwork: YD12=750mm
YD16=950mm

Covers shall be as follows:

Foundations and all exterior exposed concrete:

Underside of foundations, or cast against ground	85mm to all steel
Formed sides of foundations and other members, tops of beams, etc.	60mm to main steel

Interior concrete:

All formed surfaces, insitu concrete	50mm to main steel

7. **Timberwork** shall comply with NZS 3604. All timber member sizes or details not shown on the drawings or sketches shall be correctly sized and installed by the Contractor, to NZS 3604 specification and details.

WALL BRACING CALCULATION SHEET

Page No. 1

JOB INFORMATION

Job Name:	PAT & CLEM INWOOD RESIDENCE	*Job No.:*	1012
Contractor:	Steve Inwood	*Calcs by:*	John Marshall
Site Address:	Oak View Drive	*Date:*	24-Oct-97
	AMBERLEY	*Phone:*	

Lot No. ..... DP No. .....

BUILDING DETAILS

No. of storeys		(Single)	.450 Two	*Roof weight:*		(light) heavy
Building height to apex:		4.2 *m*		*Cladding weight:*	*lower*	light (heavy)
Roof height above eaves:		2.0 *m*	✓	*Cladding weight:*	*upper*	light heavy
Stud height:	*lower*	2.4 *m*	✓	*Room in roof space:*		yes (no)
Stud height:	*upper*	N/A *m*				
Average roof pitch:		20 °				
Roof span, S:		4.0 *m*				

Lower/Single

Building length:	24.4 *m*	*Building width:*	15.5 *m*
Gross building plan area:	223.65 m^2		

Upper Level

Building Length	0 *m*	*Building Width*	0 *m*
Gross building plan area:	0 m^2		

NOTES:
1. *Roof slope <25° use building lengths, >25° use roof length.*
2. *Heavy roofs use roof area at eaves level.*
3. [REFERENCES TO NZS 3604:1990]

FLOOR INFORMATION

Ground Concrete slab on ground consisting of:

- 100 mm thick concrete on vapour barrier on 100 mm of granular base ✓
- minimum concrete strength to be 17.5 MPa after 28 days ✓
- reinforced with 665 mesh with 30 mm top cover ✓ [E11.4]

WIND BRACING REQUIREMENT Page No. 2

Region: R1 R2 *Roughness:* Urban Rural

Exposure: Sheltered Exposed *Topography:* T1 T2 T3

T4 T5 [table 2.5]

WIND ZONE L M H VH SD

BRACING UNITS REQUIRED: [table 6.2]

Single/lower	64 *BU's/m*	*along*	*Upper level*	0 *BU's/m*	*along*
	54 *BU's/m*	*across*		0 *BU's/m*	*across*

TOTAL WIND LOAD, W =

Single/lower	**992 *BU's***	***along***	***Upper level***	**0 *BU's***	***along***
	1318 *BU's*	***across***		**0 *BU's***	***across***

SEISMIC BRACING REQUIREMENT [table 6.1]

Single/lower	4.6 *BU's/m²*	*Upper level*	0 *BU's/m²*

TOTAL SEISMIC LOAD *(along and across),* ***E =***

Single/lower	**1028.79 *BU's/m²***	***Upper level***	**0 *BU's/m²***

NOTES: *1 For a room in the roof space use E + 1 toatal seismic load.*

BRACING TABLE - ***Across Single/lower level*** Page No. 3

			Wind		Seismic			
Element ID.	*Element Length*	*Bracing Type*	*B.U.'s per metre*	*No. of B.U.'s*	*B.U.'s per metre*	*No. of B.U.'s*	*B.U.'s Required*	Notes
A1	0.85	SP1	100	84.9	100.0	84.9		1.2 @ 45°
				84.9		84.9	70	ok!
B1	1.34	GIB 1	55	73.9	50.0	67.2		1.9 @ 45°
B2	1.00	SP1	100	100.0	100.0	100.0	55	
				173.9		167.2	70	ok!
C1	1.27	GIB 3	65	82.7	60.0	76.4		1.8 @ 45°
C2	1.27	GIB 3	65	82.7	60.0	76.4		1.8 @ 45°
C3	2.12	GIB 3	65	137.9	60.0	127.3		3.0 @ 45°
				303.3		280.0	70	ok!
D1	2.70	GIB 3	65	175.5	60.0	162.0		
D2	3.20	GIB 3	65	208.0	60.0	192.0		
				383.5		354.0	70	ok!
E1	1.90	GIB 1	55	104.5	50.0	95.0	65	
E2	2.70	GIB 3	65	175.5	60.0	162.0	100	braceline
				280.0		257.0	70	ok!
F2	1.00	SP1	100	100.0	100.0	100.0		
				100.0		100.0	90	ok!
G1	0.50	SP4	70	35.0	85.0	42.5		
G2	0.50	SP4	70	35.0	85.0	42.5		braceline
G3	0.45	SP5	70	31.5	85.0	38.3		ceiling
				101.5		123.3	100	ok!
		Total Bracing Units provided		**1427.1**	BU's	**1366.3**	BU's	
		Total Bracing Units required		1317.6	BU's	1028.8	BU's	ok!

BRACING TABLE - ***Along Single/lower level*** Page No. 4

			Wind		Seismic			
Element ID.	*Element Length*	*Bracing Type*	*B.U.'s per metre*	*No. of B.U.'s*	*B.U.'s per metre*	*No. of B.U.'s*	*B.U.'s Required*	Notes
H1	1.20	SP1	100	120.0	100	120.0		
				120.0		120.0	50	ok!
I1	1.34	GIB 1	55	73.9	50	67.2	70	1.9 @ 45°
I2	1.20	GIB 3	65	87.3	60	80.6	65	
				161.2		147.8		ok!
J1	0.85	SP1	100	84.9	100	84.9	70	1.2 @ 45°
J2	1.27	GIB 3	65	82.7	60	76.4		1.8 @ 45°
J3	1.27	GIB 3	65	82.7	60	76.4		1.8 @ 45°
J4	2.50	GIB 3	65	162.5	60	150.0		
J5	2.12	GIB 3	65	137.9	60	127.3		3.0 @ 45°
				550.7		514.9		ok!
K1	1.30	SP1	100	130.0	100	130.0	50	braceline
K2	2.40	GIB 3	65	156.0	60	144.0		ceiling
				286.0		274.0	100	ok!
L1	2.00	GIB 3	65	130.0	60	120.0		
				130.0		120.0	70	ok!
M1	2.40	GIB 1	75	180.0	50	120.0		braceline
M2	2.40	GIB 1	75	180.0	50	120.0		ceiling
				360.0		240.0	200	ok!
		Total Bracing Units provided		**1607.9**	BU's	**1416.7**	BU's	
		Total Bracing Units required		992.0	BU's	1028.8	BU's	ok!

Please Photocopy

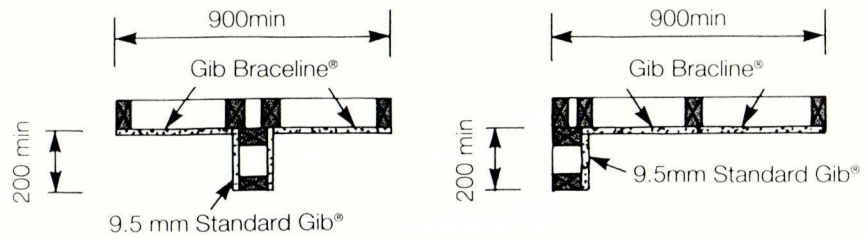
Gib® Wall Bracing Systems Construction Guide

(complies with NZS 3604 : 1990)

Specifications			
Type	Description	Additional Requirements	Nailing & Stopping
Gib 1	9.5mm Standard Gib® on one face. Min. length 1800mm	Diagonal brace	Gib 1, 2 and 3 30 x 2.5 Gib Clouts® at 150mm ccs. around the perimeter of the bracing element and double nailed at 300mm ccs. to intermediate framing. Tape and stop all joints within the bracing element.
Gib 2	9.5mm Standard Gib® on both sides. Min. length 1800mm	Diagonal brace	
Gib 3	9.5mm Standard Gib® on both sides. Min. length 1200mm	No additional requirement	
BR 1	Gib Braceline® on one face. Min. length 1800mm	Diagonal brace	BR 1, 2, 3, 4, 5, 6, 7 and 8 30 x 2.5 Gib Clouts® fitted with Gib Braceline® washers at 150mm ccs. around the perimeter of the bracing element. Double nail to intermediate framing at 300mm centres. Tape and stop all joints within the bracing element.
BR 2	Gib Braceline® vertical on one face. Min. length 1800mm	No additional requirement	
BR 3	Gib Braceline® horizontal on one face. Min. length 1800mm	No additional requirement.	
BR 4	Gib Braceline® on one face. Length 900 to 1200mm	6 kN end-stud fixings	
BR 5	Gib Braceline® on one face. Length 1200 to 2400mm	6 kN end-stud fixings	
BR 6	Gib Braceline® and Gib Board® on opp. sides. Length 1200 to 2400mm	12 kN end-stud fixings	Plywood and Hardboard shall be fixed with 30 x 2.5mm Gib® Clouts at 150mm ccs around sheet perimeters and at 300mm ccs to intermediate framing.
BR 7	Gib Braceline® on one face 7.5mm ply on other. Length 900 to 2400mm	6 kN end-stud fixings	
BR 8	Gib Braceline® on one face 4.75mm hardboard on other. Length 900 to 2400mm	6 kN end-stud fixings	
BR 9	Gib Braceline® on one face min length 0.6m max length 1.2m	Metal strap of 6kN capacity fixed to both wall end-studs and bottom plate to floor fixing.	Nailing type and pattern as illustrated on page 18.

Guidelines for Intersecting Walls

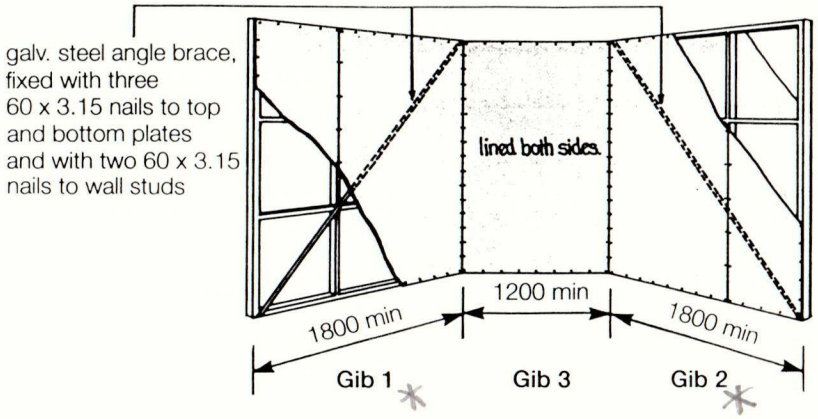
Types BR1 to BR8 may have Standard Gib® intersecting walls with a minimum length of 200mm. Gib® Braceline sheets shall be fixed and jointed as given on pages 16 and 17. Nails and washers are required around the perimeter of the bracing element . Vertical joints at T-junctions (illustrated on the left) shall be fixed and jointed as specified for intermediate sheet joints.

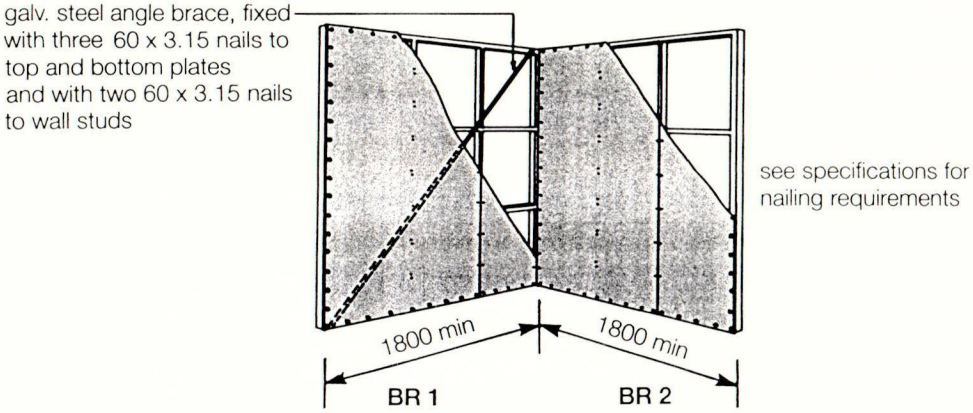


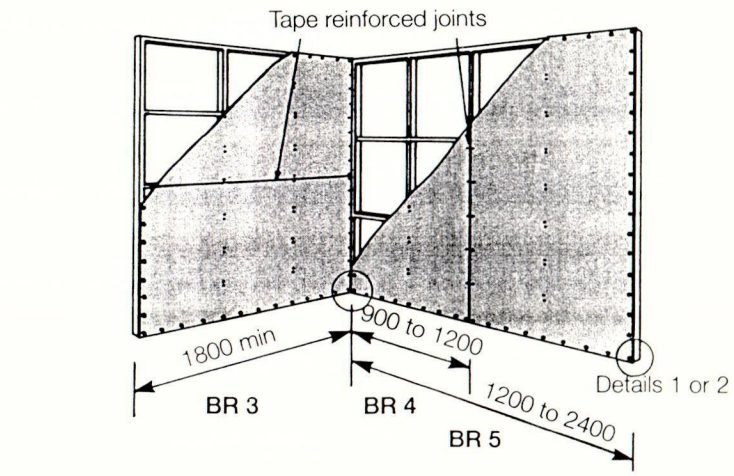
Where Wall Bracing Elements are interrupted by T or L junctions (as illustrated in the 900mm example above) they should be considered as follows:
The Gib Braceline® has been cut to accomodate the junction. Nevertheless, in respect of calculating Bracing Units, the Bracing Element is deemed to be continuous for the whole length (900mm in this particular case).

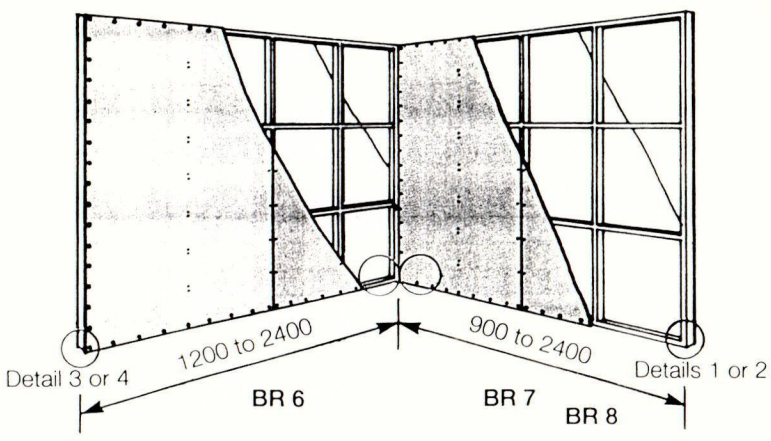
Construction Details

Please Photocopy









Hence plywood bracing may be used as both construction and permanent bracing.

Humidity and condensation: In uses where the moisture content of wood may exceed 18% for prolonged periods, plywood must be H3 treated to resist decay or insect hazard.

Sub-floor sheet bracing: H3 treated plywood can be used unpainted in sub-floor sheet bracing where dampness does not allow the use of untreated plywood or other sheet materials (clause 4.7.8.1 of NZS 3604). Where plywood sub-floor sheet bracing is exposed to both rain and sun, it should be coated as for a cladding to achieve the 50 year durability.

Cladding as bracing: H3 treated plywood can be used as cladding, and bracing. To achieve 50 year structural durability, it should be at least five ply plywood and must be coated with a maintained three coat acrylic paint system, preferably in a light colour.

Soil: Plywood (untreated or H3 treated) must not be allowed to come in contact with soil.

For: Further information, refer to the Carter Holt Harvey Plywood "Durability Statement".

Table 1

Ratings for 2.4m high Plybrace wall bracing elements

These ratings apply to walls detailed in accordance with NZS 3604 and this leaflet. The hold-down value determines which details should be used. The 6kN hold-down is a dropped panel detail with no steel straps or a single strap at each end of the wall. The 12kN hold-down (Type D) is two straps at each end of the wall.

Wall Type	Minimum Wall Length (m)	Minimum Plywood Thickness (mm)	Nail* Spacing (mm)	Hold-down (kN)	Stud Spacing (mm)	Bracing Units/m (20 bracing units = 1kN) Wind	Earthquake
Ratings for plywood component only							
SP4	0.45	7	75	6	450	70	85
SP2	0.6	7	150	6	600	85	85
SP1	0.9	7	150	6	450 or 600	100	100
SPST1	1.2	7	150	-	600	90	80
SP6	0.9	12	150	6	450 or 600	115	110
SP8D	0.9	7	150	12	450	125	135
SP5D	1.2	7	75	12	600	130	135
SP10	1.8	7	75	6	450	135	135
Ratings for additional sheathing (Gib Board)							
SP2G	0.6	7	150	6	600	95	95
SP1G	0.9	7	150	6	450 or 600	100	100
SP11G	1.8	7	150	6	450 or 600	140	120
BR7**	0.9	7	150	6	450 or 600	145	145
SP6G	0.9	12	150	6	450 or 600	120	110
SP6GD	0.9	12	150	12	450 or 600	145	135

* Use these spacings at all sheet edges. Within the sheet, spacings may be double that specified.

** Braceline.

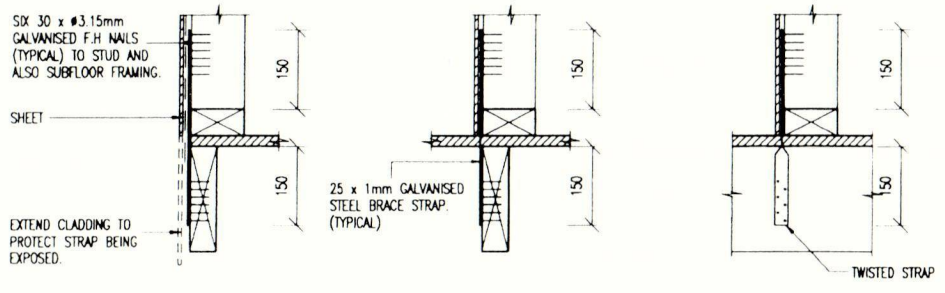
For 7mm plywood use 30mm x 2.5mm galvanised flathead nails.

For 12mm plywood use 50mm x 2.8mm or larger galvanised flathead nails.

For steel framing use SPST1 for plywood on light steel frames. Use button head self drilling, self tapping screws for Plybrace and standard plywood and counter sunk stainless steel self drilling, self tapping screws for cladding applications. Refer Carter Holt Harvey Plywood Technical Note "Plywood on steel frame" for more detail.

Figure 1

6kN strap fixings to each end stud of plywood sheet braces for timber ground floor and upper storey



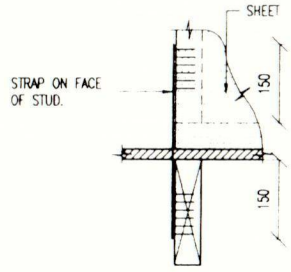
(a) Exterior or edge detail

(b) Internal detail over continuous floor - wall parallel to joists

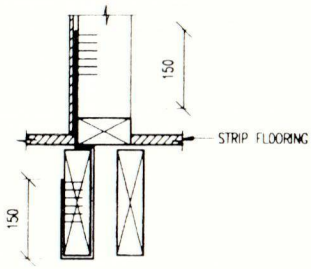
(c) Internal detail over continuous floor - wall across joists

Figure 1

Continued



(d) Alternative to detail (c)



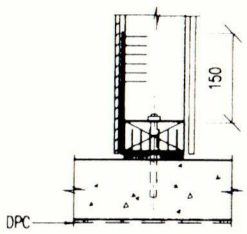
(e) Strip flooring detail

Note

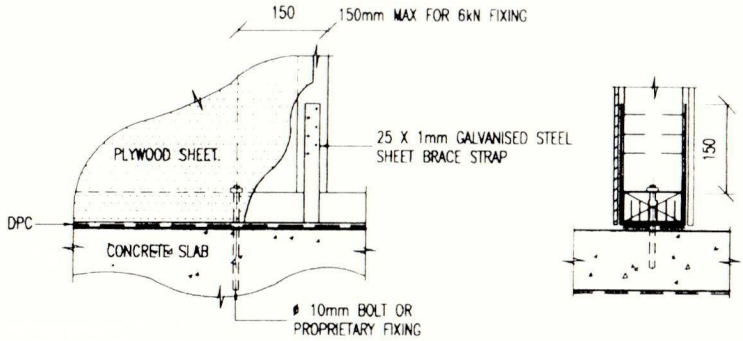
1. Detail (a) can be replaced by a dropped panel fixing with no straps. See Figure 4.
2. Straps may be recessed into framing where a smooth finish is required in linings over straps.

Figure 2

6kN strap fixings and capacities to each end stud of braced panels on concrete



(a) 6kN strap one side and under plate 6 - 30 x 3.15mm dia. Galv. F.H. nails each end



(b) 6kN strap wrapped under plate 3 - 30 x 3.15mm dia. Galv F.H.nails each end of stud

Installation

Framing

Framing shall be in accordance with NZS 3604: 1990 or similar standard. Before placing the frame in position, check the hold-down requirements to enable positioning of any straps required. Refer Figure 5 for detailing of expansion gaps and framing alignment.

Hold-down details

6kN hold-down:

For 6kN hold-down; at each end of the wall, use either:

1. A single 25m x 1.0mm galvanised steel sheet brace strap with 6kN capacity. See:
   * Figure 1(a) to (e) for timber floors.
   * Figure 2(a) or (b) for concrete floors.
2. Or the dropped panel detail, requiring no straps. See:
   * Figure 4(a) where the brace is in a veneer cavity or under cladding.
   * Figure 4(b) for cladding used as bracing.

12kN hold-down:

Higher wall ratings are possible with double hold-down and or double nailing. For 12kN hold-down use two 25 x 1.0mm. 6kN capacity straps. See:

1. Figure 6(a) to (d) for timber floors.
2. Figure 7 for concrete floors. Detailing in Figure 8 can be used with two straps.

Steel strap:

For details requiring steel straps according to NZS 3604, use only 25mm x 1.0mm galvanised steel sheet brace strap, with 3.15mm nails according to the strap manufacturer's instructions. Strap fixings must be protected from exposure to rain or excessive condensation. One way of doing this is by taking building paper under plywood or other claddings down over the straps. For concrete floors, details in Figure 8 can be modified to the requirements of Figures 2 and 7. All details are available as AUTOCAD files. See the reply coupon on back cover.

Nailing and fixing of sheets

Refer Figure 3. Nail according to the desired bracing rating in Table 1. Standard nailing at edges is 150mm centres and within the panel at no more than 300mm centres. Higher ratings can be obtained simply by double nailing, ie. all edges at 75mm centres and within the panel at 150mm centres.

- Allow a 2 to 3mm wide expansion gap between sheets (Figure 5).
- Use 30 x 2.5mm nails in 7mm plywood.
- Use 50mm x 2.8mm or larger nails for thicker plywood that functions both as cladding and as bracing.
- Use only galvanised flathead nails and drive flush to the surface. Nails must be at least 7mm from the edge of the sheet for square edge sheets and 7mm from the back edge for the shiplap claddings.
- Do not nail in the face and the overlap tongue (Figure 5).
- Nail edges and ends of the sheets used as bracing, including blue tongue or tongue and grooved sheets.
- Do not foul hold-down straps and nails used to fix the plywood. This weakens the strap below specification.
- Do not overdrive gun-nails.

Figure 3

Fixing of plywood bracing sheets

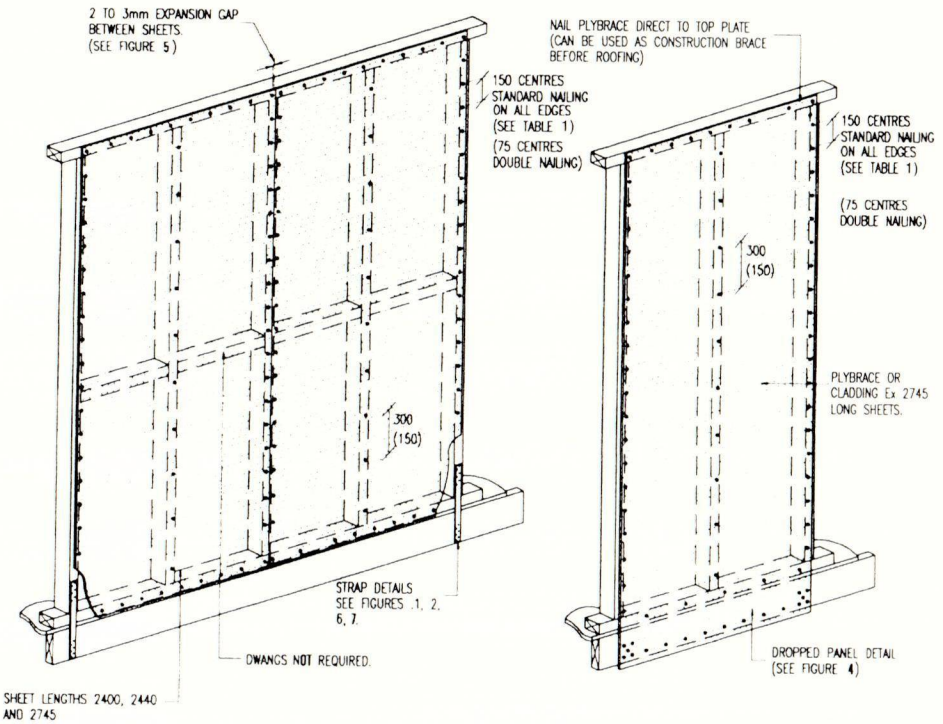
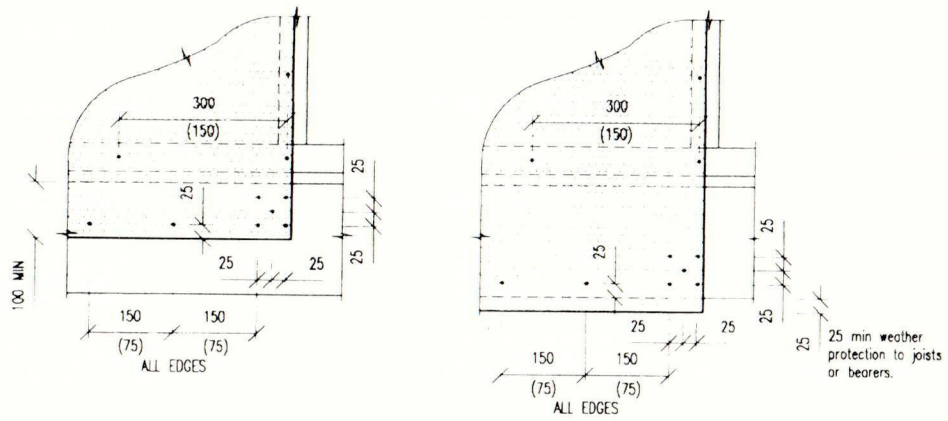


Figure 4

6kN dropped panel fixing for timber frames



(a) Dropped panel for brace under other cladding

(b) Dropped panel for plywood cladding brace

Note

1. Nails as specified in Table 1.
2. Nail centres given for standard nailing, or in brackets for double nailings.
3. Extra hold-down nails are same size as for rest of sheet.

Office copy

HURUNUI
District Council

P.O. BOX 13,
AMBERLEY 8251
NEW ZEALAND
TELEPHONE:
AMBERLEY (03) 314-8816
FAX: (03) 314-9181
E-MAIL: info@hurunui.govt.nz

IF CALLING ASK FOR .....

REF .....

BUILDING CONSENT
SECTION 35, BUILDING ACT 1991

APPLICANT

C INWOOD
41 COURAGE ROAD
AMBERLEY

CONSENT DETAILS

CONSENT/PIM NO.: 970436
DATE ISSUED: 10/12/97
DATE OF APPLICN: 10/11/97
VALN NO: 2143015000

PROJECT DESCRN: NEW CONSTRUCTION
BEING STAGE 1 OF AN INTENDED 1 STAGES
ERECT A NEW DWELLING WITH ATTACHED GARAGE

INTENDED LIFE: INDEFINITE, BUT NOT LESS THAN 50 YEARS

INTENDED USES: RESIDENTIAL

PROJECT LOCATION: 14 CLIFFORD PLACE, AMBERLEY 1724/14

LEGAL DESCRIPTION: LOT 2 DP 41715 LOT 2 DP 70939 BLK VIII T EVIOTDALE

ESTIMATED VALUE: $ 180,000

THIS BUILDING CONSENT IS A CONSENT UNDER THE BUILDING ACT 1991 TO UNDERTAKE BUILDING WORK IN ACCORDANCE WITH THE ATTACHED PLANS AND SPECIFICATIONS SO AS TO COMPLY WITH THE PROVISIONS OF THE BUILDING CODE. IT IS NOT A CONSENT UNDER THE RESOURCE MANAGEMENT ACT AND DOES NOT AFFECT ANY DUTY OR RESPONSIBILITY UNDER ANY OTHER ACT NOR PERMIT ANY BREACH OF ANY OTHER ACT.

THIS BUILDING CONSENT IS ISSUED SUBJECT TO THE CONDITIONS SPECIFIED IN THE ATTACHED PAGE(S) HEADED CONDITIONS OF BUILDING CONSENT 970436.

SIGNED FOR AND ON BEHALF OF THE COUNCIL:

NAME: _____ BUILDING CONTROL OFFICER DATE: 10.12.97

HURUNUI
District Council

P.O. BOX 13,
AMBERLEY 8251
NEW ZEALAND
TELEPHONE:
AMBERLEY (03) 314-8816
FAX: (03) 314-9181
E-MAIL: info@hurunui.govt.nz

IF CALLING ASK FOR .....

REF .....

CONDITIONS OF BUILDING CONSENT 970436

1 A MININUM OF 24 HRS NOTICE MUST BE GIVEN TO THE BUILDING OFFICER PRIOR TO ANY INSPECTIONS.

2 ALL CONSTRUCTION AND FIXINGS ARE TO BE IN ACCORDANCE WITH NZS 3604:1990 AND THE REQUIREMENTS OF THE NZ BUILDING CODE 1992 AND SUBSEQUENT AMENDMENTS.

3 AT LEAST ONE COPY OF THE APPROVED PLANS AND SPECIFICATIONS MUST BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE BUILDING CONTROL OFFICER ON REQUEST.

4 NOTE: SOME FILL MAY BE ENCOUNTERED DUE TO ROADWAY BEING LOWERED FOR SECTION DRAINAGE.

HURUNUI
District Council

P.O. BOX 13,
AMBERLEY 8251
NEW ZEALAND
TELEPHONE:
AMBERLEY (03) 314-8816
FAX: (03) 314-9181
E-MAIL: info@hurunui.govt.nz

IF CALLING ASK FOR

PROJECT INFORMATION MEMORANDUM

REF 970436

SECTION 31, BUILDING ACT 1991

ISSUED IN ACCORDANCE WITH BUILDING CONSENT NO. 970436

THIS PROJECT INFORMATION MEMORANDUM IS CONFIRMATION THAT THE PROPOSED BUILDING WORK MAY BE UNDERTAKEN, SUBJECT TO THE PROVISIONS OF THE BUILDING ACT 1991, AND ANY REQUIREMENTS OF THE BUILDING CONSENT ATTACHED.

THIS PROJECT INFORMATION MEMORANDUM INCLUDES:

___ INFORMATION IDENTIFYING RELEVANT SPECIAL FEATURES OF THE LAND CONCERNED

___ DETAILS OF RELEVANT UTILITY SYSTEMS

___ DETAILS OF AUTHORISATIONS WHICH HAVE BEEN GRANTED

1 THE PROPOSAL IS A PERMITTED ACTIVITY UNDER BOTH THE TRANSITIONAL & PROPOSED DISTRICT PLANS.

2 THE DWELLING WITH ATTACHED GARAGE SHALL BE DESIGNED TO WITHSTAND THE FOLLOWING LOADINGS
1) EARTHQUAKE "A" ZONE
2) HIGH WIND ZONE, 44 METRES PER SECOND
3) SNOW LOADING ZONE 4, ALTITUDE 45 METRES

3 CONNECTION TO THE COUNCIL WATER & SEWER HAVE NOT BEEN RECEIVED, PLEASE FIND FORMS ATTACHED.

SIGNED FOR AND ON BEHALF OF THE COUNCIL:

NAME: _____ BUILDING CONTROL OFFICER DATE: 10.12.97

HURUNUI DISTRICT COUNCIL

Processing Folder

VALUATION NUMBER	DUE DATE:
2143015000.	DATE LODGED:

OWNER: C Inwood. ZONE: Residential A - T, Residential - P

ADDRESS OF PROPOSED WORK: 14 Clifford Place, Amberley

NATURE OF BUILDING WORK: Erect a Dwelling with attached Garage.

REGISTRATION NO. 970436.	C.P.U. DATE CONSIDERED
APPLICATION: PIM / BC / JOINT PIM/BC	PIM APPROVED FOR ISSUE
	BC APPROVED FOR ISSUE
DATA ENTRY: DATE:	ISSUE CERTIF. OF COMPLIANCE:

Building:

Grant All is okay BUT for Truss Detail & Producer Statement and Manufacturers installation instructions etc for fire. RECEIVED 8/12/97 K.B.K. 3/12/97.

Date Approved PIM	Date Approved BC	Signature
	8/12/97	K Roberts

For Bldg Consent :- Some fill may be encountered due to roadway being lowered for section drainage.

INFORMATION IDENTIFYING RELEVANT SPECIAL FEATURES OF THE LAND

Wind Zone	Earth Quake Zone	Snow Load Zone	Hazard Identification
☐ Medium	☑ A	☐ 3	☐ No information
☑ High	☐ Specific Design	☑ 4 alt=45m.	☐ Flooding
☐ Very High			☐ Ground instability
☐ Specific Design			☐ Filled ground
			☐ Public drains
			☐ Other

Planning:

Permitted Activity

Date Approved PIM	Date Approved BC	Signature
11.11.97	11.11.97	

Plumbing & Drainage:

Date Approved PIM	Date Approved BC	Signature

Utilities (Water & Sewer):

Capital Contributions have been paid
water and sewer not connected.
Forms attached.

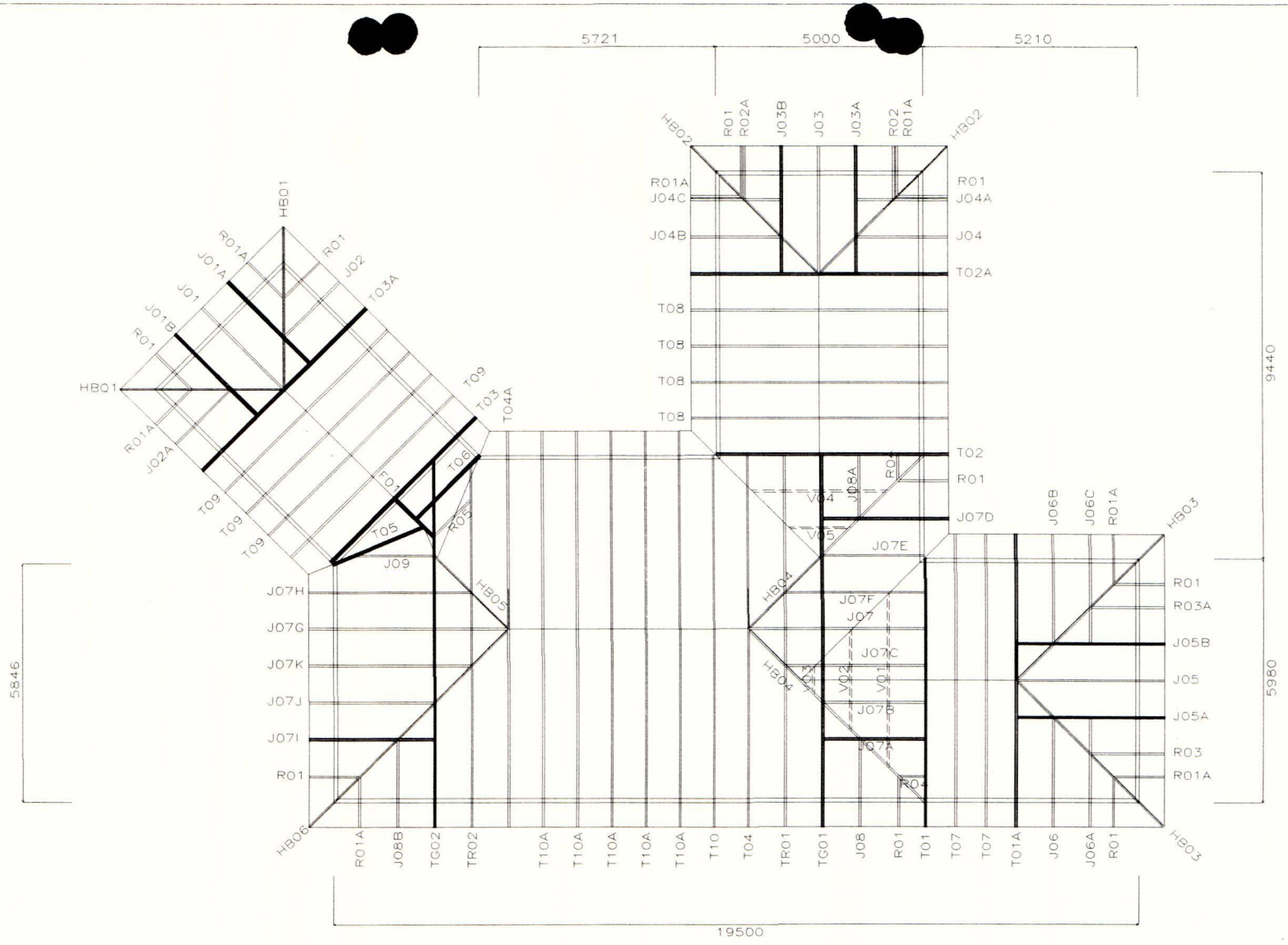
Date Approved PIM	Date Approved BC	Signature
11/11/97	11/11/97	N. Johnson

Engineering:

Date Approved PIM	Date Approved BC	Signature

Other (e.g.. Health):

Date Approved PIM	Date Approved BC	Signature



Job Details:

Snow Zone:	Christchurch	Snow Altitude:	100m
Ext. Pressure Coeff.:	-0.9	Int. Pressure Coeff.:	0.3
Wind Area:	High	Design Wind Speed:	44.0m/s
TC Restraints:	900mm	BC Restraints:	400mm
Roof Material:	Light	Ceiling Material:	Standard
Roof Live Load:	0.250kPa	Snow Load:	0.440kPa
Roof Pitch:	20.00deg	Truss Centres:	900mm

Rangiora Timber Trellis

LINESIDE RD
SOUTHBROOK
Rangiora
New Zealand
Telephone: (03) 3137104
Fax: (03) 3135357

Name: STEVE INWOOD
Address: P G INWOOD
AMBERLEY

Telephone:

Description: J1315

Job: J1315

Scale: 1 : 150 | Date: 12/11/97 | Drawn By: N E POLLARD

A division of Terry Young Ltd.

(July 1993)

INSTALLATION INSTRUCTIONS QEWB WOODBURNER FREESTANDING

TESTED TO NZS 7421 1990

A. Manufacturer recommends all installations be carried out by competent trades persons eg. (Space Heater Installer) to obtain maximum performance and maintenance free heating.

B. A permit is normally required and we suggest you check with your local building inspectors as by-laws can vary from area to area. Also notify your Insurance Company that a space heater has been installed.

C. Hearth - 1. Must extend at least 380 mm in front of heater loading aperture.
2. Must extend at least 90 mm on each side of heater.
3. Minimum hearth requirements are: 1 x 16 mm thick layer of Micore 160 covered with ceramic tiles. Alternatively: 14 mm thick fibre cement (Hardi-flex) covered with ceramic tiles.

D. Manufacturers recommend minimum clearances from combustible walls. In compliance with NZS 7421 1990.

Rear Clearance (with flue guard fitted)	170 mm
Side Clearance (with flue guard fitted)	210 mm
Corner Clearance (with flue guard fitted)	80 mm
Rear Clearance (without flue guard)	250 mm
Side Clearance (without flue guard)	220 mm
Corner Clearance (without flue guard)	120 mm
Minimum Hearth Size (from door aperture)	380 mm

WAIMAKARIRI DISTRICT COUNCIL
HEATING UNIT and FLUE to be installed in strict accordance with the manufacturers instructions. UNIT and HEARTH shall be restrained in accordance with the Building Code clause B1 and NZS 7421:1990. An INSPECTION is Required PRIOR to lighting the fire.

E. FLUE KIT

1. 3.6 m x 150 mm stainless steel flue
2. 1 x weather cap and cowl
3. 2 x 900 mm 250 mm galvanised liner
4. 2 x spider brackets
5. 1 x ceiling tile
6. 1 x secondary shield

NOTE — All joints must be sealed with flue sealing compound and screwed or riveted together.

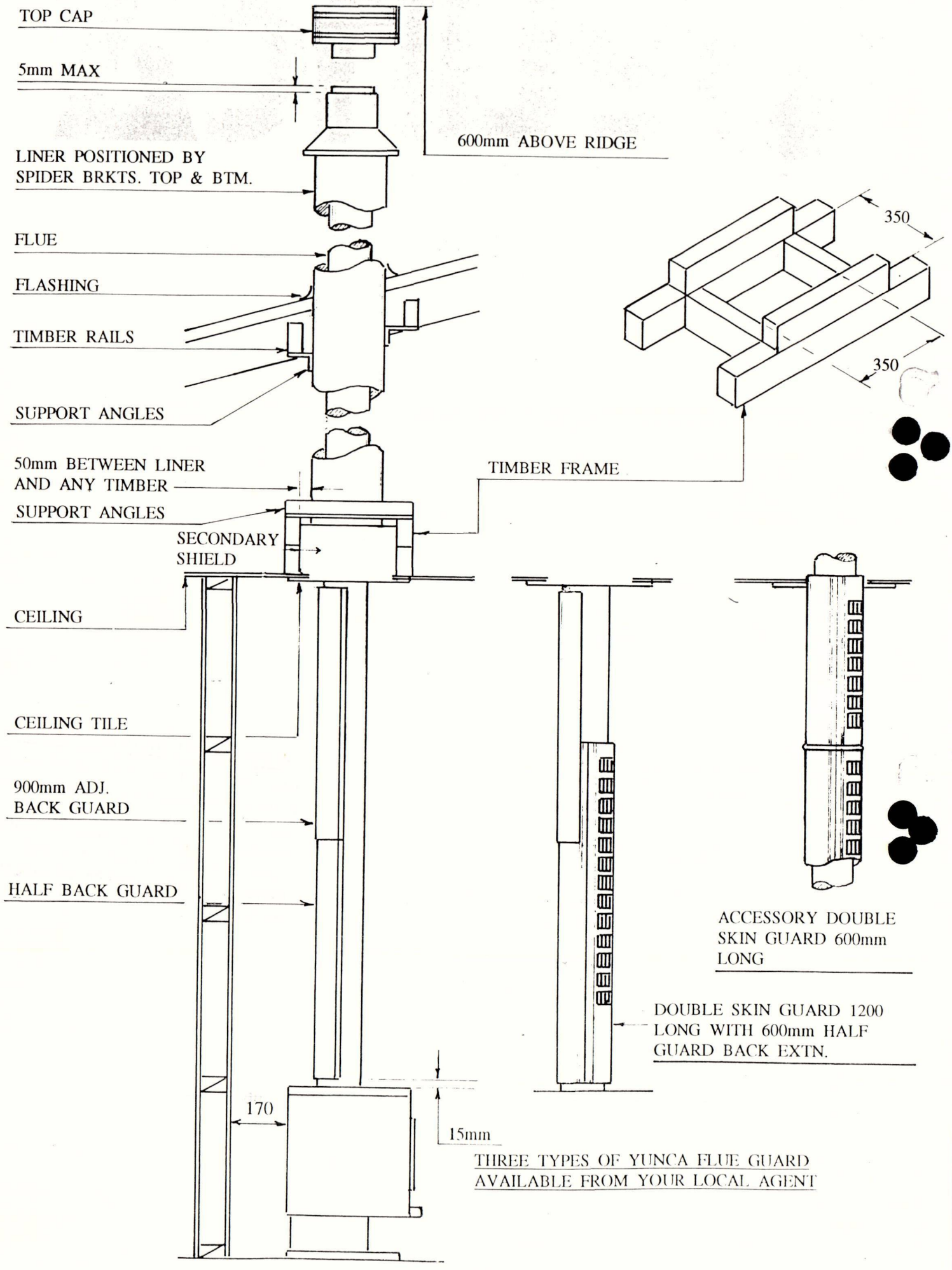
F. HALF SHIELD KIT

1. 1200 mm stainless steel back
2. 1 x 900 mm stainless steel back

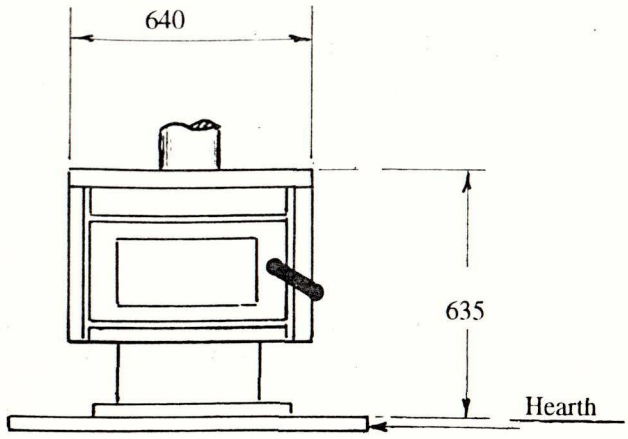
G. STANDARD FLUE GUARD KIT (Accessory Kits also available)

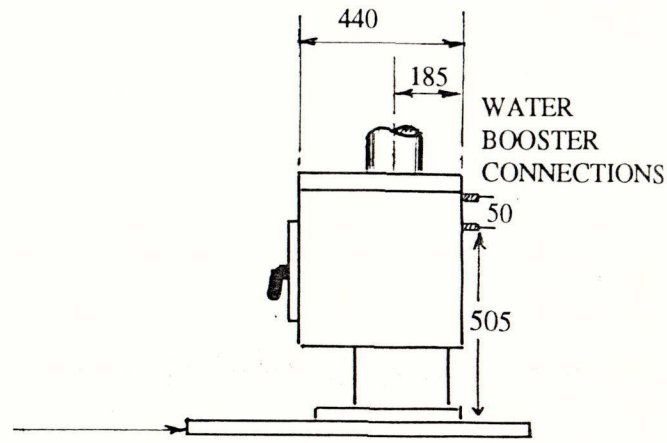
1. 1 x 1200 length back guard
2. 1 x 1200 length perf. front guard
3. 1 x 900 length back guard

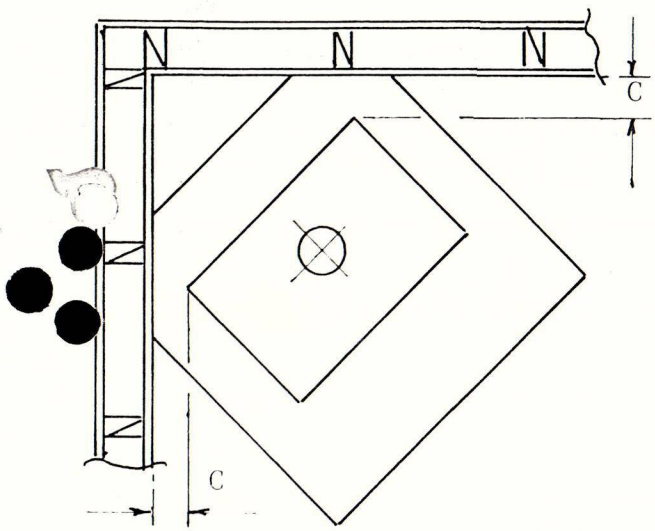
TYPICAL FLUE INSTALLATION

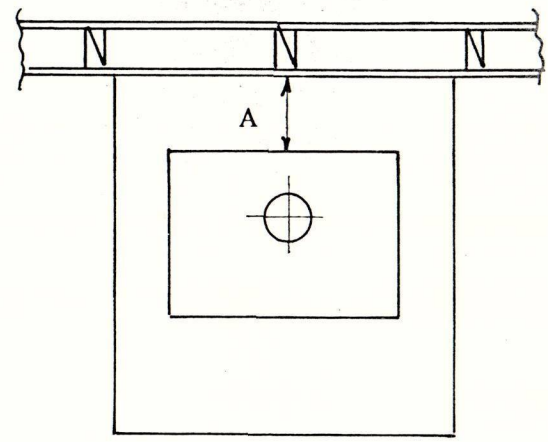


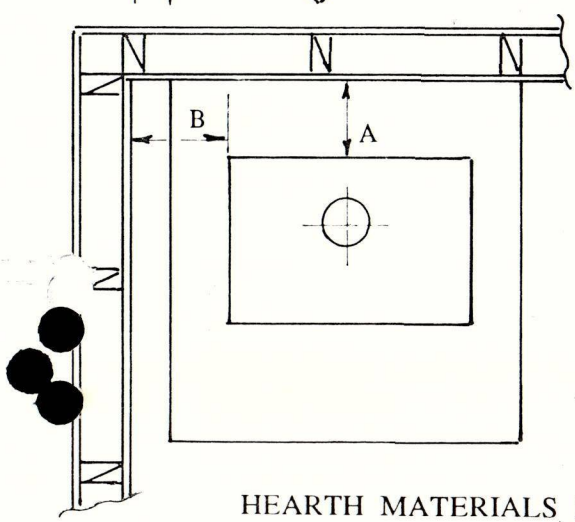
THREE TYPES OF YUNCA FLUE GUARD AVAILABLE FROM YOUR LOCAL AGENT

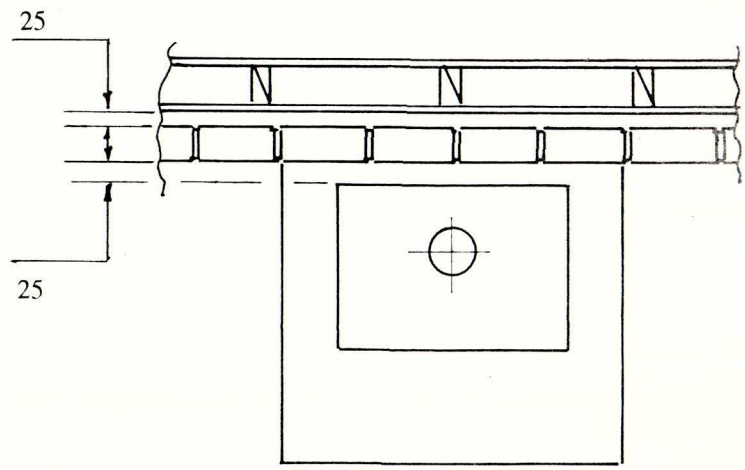












HEARTH MATERIALS 16MM MICORE 160 WITH CERAMIC TILES

COMBUSTIBLE WALL CLEARANCES

	(With full length flue shield)	(Without flue shield)
A	170mm	250mm
B	250mm	220mm
C	80mm	120mm

BRICK LINING FROM FLOOR TO WITHIN 25MM CEILING, LEAVING AIR VENTS AT BOTTOM TO ALLOW AIR FLOW IN THE CAVITY. FULL HEIGHT BRICK SCREEN IS REQUIRED TO BE ON A CONCRETE OR MASONRY FOUNDATION TAKEN TO SOLID BEARING.

SEISMIC RESTRAINT

NOTE: Secure base to hearth, with 8mm dynabolts or similar. Follow local council's specifications.

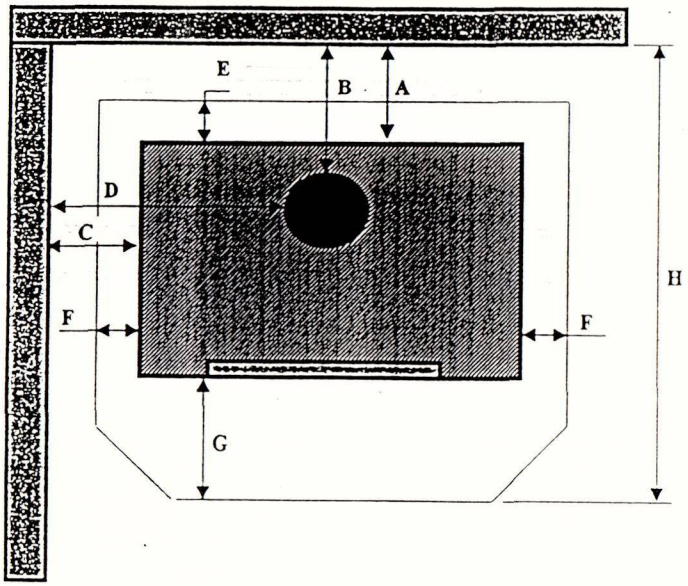


Fig 1

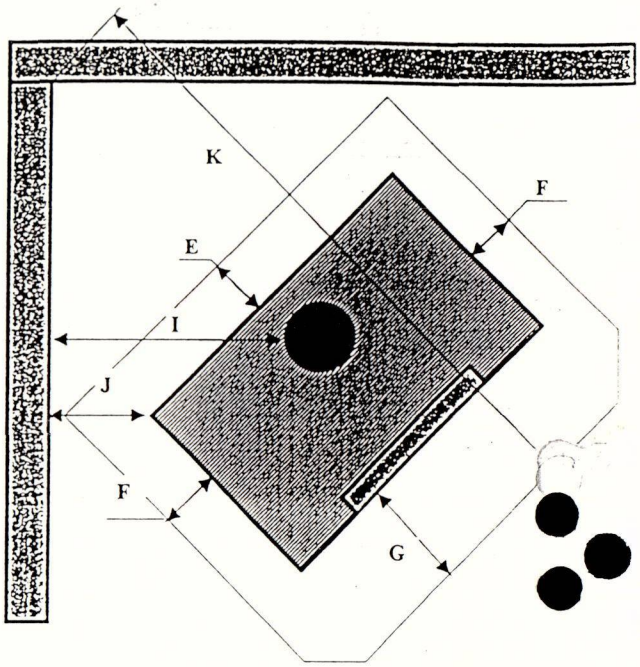


Fig 2

Figure 1-2, Minimum allowable distances to combustible materials for free standi appliances in accordance with
NZS 7421: 1990 section 305 (dimensions in mm).

A	B	C	D	E	F	G	H	I	J	K	Hearth Thickness	Flue Diameter	Flue Shield	
250	350	220	465	0	90	380	1070	374	120	1275	37	150	None	○
170	270	210	455	0	90	380	990	334	80	1219	37	150	Half Shield	◠
160	260	210	455	0	90	380	980	314	60	1191	37	150	Double Skin Shield	◎

HURUNUI
District Council

P.O. Box 13, Amberley

Ph. (03) 3148816 Amb.
Fax (03) 3149181 Amb.

Application for Building Consent

Section 33, Building Act 1991

[*Cross each applicable box and attach relevant documents in duplicate*]

Part A: General

[*Complete Part A in all cases*]

APPLICANT*

Name: C. INWOOD

Mailing address: 41 Conrose Rd

Contact [*Print name and position*]:
Steve Inwood

Phone: 03148906 Fax: 03 3149082

*Under section 33 of the Building Act 1991, the applicant must be the owner of the land on which building work is contemplated or a person who or which has agreed in writing, whether conditionally or unconditionally, to purchase the land or any leasehold estate or interest in the land, or to take a lease of the land, while the agreement remains in force.

FOR COUNCIL USE

Received: 10/11/97

Deposit Fee Paid: $ 500.00

Receipt No .....

BRANZ Levy: $.....

Bldg Ind. Authority Levy: $.....

PROJECT

New or relocated building ☑

Alteration ☐

Intended use(s) [*In detail*]:
.....
.....

Intended life:
Indefinite but not less than 50 years ☑
Specified as ..... years

Demolition ☐

Being stage 1 of an intended 1 stages

Estimated value (inclusive of GST):
$ 120,000.00

PROJECT LOCATION

Street address [*If any*]: LOT 8
Clifford PLACE

Legal description [*As shown on certificate of title or rates notice, if any*]:
.....
.....

[*For example: Lot .... DP ....; or Section .... SO .... Survey or Registration District ....; or Maori block number and name; or combination of those. If none apply, give whatever information is necessary to identify the location.*]

This application is for:

- ☐ Building consent only, in accordance with project information memorandum No.:.....
- ☑ Both building consent and a project information memorandum

PART B: PROJECT DETAILS

[Complete Part B only if you have not applied separately for a project information memorandum.]

The project involves the following matters [*Cross each applicable box, if any, and attach relevant information in duplicate*]:

- ☑ Location, in relation to legal boundaries, and external dimensions of new, relocated, or altered buildings
- ☑ New provisions to be made for vehicular access, including parking
- ☐ Provisions to be made in building over or adjacent to any road or public place
- ☑ New provisions to be made for disposing of stormwater and wastewater KERB & Channel
- ☐ Precautions to be taken where building work is to take place over existing drains or sewers or in close proximity to wells or watermains
- ☑ New connections to public utilities
- ☐ Provisions to be made in any demolition work for the protection of the public, suppression of dust, disposal of debris, disconnection from public utilities, and suppression of noise
- ☐ Any cultural heritage significance of the building or building site, including whether it is on a marae.

PART C: BUILDING DETAILS

[Complete Part C in all cases]

This application is accompanied by [*Cross each applicable box, attach relevant documents in duplicate*]:

- ☐ The drawings, specifications, and other documents according to which the building is proposed to be constructed to comply with the provisions of the building code, with supporting documents, if any, including— TO COME SPECS
  - ☑ Building certificates
  - ☐ Producer statements
  - ☐ References to accreditation certificates issued by the Building Industry Authority
  - ☐ References to determinations issued by the Building Industry Authority
- ☑ Proposed procedures, if any, for inspection during construction

Council Officers

APPLICATION FOR BUILDING CONSENT—*continued*

PART D: KEY PERSONNEL

[Complete Part D as far as possible in all cases. Give names, addresses, and telephone numbers. Give relevant registration numbers if known.]

Designer(s): C Inwood / John Marshall

Building certifier(s): .....

Builder(s): Steve Inwood / C Inwood

Registered drainlayer: Hansens

Registered plumber: Bill Robinson

Registered gasfitter: .....

Registered electrician: Barry Foote

Other: .....

PART E: COMPLIANCE SCHEDULE DETAILS

E1: SYSTEMS NECESSITATING A COMPLIANCE SCHEDULE

[Complete Part E1 for all new buildings and alterations, except single residential dwellings.]

The building will contain the following [*Cross each applicable box and attach proposed inspection, maintenance, and reporting procedures*]:

- ☐ Automatic sprinkler systems or other systems of automatic fire protection
- ☐ Automatic doors which form part of any fire wall and which are designed to close shut and remain shut on an alarm of fire
- ☐ Emergency warning systems for fire or other dangers
- ☐ Emergency lighting systems
- ☐ Escape route pressurisation systems
- ☐ Riser mains for fire service use
- ☐ Any automatic back-flow preventer connected to a potable water supply
- ☐ Lifts, escalators, or travelators or other similar systems
- ☐ Mechanical ventilation or air conditioning system serving all or a major part of the building
- ☐ Any other mechanical, electrical, hydraulic, or electronic system whose proper operation is necessary for compliance with the building code
- ☐ Building maintenance units for providing access to the exterior and interior walls of buildings
- ☐ Such signs as are required by the building code in respect of the above-mentioned systems

☑ None of the above

E2: OTHER SYSTEMS AND FEATURES TO BE INCLUDED IN THE COMPLIANCE SCHEDULE

[Complete Part E2 only if the building contains one or more of the systems listed in Part E1]

The building will contain the following [*Cross each applicable box and attach proposed inspection, maintenance, and reporting procedures*]:

- ☐ Means of escape from fire
- ☐ Safety barriers
- ☐ Means of access and facilities for use by persons with disabilities which meet the requirements of section 25 of the Disabled Persons Community Welfare Act 1975
- ☐ Hand-held hoses for fire fighting
- ☐ Such signs as are required by the building code or section 25 of the Disabled Persons Community Welfare Act 1975

Signed by *or* for and on behalf of the applicant:

Name: .....

Position: Builder ..... Date: 16/11/97

Answer the following questions if they apply.
What materials will be used for the:

Square Metres:

Floor (tick boxes)

1 ☐ Timber
2 ☑ Concrete
3 ☐ Wood products
4 ☐ Other

Framing (tick boxes)

1 ☑ Timber
2 ☐ Concrete
3 ☐ Steel
4 ☐ Aluminium
5 ☐ Other

Roof (tick boxes)

1 ☑ Steel sheeting Colour Steel
2 ☐ Steel tiles
3 ☐ Concrete tiles
4 ☐ Shingles
5 ☐ Aluminium
6 ☐ Other

Internal linings (tick boxes)

1 ☑ Plaster board
2 ☐ Fibrous plaster
3 ☐ Wood products
4 ☐ Other

External cladding (tick boxes)

1 ☑ Brick
2 ☐ Concrete
3 ☐ Concrete block
4 ☐ Cement board
5 ☐ Plaster
6 ☐ Timber
7 ☐ Steel
8 ☐ Aluminium
9 ☐ Other

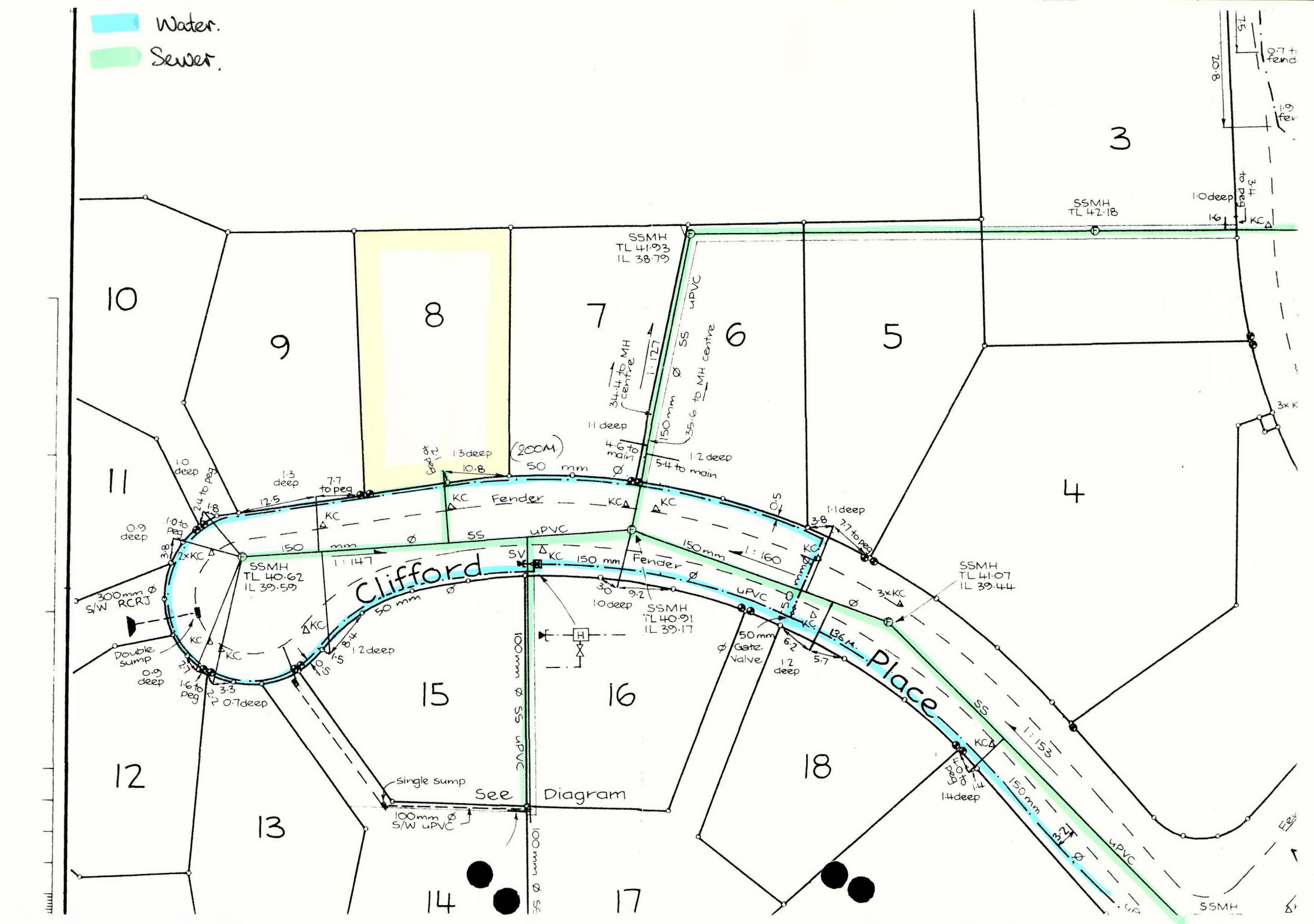
Approved for issue of Building Consent

Building Control Officer: ..... Date: ../../..

Received with thanks by 1/01
Hurunui District Council

10-11-97 12:43 Receipt no.159055

COPY *COPY* *COPY*
DR BC9704436 Inwood C 1,500.00-
C Inwood::41 Courage Road:Amberley:::
CQ TBC NELSON
C Inwood 1,500.00
TOTAL RECEIPTED 1,500.00


Water.
Sewer.
Clifford
Place
SSMH TL 41·93 IL 38·79
SSMH TL 42·18
SSMH TL 40·62 IL 39·59
SSMH TL 40·91 IL 39·17
SSMH TL 41·07 IL 39·44
SSMH
150 mm Ø SS uPVC
150mm Ø uPVC
100mm Ø SS uPVC
50 mm Ø
300mm Ø S/W RCRJ
100mm Ø S/W uPVC
50mm Gate Valve
Double sump
0·9 deep
Single sump
See Diagram
Fender
KC
SV
1:147
1:127
1:160
1:153
136 M.
3x KC
2x KC
1·0 deep
1·1 deep
1·2 deep
1·3 deep
1·6 to peg
2·4 to peg
3·4 to MH centre
35·6 to MH centre
4·6 to main
5·4 to main
7·7 to peg
10·8
12·5
9·2
8·4
6·2
5·7
3·8
3·3
2·7
1·8
1·5
1·4
0·7 deep
0·7 to peg
1·4 deep
(200M.)
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