Sharalyn Fraser
Agency

Statement of passing over information – This information has been supplied by the Vendor or the vendor's agents. Accordingly, Sharalyn Fraser Agency (Ownly Limited licensed (REA 2008) is merely passing over the information as supplied to us by the vendor or vendors agents. We cannot guarantee its accuracy and reliability as we have not checked, audited, or reviewed the information and all intended purchasers are advised to conduct their own due diligence investigation into the same. To the maximum extent permitted by law Sharalyn Fraser Agency (Ownly Limited licensed (REA 2008) does not accept any responsibility to any person for the accuracy of the information herein

there's a future here

KAPITICOAST
DISTRICT COUNCIL

CODE COMPLIANCE CERTIFICATE
Section 43(3), Building Act 1991

Applicant

MR & MRS NELSON
2 NORTH BAY
WAIKANAE.

Consent Details

Consent/PIM No.: 942563
Date issued: 3/04/97

Valn No: 1495175904

Project Descrn: NEW CONSTRUCTION
BEING STAGE 1 OF AN INTENDED 1 STAGES
NEW DWELLING

Intended Life: INDEFINITE, BUT NOT LESS THAN 50 YEARS

Intended Uses: RESIDENTIAL

Project Location: NORTH BAY WAIKANAE

Legal Description: LOT 13 DP 74371.

Estimated Value: $ 135,000

The Council's total charges paid on the uplifting of this Code Compliance Certificate in accordance with the following details are $ 0.00.

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: _____ BUILDING CONTROL OFFICER DATE: 3.6.97

Ngarara Building, Rimu Road, Private Bag 601, Paraparaumu. Phone (04) 298 5139, Direct Line (04) 298 0902, Fax (04) 297 2563.

TYPE OF BUILDING	Dwelling		Retail		Additions		Accessory	
	New		Industrial		Alterations		Other	

DEPARTMENT	REQUIREMENTS	Yes	No	COMMENTS	CHECKED/DATE STAMP
Town Planning					
	Zoning Conforms				
	Dispensation				
	Planning Consent				
	Special Floor Level				
Plumbing					
Drainage					
Stormwater	To Channel ✓				
	To Drain				
	Confined to Lot				
Building					
Structural	Specific Design				
	Foundation				
	Structure				
	Roof				
Subdivisional Engineer					
	Earthworks Bylaw Conditions				
Environmental Health					
Site	ATTACHMENT VIE CRACKED BADMY FOOTPATH TO NGAMARA RD CONC CUT OUT GROUND OK. PRAM CROSSING (SUNK) ENTRY ROAD & KERB & C OK				20.10.94

APPROVED Permit may be issued
21/10/94 DATE
DISTRICT PLANNER
Kapiti Coast District Council

APPROVED Consent may be issued
DATE 28.10.94
Officer
Kapiti Coast District Council

APPROVED Consent may be issued
DATE 1/4/94
Officer
Kapiti Coast District Council

KAPITI COAST DISTRICT COUNCIL

Form 3

APPLICATION FOR BUILDING CONSENT

Section 33, Building Act 1991

942563.

To : Kapiti Coast District Council
[*Cross each applicable box and attach relevant documents in triplicate*]

PART A : GENERAL

(Complete Part A in all cases)

APPLICANT*

Name: MR & MRS NELSON
Mailing address: C/- CAMERON BUILDERS
P.O. BOX 253 WAIKANAE
Contact [*Print name and position*]:
BRIAN CAMERON - BUILDER
Phone: 2935550 Fax: 2937985

*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: 19/10/94
Application fee: $670-00
Receipt No.: 462181

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 ___ of an intended ___ stages.

Estimated value (inclusive of GST) : $ 135,000

No 2 PROJECT LOCATION
Street address [*If any*]: LOT 13 [redacted]
NORTH BANK, WAIKANAE
Legal description [*as shown on certificate of title or rates notice, if any*]: Lot 13
DP 74371

This application is for :

☐ Building consent only, in accordance with project information memorandum number _____.

☑ Both building consent and a project information memorandum.

Floor (tick boxes)		Roof (tick boxes)		External Cladding (tick boxes)	
Timber		Steel Sheeting		Brick	✓
Concrete	✓	Steel Tiles		Concrete	
Wood Products		Concrete Tiles	✓	Concrete Block	
Other		Shingles		Cement Board	
Framing (tick boxes)		Aluminium		Plaster	
Timber	✓	Other		Timber	
Concrete		Internal linings (tick boxes)		Steel	
Steel		Plaster Board	✓	Aluminium	
Aluminium		Fibrous Plaster		Other	
Other		Wood Products		Size of Building	
		Other		Floor area m² 169 No. of storeys 1	
				No. of dwelling units	

PART B : PROJECT DETAILS

(Complete Part B only if you have not applied separately for a project information memorandum)

- ☐ 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.
- ☐ 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:*
  - ☐ *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.*

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): PETER DAVIS, 46 TIROMOANA RD, RAUMATI SOUTH PH 2972905, FAX 2972675

Building Certifier(s) : KCDC.

Builder(s): CAMERON BUILDERS, PH 293558, FAX 2937903

Registered Drainlayer : TO BE ADVISED — REG NO.:

Craftsman Plumber : — REG NO.:

Craftsman Gasfitter : — REG NO.:

Registered Electrician : — REG NO.:

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.

CONTINUED NEXT PAGE

- ☐ 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 system.
- ☐ Non of the above.

E2 : Other Systems and Features to be included in Compliance Schedule

(Complete Part E2 only if 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.
- ☐ Handheld hoses for firefighting.
- ☐ Such signs as are required by the building code or Section 25 of the Disabled Persons Community Welfare Act 1975.

Signed for and on behalf of ~~the~~ Applicant:

Name: P. Davis

Position: DESIGNER Date: 18/10/94

FOR OFFICE USE ONLY

FEES		APPLICATION FEE	$ 670.00
Building	$ 921-		
Sewer Connection	$	RECEIPT NO 462181	DATE 19/10/94
Water Connection	$		
Vehicle Crossing	$		
Damage Deposit	$ 600-	INVOICE NO 2881	DATE 4/11/94
Structural Checking	$		
Building Research Levy	$ 135-		
Development Levy	$	RECEIPT NO 405863	DATE 14/11/94
BIA Levy	$ 108-		
Compliance Schedule	$		
	$	BUILDING CONSENT NO 942563	DATE ISSUED 14·11·94
	$		
SUBTOTAL	$ 1564-		
Less Deposit Paid	$ 670-	AUTHORISATION FOR REFUND OF DEPOSITS	
TOTAL	$ 894-	Deposit held =	$ 460
GST INCLUDED	$	Cost to Repair Damage Caused During Construction =	$ NIL
		Total Balance to be Refunded =	$ 460
		Authority Number : 2919	
		Authorised	DATE 4·4·97

KAPITI COAST DISTRICT COUNCIL

SITE CHECK SHEET

NAME : Nelson

ADDRESS : 2 Northbay **LOT :** B **DP :** 74371

PROJECT : New dwelling **PERMIT NO :** 942563

WORK CANNOT PROCEED PAST EACH STEP UNTIL THAT STEP HAS BEEN INSPECTED, APPROVED AND THIS FORM SIGNED BY THE RELEVANT INSPECTOR. WORK APPROVED BY A CERTIFIER REQUIRES A BUILDING CERTIFICATE SUPPLIED BY THE CERTIFIER.

COMPONENT TO BE INSPECTED	CHECK	INSP REQUIRED (TICK)	COMMENTS AND/OR RECTIFICATION NOTICE NO	OK TO PROCEED YES/NO	ADDITION INSPECT YES/NO	DATE, SIGNATURE
FOUNDATIONS			Footings ok.	YES	NO	ACH 22-11-94
Siting	✓					
Footings	✓					
Steel	✓					
BOND/BEAMS			Blockfill	YES	NO	28.11.94 ACH.
1st						
2nd						
3rd						
CONCRETE FLOOR			0.6 Mesh Polythene	YES	No	30.11.94
Building						
P&D	✓		Pipes o.k under slab	yes	no	29.11.94
Elect						
Gas						
EHO						
SUB FLOOR						
Connections						
Braces						
Blocking						
PRE LINE			Moisture OK Standard framing used. 1 Angle Brace 12 Straps missed Bolt. Angle brace.	No	YES	30.1.95
Wall Framing						
Bracing						
Fixings						
Lintels						
Roof Framing			The Above completed	YES	No	31.1.95
Trusses						
Bracing			Sheet Not stopped up with Nailed corners	YES	No	7.2.95
Fixing						
P&D	✓		Pipework tested to 1500 k.p.a O.K	yes	no	26.1.95
Elect						
Gas						
EHO						

COMPONENT TO BE INSPECTED	CHECK	INSPECT REQUIRED (TICK)	COMMENTS AND/OR RECTIFICATION NOTICE NO	OK TO PROCEED YES/NO	ADDITION INSPECT YES/NO	DATE, SIGNATURE
INSULATION						
Wall/Floors						
Ceiling/Skillion						
WALL LINING						
Building						
EHO						
EXT CLADDING						
Walls						
Roof						
JOINERY						
NZS4211						
NZS4223						
FIRE FIGHTING EQUIPMENT						
EGRESS COMPONENTS						
DISABLED PERSONS FACILITIES ETC						

FINAL INSPECTION

BUILDING COMPONENTS DEEMED COMPLETED

CERTIFIER	SIGNATURE	DATE	CERTIFIER	SIGNATURE	DATE
Building	[signature]	3-4-97	Power		
Plumbing	"	"	Gas		
Drainage	"	"	Services		
EHO			Resource Management		
Lifts			Air Conditioning		
Compliance Schedule					

WORK IS NOW DEEMED TO BE COMPLETED. A CODE COMPLIANCE CERTIFICATE WILL BE ISSUED WHERE REQUIRED BY THE BUILDING ACT. CODE COMPLIANCE CERTIFICATE NUMBER .....

....

Signature Designation Date

WHEN THE PROJECT IS COMPLETED THIS INSPECTION SHEET WILL BE ATTACHED TO THE RELEVANT PROPERTY FILE HELD AT THE COUNCIL OFFICE.

Application No: 962563

Date: 1/11/96

Site Address: 2 North Bay newchwg Nelson

ADMIN = $36 per hour
PLAN VETTING = $60 per hour
INSPECTIONS = $35

TECHNICAL CONSULTANTS = Cost + 10%
NETWORK UTILITY OPERATORS = Cost + 10%

I- 1, 2, 4, 5, 6 S.C.- 3, 9, 21, N.C. -

	Classification	$	Plan Vetting				Total $	Consultants			Total $	Inspections							Total $	Admin $	PIM $	Total
			PI	D	Bld	EH						Site	PI	D	Bld	EH						
1	Fire Places, Signs	0–1500																		36	Nil	
2	Sheds, Carports	1501–4000																		36	Nil	
3	Garages, Conservatories, Swim Pool, Etc	4001–10000																		36	50	
4	House Additions	4001–10000																		36	50	
5	House Additions	10001–50000																		36	50	
6	Dwellings	50001–100000																		36	100	
7	Dwellings	100001–150000	4	4	14		330					1	4	3	5				455	36	100	921
8	Dwellings	150001–200000																		54	100	
9	Dwellings	200001–250000																		54	140	
10	Dwellings	250001–300000																		72	140	
11	Dwellings	300000 +																		72	160	
12	Commercial/Industrial	0–10000																		36	50	
13	Commercial/Industrial	10001–50000																		36	60	
14	Commercial/Industrial	50001–100000																		36	100	
15	Commercial/Industrial	100001–150000																		36	100	
16	Commercial/Industrial	150001–200000																		54	100	
17	Commercial/Industrial	200001–250000																		54	140	
18	Commercial/Industrial	250001–300000																		54	140	
19	Commercial/Industrial	350001–350000																		54	140	
20	Commercial/Industrial	350001–400000																		72	160	
21	Commercial/Industrial	400001–450000																		72	180	
22	Commercial/Industrial	450001–500000																		72	200	
23	Commercial/Industrial	500000 +																		72	250	

* 2 pre slabs Drain and waste pipes

KAPITI COAST DISTRICT COUNCIL

Ref:

B U I L D I N G C O N S E N T A D D E N D A 942563

APPLICANT: MR & MRS NELSON : C/O CAMERON BUILDERS : P O BOX 253
LOCATION: NORTH BAY WAIKANAE
BUILDER: CAMERON BUILDERS AS ABOVE

General requirements

a) The District Inspector is to be given 24 hours notice before carrying out the following inspections.

PRE-CONCRETE SLAB INSPECTION OF PLUMBING

PRE-CONCRETE SLAB INSPECTION OF PLUMBING

PRELINING INSPECTION OF PLUMBING

FINAL INSPECTION OF PLUMBING

WATER TEST ON SEWER DRAINS

FINAL INSPECTION GULLIES, ETC

FINAL INSPECTION STORMWATER

FOUNDATION INSPECTION

PRE-SLAB INSPECTION, CONCRETE FLOOR

PRELINING INSPECTION, MOISTURE TEST, CHECK BRACING

POST-LINING INSPECTION, LININGS, FIXED AS PER BRACE DESIGN

FINAL INSPECTION BUILDING

b) To arrange for any of the above required inspections by the District Inspector, please contact the building inspectorate on (04) 298-5139 between the hours of 8.00 am and 4.30 pm.

Conditions of consent

1 Note and comply with endorsements on approved plans.

Ngarara Building, Rimu Road, Private Bag 601, Paraparaumu.
Telephone (04) 298-5139
Fax (04) 297-2563

KAPITI COAST DISTRICT COUNCIL

Ref:

BUILDING CONSENT ADDENDA 942563 [Continued]

2 Names and registration numbers of plumber and drainlayer are required before work commences.

3 Names and registration numbers of plumber and drainlayer are required before work commences.

4 Both hot and cold water pipes are to be tested to 1500 KPA pressure.

5 Owner/builder is to ensure that the proposed foundation height will allow a satisfactory drainage connection to the sewer main.

6 Roof stormwater to be piped to kerb and channel in an approved manner.

7 A tempering valve is to be installed on the hot water cylinder.

8 All foundations are to be to solid bearing minimum of 300mm

9 Minimum heights of finished concrete slab-on-ground floors above adjoining finished ground level to comply with Fig E 1 NZS 3604 1990.

10 IF TIMEFRAME OR SIMILAR TIMBER FRAMING IS USED SPECIAL CARE IS TO BE TAKEN TO ENSURE CONSTRUCTION IS DONE TO MANUFACTURERS REQUIREMENTS.

I have read the foregoing requirements and conditions of consent, and the Owner/Builder/Authorised Person hereby agrees to comply with them.

OWNER/BUILDER/AUTHORISED PERSON_____ DATE_____

Ngarara Building, Rimu Road. Private Bag 601, Paraparaumu.
Telephone (04) 298-5139
Fax (04) 297-2563

KAPITI COAST DISTRICT COUNCIL

Ref:

P R O J E C T I N F O R M A T I O N M E M O R A N D U M
Section 31, Building Act 1991

Applicant

MR & MRS NELSON
C/O CAMERON BUILDERS
P O BOX 253
WAIKANAE

PIM Details

Consent/PIM No.: 942563
Date issued: 3/11/94
Date of applicn: 19/10/94
Valn No:

Project Descrn: NEW CONSTRUCTION
BEING STAGE 1 OF AN INTENDED 1 STAGES
NEW DWELLING

Intended Life: INDEFINITE, BUT NOT LESS THAN 50 YEARS

Intended Uses: RESIDENTIAL

Project Location: NORTH BAY WAIKANAE

Legal Description: LOT 13 DP 74371.

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

SIGNED FOR AND ON BEHALF OF THE COUNCIL:

NAME: _____ BUILDING CONTROL OFFICER DATE: 3.11.94

Ngarara Building, Rimu Road. Private Bag 601, Paraparaumu.
Telephone (04) 298-5139
Fax (04) 297-2563

KAPITI COAST DISTRICT COUNCIL
TELEPHONE (04) 296-5139 FAX (04) 297-2563

File

PROJECT INFORMATION MEMORANDUM
Planning Requirements

APPLICANT: Nelson

MAILING ADDRESS: C/- Cameron Builders

SITE ADDRESS: 2 North Bay Waikanae

LOT NO: 13 DP: 74371

PROJECT: New Building ☒ Alteration ☐
Removal/Demolition ☐ Relocated Building ☐
(approx. age _____ years)

INTENDED USE: Dwelling

ZONING: Residential E

USE PERMITTED: Yes

RESOURCE CONSENT GRANTED: NIL

DESIGNATIONS ON PROPERTY: NIL

EASEMENTS: Yes - stormwater - clear of dwelling.

SITE SUBJECT TO INUNDATION: No

COASTAL BUILDING LINE RESTRICTION: N/A

RELOCATABLE ZONE: N/A

MINIMUM FLOOR LEVEL: N/A

YARD & HEIGHT REQUIREMENTS: OK

TREE PRESERVATION: NIL

OTHER COMMENTS: —

TIME TAKEN TO SUPPLY ABOVE: _____

SPECIAL FEATURES OF THE ABOVE LAND

Information is attached identifying the following special features of the land concerned that are known to Council.

Potential Erosion	☐
Potential Avulsion	☐
Potential Subsidence	☐
Potential Slippage	☐
Potential Alluvion	☐
Potential Inundation	☐
Presence of Hazardous Contaminants	☐

Other feature(s) or characteristic(s) likely to be relevant to the design or construction of the proposed buildings and not apparent from the District Scheme or District Plan:

None Known

(Plumbing & Drainage)

SEWER AVAILABLE/~~CONNECTED~~

WATER AVAILABLE/~~CONNECTED~~

SITE PLAN OF EXISTING SERVICES (IF ANY) N.A

LOCATION OF SEWER LATERAL shown on plan

LOCATION AND SIZE OF WATER TOBY 20mm shown on plan

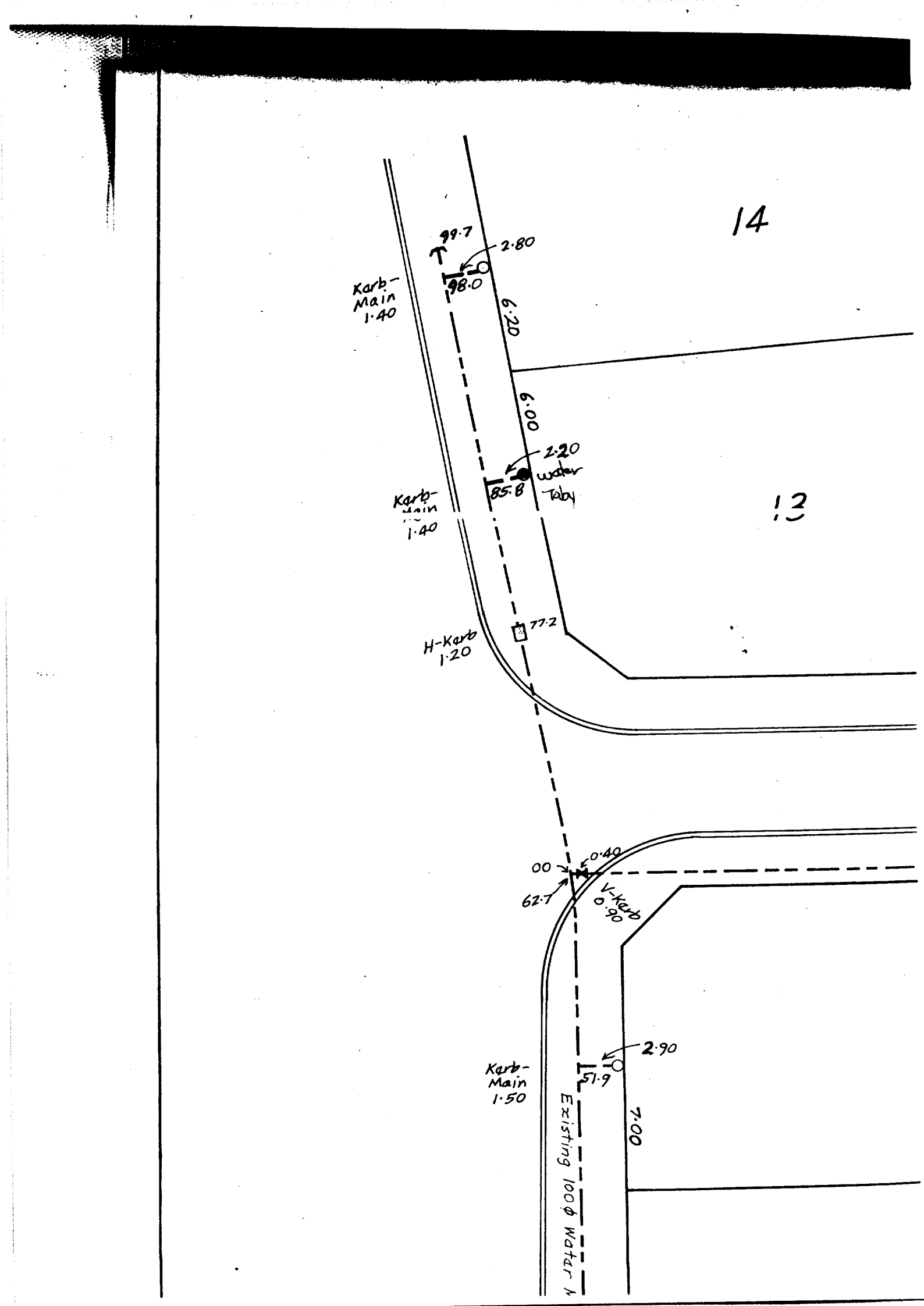
LOCATION OF EASEMENTS (IF ANY) ~~nil~~ stormwater check title

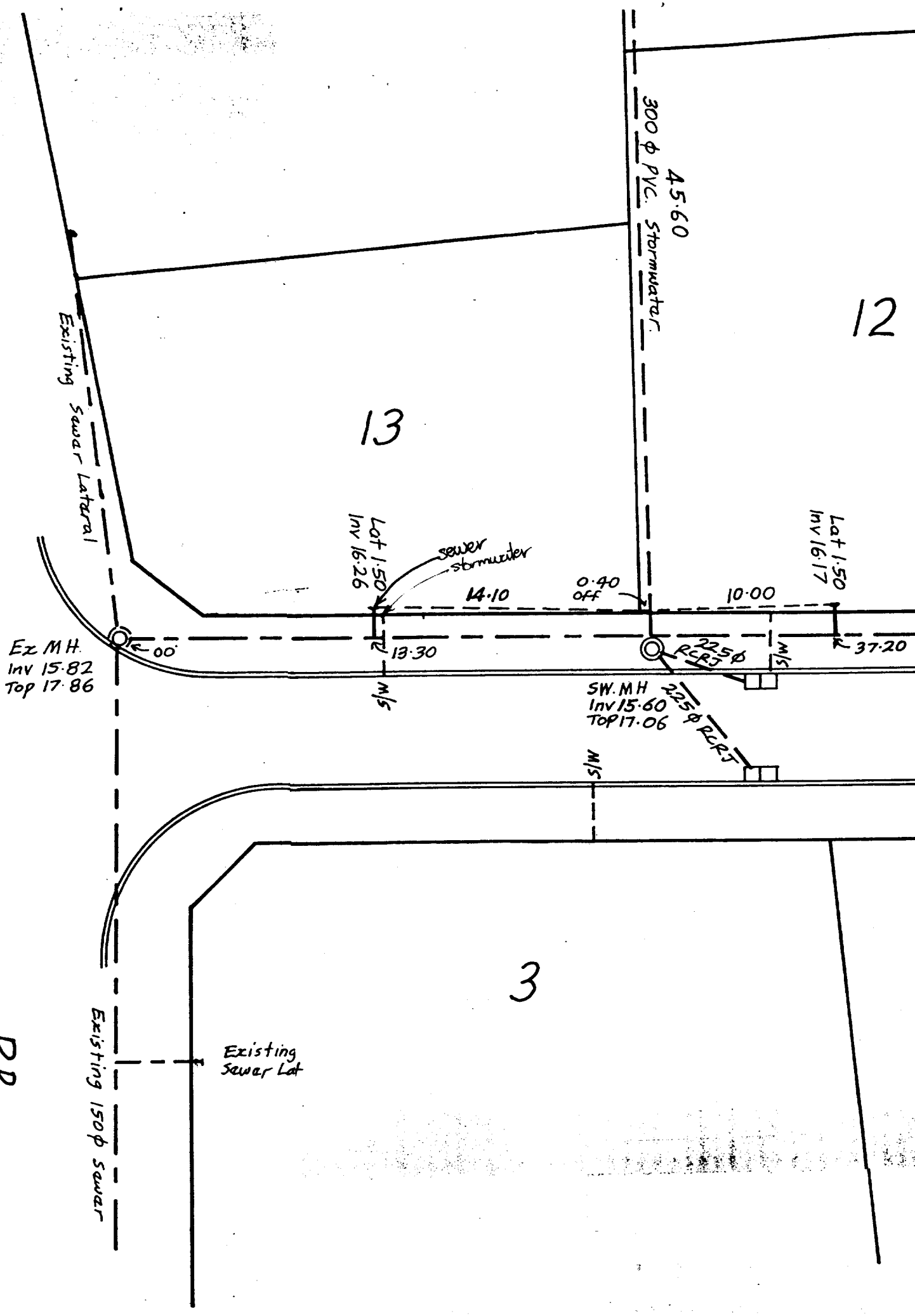
LOCATION OF PUBLIC DRAINS (IF ANY) no record of any

STORMWATER DISPOSAL TO

CHANNEL	☑
DRAIN	☐
ON SITE	☐

ADDITIONAL COMMENTS


14
99.7
2.80
98.0
Karb-
Main
1.40
6.20
6.00
2.20
water
Tobi
85.8
Karb-
Main
1.40
13
77.2
H-Karb
1.20
0.40
00
62.7
V-Karb
0.90
2.90
51.9
Karb-
Main
1.50
Existing 100φ Water
7.00


300 ϕ PVC. Stormwater
45.60
12
13
Existing Sewer Lateral
Lat 1.50
Inv 16.26
sewer
stormwater
14.10
0.40
off
10.00
Lat 1.50
Inv 16.17
Ex MH
Inv 15.82
Top 17.86
00
13.30
225ϕ RCRJ
37.20
SW. MH
Inv 15.60
Top 17.06
225ϕ RCRJ
3
Existing
Sewer Lat
Existing 150ϕ Sewer
RD
SEWER AN

KAPITI COAST DISTRICT COUNCIL File
TELEPHONE (04) 298-5139 FAX (04) 297-2563

PROJECT INFORMATION MEMORANDUM

(Electrical Supply)

APPLICANT: Nielsen

MAILING ADDRESS: c/- Cameron Burgess

SITE ADDRESS: 2 North Bay Waikanae

LOT NO: 13 DP: 76321

PROJECT: New Building ☒ Alteration ☐
Removal/Demolition ☐ Relocated Building ☐
(approx. age _____ years)

INTENDED USE: Dwelling

INFORMATION TO BE PROVIDED BY HOROWHENUA ENERGY

Site Plan of Existing Services (if any): As attached plan.

Availability of Power:

Location: From XMER T36 Ngarara Rd, Waikanae

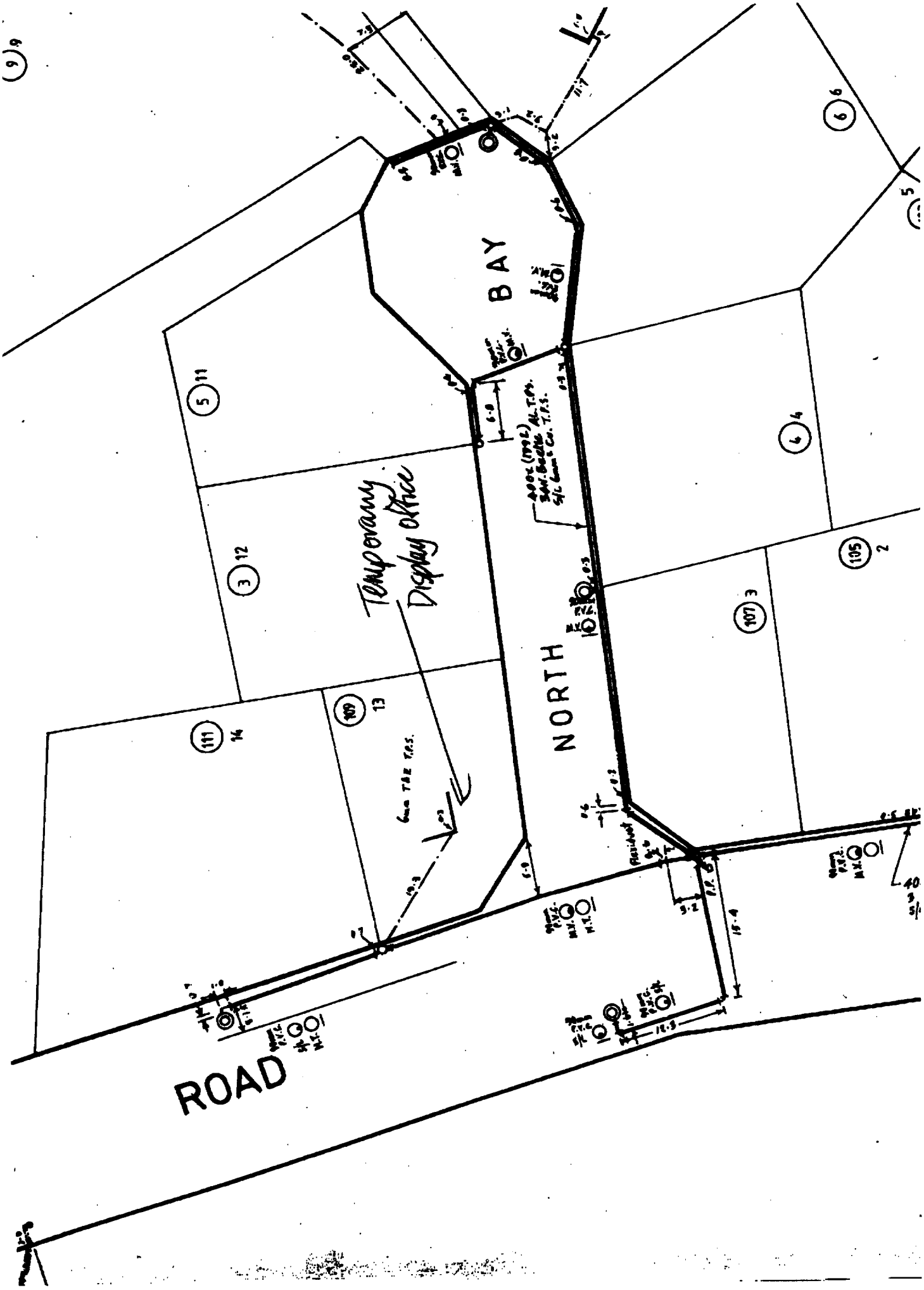
Reserve Capacity:

Location of Electricity Easement (if any): /

Location of Overhead Lines Crossing Site (if any): /

Requirements of Disabling Service (where applicable): /

Horowhenua Energy Charges: $20 incl G.S.T.


BAY
NORTH
ROAD
Temporary Display office
9
6
5
11
12
3
4
2
105
107
13
109
14
111

Cnr Kapiti Road
Te Rapa Dr
PO Box 1
Paraparaumu
New Zealan
Phone: (058) 71 3
Fax: (058) 83 5

DISTRIBUTION

NATURAL GAS CORPORATION

KAPITI COAST DISTRICT COUNCIL

DATE 26-10-94

PROJECT INFORMATION MEMORANDUM

Situation Address 2 NORTH BAY WAIKANAE.

Legal Description LOT 13. D.P. 74371.

Applicant NELSON.

Date of Request 19-10-94.

(a) A gas main of medium/~~intermediate~~ pressure fronts this property (refer attachment).

~~b) This property is serviced, or is traversed from one boundary~~ point to another by medium/intermediate pressure gas pipeline (refer attachment). The following condition applies:

For any building work (as defined by Section [2] of the Building Act 1991) that will disturb over and around any gas pipeline or service and prior to the commencement of that work, the applicant shall be required to contact the nearest Natural Gas Corporation gas Centre for authorization to proceed.

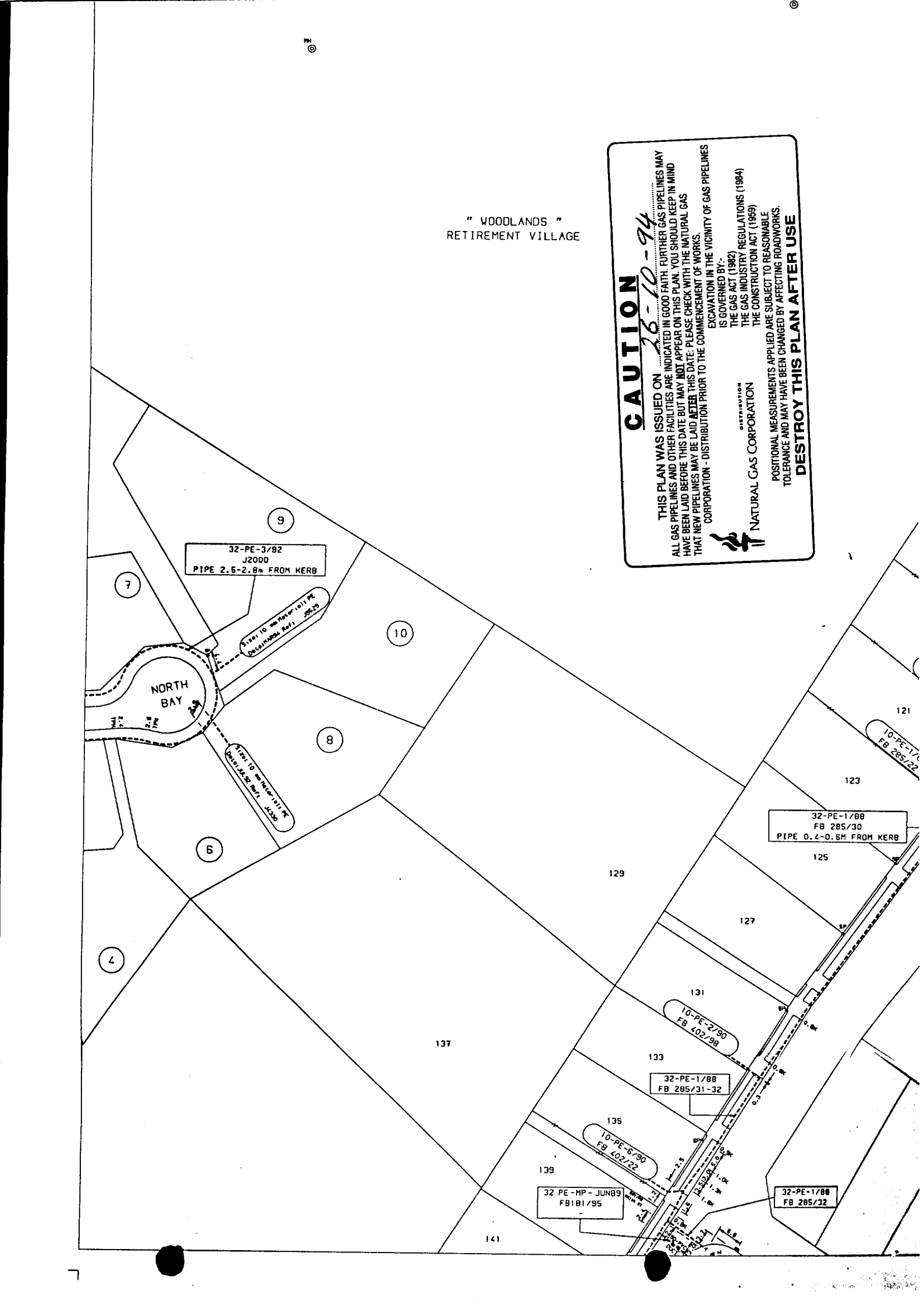
~~c) No gas pipeline is in the vicinity of this property.~~

Yours faithfully

T Haygarth

Note: No liability in the Corporation's obligations to the Building Act 1991 and the Local Government Official Information and Meetings Amendments Act (No 2) 1991 is implied by this and all attached documents. The Corporation does not accept liability for on site interpretation of the attached drawings. A pipe location service is available upon request.

FOR OFFICE USE


" WOODLANDS "
RETIREMENT VILLAGE
CAUTION
28-10-94
THIS PLAN WAS ISSUED ON .....
ALL GAS PIPELINES AND OTHER FACILITIES ARE INDICATED IN GOOD FAITH. FURTHER GAS PIPELINES MAY HAVE BEEN LAID BEFORE THIS DATE BUT MAY NOT APPEAR ON THIS PLAN. YOU SHOULD KEEP IN MIND THAT NEW PIPELINES MAY BE LAID AFTER THIS DATE: PLEASE CHECK WITH THE NATURAL GAS CORPORATION - DISTRIBUTION PRIOR TO THE COMMENCEMENT OF WORKS.
EXCAVATION IN THE VICINITY OF GAS PIPELINES IS GOVERNED BY:-
THE GAS ACT (1982)
THE GAS INDUSTRY REGULATIONS (1984)
THE CONSTRUCTION ACT (1959)
POSITIONAL MEASUREMENTS APPLIED ARE SUBJECT TO REASONABLE TOLERANCE AND MAY HAVE BEEN CHANGED BY AFFECTING ROADWORKS.
DESTROY THIS PLAN AFTER USE
NATURAL GAS CORPORATION
DISTRIBUTION
32-PE-3/92
J2000
PIPE 2.6-2.8M FROM KERB
NORTH BAY
32-PE-1/88
FB 285/30
PIPE 0.4-0.6M FROM KERB
10-PE-2/90
FB 402/98
32-PE-1/88
FB 285/31-32
10-PE-6/90
FB 402/22
32 PE-MP-JUN89
FB181/95
32-PE-1/88
FB 285/32
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CAUTION

THIS PLAN WAS ISSUED ON 26-10-94

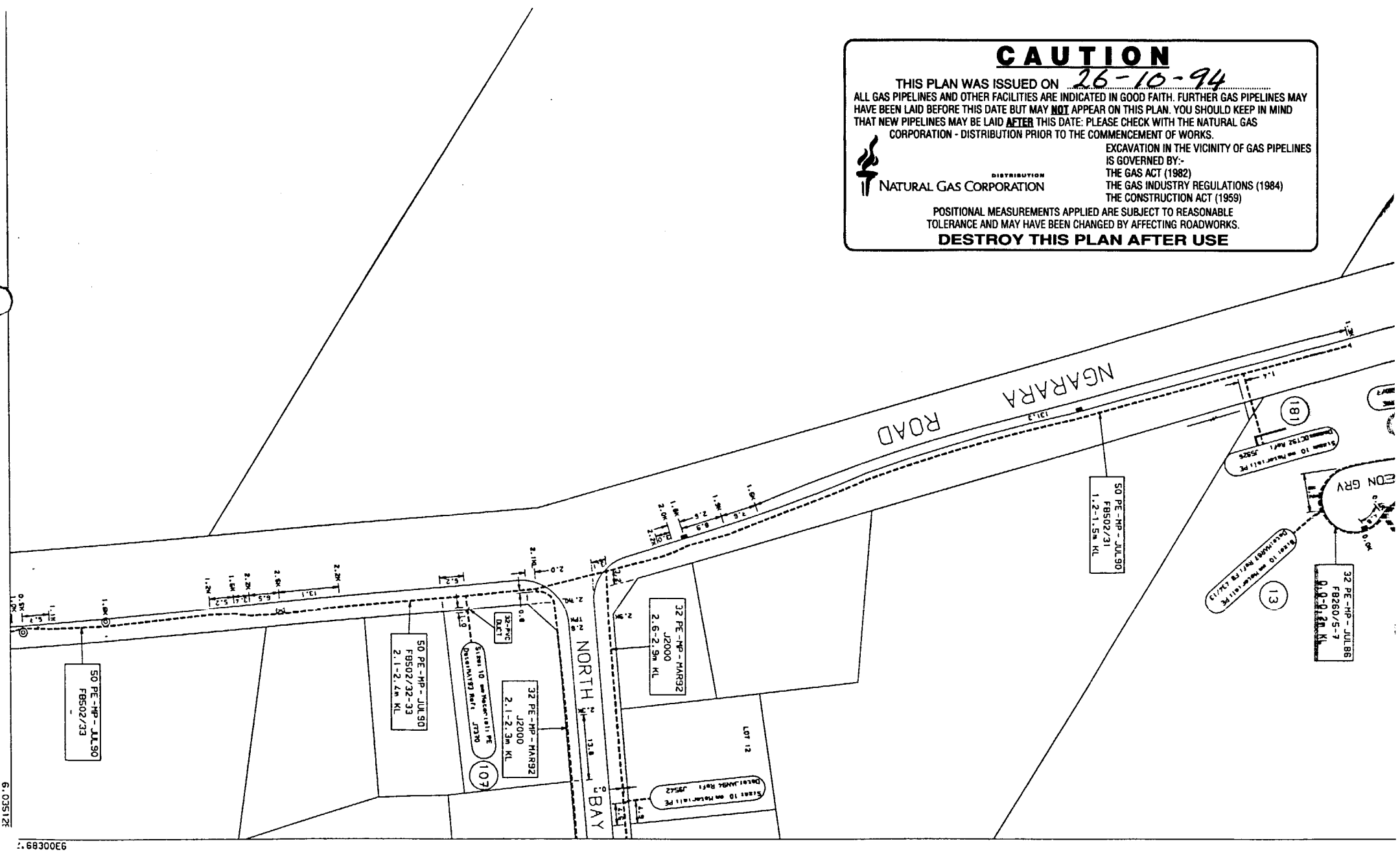
ALL GAS PIPELINES AND OTHER FACILITIES ARE INDICATED IN GOOD FAITH. FURTHER GAS PIPELINES MAY HAVE BEEN LAID BEFORE THIS DATE BUT MAY **NOT** APPEAR ON THIS PLAN. YOU SHOULD KEEP IN MIND THAT NEW PIPELINES MAY BE LAID **AFTER** THIS DATE: PLEASE CHECK WITH THE NATURAL GAS CORPORATION - DISTRIBUTION PRIOR TO THE COMMENCEMENT OF WORKS.

DISTRIBUTION
NATURAL GAS CORPORATION

EXCAVATION IN THE VICINITY OF GAS PIPELINES IS GOVERNED BY:-
THE GAS ACT (1982)
THE GAS INDUSTRY REGULATIONS (1984)
THE CONSTRUCTION ACT (1959)

POSITIONAL MEASUREMENTS APPLIED ARE SUBJECT TO REASONABLE TOLERANCE AND MAY HAVE BEEN CHANGED BY AFFECTING ROADWORKS.

DESTROY THIS PLAN AFTER USE



6.03531E

2.68300E6

ADJOINING SHEET INDEX		
.	.	.
GM14	GM13	GM12
GN14	GN13	GN12

ISS	DATE	BY	CHKD	REVISION
2	MAR94	AVER	SADL	REVISION UPDATE

LEGEND

Polyethylene Gas Pipeline

Steel Gas Pipeline

? Information is unknown for this record and must be field verified

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DRAWN	GARDINER
CHECKED	SADLER
APPROVED	
DATE	14JAN94
ORIGINAL SCALES	1 : 500

WAIKANAE

UNDERGROUND GAS PIPELINE SYSTEM

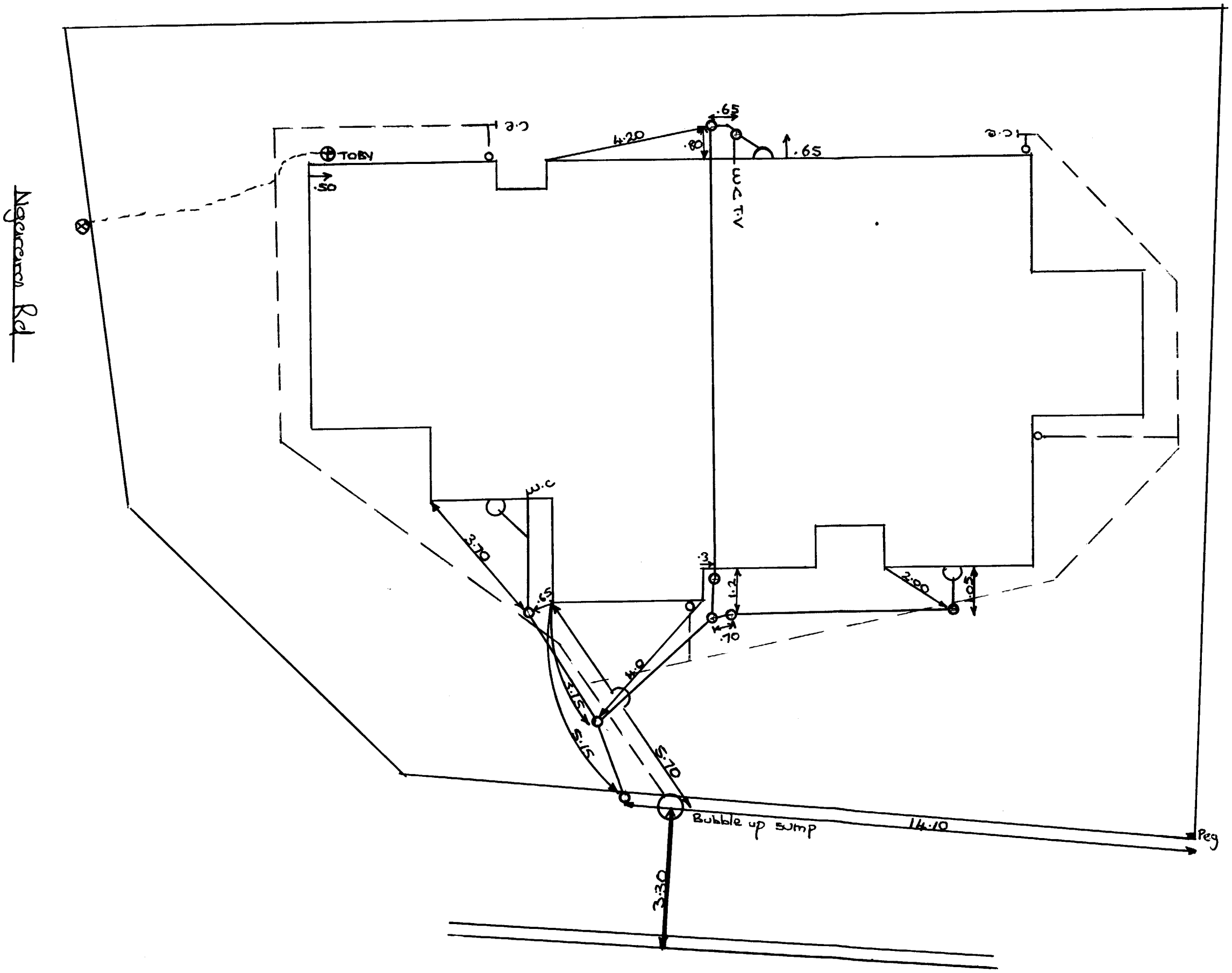
POSITIONAL MEASUREMENTS SUBJECT TO REASONABLE TOLERANCE

ADDITIONAL LINES MAY HAVE BEEN LAID AFTER DRAWING ISSUED

ALL LINES ARE SHOWN IN GOOD FAITH

ALL LOCATIONS MUST BE VERIFIED BY SAFE AND EFFECTIVE MEANS

NATURA



2 Northbay
Lot 13 D.P 74371
Drainlayer B McWirter

KAPITI COAST DISTRICT COUNCIL

Ref:

BUILDING CONSENT
Section 35, Building Act 1991

Applicant

MR & MRS NELSON
C/O CAMERON BUILDERS
P O BOX 253
WAIKANAE

Consent Details

Consent/PIM No.: 942563
Date issued: 14/11/94
Date of applicn: 19/10/94
Valn No:

Project Descrn: NEW CONSTRUCTION
BEING STAGE 1 OF AN INTENDED 1 STAGES
NEW DWELLING

Intended Life: INDEFINITE, BUT NOT LESS THAN 50 YEARS

Intended Uses: RESIDENTIAL

Project Location: NORTH BAY WAIKANAE

Legal Description: LOT 13 DP 74371.

Estimated Value: $ 135,000

CHARGES: The Council's charges paid on uplifting this Building Consent, in accordance with the attached details, are:

	$	1,321.00
Building Research Levy	$	135.00
Building Industry Authority Levy	$	108.00
TOTAL:	$	1,564.00

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 previously advised conditions.

SIGNED FOR AND ON BEHALF OF THE COUNCIL:

NAME: _____ BUILDING CONTROL OFFICER DATE: 14/11/94

Ngarara Building, Rimu Road. Private Bag 601, Paraparaumu.
Telephone (04) 298-5139
Fax (04) 297-2563

METAL FASTENERS SUPPLEMENTARY HARDWARE

Where metal hardware (such as joist or truss hangers) is used with **Tasman *Timeframe*** it must be formed to ensure a neat fit to the sectional dimensions of the timber being fixed. Altering the hardware dimensions by bending or hammering the element is not acceptable.

Metal hardware (such as diagonal bracing angles and diagonal tension straps) which is fixed to the face of the framing may be used provided there is sufficient timber thickness to maintain nail edge distances of at least 2 times the nail diameter between the nail and the timber edge.

IN-SERVICE ENVIRONMENT (PROTECTION FROM THE WEATHER)

Tasman *Timeframe* must be maintained in a dry protected environment. Exposure to moisture (rain, snow) during construction should be minimised by ensuring all timber delivered to site is stored on level bearers, kept clear of ponding wet areas, is covered and protected from the elements prior to its erection, and that it is not left exposed to the elements for longer than 14 days following erection. Enclosure of the framing in building paper would achieve the level of protection envisaged. In any event before the lining is installed, the framing must have achieved the lesser of the moisture content specified by the lining manufacturer or that specified in NZS 3602 Table 7 (ie emc of between 12% and 24%).

Because **Tasman *Timeframe*** is delivered to the site having been kiln dried, surface wetting seldom penetrates to any significant depth and usually dries more readily than green timber.

TASMAN *TIMEFRAME* FLOOR

Tasman *Timeframe* may be used as floor joists within fully enclosed floor frames. Member sizes are to be determined through direct substitution with the No 1 framing timber sizes as indicated in **Table 2** of this handbook. Acceptable joist spans are to be determined by reference to *Table 5.1; Floor Joists supporting 1.5 kPa Floor Live Load'*, and *Table H4 'Floor Joists supporting 2 kPa Floor Live Load'* of *NZS 3604:1990. Table 5.2* may be used to select joist sizes when they act as cantilevers, except that in no instance is the length of the cantilever to exceed 1.5m. (Note: Table 5.2 is used to select the appropriate joist size for the spans being considered, where the 0.4m cantilever overhang limit in table 4(b) of this manual results from strength or stiffness limits of the top plate to support the cantilevered joist)

Table 2: Floor Joist Equivalent Member Sizes

Tasman Timeframe Section	No 1 Framing Equivalent Section
90x35	100x40
90x45	100x50
140x35	150x40
140x45	150x50
190x45	200x50
240x45	250x50
290x45	300x50

Blocking Over Support Walls: When the joist is supported on a top plate of configuration 'E' and 'F' (see fig 8), either a boundary joist or solid blocking is required between alternate joists along the top plate. Such joists or blocking members shall be of the same depth as the joist. Blocking pieces are to be nailed to each joist by not less than 3 No. 75 mm long x 3.15 mm nails. For joists supported on top plates of other configurations, the provisions of *clause 5.1.2.2 & 5.1.4.2 of NZS 3604* continue to apply.

Joist Lateral Support: Blocking, either solid blocking or herringbone strutting as referred to in *Clause 5.1.2.4 of NZS 3604*, shall be provided within 300 mm of mid span of floor joists spanning up to 3.6 m, and within 300 mm of third points for floor joists with longer spans. These requirements replace those specified in *Clause 5.1.2.3 of NZS 3604.*

WALL FRAMING USING TASMAN *TIMEFRAME*

When end nailing **Tasman *Timeframe*** members (studs, plates and dwangs), 75 mm long 3.15 gun nails may be used without affecting either the framing or the bracing ratings of panels. Care must be taken when nailing to ensure no breakout occurs.

Tasman *Timeframe* stud spacings and top-plate configurations are to be determined from **table 3 and table 4 of this handbook respectively**. These tables have been derived using limit state design engineering principles supplemented by member strengths and stiffnesses determined from laboratory tests. The selection requires consideration of the roof member spans (*dimension 'S' from NZS 3604)*, roof weights, stud heights and the span of the floor joists being supported.

For studs in load-bearing foundation walls which are supporting two storeys, either linings (on one or both sides) are required; or not less than three dwangs are required within the 2 metre stud height.

Single bottom plates only are required when

(a) the wall is non-load bearing

(b) the wall has sheet lining material nailed on either one or both sides

(c) the plate is supported by floor joists with centres at or less than 450 mm apart.

In all other cases double bottom plates are required.

When **Tasman *Timeframe*** is used as the support to masonry veneers, the veneer ties are to be fastened to the face of the framing using one 40mm long Number 12 hex. head self drilling galvanised screw for each tie.

WALL BRACING REQUIREMENTS

The reduced width of **Tasman *Timeframe*** requires care in framing set-out and when joining vertical edges of sheet materials over individual studs to ensure nail edge distances are achieved. Where the required nail edge distances cannot be achieved, a supplementary stud must be introduced. There is some advantage in fixing internal wall lining products horizontally.

Tasman *Timeframe* may be used as the framing members within wall bracing elements provided the following provisions are met:

a) the nail is fastened into the exposed face of the **Tasman *Timeframe*** member such that an edge distance within the timber of not less than 2 times the nail diameter is achieved,

b) the nail edge distances specified by the sheet material supplier are able to be achieved,

c) there is direct nailing of the top edge of the sheet bracing material and the top plate member.

FIG 1
T Junction between 90x35 exterior frame & 90x35 interior frame

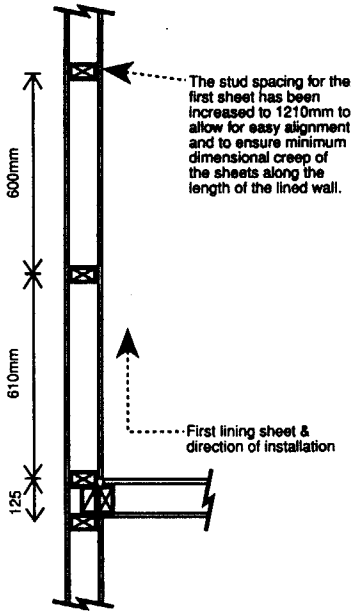


FIG 1a
90x35 exterior frame & 70x35 interior frame

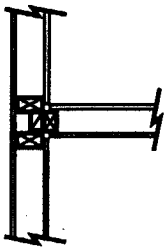


FIG 2
External Re-Entrant Corner

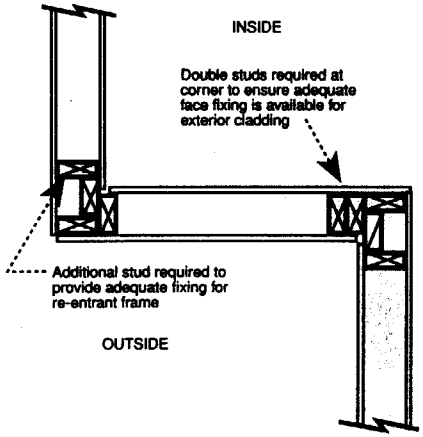


FIG 3
Slim-Line Door Jamb Detail

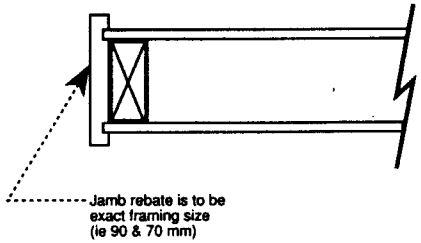


FIG 4
Aluminium Window Detail

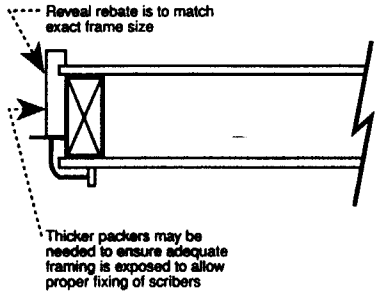


TABLE 3. STUD SPACINGS (mm) FOR 90x35 STUDS

For Floor Live Loads of 1.5 or 2kPa

with type 'D' top plate or 400 ctrs with type 'C'

Single or Upper Storey (heavy or light roofs)	Stud length up to . . .					
	2.40 m		2.70m		3.00m	
Max "S" Dimension	Wind Zone L, M or H	VH	Wind Zone L, M or H	VH	Wind Zone L, M or H	VH
7.50 m	600	600	400	400	400	300
10.00 m	600	600	400	400	400	300
12.00 m	600	600	400	400	400	300

Lower of Two Storeys (heavy or light roofs)	Stud length up to . . .					
	2.40 m		2.70m		3.00m	
Max "S" Dimension	Wind Zone L, M or H	VH	Wind Zone L, M or H	VH	Wind Zone L, M or H	VH
10.00 m	600	400	400	400	300	300
12.00 m	600	400	400	400	300	No Go

Sub-floor of Two Storey (heavy or light roofs)	Stud length = 2.00 m Wind Zone	
Max "S" Dimension	L, M or H	VH
10.00 m	600	400
12.00 m	600	400

Interior Load Bearing Studs (heavy or light roofs)	Stud length up to . . .					
	2.40 m		2.70m		3.00m	
Max "S" Dimension	Wind Zone L, M or H	VH	Wind Zone L, M or H	VH	Wind Zone L, M or H	VH
7.50 m	600	600	600	600	600	400
10.00 m	600	600	600	600	600	400
12.00 m	600	600	600	600	400	400

Exterior Non Load Bearing Studs	Stud length up to . . .		
	2.40 m	2.70m	3.00m
All Wind Zones	600	600	400

Interior Non Load Bearing Studs F5 Grade	Stud length up to . . .					
	2.40 m		2.70m		3.00m	
Section Sizes	Wind Zone L, M or H	VH	Wind Zone L, M or H	VH	Wind Zone L, M or H	VH
90 mm by 35mm	600	600	600	600	600	600
70 mm by 35mm	600	400	400	400	300	No Go

Interior Non Load Bearing Studs F4 Grade	2.40 m Max stud length		
Section Sizes	Wind Zone L & M	Wind Zone H	Wind Zone VH
90 mm by 35mm	600	600	600
70 mm by 35mm	600	400	300

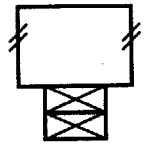
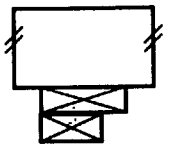
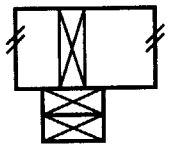
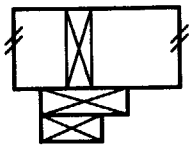
TABLE 4: TOP PLATE SELECTION TABLE

Table 4(a): Single or Upper Storey

Plate Type	Roof Pitch (deg)	Maximum "S" Dimension (m) Light Roof, Stud spacing 400, Wind Zones L, M or H	Light Roof, Stud spacing 400, Wind Zones VH	Light Roof, Stud spacing 600, Wind Zones L, M or H	Light Roof, Stud spacing 600, Wind Zones VH	Heavy Roof, Stud spacing 400, Wind Zones All	Heavy Roof, Stud spacing 600, Wind Zones All
A	<20	7.07	5.34	4.28	No Go	4.85	2.79
	20 to 60	8.68	8.68	4.93	4.93	3.75	No Go
B	<20	11.16	9.56	8.03	6.33	7.87	5.56
	20 to 60	12.00	12.00	9.97	9.97	6.95	4.50
C	<20	12.00	12.00	11.20	9.60	12.00	7.90
	20 to 60	12.00	12.00	12.00	12.00	11.89	6.99
D	<20	12.00	12.00	12.00	12.00	12.00	10.46
	20 to 60	12.00	12.00	12.00	12.00	12.00	9.71

9.8 m span trusses as indicated on plans

Table 4(b): Top Plates for external lower of two walls 0.40 m Floor Joist Overhang

Plate Type	Max Joist Span	Max Joist Spacing	Maximum "S" Dimension (m) Light Roof, Stud spacing 400	Light Roof, Stud spacing 600	Heavy Roof, Stud spacing 400	Heavy Roof, Stud spacing 600
C 	3.60 m	400mm	12.00	12.00	12.00	11.45
		450mm	12.00	12.00	12.00	8.11
		600mm	12.00	5.72	11.45	No Go
	5.00 m	400mm	12.00	12.00	12.00	7.09
		450mm	12.00	10.65	12.00	3.65
		600mm	12.00	No Go	7.09	No Go
D 	4.50 m	400mm	12.00	12.00	12.00	12.00
		450mm	12.00	12.00	12.00	12.00
		600mm	12.00	11.77	12.00	4.15
	6.00 m	400mm	12.00	12.00	12.00	12.00
		450mm	12.00	12.00	12.00	7.99
		600mm	12.00	No Go	12.00	No Go
E 	4.50 m	400mm	12.00	12.00	12.00	12.00
		450mm	12.00	12.00	12.00	12.00
		600mm	12.00	11.75	12.00	4.14
	6.00 m	400mm	12.00	12.00	12.00	12.00
		450mm	12.00	12.00	12.00	7.98
		600mm	12.00	No Go	9.53	No Go
F 	4.50 m	400mm	12.00	12.00	12.00	12.00
		450mm	12.00	12.00	12.00	12.00
		600mm	12.00	12.00	12.00	9.83
	6.00 m	400mm	12.00	12.00	12.00	12.00
		450mm	12.00	12.00	12.00	12.00
		600mm	12.00	12.00	12.00	4.89

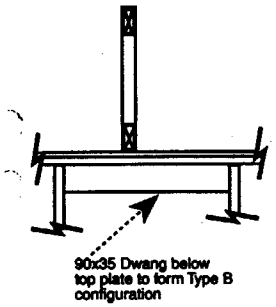


FIG 5
Type A Top Plate
90x35 plate only (not shown)

Type B Top Plate
90x35 top plate with 90x35 dwang under (shown)

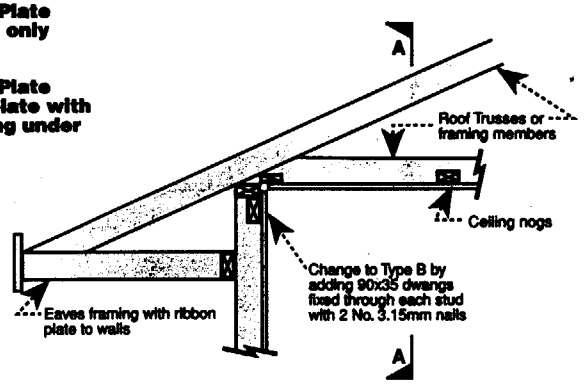


FIG 6
Type D Top Plate (shown)
90x35 Top Plate with 140x35 over

Type C Top Plate
Double 90x35
(not shown)

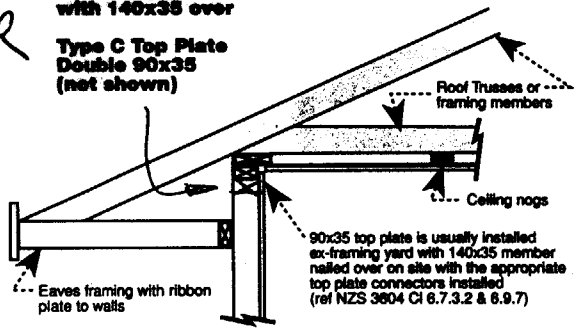


FIG 7 Type C Top Plate Double 90x35 (shown)

Type D Top Plate
140x35 over 90x35
(not shown)

(Note Maximum joist overhang of 400 mm is permitted to comply with table 4(b))

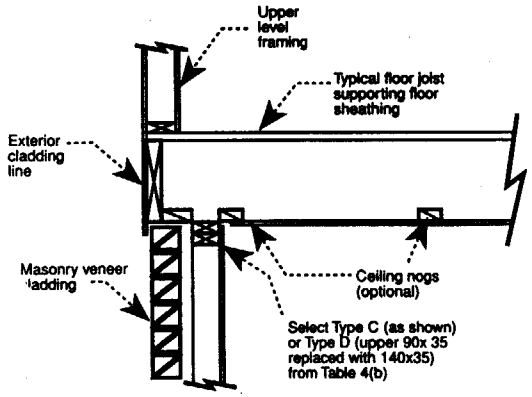
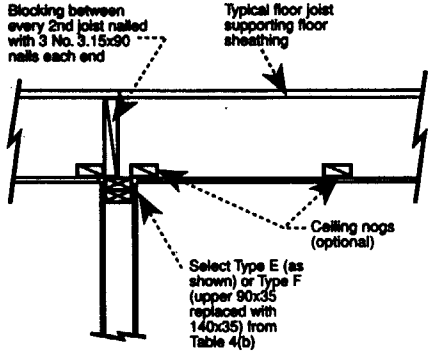


FIG 8
Type E Top Plate (shown)
Double 90x35 with full depth blocking over

Type F Top Plate
140x35 over 90x35 with full depth blocking over
(not shown)

(Note maximum joist overhang of 400mm is permitted to comply with table 4(b))



FRAMING AROUND OPENINGS (refer figure 9 for element definitions)

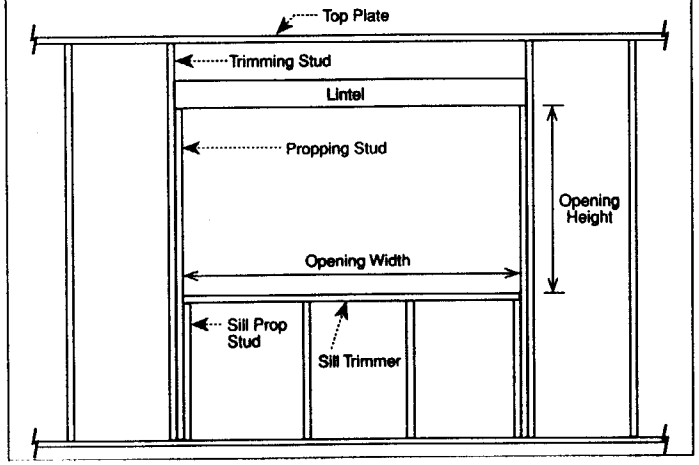
Lintels

Tasman *Timeframe* may be used to form lintels within wall frames provided each of the framing members is no less than 45 mm thick. Member sizes are to be determined through substitution with No 1 framing sizes as indicated in Table 5 of this handbook. The selection of the appropriate member for the required lintel span is to be made in accordance with *Table 6.7 of NZS 3604:1990*

Table 5: Tasman *Timeframe* Lintel Member Substitution Chart

Tasman Timeframe Section	No 1 Framing Section
90x45	100x50
140x45	150x50
190x45	200x50
240x45	250x50
290x45	300x50

FIG 9 Trimming Frame Around Openings



Trimming Studs

Table 6 Trimmer Studs — Number of 90x35 Members Required

Max Stud Height (m)	Lintel opening width (m) up to 1.8	1.8 to 2.4	2.4 to 3.6	>3.6
2.4	1	1	2	Specific Design
2.7	1	2	2	Specific Design
3.0	1	2	3	Specific Design

Propping Stud

One Tasman *Timeframe* propping stud only is required at each end of the lintel. Where proprietary steel lintels are used, the propping stud shall be extended to the top plate

Table 7 Sill & Head Trimmers — Number of 90x35 Members Required

	Opening Width (m) < 2.4 m	2.4 to 3.6 m	> 3.6 m
Number of 90x35 members required	1	2	Specific Design

Note: These sill spans have been derived taking into account both a degree of load sharing between the framing and the sheet lining materials and a proportion of the load being carried by the sill of the window frame.

ROOF & CEILING FRAMING USING TASMAN *TIMEFRAME*

Tasman *Timeframe* can be used as a direct substitute for No 1 framing grade radiata pine in all roof and ceiling framing. Selection of the equivalent member sizes may be achieved by reference to Table 1. Common substitutes are detailed in Table 8.

Table 8: Roof & Ceiling Framing Substitution chart

Tasman *Timeframe* Section	No 1 Framing Section	Referenced Tables in NZS 3604
70x35	75x40	Table 10.2 Rafters 0.5 kPa Snow Table 12.1 Ceiling Battens
70x35	50x40	Table 10.8 Purlins
90x35	100x40	Table 10.2 Rafters Table 10.4 Ceiling Joists
90x45	100x50	Table 10.2 Rafters Table 10.4 Ceiling Joists Table 10.8 Purlins
140x35	150x40	Table 10.2 Rafters — 0.5 kPa Snow Table 10.4 Ceiling Joists
140x45	150x50	Table 10.2 Rafters — 0.5 kPa Snow Table 10.4 Ceiling Joists
190x45	200x50	Table 10.2 Rafters — 0.5 kPa Snow Table 10.3 Valley Rafters Table 10.4 Ceiling Joists Table 10.5 Ceiling Runners Table 10.6 Underpurlins
240x45	250x50	Table 10.2 Rafters — 0.5 kPa Snow
290x45	300x50	Table 10.2 Rafters — 0.5 kPa Snow

SPECIFIC DESIGN

Tasman *Timeframe* is suitable for specific engineering design. For F5 grade sections the characteristic material properties specified in Table 9 below may be used. For other grades, the characteristic material properties specified in Table 2.3 of NZS 3603:1993 may be used. The design procedures, strength reduction factors (ϕ) and modification factors (k) to be used are specified in NZS 3603:1993.

Tasman *Timeframe* may be designed and used as roof truss elements, provided the truss manufacturers designs are in accordance with the specific design requirements as prescribed above.

The capacity and stiffness of nail-plate and tooth plate connectors used to fasten Tasman *Timeframe* members is considered to be at least that of the equivalent connector in No 1 framing timber.

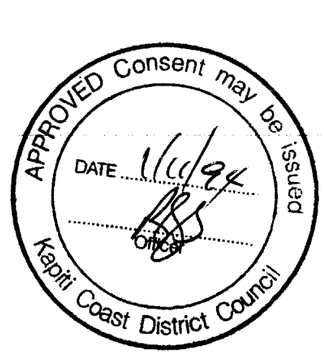
Table 9: Characteristic Stresses for F5 grade Tasman *Timeframe*

Flexure (f_b)	Compression Parallel (f_c)	Tension Parallel (f_t)	Shear in beams (f_s)	Compression Perp. (f_p)	Modulus of Elasticity(E)
16.2 MPa	12.1 MPa	8.2 MPa	3.0 MPa	12.1 MPa	7.5 GPa

REFERENCES

NZS 3604: 1990 "Code of Practice for Light Timber Framing not requiring specific design"
NZS 3603: 1993 "Timber Structures Standard"
NZS 4203: 1992 "Code of Practice for General Structural Design and Design Loadings for Buildings"

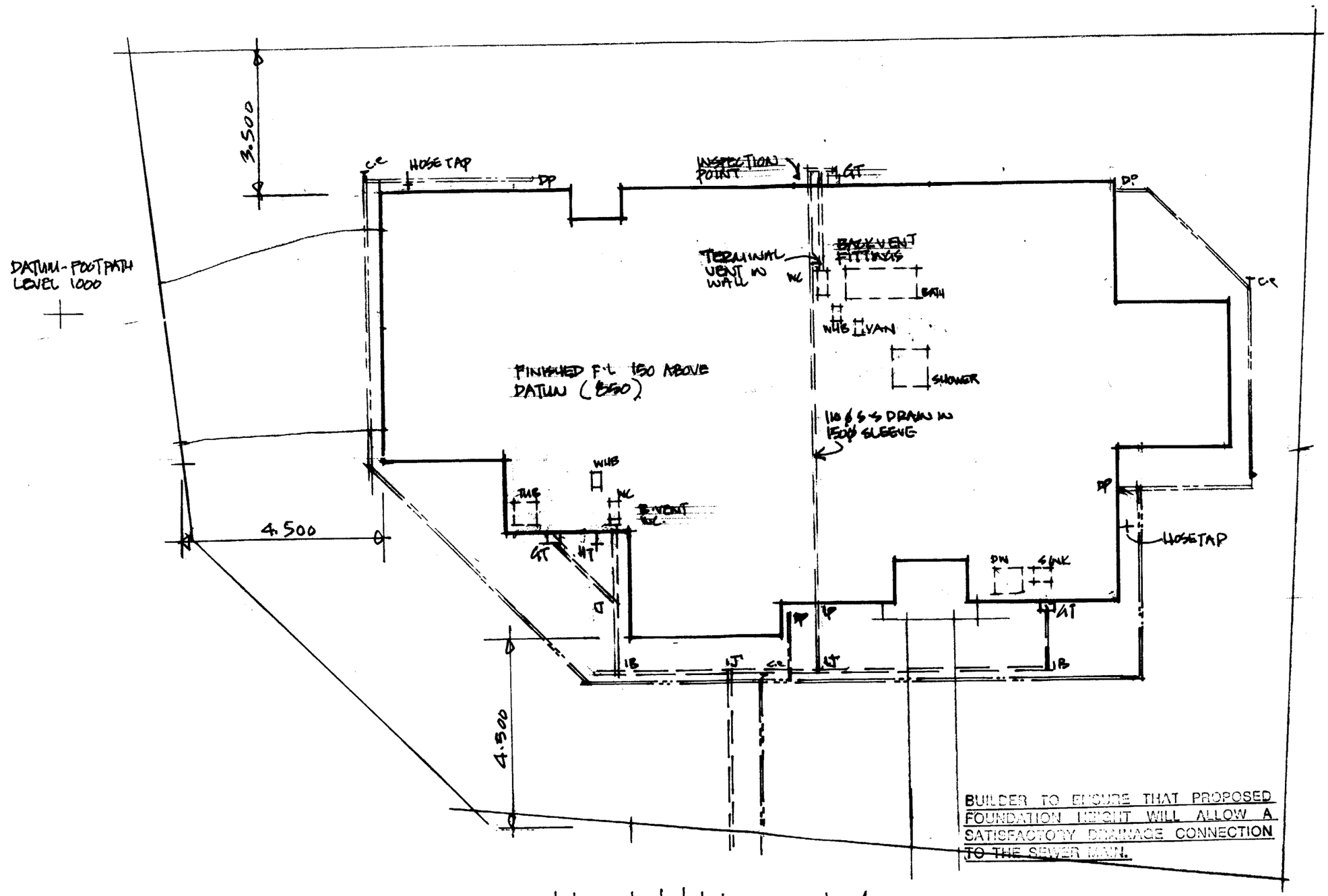
NEW HOUSE
at
LOT 13, NORTH BAY
WAIKANAE
for
Mr & Mrs NELSON



OFFICE

CAMERON BUILDERS
EXCLUSIVE DESIGN & BUILD

RLUC[illegible] 521
22ND [illegible]



SS drain is to be watertested to a 1.0m head
S-W drain is to have provision for cleaning access
Branch drains longer than 10.0m are to be terminal vented.

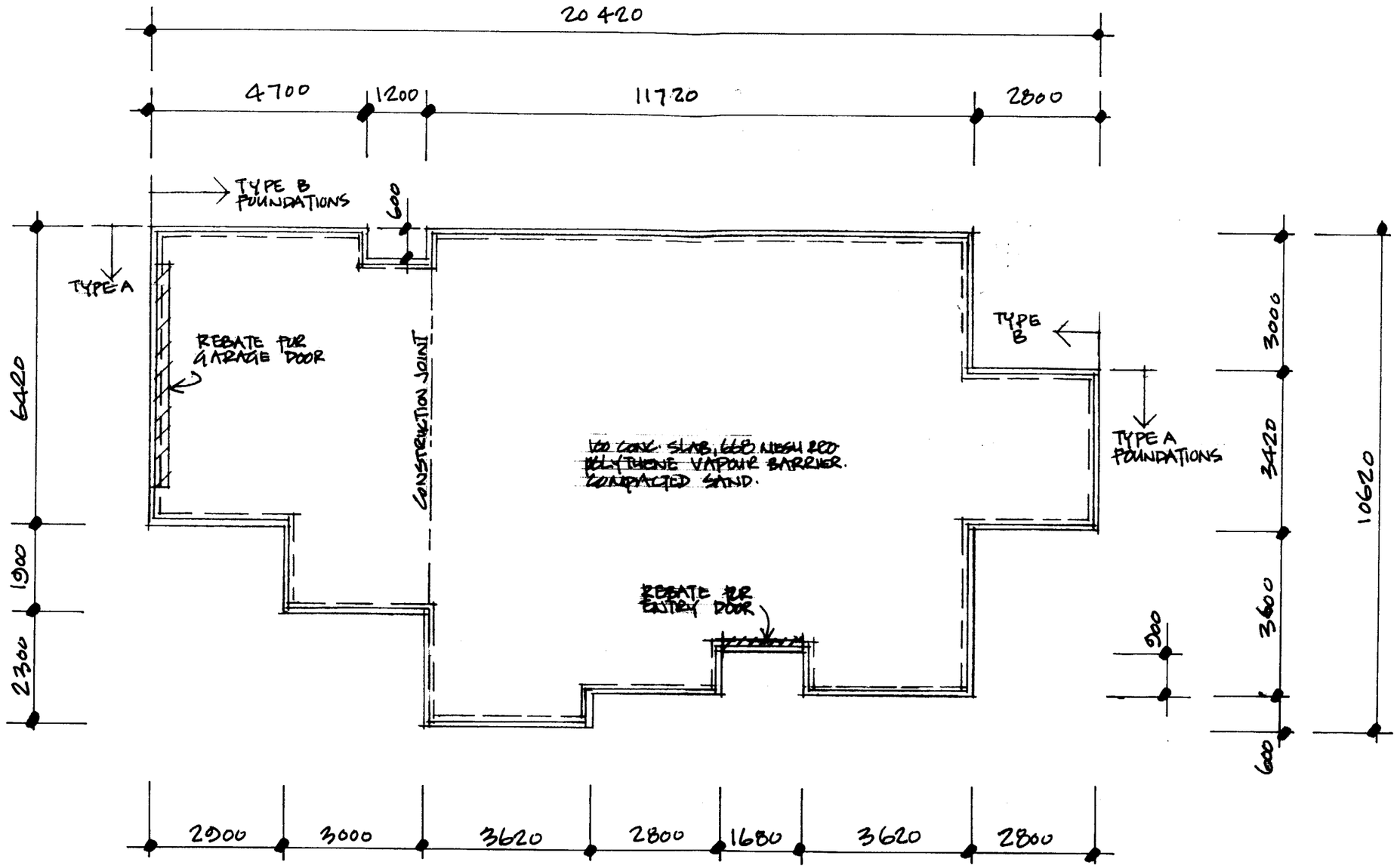
SITE PLAN 1:100

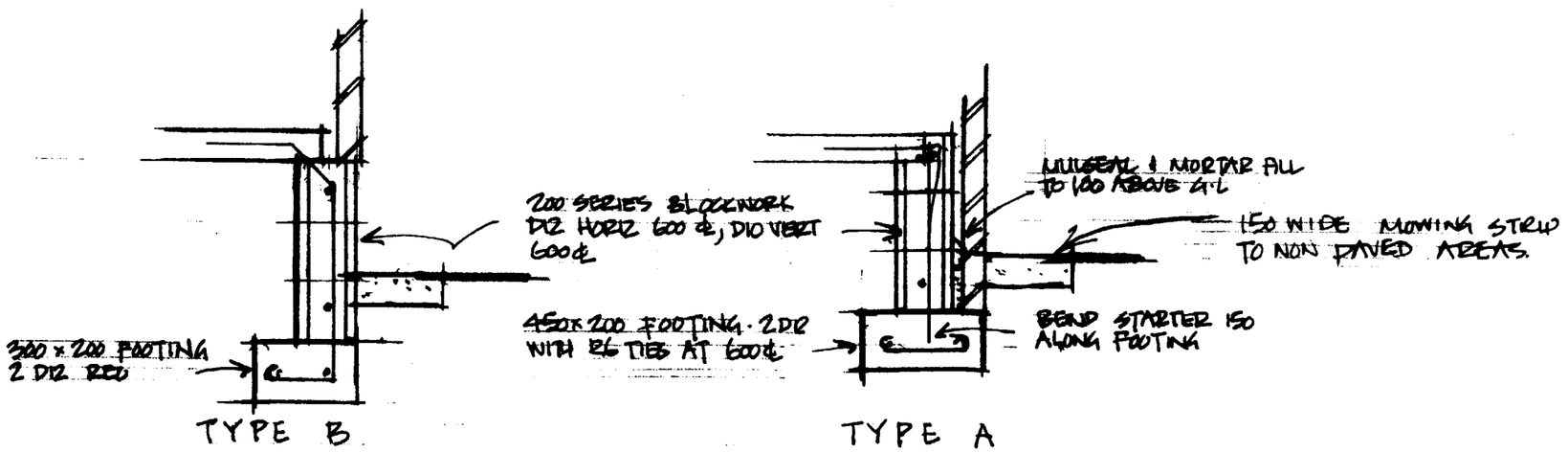
NORTH

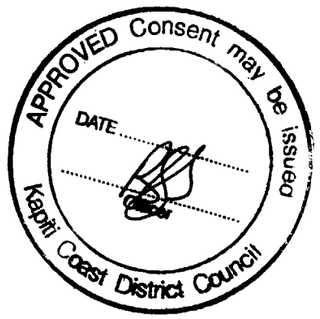
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DATE
Officer
Kapiti Coast District Council

APPROVED Consent may be issued
DATE 28.10.94
Officer
Kapiti Coast District Council

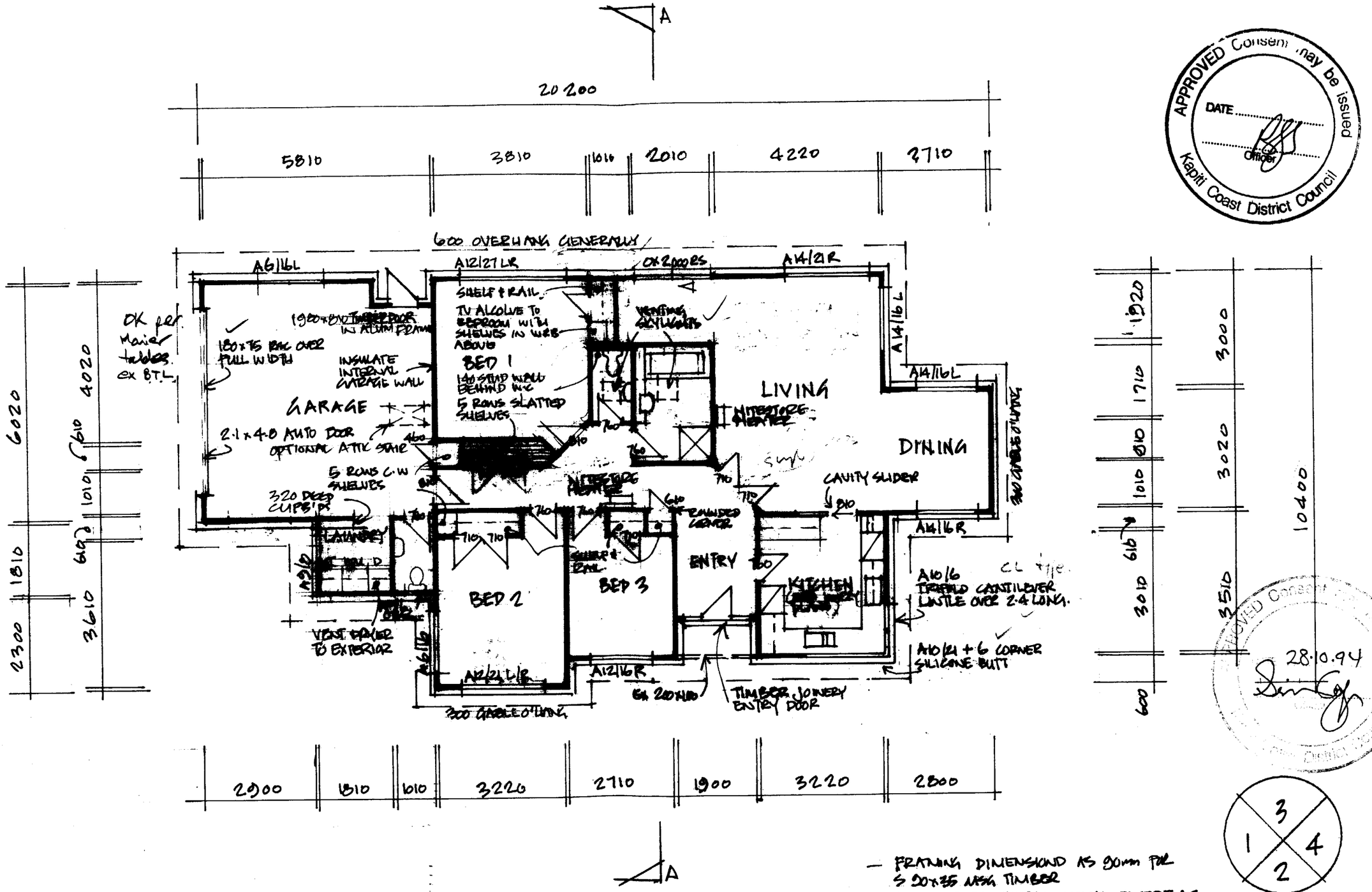
APPROVED Permit may be issued
21/10/94 DATE
DISTRICT PLANNER
Kapiti Coast District Council







FOUNDATION PLAN 1:100



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Kapiti Coast District Council

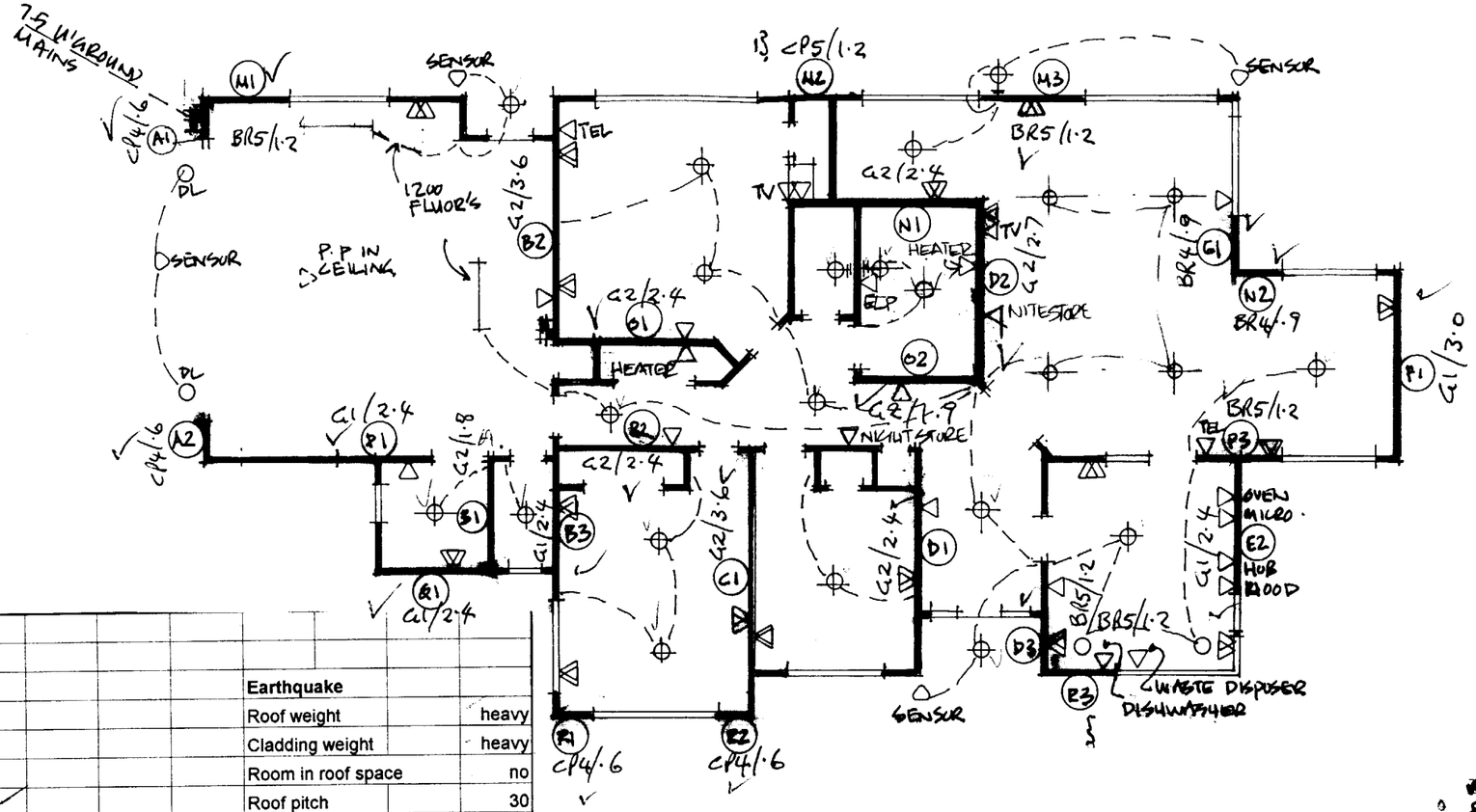
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- FRAMING DIMENSIONED AS 90mm FOR S 90x35 MGP10 TIMBER
- ALL LINTLES TRIFOLD METAL EXCEPT AS NOTED.
- REFER ELEVATIONS FOR LOCATION OF WINDOW SEGMENTS
- ALL NORTH FACE WINDOWS TO BE GREY TINT EXCEPT GARAGE

3 1 4 2

FLOOR PLAN 1:100

1815 sq ft (169 m²) AUGUST 94



Location of storey	ground											
Wind								**Earthquake**				
Building height to apex		6.0						Roof weight			heavy	
Roof height above eaves		3.3						Cladding weight			heavy	
Stud height		2.4						Room in roof space			no	
Building length		21.1						Roof pitch			30	
Building width		11.3						Building area			205	
Wind zone		high						EQ Zone			A	
Across factor		89.7						Area factor			5.4	
Along factor		82.5										
BU's across required		1892.7						BU's required			1107.0	
BU's along required		932.3										

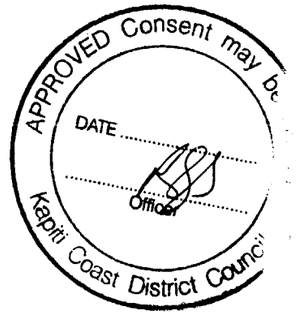
Across

Bracing Elements					Wind				Earthquake			
Label	Type	Length	Angle/Height Factor		Type Rating	Element Rating	Element Total		Type Rating	Element Rating	Element Total	
A1	CP4	0.6	1		97	97.0	58.2		95	95.0	57.0	
A2	CP4	0.6	1		97	97.0	58.2		95	95.0	57.0	
B1	GIB2	1.8	1		75	75.0	135.0		60	60.0	108.0	
B2	GIB2	3.6	1		80	80.0	288.0		70	70.0	252.0	
B3	GIB1	2.4	1		75	75.0	180.0		50	50.0	120.0	
C1	GIB2	3.6	1		80	80.0	288.0		70	70.0	252.0	
D1	GIB2	2.4	1		80	80.0	192.0		70	70.0	168.0	
D2	GIB2	2.7	1		80	80.0	216.0		70	70.0	189.0	
D3	BR5	1.2	1		115	115.0	138.0		85	85.0	102.0	
E1	BR4	0.9	1		100	100.0	90.0		85	85.0	76.5	
E2	GIB1	2.4	1		75	75.0	180.0		50	50.0	120.0	
F1	GIB1	3.0	1		75	75.0	225.0		50	50.0	150.0	
Total							**2048.4**				**1651.5**	
Total Required							1892.7				1107.0	

Along

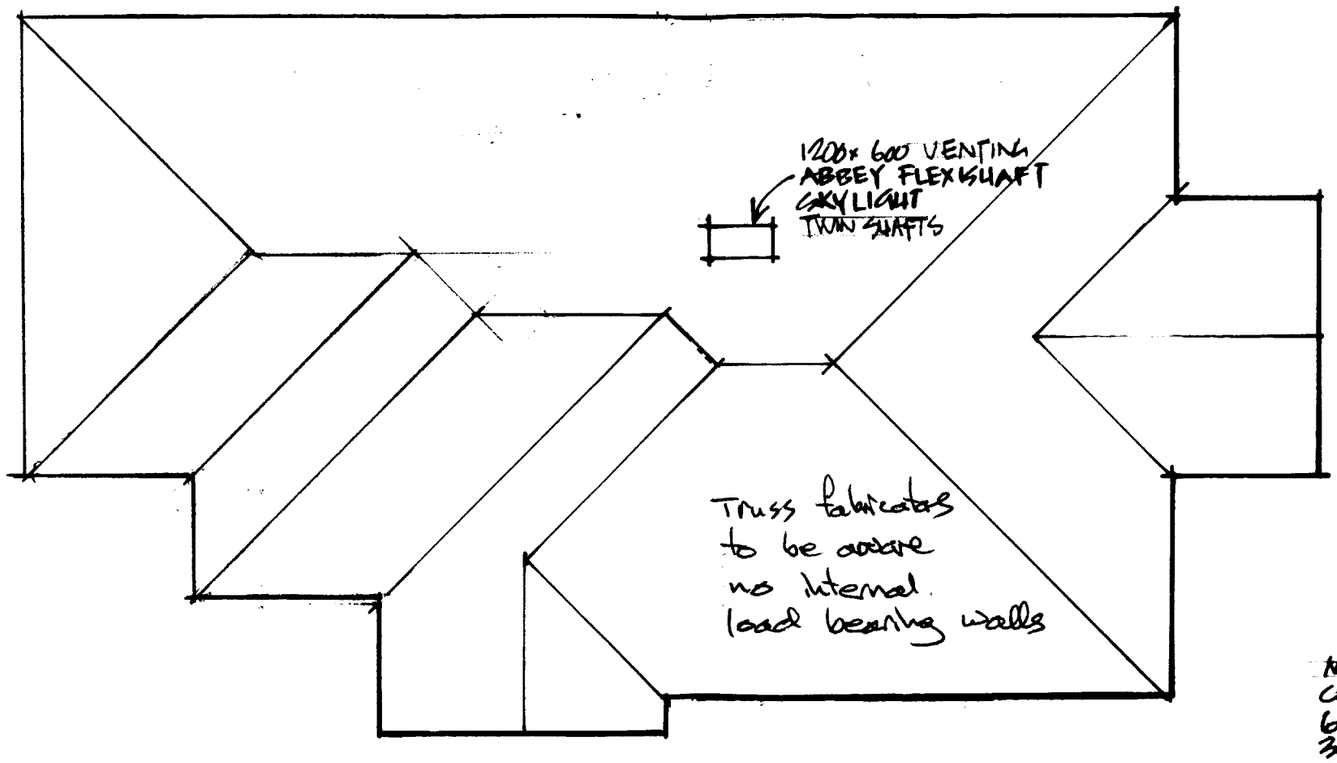
Bracing Elements					Wind				Earthquake			
Label	Type	Length	Angle/Height Factor		Type Rating	Element Rating	Element Total		Rating	Element Rating	Element Total	
M1	BR5	1.2	1		115	115.0	138.0		85	85.0	102.0	
M2	CP5	1.2	1		94	94.0	112.8		92	92.0	110.4	
M3	BR5	1.2	1		115	115.0	138.0		85	85.0	102.0	
N1	GIB2	2.4	1		80	80.0	192.0		70	70.0	168.0	
N2	BR4	0.9	1		100	100.0	90.0		85	85.0	76.5	
O1	GIB2	2.4	1		80	80.0	192.0		70	70.0	168.0	
O2	GIB2	1.9	1		75	75.0	142.5		60	60.0	114.0	
P1	GIB1	2.4	1		75	75.0	180.0		50	50.0	120.0	
P2	GIB2	2.4	1		80	80.0	192.0		70	70.0	168.0	
P3	BR5	1.2	1		115	115.0	138.0		85	85.0	102.0	
Q1	GIB1	2.4	1		75	75.0	180.0		50	50.0	120.0	
R1	CP4	0.6	1		97	97.0	58.2		95	95.0	57.0	
R2	CP4	0.6	1		97	97.0	58.2		95	95.0	57.0	
R3	BR5	1.2	1		115	115.0	138.0		85	85.0	102.0	
Total							1949.7				1556.9	
Total Required							932.25				1107.0	

ALL CEILING LIGHTS TO BE DOWNLIGHTS
ALLOW IN ROOF SPACE FOR BATON HOLDER LIGHT, PP FOR DRIMASTER UNIT, HOTWATER CYLINDER.



BRACING & ELECTRICAL

1:100

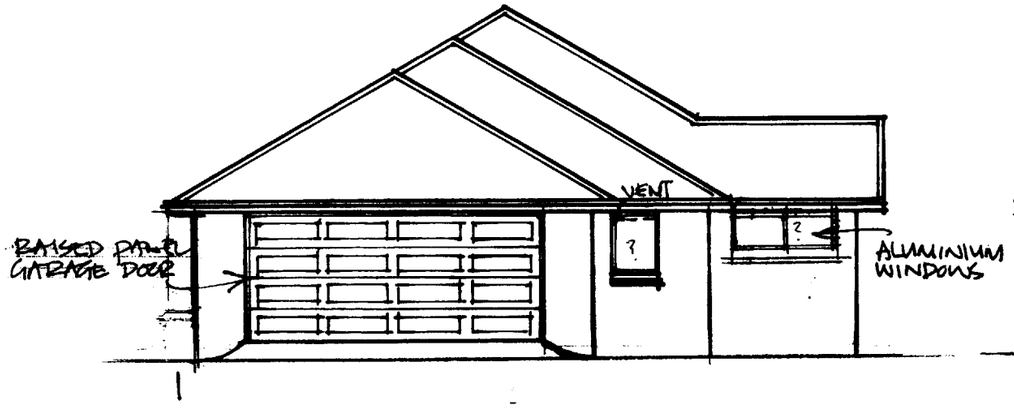


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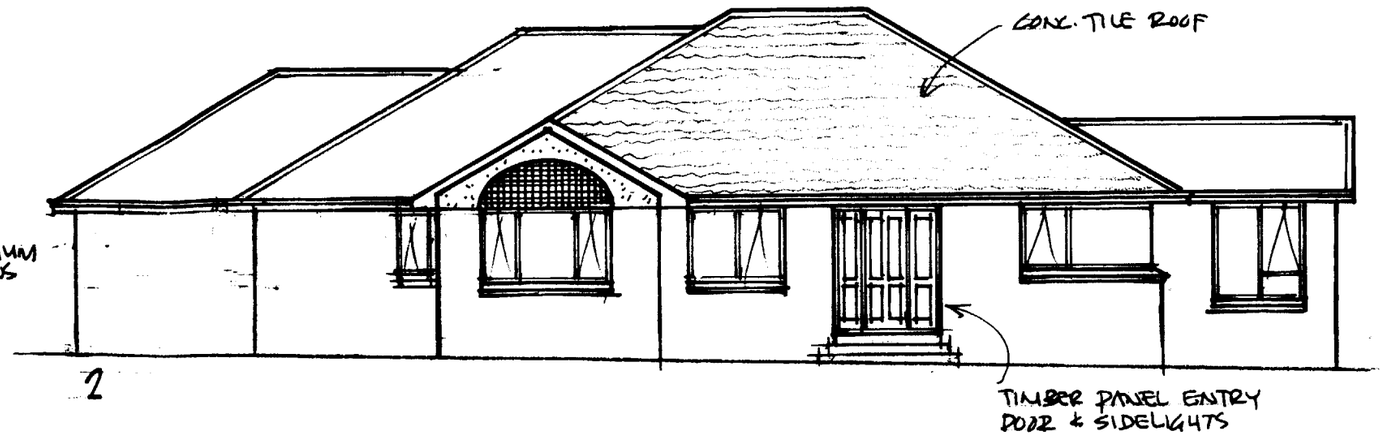
MONIER CONC. TILE ROOF
CENTURION PROFILE WITH SCRIBED BARGES
600 O'HANG GENERALLY
300 O'HANG TO GABLES
30° PITCH

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DATE
Officer
Kapiti Coast District Council

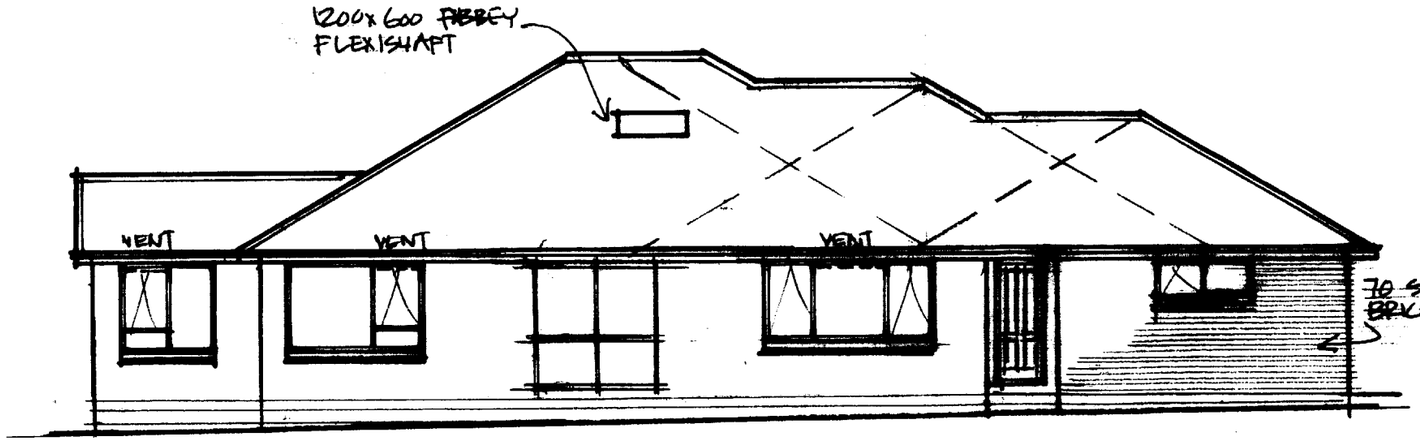
ROOF PLAN 1:100



1



2



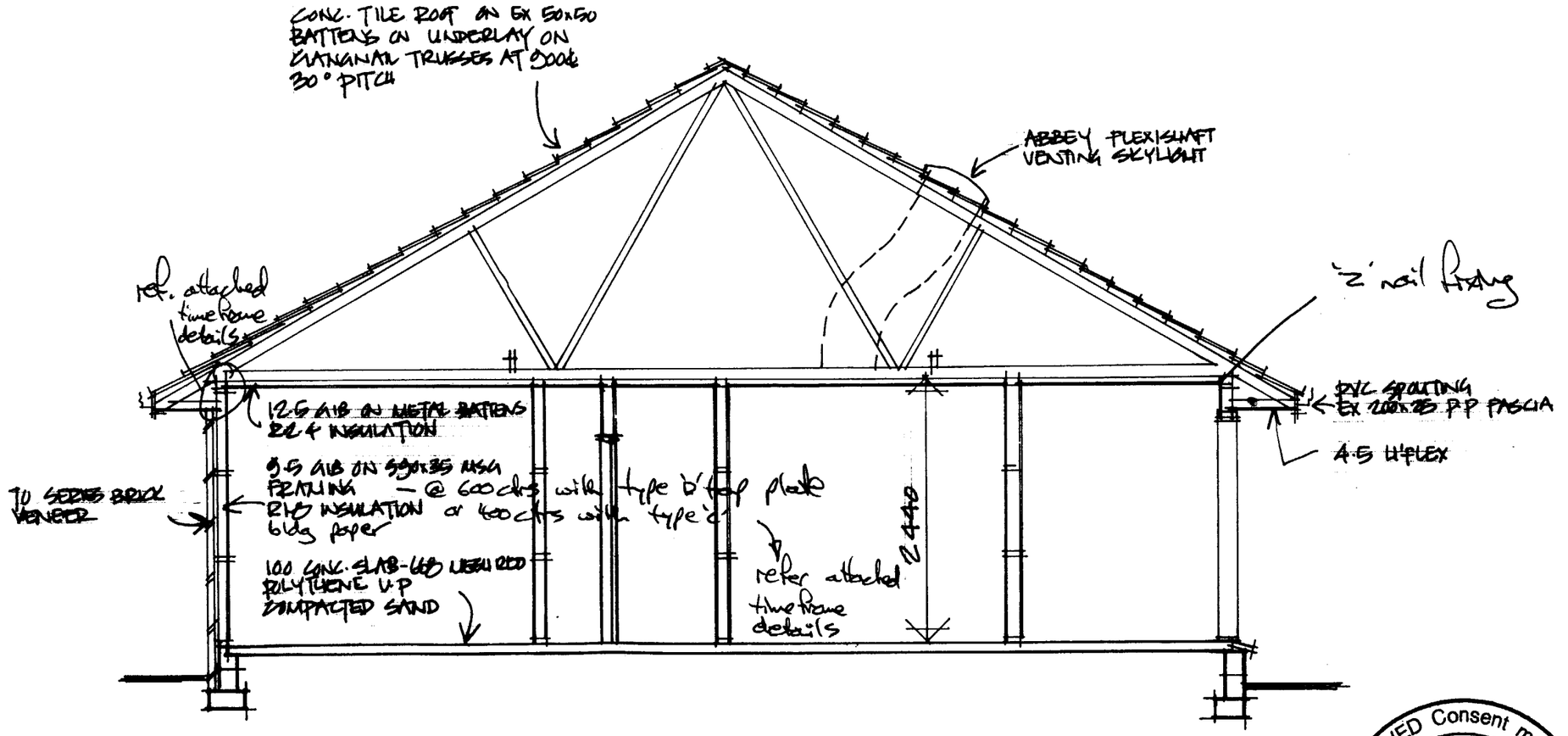
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DATE
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Kapiti Coast District Council

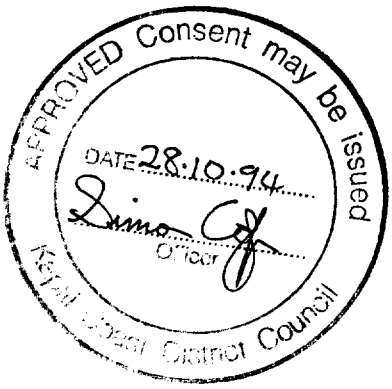
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Kapiti Coast District C

ELEVATIONS 1:100



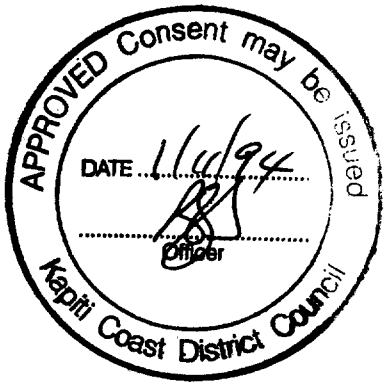
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DATE
Officer
Kapiti Coast District Council

SECTION A-A 1:50



NEW HOUSE
at
LOT 13, NORTH BAY
WAIKANAE
for
MR & MRS NELSON

CAMERON BUILDERS
EXCLUSIVE DESIGN & BUILD



SPECIFICATION OF WORKMANSHIP AND MATERIALS

PRELIMINARY AND GENERAL

Conditions of Contract

The conditions of contract shall apply to all trades and sections of work and shall be signed by the builder and client prior to any work commencing.

Contract Documents

The contract documents shall be

- The conditions of contract
- This specification
- The working drawings
- The bracing schedule
- The Structural calculations and drawings

Fees and Levies

The builder shall pay when due all fees, levies, and deposits applicable to the project, including the Building Consent and Inspection fees.

Guarantees and Warranties

The builder shall take all steps to ensure that guarantees and warranties are provided on items specified in the contract and that all conditions for installation are met.

Insurance

The builder shall arrange and pay for a "Builders all Risk" policy prior to work commencing to cover all parties involved in the construction and completion of the project

Standard Specifications

The work shall comply with the following (and their listed related documents)

- NZS 3604 1990
- The Building Act 1991
- The NZ Building Regulations
- The NZ Building Code Handbook and Approved Documents
- Manufacturers product specifications

Safety

The builder shall ensure that the He, all sub-trades, and the work site comply with N.Z.Labour Dept. Safety Regulations and the Occupational Health and Safety Act.

Maintenance

The builder shall maintain a tidy and efficient site at all times with rubbish cleared from site regularly.
The builder shall repair any defects caused by faulty workmanship or materials for a period of 120 days (or as agreed with client) after completion of the project.

Alternative Construction

The builder may use alternative bracing and framing provided that compliance to all relevant standards is maintained and the design of the building is not affected. Any alternative materials or construction techniques must be approved by the client.

PROVISIONAL COST SUMS

The following amounts shall be included in the tender price

• Electrical :	Downlights	$ 30-00
	Wall lights	80-00
	Exterior lights	60-00
	Door bell	150-00
	T.V.Aeriel	500-00
• Door Hardware :		1000-00
• Wallpaper :		30-00 per roll
• Floor coverings :	Carpet	160-00 per metre
	Vinyl	80-00 per metre
• Appliances :	Oven	2000-00
	Hob	1000-00
	Rangehood	500-00
	Waste disposal unit	300-00

SITE PREPARATION

Setting Out

All site boundaries must be clearly established by the builder. If boundary positions are in doubt then the client shall arrange suitable definition by a registered surveyor.

Access to the Site

The builder shall inspect the site and make all necessary allowances to ensure suitable access for equipment to the works.

Excavation

Excavate all foundation trenches down to solid bearing. Unforeseen conditions not shown by drawings shall be applied as an extra to the contract by agreement between the parties. Excavate service trenches to correct depth and gradients and backfill according to regulations.

Sub Base

Lay "Moistop 737" polythene vapour barrier on compacted sand base. Polythene shall be lapped at edges and secured with PVC tape. Seal all pipe penetrations. Sand shall be compacted in maximum 150 layers.

FOUNDATIONS - CONCRETE SLAB

General

Concrete materials and workmanship shall comply with NZS 3109. Concrete strength shall be 17.5 Mpa unless stated otherwise. Blockwork shall comply with NZS 4210. Steel reinforcing shall comply with NZS 3109, 4210, and 3402P

Footings

Lay 200 series concrete blocks on reinforced concrete footings as detailed. Place all steel and fill all cells.

Floor Slab

Slab shall be 100mm thick to comply with appendix E NZS. 3604. Reinforce slab with 668 HRC mesh placed with 30mm cover to top. Provide construction control joints at 15m maximum intervals. Slab shall be screeded off level with approved power float equipment.

FRAMING

Walls

All framing timber shall be dry seasoned, mechanically stress graded. All framing shall be grade F5+ except non load bearing walls may be grade F4. Grading shall comply with AS 1748. Size and spacing of members shall comply with manufacturers specifications.
All walls shall be adequately braced to prevent any lateral movement and to comply with bracing schedule. Bracing shall be galvanised steel angle in combination with sheet material or by permitted sheet material only, fixed as specified in NZS 3604 and manufacturer's specifications.

Ceilings

Provide solid fixing by way of floor joists and "Winstones" metal battens to fix 12.5mm "Gib Board" board linings.

Roof

Roof framing consists of rafters and trusses to size and spacing as shown on drawings.
Fabrication of trusses shall comply with approved manufacturers calculations and specifications
Fixing shall comply with section 10 and nailing schedule NZS 3604
Provide roof bracing system as specified in NZS 3604 and shown on drawings.

STEELWORK

Supply and place steel beams, as noted on the plans.
All materials and construction shall comply with NZS 3404 and related documents
All steelwork shall be sandblasted and primed prior to delivery to site. Painting shall consist of two costs of zinc rich primer giving a total paint cover of 75 microns.

FASCIAS AND BARGES

Fix Ex 200x25 pre primed dressed pine board grooved for soffitt lining

ROOF CLADDING

Fix selected concrete roof tiles to Ex 50x50 battens over "Bitumac 860" building paper. Manufacture of tiles shall comply with NZS 4206. Fixing of tiles shall comply with NZS 4206 and manufacturers specifications. Fix battens according to NZS 3604 nailing schedule

SOFFIT LINING

Fix 4.75 "Hardiflex" lining to ex 75x50 framing at 900 centres. Fixing and jointing shall comply with Hardies specifications.

WALL CLADDING

Gables

Fix textured polystyrene and "Hardilattice" over 7.5 Hardiflex over "Bitumac 851" building paper to gable walls. Nailing and jointing shall comply with Hardies specifications.

Brick

Fix "Bitumac 851" building paper to framing.
Lay selected clay masonry brick veneer to comply with manufacturers specifications and appendix F NZS 3604

WALL LININGS

General

Line walls with 9.5 "Gib board" nailed, glued, taped and stopped to Winstones specifications to achieve a level 5 finish.

Showers

Line shower walls with 4.75 "Hardiglaze fixed and joined to Hardies specifications

CEILING LININGS

General

Line ceilings with 12.5 "Gib board" screwed, glued, taped and stopped to Winstones specifications to achieve a level 5 finish.

INSULATION

Walls

All exterior walls and internal walls of garage shall have R1.8 "Pink Batts" fibreglass insulation fitted tightly between studs and dwang. Installation shall comply with INZCO specifications. The following products may be used as an alternative provided that installation complies with manufacturers specifications and client is consulted.

- 70mm W2 "Thermofleece" wool insulation blanket
- 75mm "Rocwool" mineral fibre loose fill
- 100mm "Comfort Zone" Polyester insulation blanket

Ceiling

Install 2.4 "Pink Batts" fibreglass insulation directly above ceiling lining fitted tightly between framing. Installation shall comply with INZCO specifications. The following products may be used consulted an alternative provided that installation complies with manufacturers specifications and client is consulted

- 100mm C1 "Thermofleece" wool insulation blanket
- 100mm "Rocwool" mineral fibre loose fill
- 100mm "Comfort Zone" Polyester insulation blanket

JOINERY

Front Door

Front entry door shall be a paint quality tanalised pine raised panel type with matching sidelights.

Garage Door

Garage door shall be a paint quality raised panel sectional type on approved steel frame. Supply with door, automatic opening motor, 2 remote controls and switch in garage

Windows

Windows shall be powder coated aluminium style with tanalised pine reveals. Windows shall comply with NZS 3504 and NZS 4211. Glazing shall comply with NZS 4223. Window manufacturer shall be responsible for confirming window sizes on site prior to production.

Interior Doors

Interior doors shall be "Windsor" colonial style paint quality doors hung in "J4" style paint quality frames.

Skirting

Skirting moulding shall be Ex 150x25 colonial style moulding to living areas, hallways and entry, and bedrooms. Skirting moulding shall be 60x12 "Customwood" moulding No2 to service rooms cupboards, wardrobes, and garage

Architrave's

Architrave moulding shall be Ex 75x25 colonial style throughout.

Cornice

Cornice moulding to flat ceilings shall be 50mm "Gib Cove" fixed according to Winstones specifications.

Hardware

Door hardware shall be selected by client (P.C.Sum allowed) and fitted by builder.

Kitchen

- Carcase and shelves : plastic laminated 18mm m.d.f.board with matching edge clashings
- Drawer and cupboard fronts : plastic laminated 18mm m.d.f.board with pvc edge clashings.
- Bench top : "Formica" laminated on 2 layers of 18mm m.d.f.board. Freeform front edge. 100mm coved upstand on sink wall only.Under mounted s/s sink bowl
- Handles : plastic 'dees'
- Hardware : cupboards on concealed hinges
  drawers on integrated metal side runners

Vanities

- Carcase and shelves : plastic laminated 18mm m.d.f.board with matching edge clashings
- Drawer and cupboard fronts : plastic laminated 18mm m.d.f.board with pvc edge clashings.
- Top : "Formica" laminated on 2 layers of 18mm m.d.f.board. Freeform front edge. 100mm coved upstand
  Coroma "Cameo" basins
- Handles : plastic 'dees'
- Hardware : cupboards on concealed hinges
  drawers on integrated metal side runners

Cupboards

- Linen cupboard : 5 rows Ex 50x25 D4S slatted shelving
- Coat cupboard : full width shelf and clothes rail
- Wardrobes : full width shelf and clothes rail with 600 wide bank of 6 shelves at one end
- Storage cupboards : 5 rows 18mm m.d.f.board shelves

PLUMBING

Flashings

Provide and fix appropriate flashings as required to render the building watertight.

Spouting and Down pipes

Fit Marley "Classic" PVC spouting with even falls to 75mm down pipes.

Wastes, Soil stacks, and Vents

Wastes, Soil stacks, Vents and other such pipes shall be rigid PVC except that copper pipes shall be used in concrete. Installation shall comply with NZ Building Regulations Approved Solution G13.

Hot and Cold Water Reticulation

Hot and cold water pipes shall be approved polybutylene. Connect to hot water cylinder.

Gas fitting

Install gas heater bayonet fittings and hot water cylinder according to NZS 5261 and manufacturers specifications.

Testing and Commissioning

Test all pipework and fittings for operation and water tightness. Remedy defects before linings are installed where ever possible.

DRAINAGE

General

Provide all fittings necessary to complete the work and lay all drains to an even fall of not less than 1 in 40. Pipes shall be rigid PVC surrounded in approved drainage metal in trenches of correct depth. Arrange and attend territorial authority inspections .

Soil Drains

Install 110mm PVC gully traps to take waste pipes and 110mm PVC bends to soil pipes and terminal vent. Run 110mm PVC drains to street lateral. Fit cleaning eyes at any change of direction.

Storm water

From all down pipes, sumps etc. run 90mm PVC storm water drains to discharge at street kerb and channel.

Testing and Commissioning

Test all pipe work and fittings for operation and water tightness. Remedy defects before trenches are back filled.

ELECTRICAL

General

All work shall comply with NZ Electrical Code of Practice and NZ Building Regulations Approved Document G9.

Extent of Work

- Underground mains supply to metre board
- General wiring reticulation to house.
  All circuits shall be protected by miniature circuit breakers (MCB) at distribution board.
  Power circuits shall be run in 2.5mm TPS cable with a maximum of 5 plugs per MCB.
  Lighting circuits shall be run in 1.0mm TPS cable with a maximum of 12 lights per MCB.
- Supply and install PDL "500" series plugs, switches, and fixed connections.
- Supply and install Bremca domestic distribution board.
- Supply and install McKay metre box.
- Supply and install fittings
- Telephone wiring reticulation and jack points including master. Supply to house and demarcation box shall be by Telecom
- Television wiring reticulation, coaxial cable sockets, and supply and installation of aerial. Wiring shall be UHF coaxial cable suitable for Network, Satellite, and Cable TV

PAINTING AND DECORATING

General

All work shall be done in a fully tradesman like manner according to Master Painters Association standards. Include all preparation work (spot sanding, filling, sizing, sealing, priming etc.) prior to finishing as listed below.

Exterior

~~• Cedar weather boards :~~	~~2 coats oil based sea~~ler
• Polystyrene :	Approved texture coat system applied according to manufacturers specifications and finished with 2 coats of compatible gloss acrylic
• Sofitts :	2 coats satin acrylic
• General :	Exterior timber (fascia's, garage door, entry doors, lattice etc.) shall be finished with 2 coat acrylic system

Interior

• Ceilings and Cornice :	2 coat matt acrylic
• Woodwork and Doors :	2 coat semi gloss enamel
• Walls- Garage and cupboards :	2 coat satin acrylic
• Walls- General :	wallpaper

SITE WORKS

General

Site shall be left clean and tidy at completion. Rectify any damage to property encurred during building period.

Extent of Work

- Supply and lay 100mm of topsoil to grounds and spread with lawn seed.
- Lay 30mm hot mix driveway on minimum 150mm compacted base course. Edges shall be 100mm concrete kerb
- Concrete paths shall be 75mm thick, 17.5 MPa grade, broom finish. Lay on compacted and smooth base
- Cobblestones shall be laid according to Firth specifications on compacted sand base. (15 sq.m)
- Supply and fit letter box and clothes line

Att: Mr Bateman
Cameron Builders.
Fax. 2937908.

KAPITI COAST DISTRICT COUNCIL

Ref:

GST REG No. 51-860-608
CUST No. BC942563

4/11/94

MR & MRS NELSON
C/O CAMERON BUILDERS
P O BOX 253
WAIKANAE

FAXED

TAX INVOICE 2881

QTY	DESCRIPTION	RATE	AMOUNT	
	Building Consent/PIM		921.00	*
	942563 : NORTH BAY WAIKANAE : NEW DWELLING			
	BRANZ Levy		135.00	*
	Damage Deposit		400.00	OG
	BIA Levy		108.00	*
		BEFORE GST	1,434.67	
	(* INCLUDES GST)	GST	129.33	
		TOTAL	$1,564.00	
		CASH RECEIVED	670.00CR	
		NET DUE	894.00	

Ngarara Building, Rimu Road. Private Bag 601, Paraparaumu.
Telephone (04) 298-5139
Fax (04) 297-2563

MR & MRS NELSON 4/11/94 BC942563 / 2881 * 1,564.00



SPECIFICATION

of
work to be done
and materials to be used
in carrying out the work described herein
and in the accompanying drawings
for

Job: MR & MRS P HILL

Lot No.: 5 DP: 76750

Site Address: SCHOOL RD TE HORO

Documents Forming Part of This Contract:

Drawings for job No. - - - - - - - - - .....

This specification and any addendum to same

Relevant New Zealand Standards whether specifically mentioned herein or not

Builder's tender and building agreement

TABLE OF CONTENTS

Section number & description	Page
1 -- PRELIMINARY & GENERAL	3
2 -- DEMOLITION	7
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APPENDICES . . . . . FOLLOW MAIN SPECIFICATION
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##################################################
# New Zealand Standards (NZS) referred to in this #
#       publication may be obtained from          #
#      Standards Association of New Zealand       #
#          Private Bag, WELLINGTON.               #
##################################################
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This document was compiled by
Ron Burling, 45 Parker Avenue, Levin
on 16 February 1990

1 -- PRELIMINARY & GENERAL

1.1 SCOPE OF WORK

This contract comprises the supply of all plant, materials, and labour necessary for the construction, completion and maintenance of the whole of the work according to the intent of the drawings and specification, including such items not specifically mentioned but which are necessary for a complete and workmanlike job. Upon completion the whole of the works shall be left watertight and to the satisfaction of the authorities and the loan company supervisor. Give all notices, arrange and pay for all permits, and organize all inspections of the works by the local authority.

1.2 EXPLANATORY

1.2.1 GENDER

For convenience masculine gender is used throughout this document. Where this is inappropriate such references are deemed to be replaced by the equivalent feminine gender reference and this document shall have the same effect as though written in the feminine gender.

1.2.2 DEFINITIONS

"Approved" or "to approval" means to the approval of the owner or the owner's nominated agent but subject also to such approval being in accordance with local authority and mortgage requirements. Such approval shall be in writing whenever any cost variation is likely as a result of the owner exercising power of approval. In cases so designated the contractor shall either:

(a) consult with the owner to determine requirements prior to pricing, or

(b) allow a lump sum at the time of pricing for supply and installation of the item(s), and consult with the owner prior to purchasing to ensure that only approved items are installed. In this case a schedule of lump sums allowed shall accompany the price submitted.

Failure to obtain owners approval in any instance covered by the above renders the contractor liable to rectifying the omission totally at his own expense, except that any difference between the nett costs of the item originally supplied and that necessary to meet the owners approval shall be an adjustment to the contract price.

"Best" means that there is no better class of workmanship or higher quality of material available or appropriate for the work or finish required.

"Contractor" means the person or organization nominated as the contractor in the conditions of contract.

"Engineer" means the local authority engineer or any local authority officer to whom he has delegated his authority.

"Ground levels":

cleared ground level means either the underside of organic material or, where this is removed, the ground level after the site has been cleared and any site works completed but before any building foundations have been excavated.

finished ground level means the level after all backfilling, landscaping and surface paving have been completed.

natural ground level means the ground level before the site has been cleared.

"Owner" means the owner or owners as described in the conditions of contract or on the title page of the specification and includes any agent appointed by the owner(s).

"Required" means where required by any one, or combination of, the drawings, specification or addendum, or otherwise required for the proper completion of the works (unless this definition is inappropriate for the context in which it is used).

1.3 CONTRACT DOCUMENTS

The following documents outline this contract:

(a) This specification and addendum sheet(s)
(b) Working drawings
(c) Builder's tender and building agreement

1.3.1 RELATED DOCUMENTS

Where any other document is referred to in this specification and/or in the drawings the relevant clauses of that document together with any current amendments shall be deemed to be part of the requirements of this specification.

1.3.2 COMPLIANCE WITH STANDARDS

All light timber frame structures as defined by NZS 3604, clauses 1.1.1 and 1.1.2, shall comply with the relevant requirements of that standard. All other structures shall comply with either an appropriate standard or specific design data prepared by a structural engineer or other suitably qualified person.

1.4 BYLAWS & PERMITS

The whole of the works shall be carried out in accordance with, and shall conform to, the bylaws and regulations of the local authority and the mortgage institution.

The contractor shall obtain all permits and pre-pay all inspection and other fees necessary for the carrying out of the contract.

Note: Crossing fees; Upgrading rights-of-way, etc.
The contractor shall pay necessary deposits or fees for sealing, vehicle crossings, etc. as required by the local authority to allow building permits to be uplifted. All such non-recoverable amounts are the liability of the owner and shall be charged as an extra to the contract. Recoverable deposits paid by the contractor are NOT chargeable against this contract unless expressly agreed to in writing by the owner.

1.5 DRAWINGS & SPECIFICATIONS

This specification, together with any addendum, is to be read in conjunction with the working drawings and any other detailed drawings which may be issued. If any error, ambiguity or inconsistency should appear in or between these documents, the priority of the documents is as follows:

1. Addendum
2. Drawings
3. Specification

Figured dimensions shall take precedence over those scaled and large scale detailed drawings shall supersede those of smaller scale.

Where any doubt remains such discrepancies shall be referred to the designer for clarification.

1.6 Protection of work

All parts of the work liable to injury and all adjoining property, existing work, footways, trees, etc., are to be protected until completion of the contract. Where damage occurs this shall be made good at the contractor's expense.

1.7 TEMPORARY SERVICES

1.7.1 New works:

The contractor shall provide and maintain all temporary services, pay all fees in connection with these, and remove same on completion of the contract. This includes all necessary sheds, toilet facilities, power, water, scaffolding, and such like.

Provision of adequate all-weather access to the site is the responsibility of the owner.

1.7.2 Additions alterations, etc.:

The contractor shall make mutually satisfactory arrangements with the owner regarding the use of existing sheds and services and shall arrange for any further facilities which may be required as outlined in the previous paragraph for new work.

1.8 INSURANCE

Prior to commencing construction of the contract, the contractor shall purchase the following insurance for the period of the contract (excluding maintenance).

(a) worker's compensation insurance as stipulated by the act.

(b) Contractor's "all risk insurance" or "fire insurance" insuring against loss or damage by fire in the joint names of the contractor and the owner to the full insurable value of the contract.

1.9 SITE

The contract is based upon the site conforming with either:

(a) levels and/or contours as shown on the drawings together with specific foundation details drawn or specified, or

(b) the site being level or having falls not greater than 600 mm in any direction across the building platform, and

(c) the site being well-drained and the sub-soil being of sufficient strength as to necessitate only the minimum foundation requirement of the local authority or lending institution

Where site levels fall outside the limits set by (a) and (b) above and/or the sub-soil does not have a safe bearing pressure of minimum 100 kPa, all additional work and materials to provide adequate foundations shall become a variation to the contract provided the need for such extra work has been brought to the owners attention (in writing) prior to signing of the contract, or could not reasonably have been forseen at that time.

The site of the works shall, where so requested, be pointed out to tenderers who are advised to visit the site and check slope of ground, quality of soil and any other relevant factors.

1.10 SETTING OUT

The contractor shall be responsible for the setting out of the works as required and for maintaining set out, level pegs and control pegs during the currency of the contract.

The owner is responsible for having site boundary pegs visible and correctly located.

In setting floor levels for concrete slab-on-ground floors the contractor shall make due allowance for the following:

(a) The depth of the local authority sewer lateral where such exists or is to be provided.

(b) The requirement that finished ground level is to fall not less than 1:25 from the building for more than 1 metre ALL round. No variations shall be considered unless the contractor prepares a separate price for such work.

The contractor shall not be obliged to undertake any variation until the owner has given approval by signing and returning a copy of the variation price to the contractor.

1.11 MATERIALS SUBSTITUTION

Where brand names are used in this specification substitution may be made provided the substitute materials are of equal or better quality than the item being replaced and the substitution is approved in writing by the owner.

1.12 Termite stops

If this work is to be carried out in a gazetted termite area then provision is to be made for the fixing of termite stops in positions approved by the local authority.

1.13 COMPLETION

On completion the contractor shall remove all equipment and temporary work, remove all rubbish accumulated during the construction of the building (including rubbish under suspended floors), leave floors broom clean and services in good order, with windows whole and clean.

1.14 MAINTENANCE

The contractor shall undertake to remedy at his expense defects in materials and workmanship which appear in the building within 90 days after completion.

The owner will notify the contractor in writing of any items which require rectifying within 7 days of the expiry of the 90 days mentioned in the previous paragraph.

1.15 LUMP SUM ALLOWANCES

The lump sums referable to this contract are specified in the attached schedule at the end of this specification.

1.15.1 PRIME COST (PC) SUMS

The PC Sums stated in this specification or allowed to cover "approved" items are NETT sums for the SUPPLY ONLY of the item(s) stated and the contractor or sub-contractor concerned must add any cartage, fixing charges and profit he requires on all such items.

1.15.2 PROVISIONAL SUMS

Provisional sums are NETT allowances for the supply of LABOUR & MATERIALS to carry out the work covered by each provisional sum. The contractor shall add separately any profit he requires on these sums.

1.15.3 CONTINGENCIES SUM

The contingencies sum is a lump sum allowance provided to meet unanticipated expenses and shall be applied as directed by the owner.

1.15.4 ADJUSTMENT OF LUMP SUMS

On conclusion of the contract, the contract price shall be adjusted by adding or subtracting, as the case might be, the difference between the documented costs of providing items described in the lump sums schedule and the lump sums originally allowed. There shall also be added or subtracted, as the case might be, a sum representing such percentage as is normally charged by the contractor for profit, but in no case shall such percentage exceed fifteen percent (15%) of such variation.

All adjustments to lump sums shall be fully documented with copies of suppliers invoices (including those relating to labour charges which are applicable to the adjustment).

2 -- DEMOLITION:

2.1 PRELIMINARY

Comply with preliminary and general.

This part of the works shall include all necessary protection of existing work, demolition of the existing structure such as is required to permit the contract to be carried out and the reinstatement of remaining parts to as near original condition as possible so that the whole is left weather-tight and to approval.

2.2 OWNERSHIP

All demolition materials remain the property of the owner.

Delete

2.3 STORAGE & DISPOSAL

Such demolition materials as are required for re-use in the contract shall be prepared for re-use by the contractor and stored on site until needed in such a manner that no deterioration occurs. The owner shall be responsible for making suitable storage available or else shall reimburse the contractor for any costs associated with providing suitable storage.

All demolition materials not re-used in the course of the contract shall be disposed of in a manner approved by the owner. Where the contractor is required to effect such disposal, other than by stacking where directed on site, any instructions shall be given to him in writing.

3 -- EXCAVATION

3.1 PRELIMINARY

Comply with preliminary and general.
The whole of the works shall be carried out in accordance with the bylaws and regulations of the local authority. Cooperate with other trades.

3.2 SET OUT

Set out the whole of the excavations to the layout and overall dimensions as shown on the drawings.

3.3 CLEARING SITE

Clear off all vegetation over the area of the proposed building.

3.4 FOUNDATION EXCAVATIONS

Excavation is to be carried out as required. All footing excavations are to be level and shall be stepped as necessary to follow sloping ground in accordance with NZS 3604 cl. 4.6.6.4 and 4.6.6.5. Footings shall in all cases be taken down to solid bearing and shall have the following minimum depths :

firm rock	150 mm
expansive clay	450 mm
other materials	300 mm

Depths are to be measured from cleared ground level. (See "Piling" for depths of anchor, braced and cantilever piles)

3.4.1 UNSTABLE GROUND

Where loose, soft or otherwise unstable ground is encountered the contractor shall either:

(a) Excavate as necessary to obtain solid bearing, where the unstable ground is of limited extent, or
(b) Engage a structural engineer, or other suitably qualified person, to carry out site tests and subsequent structural design of a suitable foundation.

In either case, the owner shall be advised immediately followed by written confirmation, including an estimate of likely extra costs, if an extra is to be recognised for this item (see "variations" in preliminary and general).

Alternatively, the owner may exercise the option to arrange for any design work to be carried out as a separate contract in which case he shall advise the contractor of this in writing.

3.4.2 EXCAVATIONS FOR CONCRETE FLOOR

Remove organic material over the whole of the building area. Excavate as necessary to achieve the granular and/or hard fill depths as required.

3.5 BACK FILLING

Back filling around foundations shall be inorganic material from excavation work rammed in place in layers not exceeding 150 mm depth.

3.6 INSPECTION

All excavations are to be inspected by the inspectors of local authority and lending institution prior to the placing of any fill or concrete.

3.7 SEPTIC TANK

Where shown, or otherwise required, excavate for a septic tank of size shown or otherwise approved.

4 -- PILING

4.1 PRELIMINARY

Comply with preliminary and general.

4.2 EXTENT OF WORK

Provide all required ordinary, cantilevered, anchor and braced piles to complete the foundation in accordance with the requirements of NZS 3604, cl. 4.1.1.

4.3 PILES

Materials for piles shall comply with the requirements of NZS 3604, clause 4.5.5., and concrete piles shall be reinforced in accordance with clause 4.5.6.

Piles shall be, precast concrete, cast-in-situ concrete, square sawn timber or round timber as required and of minimum dimensions set out below:

Concrete piles:
200 mm if parallel sided, or
200 mm at bottom tapering to 150 mm at the top

Timber piles:
diameter 140 mm if round, or 150 x 150 mm if square sawn (unless from an engineer approved source in which case they may be 125 x 125 mm -- e.g. "Tanapile" sawn piles).

Piles (except anchor piles) shall be laid out in straight rows in line with, and directly beneath, the bearers. Anchor piles may be offset to achive proper connection without disturbance of the bearer alignment. Pile tops shall be at levels to suit the subfloor framing. The height of piles shall be as follows:

Minimum height above finished ground level:

150 mm for concrete
300 mm for timber (unless a 3-ply malthoid or similar d.p.c. is used between the pile and other timbers and overlaps the pile by at least 6 mm all round in which case they may be 150 mm).

Maximum height above cleared ground level:

Delete

600 mm for cantilevered piles
500 mm to the top horizontal-support fixing point. (Note that the pile may extend above this level in place of a jack stud provided the connection to bearer or joist for horizontal support is through a 100 x 75 diagonal brace acting as a tie member.)
600 mm for ordinary piles directly supporting jack studs.
1.5 m for all other concrete piles.
3.0 m for ordinary or braced timber piles.

4.3.1 PILE FOOTINGS

Ordinary piles are to have their footings set to the minimum depth for foundations as given under "Excavation". All other piles are governed by the footing thickness (see below).

Provide cast-in-situ pile footings of plan dimensions set out in appendix ..., table ... (Note that anchor piles are of minimum 350 mm dimension.)

Where piles are NOT cast integrally with their footings they shall have the following minimum embeddment:

100 mm for ordinary piles, and braced piles where the diagonal brace is attached within 150 mm of the top of the pile.
300 mm for all other piles.

The minimum thickness of concrete beneath an embedded pile shall be:

75 mm for concrete piles
100 mm for timber piles

The minimum footing thickness of all piles, whether cast integrally or embedded, shall be the greater of:

(a) twice the projection of the footing beyond the face of the pile, or

(b) for anchor piles: 900 mm from cleared ground level

(c) for cantilever piles, and braced piles to which the lower end of a diagonal brace is attached 450 mm from cleared ground level

(d) for all other piles: 100 mm if precast concrete, or
200 mm if timber

4.3.2 PILE REINFORCEMENT

Reinforcement of concrete piles shall be as follows:

Ordinary piles exceeding 750 mm in length -- minimum 1 / R10 rod hooked both ends and placed centrally throughout the length of the pile.

Cantilevered piles and braced piles -- 1 / R10 rod hooked both ends and placed centrally throughout the length of the pile provided that the top end of the rod need not be hooked when it protrudes from the top of the pile for the purpose of fixing the bearer.

Anchor piles -- by either a min. 1 m length of 100 x 100 x 3.25 cold formed galvanized steel angle or a "hair-pin" formed from R10 reinforcing rod looped over both D12 brace fixing bolts and extending to within 100 mm of the bottom of the pile.

5 -- CONCRETE WORK:

5.1 PRELIMINARY

Note all clauses under preliminary and general.
Cooperate with other trades.

5.2 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 required.

5.3 MATERIALS

5.3.1 CONCRETE

Concrete shall be ordinary grade concrete with a minimum specified crushing strength of 17.5 mPa after 28 days curing except where a higher grade of concrete is required.

Site mixed concrete shall consist of 4 parts coarse aggregate, 2 parts fine aggregate and 1 part of fresh Portland cement. Maximum aggregate size shall be 20 mm. Alternatively, properly graded and mixed clean, sharp "all-in" aggregate may be used mixed in the ratio of 4.5 parts aggregate to 1 part fresh Portland cement. Care must be taken to ensure that measures of aggregate and cement are the same volume. Each cubic metre of concrete shall contain not less than 8 x 40 kg bags of cement. Ingredients shall be mixed in a power driven mixer for not less than 1.5 minutes after all the ingredients have been added.

Water for concrete shall be fresh, potable quality added only in sufficient quantity to make a stiff but workable mix.

Cement shall be fresh Portland cement and shall be carefully handled and stored away from moisture until used.

5.3.2 GRANULAR FILL

Granular fill shall be rounded gravel, crushed rock or scoria well-compacted in layers not exceeding 100 mm thick so that the total thickness of the granular fill is min. 100 mm, max. 300 mm.

Not more than 5 percent shall pass a 2.2 mm sieve and 100 percent shall pass either:

a 19.0 mm sieve for any fill thickness, or
a 37.5 mm sieve for fill thicknesses exceeding 150 mm.

Where fill depths exceed 300 mm the excess depth shall be filled with approved hard-core material.

5.3.3 HARDCORE FILLING

Hardcore filling shall consist of all-in granular material with a maximum particle size equal to the lesser of $^1/_4$ the depth of the fill or 100 mm and shall be well-compacted in accordance with accepted engineering practice in layers not exceeding 150 mm thick.

5.3.4 VAPOUR BARRIER

Before casting internal slabs (except porch and terrace slabs) blind granular fill with minimum 25 mm of well-compacted sand and cover with continuous 0.25 mm black polythene underlay with joints lapped minimum 150 mm and sealed with pressure sensitive polythene tape. All penetrations shall be well sealed to provide an unbroken vapour barrier.

5.4 REINFORCING

Reinforce foundation walls, footings and beams as required. All main reinforcing bars shall be deformed bars continuous around corners and through steps in footings and walls. Tie bars between main bars may be plain round bars. Reinforcing shall be neatly and accurately bent and placed as required. Tie all laps and crossings with 16 gauge black iron wire. Generally, reinforcing in foundations and walls shall be placed in the centre unless otherwise required.

Provide 75 mm minimum bottom cover and 50 mm side and top cover to all steel below ground level and, unless otherwise required, 50 mm minimum elsewhere. Place concrete or plastic spacers to hold steel in position and to maintain correct cover.

Laps in reinforcing shall be staggered at random and, where not shown otherwise, shall be:

32 diameters for deformed bars
40 diameters for round bars

Openings exceeding 300 mm in any direction in foundation walls shall be trimmed with a minimum of 1 / D12 bar on every side of the opening and extending not less than 600 mm beyond the edges of the opening.

5.5 FIXINGS FOR TIMBER

While concrete is still green, place all bolts for holding down wall plates, bearers, braces, etc. Bolts for holding down wall plates shall be not less than 10 mm dia. set 75 mm minimum into concrete and cranked for anchorage. They shall be set not more than 150 from the end of a plate or the corner of a sheet bracing element; not more than 300 mm each way from a corner and spaced at not more than 1400 mm centres generally.

Each length of plate shall be held down with:

minimum 2 bolts for plates up to 1.0 m long
minimum 3 bolts for plates exceeding 1.0 m long

Diameter 10 mm steel pins are an acceptable substitute for bolts described in the last paragraph provided they are cranked and set as described for bolts and have 75 mm minimum turn down on to timber.

In the event that a bolt or pin is not cast in where needed and the location is within 100 mm of any edge of the concrete then an epoxy grouting system or NON-wedge-type proprietary fixing is to be used to set the missing element. Note that proprietary wedge-type anchors such as "Dynabolts" are NOT permitted within 100 mm of any edge of the concrete but may be used in locations where this distance is exceeded.

Bearers shall be fixed to foundation walls or piers with cast in 12 mm dia. bolts cranked 75 mm and set not less than 150 mm into concrete.

5.6 FORMWORK

Formwork generally shall be of 12 mm minimum thickness plywood shutters or min. 25 mm non-staining boarding so constructed that it can be easily removed without damaging the concrete. It shall be constructed true to line and level and shall be effectively propped, tied and strutted to prevent deformation or movement under the load of the wet concrete. Form all openings in formwork for vents (see "solid plasterer"), conduits or ducts.

5.7 PLACING AND CURING OF CONCRETE

Concrete shall be delivered as close to the site of the work as possible and shall be moved from the mixer or ready-mix truck directly into the formwork. All concrete shall be compacted by means of immersion vibrators or other purpose-made tools handled by competent operators. Care shall be taken at all stages of placing and finishing not to over-work the concrete.

Concrete shall be kept from premature drying out by either keeping damp for a period of 7 days after pouring by regular watering or by use of a proprietary curing system.

5.8 FOUNDATIONS

5.8.1 WALLS & CONTINUOUS FOOTINGS

Foundation walls, footings and reinforcing shall be as required (see drawings and/or design calculations) or, where not detailed, shall be not less than the minimums specified in NZS 3604 clause 4.6 according to location and type being used.

All footings shall be laid on a clean, level, bed. (See also "Excavations".)

5.8.2 PILES & ISOLATED FOOTINGS

Provide all piles as described elsewhere (See "Piling") and isolated footings for posts and such like as required (see drawings).

5.9 CONCRETE SLABS

Where required cast concrete slabs to floors, porches and such like.

5.9.1 FLOORS

Lay floor slabs on a prepared granular fill base and vapour barrier as described above.

Screed floor slabs level or to falls required and finish to a fine, smooth, dense surface with steel float. Slabs shall be finished plane with a maximum tolerance of + or - 4 mm in the length of a 3 m straight edge.

Except where otherwise required slabs shall be a minimum of 100 mm thick and shall be reinforced within 40 mm of the top of the slab as follows:

(a) HRC 668 mesh for slabs of maximum dimension 15 m
(b) HRC 665 mesh for slabs of maximum dimension 25 m

(provided that where the building is single storeyed, and the drawings do not show otherwise, the slab may be unreinforced and have stress-control joints at maximum 4 m centres in each direction.) Joints in mesh shall be lapped minimum 230 mm. Mesh reinforcement shall extend to within 75 mm of the slab edge (including the foundation wall if slab and foundation are poured integrally).

5.10 PORCH AND TERRACE FLOORS

Concrete slabs are to be minimum 100 mm thick supported on approved, consolidated hardcore filling and laid to even falls of not less than 1 : 120 to the outside edges. Supporting walls are to be minimum 130 mm thick concrete. Steps shall have treads min. 350 mm wide and risers max. 180 mm high with throat not less than 100 mm thick. Unless poured in mass concrete steps shall have throat reinforcing of not less than HRC 668 mesh positioned in centre of throat region or as otherwise required. All tooled concrete surfaces which are to be plastered shall be cross-combed to form a key for the plaster. Un-plastered exposed surfaces are to be fair-faced or fine finished with a steel float as appropriate.

6 -- BRICKLAYER:

6.1 PRELIMINARY

Read and note all clauses under preliminary and general where they apply to this trade. (These clauses shall also apply to veneer work of concrete block, split stone or similar materials.)

6.2 RELEVANT SPECIFICATIONS

All work shall be in accordance with the requirements of NZS 1900, chapter 6.2 and NZS 3604, appendix F.

6.3 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 fairface brickwork shall be laid with the best face outward.

(b) Cement: Cement shall be ordinary Portland Cement and at the time of use shall comply with NZS 3122, "Portland Cement".

(c) Plasticisers: Plasticisers 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 account will further additions be made at the time of re-tempering mortars.

(d) Water: Water shall be drinking quality and shall, at the time of use, be free from acids, alkalis and organic impurities.

(e) Sand for Mortars: Sand used shall be clean, sharp and shall comply with the relevant clauses of NZS 3103, "Specification for Sands for Mortars and Internal and External Plasters".

6.4 PREPARATION OF MORTAR

Mortar shall be prepared by mixing in an approved batch mixer. Measurements of materials shall be by volume in a suitably calibrated device. 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 of mixing. Mortar not used in this time shall be discarded.

6.5 BRICKLAYING

Bricks shall be laid in stretcher bond, true to line, level and plumb, and in accordance with best trade practice. All work shall be laid from the lowest corner and no corner shall be raised more than 1 m above wall line. Corners shall be raked back. On no account shall toothing be permitted. All joints shall be completely filled with mortar and the bricks shall be shoved into place at least 10 mm and shall be disturbed as little as possible after initial positioning. Head joints shall be buttered on three edges. Deeply furrowed joints will not be permitted and mortar shall be spread on the bed joint not more than three bricks ahead when laying the next course. Joints shall, unless otherwise specified, be not more than 10 mm thick and shall be tooled for required finish 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.

6.5.1 BRICK VENEER

Construct brick veneer as required and in accordance with NZS 3604, appendix F. Mortar and workmanship shall be as previously specified.

Veneer ties and their anchorages shall be capable of resisting a lateral load in tension or compression of twice the weight of veneer which each tie supports without elongation or shortening of the assembly by more than 1.5 mm. Ties shall be non-corrodible metal or shall be galvanized with a zinc coating after forming. If of single leg round bar they shall be a minimum of 4.75 mm diameter; if of sheet metal they shall be of minimum thickness 1.5 mm and minimum width 25 mm. Sheet metal ties are preferred.

Approved ties shall be spaced at not more than 600 mm horizontally and not more than 350 mm vertically or 450 mm horizontally and 400 mm vertically (provided that the vertical spacing shall not exceed each fourth course) and shall be face fixed to the stud framing with only the nails passing through the building paper.

An air space (cavity) of minimum 40 mm, maximum 75 mm, shall be maintained between timber frame and exterior veneer. Combined ventilation/weep holes shall be provided by leaving raked perpends at maximum 800 mm centres along the bottom of the cavity. Provide top ventilation with either a full length x 5 mm gap between the top of the bricks and the soffit or by leaving raked perpends in the top course at same spacing as bottom ventilation/weep holes.

The cavity shall be maintained free of mortar droppings, protruding joints, pipes or electrical wires and such-like obstructions.

Where shown build in brick-sized concrete vents as required.

All facing work shall be kept clean as work proceeds. On completion all brickwork shall be left in a clean state. Clean down with a weak acid solution to remove mortar stains.

6.5.2 SILLS

Sills shall be brick on edge, quarry tiles, or concrete slabs, brought to the underside of joinery sills. The junction between the brickwork and joinery sills shall be sealed with butyl sealing compound used in accordance with the manufacturer's instructions and over-pointed with cement mortar.

6.5.3 BUILDING PAPER

Cover the whole of the external face of the framing from the top plate down with heavy weight, breather type building paper, lapped minimum 150 mm at joints and fastened to framing with large headed galvanized clouts (this work to be carried out by the carpenter). All damage to the building paper shall be made good before the brickwork proceeds.

6.5.4 VERMIN PROOFING

Build in 100 mm wide strips of approved galvanized wire mesh, secured to bottom of wall plates with 19 mm x 2 mm galvanized wire staples, carried across cavity and embedded minimum 25 mm into mortar joint below level of fixings to frame.

6.6 CHIMNEY, BASE AND HEARTH

Where required construct foundation pad and base walls for chimney. The foundation pad shall be min. 150 mm thick and shall extend not less than 200 mm beyond the line of the base walls. Reinforce with 1/D12 rod around the perimeter and form a grid of D12 rods at 200 mm c/c each way with the intermediate rods hooked over and tied to the perimeter rod. Walls shall be 150 mm min. thickness reinforced with D12 bars at not more than 200 mm c/c horizontally and vertically with the vertical rods bent and tied to lap 400 mm with intermediate reinforcing in pad. Vertical reinforcing shall be continued into the hearth slab to form a grid similar to that in the walls. Place 1 / D12 around the perimeter of the hearth slab. The hearth slab shall have a minimum thickness of 100 mm and shall extend 500 mm min. from the face of the fireplace.

Where the chimney is on an outside wall its foundation shall be poured integrally with the main foundation walls and if an open fire place is required provision shall be made for an ash-pit with an appropriate opening formed in the hearth and an approved ash-pit door set in the centre rear of the chimney foundation.

6.6.1 PRECAST CONCRETE CHIMNEY

The chimney shall be of standard construction of type and size required. Mortar for jointing precast units shall be as for bricklaying and joints shall be 10 mm max. thickness. Reinforce the shaft from gather to top of flue with 1 / D12 rod in each corner placed in purpose-formed holes. Fill reinforcing holes with a porridge-consistency grout mixture well worked in to ensure that no voids occur. Shaft reinforcing shall be single lengths. Where shaft length exceeds available rod lengths rods shall be extended by butt welding carried out by a competent welder and any such joints shall be kept in the upper portion of the shaft. Provision is to be made at each floor, ceiling and roof plane for horizontal support of the flue by setting in double 4.5 mm galvanized wire ties which shall be folded down over the adjacent timber framing. Secure each strand of wire with min. 4 / 30 x 2.5 galvanized staples driven horizontally into the face of the timber furthest from the shaft.

The shaft is to extend above the roof:

(a) Not less than 600 mm nor more than 2400 mm above the highest point of intersection with the roof plane (unless provision is made for the support of the stack above roof level), and

(b) To a level such that the top of the chimney is not closer than 1500 mm horizontally to the nearest part of any roof and is above the level of any heat sensitive materials.

ENSURE THAT ALL PARTS OF THE CHIMNEY AND HEARTH STRUCTURE ARE KEPT 50 mm MIN. FROM ADJACENT TIMBER TO PERMIT THE INSTALLATION OF EITHER AN OPEN FIREPLACE OR ANY SLOW COMBUSTION HEATER (OR SIMILAR APPLIANCE).

6.6.2 FIRE BOX

Where an open fireplace is required construct the fire-box in H30 fire bricks laid on the flat and bonded together with "Firecem" fire cement. Form an ash hearth with bricks on edge and set in an approved steel tilt plate when an ash pit is provided. The back shall rise vertically to 300 mm above the ash hearth and then be angled (not curved) forward and carried up 100 mm minimum above the lower edge of the lintel to form a throat not less than 90 mm wide. The sides of the fire-box shall be laid vertical, angled inward towards the back and carried up to the height of the throat. Backfill fire-box brickwork with coarse rubble and cap with 50 mm plaster. Form a hollow smoke shelf above and behind the throat. The whole of the interior of the fire-box shall be finished smooth to provide minimum interference with flow of smoke, etc. Provide a cast iron or steel grate and support on fire brick hobs 100 mm above the hearth.

6.6.3 APPLIANCES

Where an appliance is required it shall be installed strictly in accordance with the manufacturer's instructions current at the time of installation.

6.6.4 SURROUND AND FRONT HEARTH

Allow the provisional sum shown in the addendum for the supply and installation of an approved front hearth and fireplace surround.

7 -- CARPENTER

7.1 PRELIMINARY

Comply with preliminary and general.

7.2 EXTENT OF WORK

Comprises the supply and fixing of all timber work, lining, sheathing, fittings, finishings and hardware specified or otherwise required.

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

Leave the structure weather-tight and all parts in proper working order.

7.3 MATERIALS

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

All timbers shall be as specified and graded according to NZS 3631 and shall be straight and in as long lengths as procurable. All treated timbers shall comply with the appropriate specification of the Timber Preservation Council. Framing timbers to which linings are to be fixed shall be gauged to eliminate variations in sizing. Exposed exterior timbers shall be machine dressed and interior finishing timbers shall be dressed and sanded to a fine finish unless otherwise required.

7.4 WORKMANSHIP

All cutting, fitting, assembling, connecting, spiking or bolting down shall be carried out in accordance with currently recognised best trade practice.

Except where otherwise required exposed screw fixings shall have slotted heads finished with slots parallel with the length of the member being fixed and all other fixings in exposed work shall be set below the surface and plugged, stopped or otherwise appropriately concealed unless the fixings are themselves intended to be ornamental.

7.5 PAINT PRIMING

All exposed exterior woodwork including laps, rebates, mitred joints, etc., where paint finished shall be primed, and where stain finished shall have one coat of stain prior to fixing.

7.6 DAMP PROOF COURSE

In all situations where a free-draining air space of 12 mm or more is not maintained between timber and concrete or masonry, provide a 3-ply bitumen-fabric DPC separator (unless the timber is treated to NZTPC specification H4 or better, or the concrete/masonry is in an internal situation and is fully protected by a vapour barrier).

7.7 BUILDING PAPER

Provide breather-type building paper complying with NZS 2295 and secure to the exterior face of stud framing or sheet bracing material. Run building paper horizontally with upper sheets lapping over lower not less than 75 mm. Adequately secure to plates, bearers and studs, extending from upper side of top plate to the underside of the bearers or wall plates supporting the ground floor joists. Replace or adequately repair immediately before fixing exterior sheathing if punctured or torn.

7.8 TIMBER GRADES

Unless otherwise required the contractor shall allow for all timbers as specified below:

Usage	Timber grade & treatment	Moisture content & finish
sub-floor framing	No.1 p.radiata H1 tan tr	20 - 25% rough sawn or machine gauged
general framing timbers	No.1 p.radiata H1 boric tr or No.1 douglas fir untreated	20 - 25% machine gauged
exposed members (beams, rafters, joists, trusses)	clean No.1 framing (or better) p.radiata H1 boric tr or clean No.1 douglas fir untreated	15 - 20% machine gauged and dressed and medium sanded on exposed faces
exterior finishing timbers	DQ p.radiata H1 tan tr (for paint finish); H3 tan tr (for stain finish)	15 - 20% d4s un-blemished faces exposed
interior finishing timbers	paint: or : DQ p.radiata H1 boric tr stain: varnish: DA ht rimu untreated	12 - 18% d4s and medium sanded on exposed faces 12 - 18% d4s and fine sanded on exposed faces

7.9 SUB-FLOOR FRAMING

Lay bearers to the sizes required across piles and foundation walls.

Bearers shall be laid in straight lines and be so positioned that they tend to straighten under load. They shall be checked over, or packed off, piles to bring their upper surfaces to a constant level. Checking shall not exceed 15 mm in depth. Where possible packing shall be avoided, but where required shall provide full support for the bearer across the top of the pile. Malthoid packing must not exceed three layers. Where greater depth packings are required they shall consist of accurately gauged timber set under the bearer and shall be securely fixed to prevent displacement.

Fix bearers and jack studs to ordinary piles with 4 mm dia galv. wire passing through the pile, wrapped over bearers, or carried 200 mm up jack studs and securely fixed to timber with not fewer than 3 / 30 x 2.5 mm staples to each fixing.

Fix bearers or plates across anchor piles and cantilevered piles with 12 mm dia. bolts or rods cast in piles. Secure timbers either with nuts and washers to bolts or by clenching down 75 mm min. of rod. Bearers are to be butt jointed over supports with 45 mm min. landing each side of joint. Elsewhere bearers are to have 90 mm min. landing on their supports. Connect bearers longitudinally with either a 6nh nail plate, or 2 / U-nails, each side of the joint.

Fix diagonal timber sub-floor braces to bearers, joists anchor piles and braced piles with 1 / M12 bolt to each connection.

Delete

7.10 FLOOR JOISTS

Floor joists shall be of the sizes, and at the centres, required. Gauge joists level and fix in straight lines.

Joists may be butt jointed over supports with minimum 32 mm landing. Every third joist, shall be lapped 300 mm over the centre of a support or shall have a 300 mm timber flitch plate centrally on the joint and connected to each joist with 4 / 100 x 3.75 mm nails. Alternatively 2 connectors each having a capacity of 3 kN may be used (e.g. 2 / 4NH nail plates; one each side).

When sheet flooring extends not less than 600 mm on each side of the joint then the lapping or flitching of joists may be omitted except where a sub-floor bracing element is attached to the joist.

Where walls run parallel with the floor joists provide double joists under all load-bearing walls. Double joists may be separated by 50 mm packings at not more than 600 mm centres. Non load-bearing walls shall be over joists or may be supported by 100 x 50 mm blocking between parallel joists at each end of the wall, at each side of door openings and at not more than 1200 mm centres.

Fix 25 mm thick boundary joists as trimmers to the ends of all joists as required. Fix other support as detailed on the drawings or required by NZS 3604.

Provide full depth blocking or herring bone strutting at the mid span of all joists exceeding 150 mm depth and as required. All joists shall be fixed to supporting bearers, beams or plates as required by the nailing schedule, with additional fixings as required.

Provide dwanging between joists at the line of all joints in flooring and for ceiling linings where the joists are for an upper floor.

7.11 WALL FRAMING

Frame up for walls and partitions as required. Studs shall be cut square at ends or true to angles of gable or sloped frames. All studs shall be continuous for their full unsupported length between floors, ceilings and similar planes of support.

Framing shall generally be out of No. 1 framing grade H1 treated pinus radiata.

Top and bottom plates shall be sized to comply with tables 18 and 19 of NZS 3604 and as required. Studs shall be of sizes and at the centres shown on the drawings and as required by tables 12, 14 and 15 of NZS 3604. Provide not less than two rows of dwangs in the height of each wall to provide stiffness to framing and support for linings. Provide additional dwanging as shown on the drawings or where required for additional support and/or fixing.

7.12 LINTELS

Lintels shall be of sizes shown on the drawings and complying with table 16 of NZS 3604 (see appendix A).

Lintels shall be supported at ends by checking trimmer studs not less than 15 mm nor more than 20 mm for 150 mm deep lintels. Lintels not exceeding 250 mm deep shall be supported by 40 mm thick doubling studs. Lintels not exceeding 300 mm deep shall be supported by 50 mm thick doubling studs. Lintels shall be fixed to trimmer studs and trimmers studs to floor joists at the bottom with 25 x 1 mm galv. straps or other similar fixings as required by NZS 3604. Refer also to drawings and/or fig. 41, NZS 3604.

All nailing of treated framing shall be as shown in the nailing schedule.

7.13 BRACING

All bracing elements shall be located strictly in the positions required.

Metal bracing shall be 25 x 25 x 1.2 mm galv. steel angle, galv. tee or PAIRS of 25 x 1.2 mm galv. strap braces fixed to top and bottom plates and studs as shown in the nailing schedule. Each length of strap bracing shall be fitted with purpose made, properly adjusted, tensioners at rate of 1 tensioner for each 3.6 m of strap. "Pryda Speedbrace" may be used instead of flat strap and tensioners.

Where tee or angle braces are used, they shall be set in straight lines and saw cuts in framing shall be only of sufficient width and depth to neatly accommodate the bracing. Excess depths of cuts will not be permitted and studs cut to excess depths are to be removed and replaced.

Bracing shown on the drawings is required to satisfy the requirements of NZS 3604. The contractor may provide additional bracing to hold frames square and true during erection.

The plan lengths of bracing elements shall not be less than that shown on the drawings or in the bracing schedule.

Sheets of lining fixed over bracing and forming part of the bracing element shall be fixed to the framing ALL ROUND with fixings at the following maximum centres:

Edge fixings	150 mm
Intermediate fixings to linings over:	
sheet braces	300 mm
other braces	400 mm

Generally types 1 and 3 bracing elements require the lining to be fully fixed on one face of the framing only, while types 2 and 4 require complete fixing of the lining on both faces of the framing, over the area of the wall forming the brace.

Sheet bracing shall be of the materials, and shall be fixed in the locations, shown on the drawings. In addition to the nail fixing required in the nailing schedule sheet bracing elements shall be connected to bottom plates and joists or boundary joists as shown in fig. 47 of NZS 3604 with 25 x 1.2 mm galv. straps.

Bottom plates shall be held down to slab floors with 12 mm dia. bolts or R10 pins cast in not more than 150 mm from the bottom corners of sheet bracing elements and shall have galv. straps or similar fixings of 6 kN capacity between bottom plates and end studs all as shown in fig. 67 of NZS 3604. Proprietary fixings to the slab may be used only where the fixing is 90 mm or more from the slab edge or any stress control joint.

Walls containing bracing elements shall be connected at top plate level to walls at right angles, either directly or indirectly by a framing member in the line of the wall. Direct connections shall be made using 1 / 6N10 nail plate, or 1 / 25 x 1.2 mm galv. strap with 6 / 30 x 2.5 mm F.H. nails each end. Indirect connections shall have not fewer than 6 / 75 x 3.15 mm F.H. nails each side of the joint. Lengthening joints in top plates shall be butted together and jointed with metal connections as above or by a framing member bridging the joint and having not fewer than 6 / 75 x 3.15 mm F.H. nails each side of the joint. See also clause 6.7.3 and fig. 43 of NZS 3604.

Where a wall does not contain required bracing elements the top plate connections may be reduced to 6N5 nail plates, galv.strap with 3 / 30 x 2.5 mm F.H. nails each end, or the joints may be half-lapped with 3 / 75 x 3.15 mm F.H. nails. Indirect connections with 3 / 75 x 3.15 mm F.H. nails each side of the joint may also be used.

7.14 POSTS AND BEAMS

Where required erect posts and beams of timber treated to TPC specifications (H1 interior; H3 tanalith exterior). Except where otherwise required posts shall be anchored to concrete base pads with a 50 x 6 x 450 mm long galvanized steel fish-tailed strap each side of the post set 225 mm min. into concrete. Fix posts to plates with 2 / 12 mm dia. galv. bolts passing through both plates and the post. Connect posts to beams with a 50 x 6 x 400 mm long galv. steel plate each side and 2 / 12 mm dia. galv. bolts through plates into each member. All concrete pads, anchorages, joints and fixings shall comply with the requirements expressed or implied by section 7 of NZS 3604.

7.15 ROOF AND CEILING FRAMING

Frame up for roof as required.

7.15.1 TRUSSES

Unless otherwise approved by the local authority engineer roof trusses shall be constructed in a properly equipped factory using nail plates at all joints and shall be constructed to standard designs of the nail plate manufacturer or to designs prepared by a registered engineer. All trusses shall be certified by the fabricator as being constructed to the standards required by the designer and EACH TRUSS SHALL BE LABELLED in a manner which will
identify the truss with its original drawings and design data.

Where alterations to standard designs are required to fit the construction the design amendment is to be carried out by the original designer and the fee for this work is to be allowed for in the tender.

Trusses shall be carefully handled and stacked on site to prevent damage. Damaged trusses shall be removed from the site or repaired to the satisfaction of the designer or fabricator.

Trusses shall be fixed to top plates with 2 / 100 x 3.75 mm skew nails plus additional fixing to top plate or wall studs consisting of 4.9 mm dia. wire dogs; 4 mm dia. galv. wire ties wrapped over top chord and stapled to studs with min. 3 / 30 x 2.5 mm galv. staples; or by other connectors to comply with NZS 3604, cl. 10.2.5.

Connect jack trusses to common trusses with connectors and blocking as detailed by the truss designer.

Provide ceiling lining support by either:

(a) nogging between truss bottom chords with 75 x 50 mm timber (on edge), or
(b) ceiling battens as required and in accordance with table 29 of NZS 3604.

7.15.2 FRAMED ROOFS

Frame up for roof as required. Rafters shall have a minimum of 32 mm landing on their supports and be birdsmouthed where necessary to not more than $^1/_4$ of their depth. Fix heads to 25 mm ridge board. The ridge board shall provide full depth bearing for the rafters. Fix rafters to ridge as shown in the nailing schedule. Joints in rafters and ridge boards shall comply with clauses 10.3.1.2 and 10.3.1.3 of NZS 3604. Rafters shall be fixed to top plates with 2 / 100 x 3.75 mm skew nails plus additional fixings securing rafters to studs and top plates as required. These shall consist of 4.9 mm dia. galv. wire dogs; 4 mm dia. galv. wire wrapped over rafter and stapled to studs with 3 or more 30 x 2.5 mm galv. staples to each end of each wire; or proprietary steel plate connectors (e.g. multigrip anchors or similar) used according to the manufacturer's specifications.

EITHER fix 100 x 25 mm timber cleats to each third pair of rafters or at 1800 mm centres max. directly under the ridge with 4 / 75 x 3.15 mm nails to each rafter OR fix under purlins, collar ties, purlin struts, chocks, strutting beams and ceiling joists as required and, in either case, complying with clause 10.3.1 of NZS 3604.

Nailing of all joints shall be as shown in the nailing schedule.

The feet of each pair of rafters shall be connected by a ceiling joist at the top plate level unless otherwise detailed. Ceiling joists shall have a minimum landing on their supports of 32 mm. At joints ceiling joists shall be lapped 300 mm over supports and spiked together or shall be butted and flitched with a centrally placed 50 mm member of depth to match joists. Nailing shall be as required by the nailing schedule.

Fix ceiling runners across joists as required. Runners shall have 65 mm minimum landing and be supported by packing on to top plates of walls and shall be held vertical at ends. Hang ceiling joists from runners with 50 x 50 mm hangers on alternate sides of runner or with proprietary metal hangers or otherwise as shown by fig. 51 of NZS 3604.

Ceiling joists and runner sizes shall be as required and complying with tables 23 and 24 of NZS 3604.

Under purlins shall be fixed in the position, and be of the sizes required, according to table 25 of NZS 3604.

Under purlin struts shall be located at centres, and be of the sizes required, to comply with clause 10.3.8 of NZS 3604.

Fix strutting beams where required. Beams shall be kept 25 mm clear of the top of ceiling joists with packings at the supports. Strutting beams shall be of the sizes shown on the drawings and as required by table 26 of NZS 3604 and shall not be used as ceiling runners.

Ceiling runners and strutting beams may be chamfered at their ends provided that the depth at their supports is not reduced more than 50 percent.

7.16 PURLINS AND TILING BATTENS

Securely fix purlins and/or tiling battens as required. Purlins shall be set out along the mid-length or the rafter at centres not greater than shown on the drawings. Adjacent to verges, ridges and such like the spacing is to be reduced to between 50% and 75% of the stated spacings. Fix purlins to rafters with nailing as required in the nailing schedule plus any additional fixings as required.

Tiling battens shall be of the sizes required and at centres to suit tiles. Tiling battens shall be supplied and fixed by the roofing sub-contractor. The main contractor shall provide temporary members required to hold roof framing in position until tiling battens are fixed.

7.17 ROOF BRACING

Provide and fix roof bracing as shown on the drawings and required by NZS 3604. Roof plane bracing shall consist of pairs of 25 x 1.2 mm galv. steel strap bracing with 1 tensioner for each 3.5 m of brace fixed to each truss or rafter at crossing point and to the top plate of external walls as required in the nailing schedule. Bracing may be fixed to either the top or under-side of the rafters.

Where required fit roof space bracing complying with clause 10.5.3 of NZS 3604.

Roof space braces shall consist of a single member up to 2 m effective length or otherwise be pairs of 100 x 50 members spaced 50 mm apart and nailed together through blocking pieces not more than 1 m apart for effective lengths up to 5.2 m max. Braces shall be fixed to blocking between rafters, or to the ridge, at the top; and at the bottom to a 100 x 50 brace runner connected to at least two bottom chords or ceiling joists on each side of the brace. Runners shall be laid either over a ceiling diaphragm or within 300 mm centres of a wall containing a wall bracing element. Bracing and blocking shall be fixed as set out in the nailing schedule.

Hip end jack rafters in heavy hip roofs shall be braced from the top plate above the level of the ceiling joists to an internal wall bracing element. Brace with 100 x 50 mm timber on the flat fixed to end wall framing at 2.5 m centres maximum, each truss chord or ceiling joist it crosses and to the wall bracing element as shown in figures 55 and 56 of NZS 3604.

7.18 DWANGS AND BATTENS

Provide dwangs around the perimeter of all ceiling areas and between ceiling joists or truss bottom chords at 900 mm centres. Dwangs shall be 75 x 50 mm fixed on edge. Where battens for ceiling linings are required they shall be of the sizes and at the centres shown on the drawings or as required by table 29 of NZS 3604.

Trim for ceiling access manhole where required . The access hole shall be not less than 500 x 600 mm and shall be trimmed with framing of the same size as the main ceiling members.

75 x 40 CEILING BATTEN @ 400 c

7.19 PLATFORMS IN ROOF SPACE (Water Tank Stand)

Where required frame up for supply tank stand over a bearing wall or as shown and detailed on the drawings. The tank stand shall consist of 50 mm thick timber laid on flat and fixed to ceiling joists. Provide 100 x 50 mm cleats on flat around the tank over-flow tray to prevent sliding in earthquake.

7.20 EAVES

Frame up for eaves as required with 75 x 40 mm ribbon plate fixed to wall framing and 75 x 50 mm bearer fixed to ends of rafters. Provide additional bearers as necessary so that bearer spacing does not exceed 900 mm c/c and to provide for joints in soffit linings. (Note that first run of building paper should be fitted before the soffit framing is fixed.)

7.21 WARDROBES AND CUPBOARDS

Frame up for wardrobes and other cupboards as required or otherwise as outlined below.

Where required or noted in the addendum trim for cupboards over wardrobes, linen and broom cupboards, etc. Over-cupboards shall generally be the same width as the cupboards below.

Provide a shelf in each wardrobe 300 mm wide out of ex 25 mm timber, 20 mm particle board or coreboard. Shelves over 1.5 m long shall be supported by an ex 75 x 25 mm rail, fixed below the shelf to the wall behind, and a c.p. hanger to the framing above. The shelf shall be fixed 1600 mm from the floor or at other height as approved or detailed. Fix 20 mm dia. c.p. hanging rail below shelf 1525 mm from floor with c.p. brackets at each end. Rails over 1.5 m long shall have a support bracket at mid-span fixed to the shelf above. Fix additional shelves as detailed or noted on the drawings.

Provide shelf and rail in coat cupboards as for wardrobes.

Linen cupboards shall have slatted shelves out of 50 x 25 mm timber fixed with 12 mm gaps between slats. Fix slats to 50 x 25 mm battens to form a pre-fabricated shelf unit. Shelves shall be loose-laid resting on battens fixed to side walls. Provide 5 tiers of shelves to each linen cupboard.

Pantry cupboards shall be fitted with shelves out of 25 mm timber, 20 mm particle board, or equal. Unless otherwise required provide 2 shelves 450 mm deep and 450 mm apart starting from floor level. Provide 3 upper shelves 250 mm deep and 280 mm apart starting 400 mm above lower shelves for a total of 5 shelves. Shelves shall be returned at sides of pantry as required.

7.22 HOT WATER CYLINDER CUPBOARD

Frame up for hot water cylinder cupboard where shown with stand for cylinder framed out of 100 x 50 mm timber with ex 25 mm timber decking. Co-operate with the plumbing sub-contractor in providing a stand framed up at a level to suit the cylinder model and installation requirements. Cylinders connected to wet-backs are to be set at a height to suit the level of wet-back connections.

In the space not occupied by h.w. cylinder provide slatted shelves spaced 250 mm apart and similar to those described for linen cupboard.

7.23 EXTERIOR CLADDING

Exterior cladding shall be as shown on the drawings and/or set out in the addendum. All materials shall be fixed according to the manufacturer's instructions and details according to the best accepted trade practices. All sheathing shall be fixed over breather-type building paper. All fixings shall be galvanized or other corrosion resistant products. Unless otherwise noted all nails in timber cladding shall be punched below the surface.

Weatherboards shall be out of 25 mm timber, bevel-backed, rusticated or skew-cut as required. All laps and joints shall be primed before fixing. Weatherboards shall be fixed to framing with galv. nails of length equal to $2^1/_2$ times the total thickness of the sheathing fixed just clear of the lap or rebate.

Horizontal joints shall be lapped not less than 23 mm for weatherboards with a rebate of not less than 25 mm and 32 mm for non-rebated weatherboards. All weatherboards shall have an anti-capillary groove at the lap.

All end joints shall be mitred and made over studs with bored holes for nailing at end joints, corners and elsewhere as necessary to prevent splitting. Diameter of holes for this purpose shall not exceed 80 percent of the diameter of the nails being used. Mitre external corners or fit with cover boards and finish with scribers or rebate plugs.

Internal angles shall be neatly scribed.

Unless of redwood or cedar all weatherboards shall be H1 tan. tr. treated for paint finish or H3 tan. tr. for stained finish.

Hardiplank weatherboard shall be fixed as recommended by the manufacturers with soakers at joints, and internal and external angles.

Hardiflex sheets shall be of the thickness required and shall be fixed to manufacturer's instructions. Where this cladding forms part of a bracing element it shall be additionally fixed to comply with NZS 3604, clause 6.9.4 and as shown in the nailing schedule. Unless noted otherwise vertical joints between fibre-cement sheathings shall be set in extruded PVC mouldings. Horizontal joints shall be flashed with a galvanized zed-flashing tucked 50 mm behind upper sheet and carried 20 mm down the external face of the lower sheet.

Where required seal joints with a non-slump elastomeric sealant applied as recommended by the manufacturers.

Vertical boards and battens, and shiplap boarding shall be fixed where shown. Both types of cladding shall be fixed to 75 x 50 mm dwangs or 75 x 25 mm walings at not more than 480 mm centres. Where possible these claddings shall be single lengths for the full height of the cladding. Where jointing is necessary the joints shall be mitred in a direction to provide weathering and joints on the same level shall not occur more often than every fourth board.

Vertical boards and battens shall have weather-grooves not more than 12 mm from each edge and shall be fixed with nominal 6 mm between boards. Unless noted otherwise the timber for boards and battens shall be redwood or cedar ex 200 x 25 mm boards with battens ex 75 x 25 mm. Unless otherwise required nails for fixing shall be either copper or stainless steel with decorative heads, (un-punched). Shiplap boarding shall be of suitable available timber and if not of redwood or cedar shall be treated to TPA specification H3 for stained finishes or H1 if painted. Laps shall be minimum of 30 mm with weather-grooves on contacting faces of the laps.

HARDIES FEATURE BOARD VERTICAL

See bricklayer for requirements for brick or stonework and blocklayer for blockwork.

7.24 SOFFITS

All soffit linings are to be full width of soffits between wall framing and fascia.

Where required line soffits with 4.5 mm hardiflex. Lining shall fit close to wall framing and shall fit into a grooved fascia on outer edge unless otherwise detailed. Joints in sheets shall be set into extruded PVC mouldings. Fix with galvanized shear-point nails.

Other soffit linings shall be as required and fixed in accordance with procedures recommended by the manufacturer of the lining being used.

7.25 EXTERIOR FINISHING TIMBERS

Supply and fix all exterior finishing timbers (e.g. fascias, barges, corner stops, scribers, etc.) required to complete the works. Scribers shall be out of 10 mm timber. All other finishings shall generally be out of 25 mm timber. Fascias to eaves shall be grooved to take soffit linings where required. Facings to windows and exterior doors shall be out of 100 mm timber unless otherwise noted. Fascias and barges to roofs shall be out

of suitable width timbers. All joints in exterior finishing timbers shall be neatly and accurately mitred and shall be primed before fixing.

All finishing timbers shall be either primed or given 1 coat of oil finish before fixing.

7.26 TIMBER DECKS

Where required construct timber framed decks with plates fixed to wall framing as shown. Connect deck joists to wall plate with galvanized metal connector plates as shown. All fixing nails and bolts used shall be galvanized. Erect posts and beams to carry decks as detailed. All deck framing timbers including joists, beams, posts, decking and balustrade shall be tanalith treated to TPA specification H3 or better (TPA H4 if less than 300 mm from ground).

7.27 FLOORING

Lay high density, temporary water proofed, flooring grade particle board or t & g flooring as required. Joints in sheet flooring shall be made over supports. Where necessary fix 100 x 50 mm (on edge) dwangs between joists to provide for this. Fix flooring to joists not less than 10 mm from edges around all edges of the sheets and to each intermediate joist at centres shown in the nailing schedule.

Where floor is required to act as a diaphragm sheets shall be not less than 2400 x 1200 mm except where the building size prevents a full sheet from being used. Sheets are to be laid in "stretcher bond" pattern with the LENGTH OF THE SHEETS PERPENDICULAR TO THE JOISTS.

Timber strip flooring shall be tongue and grooved boarding closely cramped at edges. Minimum finished thicknesses shall be as required by table 10 of NZS 3604 for the spacing of the joists. Boards that do not have matched end joints shall be joined only over a joist. End matched boards may be joined between joists provided that each un-jointed length of board shall span between two or more joists. Joints occurring on the same joist shall be separated by at least three boards passing between.

Care shall be taken throughout the job to protect floors from staining or any other damage which could be detrimental to the final appearance.

7.27.1 FLOOR SANDING

At the completion of the works all fixings in the floor shall be punched and the floors shall be sanded to provide a smooth even surface. Where floors are to be varnished they shall be finished with a fine paper. Care must be taken to avoid excessive depth of sanding.

7.28 INTERIOR LININGS

All interior linings shall be fixed strictly according to the manufacturer's recommendations. See schedule of linings for materials to be used. All lining material shall be carefully stacked and handled on site in accordance with any instructions issued by the manufacturer and, in any case, in such manner that no degrading of the material occurs prior to installation.

7.28.1 GIBRALTAR BOARD

Where required line walls with standard 9.5 mm gibraltar board or 9.5 mm gibfoil.

Sheets may be fixed horizontally or vertically according to details provided by the manufacturer except that where the lining forms part of a wall bracing element or ceiling diaphragm nailing shall comply with the nailing schedule and each sheet shall be fixed on ALL EDGES.

Except at bracing elements or ceiling diaphragms, linings may be fixed to framing using gib-fix adhesive with supplementary nailing.

Leave 3 mm min. gaps between sheets at joints. Where wallpaper is to be applied stop joints and nails with 4F stopping plaster or gib-stopping compound feathered out approximately 100 mm on each side of the joint and

trowelled to a smooth, even surface. Where walls are to be painted joints and corners shall be finished using gib-bedding compound, perf-a-tape and gib-finishing compound with stopping feathered out at edges all in accordance with manufacturerer's current instructions. After stopping has set sand lightly to a smooth surface using 120 grit abrasive paper. Fix purpose-made metal strips at external corners and such like before stopping.

CEILINGS 9.5 GIBRALTAR BOARD GLUED + SCREWED

7.28.2 PINEX INSULATING BOARD

Where required line ceilings with 12 mm pre-primed pinex insulating board. Sheets shall be set out to form a symmetric pattern. Fix to roof framing as shown with double angled nails or clouts as recommended by the manufacturer. At joints sheets shall be rebated and veed with a corresponding flush timber moulding inserted in the sheet rebates. Joints in the moulding shall be mitred or scribed as appropriate. All fixings shall be stopped with 4F stopping plaster and shall be lightly rubbed with a piece of scrap lining to provide a matching textured surface.

7.28.3 PINEX TILES, PLANKS AND PANELS

Where required line walls and ceilings with pinex tiles, planks or panels. Fixing shall follow the directions of the manufacturer.

7.28.4 PRE-FINISHED WALLBOARD (Formica wallboard, Seratone, etc.)

Where required line walls and ceilings with pre-finished wallboard. Linings shall be fixed to framing with wallboard adhesive systems appropriate to the type of lining. All joints shall be set in extruded PVC mouldings. Where linings are fixed in shower cubicles and such like the back edges of the sheets shall be primed for 150 mm from edges before fixing. Set the edge of sheets against baths into extruded PVC bath-flash moulding bedded down onto the edge of the bath in white butylmastic sealant and clean off excess sealant on completion.

(Note that WALL BRACING ELEMENTS ARE TO BE COMPLETED BEFORE FIXING PRE-FINISHED WALL BOARDS.)

7.28.5 HARDBOARD

Where required line walls and ceilings with 6 mm standard or oil-tempered hardboard fixed according to the manufacturer's instructions. Joints shall be veed and butted or set into extruded PVC mouldings as specified. Except where used as part of a wall bracing element linings may be fixed using an appropriate wallboard adhesive.

Delete

7.28.6 PANELLING

Where required line walls and ceilings with selected plywood or solid timber panelling. Plywood shall be fixed with wallboard adhesive and/or nailing with joints set in extruded PVC moulding, veed and butt jointed, or with timber moulding between or over joint as specified.

Shiplap or other solid timber lining shall be secret nailed. All boards shall be fixed true and plumb.

7.29 INTERIOR FINISHING TIMBERS

Provide and fix all skirtings, architraves, scotias, sill boards and other mouldings and beadings required to complete the works.

Where finishing timbers are specified to be clear finished they shall be heart rimu unless otherwise specified. Elsewhere they may be finger jointed pinus radiata or other approved.

Lengthening joints in runs of skirtings or scotias shall be mitred. Joints at corner intersections shall be scribed or mitred as appropriate. Scribed joints are preferred where these are possible. Badly fitting joints will be rejected.

Sill boards where required shall be out of 25 mm timber neatly housed in jambs and mullions.

Skirtings shall generally be out of 75 x 15 mm timber, bevel- edged with relieved back.

Architraves where required shall be 50 x 15 bevelled both edges to match skirtings. Mitre corners and glue joint when fixing.

Drill holes for fixings at ends of all finishing timbers and fix with 40/50 mm long panel pins. Any splits which occur through failure to drill holes or the use of excessively large nails shall be glued to prevent later opening up. Split timbers may be rejected.

Before fixing in place all finishing timbers shall be sanded to remove machine marks and provide a surface suited to the proposed method of finishing.

Scotias shall generally be 40 mm standard pattern.

Where required provide built down pelmets over sliding doors and windows.

7.30 SHOWER

Frame up for shower where required. Recess framing around shower tray to keep lining 10 mm out from upstand of shower tray or fir out framing for 10 mm min. all round. Carry framing across the front of the cubicle. Trim opening for sliding or folding door as required and carry lining around jambs and sill.

ENGLEFIELD SHOWER

7.31 BATH

Frame up cradle for bath out of 100 x 50 or 75 x 50 mm timber. Check out studs around top as necessary to house bath lip and allow PVC bath-flash moulding to be seated on rim of bath.

7.32 SWITCHBOARD

Trim opening for switchboard in required location and form box to carry switch-board with provision for the board to be hinged for access to wiring at the rear. Line the inner faces of the switch-board box with 12 mm firestop gib. board or 2 layers of 9.5 mm gib. board. Fit a door and catch to face of switch-board.

Alternatively trim for and fit proprietary switch board unit

7.33 BATHROOM CABINET

Trim opening in wall in bathroom to fit a recessed cabinet. The cabinet shall be of the type and size required or as approved. The lining around the cabinet shall be neatly fitted to the sides of the cabinet and finished with an approved moulding or the cabinet may be grooved to recieve the wall linings direct.

7.34 INSULATION

Ground floor timber floors shall be insulated with perforated sisalation 737, or equal, laid over joists with 100 mm sag between joists before flooring is laid.

Insulate all exterior walls with R 1.8 fibreglass batts fitted friction tight in wall cavities.

Line ceilings with R 1.8 fibreglass batts fitted tight between ceiling framing members. Where insulation is in a skillion-type
roof construction provide a 0.125 mm clear polythene vapour barrier above the ceiling linings or use foil-backed linings.

7.35 HARDWARE

The contractor shall allow in his tender the PC sum shown in the lump sums schedule for hardware. Allow for taking delivery of and fixing of all items supplied from the PC sum (see P & G). Items to be charged against

PC sums shall include door latches, locks and furniture; window fasteners (for windows other than aluminium or JMF windows); cupboard catches and pulls; sliding door tracks and fittings; towel rails, wardrobe rails and other similar items; but shall not include nails, bolts, screws, hinges or similar miscellaneous connecting devices or fixings.

7.36 BUILT-IN OVEN

If required frame up for built-in oven unit. The framing shall be out of 75 x 50 mm timber on edge or flat framed up to the sizes shown on the drawings or to suit the selected unit. Provide shelves and vents as required.

7.37 HEATING APPLIANCES

Where required make provision for the installation of built-in or free-standing metal fireplaces or supplementary water heaters. Provide hearth slabs as required. Provide all heat resistant linings and clearances from heat-sensitive walls as necessary to complete the installation strictly according to the instructions from the manufacturer and the requirements of the local authority. Hearth slabs shall be precast to required sizes and surface finish.

7.38 GARAGE DOORS

Supply and install garage doors as required. All doors shall be provided with locks, fittings and operating gear and shall be installed according to the manufacturer's instructions.

7.39 VANITY UNIT

Install vanity unit where shown on the drawings and arrange for the plumber to connect waste, trap and taps. See lump sums schedule for PC sum.

7.40 NAILING

All nailing is to comply with the nailing appendix.

7.41 FLASHINGS

Arrange for the plumber to provide machine folded flashings for exterior doors and windows. Provide flashings for heads and sills of windows and doors, and for jambs (where no facings are specified. Flashings shall be neatly fitted. Provide malthoid (or similar) isolation strip where contact between dis-similar metals is likely to occur. In general flashings shall be 0.5 mm thick, of aluminium for use with aluminium joinery, and of galv. steel in other cases.

8 -- JOINERY

8.1 PRELIMINARY

Comply with preliminary and general.

All dimensions of windows and joinery fittings shall be confirmed on site. The joiner shall provide a list of framing sizes for windows and other units required to ensure proper fitting when delivered to site.

8.2 DOORS & FRAMES

Doors shall be 1980 mm high by the widths required.

8.2.1 EXTERNAL DOORS

Supply and fit external doors as required. Hinged doors shall be of sizes shown on the drawings. Generally external doors shall be solid core, exterior quality, flush type. Frames shall be out of solid timber 50 mm

thick, rebated and grooved for weathering. Sills shall be out of solid timber rebated and throated for weathering. Hang on $1^1/_2$ pr. of 90 mm butt hinges. Doors shall have clashing strips both sides.

8.2.2 INTERNAL DOORS

Internal doors shall be 40 mm thick interior quality, hollowcore, flush type. Surfaces shall be suitable for the finish required. Paint quality doors may be plywood, hardboard or bisonboard faced. Swung doors shall have clashing strip on lock edge. Hang on $1^1/_2$ pr. BMA finish, 90 mm loose-pin butt hinges in rebated jambs ex 30 mm thick. Alternatively jambs may be ex 25 mm timber with planted stops.

PAINT QUALITY DOORS

Sliding doors shall be 40 mm thick, clashed on both edges and hung on approved sliding door gear. Jambs shall be ex 25 mm.
Where built down pelmets are not required, sliding doors shall be fitted with boxed pelmets or otherwise finished to cover track gear.

Unless otherwise required jambs shall be suitable for paint finish and shall be grooved to receive linings.

8.2.3 ALUMINIUM DOORS

Where required supply and fix anodised aluminium sliding or hinged doors complete with locks, rails, weather stripping and fittings. Frames and framing to doors shall be neatly and accurately cut and fitted with mechanical jointers at corners. Frames shall be fitted with ex 25 mm timber, or 18 mm water resistant sheet material, reveal linings and shall be installed in openings according to the manufacturer's installation instructions.

8.3 WINDOWS

All windows shall be fabricated in properly equipped workshops by competent tradesmen fully qualified to fabricate and assemble the type of windows specified.

8.3.1 ALUMINIUM WINDOWS

Supply from an approved manufacturer and instal anodised aluminium windows as required. Details of window sizes and installation requirements shall be supplied by the manufacturer before work is commenced to enable openings to be made to suit. Standard sized windows shall be used unless non-standard sizes are specifically required. Sashes shall be swung as required with awning type hung on interlock stays, or top hung and side hung on stainless steel hinges. Sashes and frames shall be mitred at corners and securely fixed with mechanical jointers to hold the frames true and square. Joints shall be sealed with small-joint sealant. Sashes shall close against flexible neoprene weather stripping all round. Frames and sashes shall have slots to allow infiltrating water to pass to the outside and shall have condensation drains on the inside. Windows shall be supplied complete with glass and ready for installation. Where required double glazing shall be provided using Thermopane (or equal) glazing units. Each sash shall be fitted with a pair of wedge fasteners to each sash and, where required, security fittings. Unless otherwise required frames shall be supplied complete with factory-fitted ex 25 mm timber, or 18 mm water resistant sheet material, reveal linings grooved to receive wall linings and shall be suitable for paint finish.

8.3.2 JMF WINDOWS

Where required supply and instal JMF timber windows of sizes shown. Where possible, and unless noted otherwise, the windows shall be from the range of standard sizes from the Sundyne Window Range 2, improved frame system, with a flexible PVC airseal strip at sashes. All windows shall be supplied factory pre-primed. All windows shall be manufactured by licensed fabricators and shall conform to the standard details and specifications of the JMF group. Sashes shall be awning type, hung on Interlock stays and shall be supplied with a pair of wedge fasteners to each sash. Frames shall be grooved to receive linings unless otherwise required. All fixed glass panels shall be glazed by the dry bead system. Sashes shall be putty glazed. Unless fixed glass sizes are such that the manufacturer recommends otherwise all windows shall be factory glazed. The manufacturer shall arrange for any necessary site glazing.

8.3.3 STANDARD TYPE TIMBER WINDOWS

Where required supply and fix timber windows of standard joinery manufacture. All windows shall be constructed to the standards currently accepted as being best trade practice. Frames shall be out of solid timber, rebated, grooved and throated for weathering. Rebates at jambs, heads and mullions, shall be 12 mm minimum. Provide 15 mm rebate on exposed sites or where intalock or similar stays are used. Sashes shall be top hung, side hung, or awning type hung on Intalock stays as required. All fixed glass panels shall be bead glazed into frames.
All windows shall be glazed in the factory, unless the sizes of fixed panels are such that the glass may be broken. In these cases, the joiner shall arrange for these windows to be glazed on site.

8.4 KITCHEN FITTINGS

8.4.1 PURPOSE MADE UNITS

All cupboards and fittings shall be fabricated by competent tradesmen in a fully equipped factory according to current best joinery practices. The dimensions of all units are to be confirmed on site. Allow to fabricate all joinery units as required or allow the provisional sun shown in the lump sums schedule for these fittings. Units shall be constructed with carcase work of 25 mm timber or 18 mm sheet material, cut and fitted to provide a rigid unit. Unless pre-formed drawers are used all drawers shall have fronts and sides dovetailed.

Provide sink and bench tops as required with tops coved to upstands at rear and, where necessary, ends. Formica sink tops shall have stainless steel sink bowls 510 x 355 mm bonded and sealed into bench.

The finish to carcase work, door and drawer fronts, and shelves shall be as required. Unless otherwise indicated shelves shall be out of 25 mm timber or 18 mm sheet material suitable for painting. All bench and cupboard units shall be backed with 4.75 mm pinex hardboard or 4.5 mm bison board.

8.4.2 PROPRIETARY UNITS

Standard proprietary kitchen units shall be manufactured to the designs and standard of the designers. The contractor shall take delivery of and instal all units taking care not to damage any surfaces or fittings. He shall arrange to repair or replace as approved, any damaged fittings or surfaces.

9 -- ROOF COVERINGS

9.1 PRELIMINARY

Comply with preliminary and general.

The whole of the works shall be carried out in accordance with, and shall conform to, the bylaws and regulations of the local authority.

9.2 EXTENT OF WORK

This trade consists of the supply and fixing by approved fixers, of roofing and accessories as required.

9.3 CORRUGATED GALVANIZED IRON

Delete

9.3.1 MATERIALS

The corrugated galvanized iron shall be 0.5 mm gauge with one length from ridge or hip to gutter.

9.3.2 PURLINS

Fix 75 x 50 mm on flat over rafters at maximum 900 mm centres for 0.5 mm gauge corrugated galvanized iron roofing. Fixing of purlins shall comply with requirements of nailing schedule.

9.3.3 UNDERLAY

Over purlins stretch galvanized 50 mm mesh x 1 mm gauge galv. wire netting securely fixed with galvanized staples. Over netting fix heavy quality building paper.

9.3.4 FIXING

Fix corrugated galvanized iron roofing with minimum $1\frac{1}{2}$ corrugation side laps. Fix alternate corrugations at fascia and every fourth corrugation elsewhere with lead head nails. Iron is to project at fascia to give 40 mm drip at spouting.

NOTE: Before fixing corrugated iron all laps and parts of sheet covered with ridging are to be primed with Dulux primer for galvanized iron.

9.3.5 RIDGES AND HIPS

Fix over all ridges and hips 450 mm wide by 0.5 mm gauge galvanized iron lead edged ridging. Fix through corrugated iron into purlins with lead head nails at every alternate corrugation in roofing.

9.3.6 BARGE

Finish at barge with 0.5 mm gauge square edge moulding lapping the roofing at least 2 corrugations and nailed to each purlin with 1 / lead head nail and fixed through edge flange at 200 mm centres to timber barge board with 25 x 1 mm galv. flathead nails.

9.4 GALVANIZED IRON TRAY ROOFING

9.4.1 MATERIALS

The galvanized iron tray roofing shall be either 300 mm or 400 mm x 0.6 mm gauge galvanized steel continuous from ridge to gutter with all necessary down-turns and stop-ends.

9.4.2 PURLINS

Fix 75 x 50 mm on flat over rafters at maximum 900 mm centres for 0.6 mm gauge galvanized steel roofing. Fixing of purlins shall comply with requirements of nailing schedule.

9.4.3 UNDERLAY

Over purlins stretch galvanized 50 mm mesh x 1 mm gauge galv. wire netting securely fixed with galvanized staples. Over netting fix heavy quality building paper.

9.4.4 FIXING

Form stop ends to all sheets where required to obtain a full 50 mm turn up of tray with all ends of ribs flattened against the turn up. No dipping of the pans in front of the turn up will be acceptable. The roofing shall be fixed with galvanized steel strip clip continuously fastened to every purlin, with an additional galvanized steel single-side fixing clip used at every fixing around the perimeter of the roof area. Form down turns to the gutter end of roofing pans to approximately 20 degrees to the horizontal. Fit all ridge or hip capping as required.

9.5 CONCRETE ROOF TILES

9.5.1 MATERIALS

The tiles shall be "Monier Centurion" (colour as selected by owner).

9.5.2 UNDERLAY

Over the whole of the roof area fix underlay of 6.8 kg saturated roofing felt. Lap over all hips, ridges and over fascia board far enough to give drip into gutter. Where the rise of the fascia above the rafter top could cause ponding, an anti-ponding board or a device giving similar results shall be provided. Fix battens to a maximum gauge of 450 mm. Size of batten shall be the greater of that shown on the drawings, or:

for rafter spacing up to 480 mm centres 50 x 25 mm
from 480 mm to 600 mm centres 50 x 40 mm
from 600 mm to 900 mm centres 50 x 50 mm

9.5.3 TILING

Lay tiles to a minimum head of 75 mm. Secure to battens every eaves course tile, every top course tile, all perimeter tiles and every alternate tile within the body of the roof with purpose made tile fixing clips. The first course of Monier tiling shall be fixed so as to provide 40 mm minimum projection over the fascia into the gutter.

9.5.4 VALLEYS

Cut Monier tiling neatly and cleanly to the rake of the valley leaving a gap of 75 to 100 mm between the cut edges.

Delete

9.5.5 HIPS & RIDGES

Cut Monier tiling closely to the rake of the hip. Fix starter hip tiles at the foot of all hips. Cover all hips and ridges with Monier ridge tiles of colour as specified, bedded and pointed in cement mortar coloured to blend with tiles. Hip and ridge tiles must be bedded solid only at the ends or at the junction of hip and ridge. Starters to hips and ridges, and alternate ridge tiles are to be mechanically secured. All ridge tile mortar must have weep holes formed when mortar is still wet.

9.5.6 MORTAR

All bedding mortar shall be specially mixed mortar and for this purpose shall consist of 4 parts clean sharp sand and 1 part cement and CP 30 (or similar) at the rate of 1.52 litres to 1 bag of cement. The mortar is to be coloured to match.

9.6 METAL ROOF TILES

COLOUR EVERGREEN

9.6.1 MATERIALS

The tiles shall be coated, pressed metal tiles of make and colour selected by owner.

9.6.2 UNDERLAY

Over the whole of the roof area fix underlay of an approved roofing felt. Lap over all hips, ridges and over fascia board to give drip into gutter.

9.6.3 BATTENS

For rafter spacings not exceeding 900 mm diagonally cut battens to manufacturer's recommendations from 75 x 50 mm giving 2 battens. Battens shall be fixed at maximum 400 mm centres with first batten 40 mm closer to the fascia.

9.6.4 TILING

Lay tiles as recommended by the manufacturer fixing to each tiling batten as work proceeds.

9.6.5 RIDGES, BARGES, HIPS

Finish all ridges, hips and barges as required with matching coated cappings.

9.6.6 VALLEYS

Construct and finish valleys where required as recommended by the roofing manufacturer.

9.6.7 FLASHINGS

Flash and over flash all projections through roofing. All exposed flashings are to be coated to match.

10 -- PLUMBER AND SHEET METAL WORKER

10.1 PRELIMINARY

Refer to preliminary and general for clauses relevant to this section of the works.

10.2 SCOPE

The plumber shall provide all materials, plant and labour necessary for the proper completion of the plumbing work in conformity with local authority bylaws and the Drainage and Plumbing Regulations 1978.

10.3 MATERIALS AND WORKMANSHIP

All materials and fittings used in this trade shall comply with the requirements of the relevant current NZ Standard Specification or, where no such specification exists, with the requirements of the relevant current British Standard. In any event, all materials and fittings shall comply with the requirements of the local authority and with current best trade practice.

10.4 FLASHINGS

All notched roof flashings shall be supplied and fixed by the roofing trade. All other flashings at windows, doors, penetrations through roof, etc., shall be 0.6 mm gauge galvanized steel, machine folded to the required shapes with all joints, junctions, etc., mechanically weathered, and soldered or otherwise sealed to approval.

10.5 SPOUTING AND GUTTERING KLASS FASCIA + SPOUTING COLOUR DESERT SAND

Supply and install metal or PVC spouting and guttering of the type and size shown and fix with clips to match the profile being used all erected according to the manufacturer's recommendations. All spouting and gutters shall be fixed to fall not less than 1:600 to outlets.

Dimond or similar fascia gutters and straightline spouting shall be fixed using concealed gutter brackets. PVC spouting shall be of the type required and shall be complete with all brackets, stop ends, jointers and downpipe outlets.

Provide outlets from gutters to downpipes where required or as shown. The sole of metal gutters shall be dished towards the outlet. Outlets from PVC gutters shall be purpose-made proprietary fittings.

Downpipes shall be PVC or seamed galvanized steel as required. Hold out from wall with standard brackets. All downpipes shall discharge into stormwater drains. Carry downpipe down to terminate 150 mm inside a riser pipe from the stormwater drain. The riser shall be of the same material but one size larger than the downpipe and shall be sealed to the drain and extend 300 mm min. above finished ground level. Downpipes under buildings shall have all joints sealed by an approved jointing system. Where rainwater is being discharged to on-site storage then joints in that part of the system below the level of the storage system inlet shall be similarly sealed.

10.6 PIPING

Piping for water supplies shall be drawn copper or polybutylene piping (Quest Dux or similar approved). Standard fittings and couplings for copper and polybutylene piping shall be used including couplings linking the two materials. Preference shall be given to Quest Dux piping and Quicktite fittings where polybutylene is used.

All piping penetrating concrete shall be protected by wrapping in Densotape or similar for its full embedded length. No joints may be made in polybutylene piping where it is embedded in concrete. Polybutylene laid underground shall be protected from damage by sharp objects.

Polybutylene piping shall be jointed only with special jointing fittings approved by the manufacturer of the piping used. Polybutylene piping shall be continuous as far as possible for the whole length of the system. All joints in copper pipes shall be socketted and brazed with Silfos.

Thread pipes through holes drilled through the centre line of framing members. Where possible, pipes shall be curved to change direction but where curving is not possible standard elbows and tees shall be used. Support all piping at recommended centres with ready made clips.

Polybutylene piping may be used for both hot and cold water reticulation, except for circulating pipes between wetback and boiler units and hot water cylinders. Where wetback or boiler units provide supplementary heating of hot water, the first 600 mm of pipe from the cylinder shall be copper. Where instantaneous gas water heaters are installed, the first 200 mm of piping on the inlet and outlet shall be copper.

The whole of the piping system shall be charged and maintained at maximum supply pressure for 24 hours before it is concealed to test for leaks.

10.7 COLD WATER SUPPLY

From the supply point lay 12 mm i.d. pipe, buried 450 mm underground to an isolation stop cock located in a suitable toby box against the building foundations.

Run branches in piping of 12 mm min. i.d. to all cold taps, including external hose taps; to water closet; and, where a low pressure supply system is used, to shower and hot water cylinder.

From wall use Quest Quickee supply set for connection to cistern and for exposed pipes to basins.

Where a high pressure water reticulation system is required and the hot water system is using a low pressure cylinder either supply and fit an approved pressure reducing valve (or other suitable valves) complete with valve-leakage telltale pipe or supply and install an approved 135 litre moulded polythene supply tank where shown in the roof space complete with tray, overflow, 12 mm ball cock, lids and other fittings. Run 12 mm i.d. pipe to cylinder complete with a brass gate valve located to approval. The cold water supply to any required shower shall be taken from either the low pressure side of the p.r. valve or from the outlet side of the supply tank.

10.8 HOT WATER SUPPLY

Supply and install electric or gas hot water storage cylinder(s) as required. Where required electric cylinders shall have connectors for supplementary boiler or wet back.

Unless specified otherwise, storage cylinders shall be standard storage cylinders, Zip manufacture complying with current NZ standards in all respects. Cylinders shall be cased and lagged and shall be fitted with a plugged drain pipe discharging to the nearest gulley trap.

Gas storage cylinders shall be Rheem manufacture and shall be installed in accordance with the maker's recommendations and the local authority requirements for both plumbing and gas. Provide and install flues in accordance with bylaws and manufacturer's recommendations.

Provide 12 mm i.d. expansion pipe from storage heater extended above the roof level with pressure relief valve as required or, with low pressure system, turn exhaust to discharge over storage tank if in a suitable location. From expansion pipe take 12 mm i.d. branches to bath, shower, basins, tub, washing machine and such like.

All piping conveying hot water shall be lagged with plumbers felt spirally wound and wire bound to prevent unravelling.

Use Quickee supply sets for exposed pipes to basin and such like.

10.9 VENTS

Provide all vents from fittings as required by the regulations. Vents shall be in copper or PVC. Provide and install terminal vent in seamless material from branch on sewer and extend above roof level. Fix bird proof grilles to all vents. Concealed vents where required are to be built in to purpose-made ducts or 150 mm thick walls.

10.10 WASTES AND TRAPS

Provide trapped wastes to all fittings. Wastes shall be of the sizes required by the P & D regulations. Vent wastes as and where required by the regulations. Wastes may be copper or Dux polypropylene waste pipe system. Polypropylene wastes shall be complete with all couplings, seals, clips, and other fittings. Where possible waste pipes shall be concealed within the structure. Special care shall be taken to fix the wastes in unobtrusive positions. Provide cleaning eyes to all wastes as required. Where wastes pass through foundation walls or concrete slabs they shall be wrapped in Densotape or similar to pack around the waste and allow expansion and to seal against entry of vermin.

10.11 FITTINGS

Supply and fix all fittings as required.

W.C. Pans : shall be vitreous china, washdown type, and shall be supplied and fitted complete with connector to waste, vent, double flap plastic seat - Dux or similar. Supply and fix Dux, centre flush, lowline cistern, complete with sparge pipe, ball valve, ball cock and overflow. CAROMA PAN & CISTERN

Bath: shall be ~~enamelled cast iron, enamelled pressed steel~~, or plastic as shown or noted and shall be fitted on to cradle provided by the carpenter. Baths shall be first quality, free from chips or other blemishes. ENGLEFIELD

Basins: Provide and install vitreous ~~china basin on c.i. brackets~~ or plastic basins as required. Basins shall be provided with integral overflows. Plastic basins shall be recessed or surface mounted and shall be complete with skirted front as noted.

Vanity: Arrange with carpenter to install a vanity unit as required. Provide taps and wastes. See addendum for PC sum.

Tub: Provide and install a pressed or fabricated stainless steel tub, ~~on brackets~~ or cabinet as shown. See addendum for requirement.

Shower Tray: ~~Shower trays~~ shall be pressed stainless steel of the sizes shown, with 100 ~~mm high~~ upstand all round.

Sink Bench: Provide a stainless steel sink bench of the size and type required, complete with 510 x 355 mm bowl. Provide waste outlet for waste disposal unit if required.

Taps: All taps shall be marked to identify hot and cold. Taps shall be HMC manufacture or other selected. Allow for the following:

Bath	faucet S383 x 20 mm Starlight
Sink	swivel faucet S343 x 15 mm Starlight HMC SINK MIXER
Basins	S623 x 15 mm Starlight
Shower	Feltonmix mixer HMC
Tub	S483 X 15 mm Starlight
Washing Machine	S413 x 15 mm x 20 mm Starlight
Outside Taps	two brass bibcocks with hose ruffs

Provide and fit all stop cocks, gate valves, etc., required for the water reticulation system.

10.12 WETBACK HEATERS, BOILER UNITS, FREESTANDING FIREPLACES

Where required provide and install supplementary water heating units or freestanding fireplaces. Copies of details of installation requirements published by the manufacturers shall be submitted to the local authority for approval before installation is commenced. All units shall be installed strictly in accordance with the manufacturer's details and to local authority requirements. Arrange with the carpenter to provide all protective sheeting required around units. All piping from wetback or boiler units to hot water cylinders, shall be copper. Provide and install all vents flues, flue liner spacers, flashings, caps and stays required to complete the installation.

FREESTANDING FIREPLACE
WOODSMAN OR SIMILAR
SUPPLIED BY OWNER

install to manufacturers specifics, a copy is to be supplied to council for approval prior to installation

11 -- DRAINLAYER

11.1 PRELIMINARY

Read and note all clauses under preliminary and general of this specification where they apply to this trade.

11.2 EXTENT OF WORK

Work in this section of the contract comprises all surface and foul water drainage to above ground level to connect to plumber's work. Include all pipes and special fittings, construction manholes, all gully traps, terminal and back vents, soil and waste pipes. The drainlayer shall confer with the plumber and shall arrange with the contractor before the foundations are laid to fix the exact location of all connections of wastes and drains.

11.3 STANDARD OF WORK

The whole of this work shall be carried out by experienced tradesmen to the satisfaction of the owner and the local authority drainage inspector. The contractor shall make allowance for, and shall conform to, the requirements of the Drainage and Plumbing Regulations 1978 and any special requirements of the local authority. Obtain all permits, give all notices, pay all fees, and arrange for all tests and inspections as required by the local authority.

11.4 MATERIALS

All materials shall be the best of their respective kinds. Drains shall be 100 mm dia. first class glazed earthenware with rubber ring joints or, where approved by the local authority, 100 mm drainage grade PVC may be used.

11.5 CONNECTION TO EXISTING DRAINAGE (INCLUDING L.A. LATERALS) SEPTIC TANK

The drainlayer is responsible for verifying the position and depth of the connection and shall lay drains to suit.

11.6 DRAIN TRENCHES

The excavation of trenches for drains shall be accurately formed with base clean and true to grade so that no unnecessary filling is required. Adequate width shall be allowed in accordance with the depth of the 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, utilized and refilled within a reasonable time. All drains shall have minimum of 450 mm cover or be protected to the satisfaction of the local authority inspector.

11.7 LAYING OF DRAINS

Pipes shall be laid and jointed as recommended by the manufacturers. All drains are to be laid with the full length of the pipe bearing on fine granular bedding material. Further bedding material shall be haunched up as work proceeds to hold the pipes true to line and grade. All changes in direction are to be made with purpose made fittings. Provide inspection fittings at each change of direction, change of grade, junction of branch drains, and at intervals required by the local authority. Co-operate with plumber to install terminal and back vents as required to satisfy the requirements of the P & D regs. and the local authority inspector.

11.7.1 UNSTABLE GROUND

Where ground is unstable, and unless otherwise required, the drains shall be laid on a 17.5 MPa concrete bed of width equal to drain dia. plus 200 mm, and minimum thickness 100 mm, reinforced with 2 / D12 longitudinal rods positioned 50 mm in from the outer surfaces of the concrete and with R6 stirrups at 600 mm centres. After the drain has been laid, tie in a further 2 / D12 longitudinal rods and bend the stirrups over to complete a square cage. Pour 17.5 MPa concrete to complete a 300 mm square encasement of the drain.

11.8 FALL IN DRAINS

The whole of the soil and stormwater drains are to be laid to a regular and even fall. The fall shall be not less than 1:60 for 100 mm dia. drains. Un-necessary changes of grade will not be accepted.

11.9 FITTINGS

The plan shows the layout of the system. Additional fittings that are normally required such as inspections, bends, etc., which 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 the local authority.

11.10 GULLY TRAPS

Gully traps shall be an approved type of minimum 100 mm dia. and compatible with the drainage system used, fitted with a purpose-made grating. No more than four waste pipes shall discharge into each gully trap. Provide approved conrete surrounds extending minimum 75 mm above finished ground level.

11.11 SEWER AND STORMWATER CONNECTIONS

Arrange for the local authority to connect drain to sewer and stormwater where provided and pay all charges in connection therewith. Otherwise if required provide a single compartment septic tank and effluent disposal and/or stormwater soak holes in strict accordance with the requirements of the local authority.

11.12 COMPLETION

Properly backfill all trenches and consolidate filling as work proceeds. Leave the area in as near original condition as possible.

12 -- GAS FITTING

12.1 PRELIMINARY

Comply with preliminary and general.
The whole of the works shall be carried out in accordance with the bylaws and regulations of the local authority. Cooperate with other trades.

12.2 SET OUT

Set out the whole of the work for this trade to confora with the layout and overall dimensions of the job or as otherwise required.

12.3 EXTENT OF WORK

Install, and connect to the existing on site reticulation, the gas heater supplied by the owner complete with all necessary flues, shields, control valves and accessories necessary for the safe and proper functioning of the unit. Complete the installation with all necessary fascias and finishing trim.

13 -- ELECTRICIAN

13.1 PRELIMINARY

Read and note all clauses under preliminary and general of this specification where they apply to this trade.

13.2 FEES

Pay all fees and charges and obtain all necessary permits for this trade.

13.3 SCOPE OF WORK

Carry out the whole of the electrical installations in accordance with the latest Electrical Wiring Regulations and local authority's bylaws. Provide all lighting and power points as shown on the drawings or as otherwise directed by the owner.

13.4 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 current 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 for the entry of cables. All wiring shall be run in TPS cable and shall be kept clear of insulation in walls and ceilings.

13.5 CO-OPERATION

Co-operate with the building contractor and other sub-contractors in all phases of the work. Give ample notice to enable the contractor to arrange the necessary voids, chases, dwangs, etc.

13.6 COMPLETION AND CONNECTION OF POWER

Leave the work complete, pay all charges and 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 caused to the job once the contract is complete.

13.7 POWER BOARD SUPPLY

Arrange with the power board and pay all fees for the connection of an underground or overhead supply to the residence. Arrange for any power poles required to carry overhead power lines. PAID BY OWNER

13.8 METER BOX

Provide and install meter box where directed. Arrange with carpenter for trimming for meter box which shall be recessed into wall and shall have a weatherproof cover.

13.9 MAIN SWITCHBOARD

Provide and install a recessed main switchboard complete with all fuses, circuit breakers, switches, bell transformer, and auxiliary equipment. Arrange with the carpenter to provide a cabinet for the switchboard.

13.10 ELECTRIC STOVE

Provide wiring and switches for electric cooker where required. If separate oven and cooking top units are to be installed allow for wiring and switches for each unit. The electrician is to allow for taking delivery of and installing cooking appliances as required. Allow the PC sum for the supply of cooking appliances as noted in the addendum.

13.11 HOOD OR AIR EXTRACTOR FAN

Provide and install a range hood or air extractor fan where shown on the drawings with switches and power for the operation of same. The fan shall be of the size and type shown on the drawing or in the addendum. Allow the PC sum shown in the addendum for the supply of the range hood.

13.12 SHAVER POINT

Provide a point for electric shaver where required.

13.13 SINK DISPOSAL UNIT

Provide wiring and switch for waste disposal unit to be fitted in sink if required.

13.14 HEATERS

Provide and install electric heaters, complete with thermostats, where required. Heaters shall be the size and type required.

13.15 WATER HEATER

Allow for the connection of the water heater to the electrical system. Provide and install 1500 watt or other suitable sized element and thermostat to hot water cylinder provided by the plumber. Provide switch for water heater on adjacent wall and flexible, metal sheathed cable to element box.

13.16 POWER POINTS

All wall plugs shall be 230 volt, 10 amp, 3-pin flush type with switches. Generally install plugs 300 mm above floor or 225 mm above bench tops. Points to washer, dryer, refrigerator and freezer shall be 1200 mm from floor. The exact position of all power points, etc., shall be finalized to approval on site.

13.17 LIGHTS

Provide light points where required. The contractor is to allow in his tender to provide batten holder type fittings to all lights, with angled fittings to wall lights. All lights shall have flush wall mounted switches. All exterior lights shall be watertight fittings. Fittings under soffits shall be ball type.

13.18 LIGHT SWITCHES

Light switches generally shall be 5 amp, all insulated, PDL micro-gap type or equal. Where indicated, fit flush type with plain flush plate. Fix switches generally 1200 mm above floor. Provide dimmer switches where required.

13.19 SPECIAL FITTINGS

The contractor shall allow in his tender for the supply of special light fittings to the value of the PC sum shown in the addendum. The contractor shall allow in his tender for taking delivery of and fixing fittings supplied from PC sum.

13.20 BELL

Provide transformer on switchboard for doorbell or chimes and provide wiring and bell push for same. The bell or chimes are to be purchased from the PC sum allowance.

14 -- SOLID PLASTERER

14.1 PRELIMINARY

Read and note all clauses under preliminary and general of this specification where they apply to this trade.

14.2 WORK INCLUDED

The solid plastering or trowelling of interior floor slabs, front and back porch slabs, terraces and steps, foundations and otherwise as required.

14.3 MATERIALS

Cement — shall be as specified under "Concretor".

Sand — shall be river sand sharp and coarse grained and free of any foreign matter.

Hydrated Lime — shall be mill hydrated of an approved brand.

Adhesion Agents — if used shall be in accordance with the maker's instructions.

Plasticisers — shall be used strictly in accordance with the manufacturers's instructions. These may be used in place of hydrated lime.

14.4 WORKMANSHIP

All to the best trade practice. Generally where plastering is required it shall mean 12 mm min. thickness with a mix of 1 part cement to 3 parts sand with 10% of hydrated lime added and finished to a straight and even surface with a wood float.

14.5 FOUNDATIONS

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

14.6 CONCRETE FLOORS (Main) See drawings

Co-operate with concretor where required and allow for plastering of main floor. Float up to true level and steel float finish to remove any patterning. DO NOT OVER TROWEL. A hard, dense finish is required.

14.7 PORCH, STEPS AND TERRACES (when required)

Plaster up in one operation. One coat 12 mm thick to terraces and porch slabs, 12 mm thick to verticals and sides, etc. Wood float up then give light sweeps with a steel float to remove blemishes.

14.8 VENTS

Where required supply and instal pre-cast concrete or other approved ventilators in foundation walls to provide CLEAR ventilation equal to not less than 0.35% of floor area with ventilators at 750 mm max. from corners and at 1800 mm centres max. generally.

14.9 COMPLETION AND CURING

Leave all work complete and clear away all plaster droppings. Keep work damp until properly cured and maintain all finishes to the completion of the work.

15 -- PAINTING AND PAPERHANGING

15.1 PRELIMINARY

Note all clauses under preliminary and general of this specification which apply to this section of the work.

15.2 MATERIALS

In this section of the specification where the word "paint" is used the reference shall also apply to varnish unless obviously inapplicable. Generally all materials shall be of NZ manufacture of approved brands. All paints and varnishes shall be delivered to the site in unopened cans. Paints shall be applied straight from the can, strictly according to the manufacturer's recommendations. Any thinning of paint required shall be carried out strictly to the makers recommendations. Succeeding coats of paint shall be of the same brand, unless approved otherwise.

15.3 WORKMANSHIP

All work shall be carried out in accordance with best current trade practice. Surfaces shall be clean and properly prepared before coating and work shall be in accordance with Code of Practice NZS 2239 "Painting of Buildings". Rub previously painted surfaces lightly with fine glasspaper between coats and wipe over with a tack rag to remove dust. All coats shall be laid off when finishing to remove brush marks. DO NOT PAINT OVER UN-PUNCHED NAILS or other protruding fixings.

15.4 COLOUR SCHEMES

The owner will select from standard colour charts, colours he will require and the contractor is to allow for picking out sashes, doors, porches or any other reasonable colour change required.

15.5 STOPPING

After printing, all nail holes or joints are to be stopped with linseed oil putty and cleaned off before undercoating. Varnished work is to be stopped with matching putty after the first coat of sealer. Stop all nail holes and gaps in finishing timbers.

15.6 EXTERIOR PAINTING

Prime all exterior woodwork unless an oil finish is specified. After priming, all external woodwork and adjacent metalwork such as flashings, spouting and down-pipes, is to be given one good under-coat followed by a finishing coat of high gloss paint (acrylic or enamel). Wipe down all metal work with solvent before priming. Priming coats shall be well brushed in and all faces shall be covered, ends of laps and tops and sides of sashes, doors, and such like. Sashes and doors shall be painted with enamel paint, not acrylic. Hardiflex lining to eaves soffits shall be painted with 2 coats of PVA Latex paint. Fibre-cement sheets (e.g. Hardiflex) shall be painted with 2 coats of acrylic gloss paint or shall be finished with other surface treatment as required. Exterior concrete block walls (except foundation walls) shall receive 2 coats of Resene, or other approved, concrete block sealer or masonry filler, well brushed into the surface, and applied strictly according to the manufacturer's specifications.

15.7 OIL FINISH

Where required exterior woodwork shall be finished with 2 coats of clear or pigmented Resene weathering oil. The first coat should be applied before or straight after the timber is fixed in place. The second coat should be applied after 4 or 5 weeks.

15.8 INTERIOR PAINTING

All interior finishes are to be as required. Wall linings and ceilings shall be given one coat of undercoat and finished with two coats of approved flat or semigloss paint as required. Where full gloss is required in kitchen, laundry or bathroom, the finishing coat shall be full gloss enamel. Doors shall be painted on both faces and ALL edges. Allow for painting kitchen cupboard and laundry cupboard doors, carcase and shelves, unless pre-finished surfaces are specified.

15.9 VARNISHING

Where varnishing is required, such as to doors, architraves and skirtings, give one coat of approved sealer, followed by two coats of clear varnish lightly sanding between coats. Seal and varnish both faces and ALL edges of doors. Varnish shall be gloss, semigloss or flat polyurethane as required.

15.10 CONCRETE

To concrete or concrete block base walls, apply two coats of exterior quality PVA paint of an approved type gloss finish. Paint base walls only where required.

15.11 PAPERHANGING

Where required hang wallpaper or lining paper to walls,cupboards and ceilings. All walls shall be sized before papering. Lightly sand walls where necessary to remove excess stopping or protuberances. Wallpapers shall be hung plumb and true with edges carefully butt jointed. Carefully match all patterns and check rolls before hanging for variations in shading across the rolls or other defects. Any mis-matched or faulty papers will be rejected and replaced, including hanging, at no cost to the owners. ALL WALLS PAINTED

15.12 ROOF (Painting roof is required only if noted in the addendum)

Allow roofing to weather and clean down with solvent before painting roof (if corrugated iron, or similar, prime laps before fixing. For corrugated iron or galvanized trough section roofing, after fixing prime roof with calcium plumbate galvanized iron primer and then apply 2 good coats of approved roof paint.

15.13 COMPLETION

At completion clean all paint marks off glass and other surfaces, re-touch all damaged paint work and leave the premises ready for occupation.

16 -- GLAZING

16.1 PRELIMINARY

Comply with preliminary and general.

16.2 EXTENT OF WORK

Work of this trade involves fixing of all glassware and such like either stated or required to complete this project.

16.3 WORKMANSHIP

All work shall be carried out in accordance with best current trade practice using first quality materials unless specifically required otherwise.

16.4 GLASS

Glaze all sashes, glass doors or screens with appropriate weight glass properly fixed and puttied or beaded into rebates. Where required glazing shall be selected obscure patterned glass.

Note new requirements of NZS 4223 pt.3 1993 amendment in particular bathrooms. refer plan

16.5 MIRROR

Where required provide and fix 6 mm polished plate glass mirror(s).

16.6 COMPLETION

On completion all glassware is to be left in as new condition with no finger or putty marks.

17 -- LUMP SUMS

17.1 PRELIMINARY

Note all clauses under preliminary and general of this specification which apply to this section of the work (particularly those relating to adjustment of lump sums and use of lump sums for dealing with items listed as "to approval").

17.2 PROVISIONAL SUMS

Allow the provisional sums shown below for the supply of labour and materials to carry out the designated work:

17.3 PC (prime cost) SUMS

Allow the prime cost sums shown below for the supply only of the following items:

KITCHEN CUPBOARDS	$7,000
2/ SHOWER CUBICLES	$1,250 EA
STOVE + OVEN	$2,500
2/ VANITYS	$ 500 EA
HARDWARE	$1,200

17.4 CONTINGENCIES SUM

Sum to be applied as directed by the owner

ADDENDUM OF MATERIALS

TO COMPLY WITH NATIONAL BUILDING CODE

Floor Type	CONCRETE FLOOR
Ex Cladding	COROMANDEL GOLD MONIER CLAY BRICK
Roofing	COLOUR TILE
Windows	ALUMINIUM FAB-AL VANTAGE
Int Lining	GIBRALTAR BOARD
Kitchen Joinery	MELTECA BY OWN JOINER
Ceilings .	GIBRALTAR BOARD GLUED & SCREWED
Hot Water Pipe	POLYBUTYLENE POLYTHERM
Hot Water Cylinder	RHEAM OR SIMILAR
Bath	ENGLEFIELD
Vanity	MELTECA BY OWN JOINER
WC & Cistern	CAROMA PAN & CISTERN
Shower & Lining	2/ ENGLE FIELD CUBICLES WITH TOPLISS MIXER
Waste Pipe	PVC MARLEY
Sink Faucet	HMC SINK MIXER
Bathroom Taps	HMC
Laundry Tub	STAINLESS STEEL TUB & WOODEN CABINET
Tub Taps	HMC
Hose Taps	HMC
Cold Water Pipe	POLYBUTYLENE POLYTHERM
Drain Pipe Sewer	PVC MARLEY
Drain Fittings Sewer	PVC MARLEY
Drain Pipe Stormwater	PVC
Spouting	KLASS FASCIA MARLEY SPOUTING
Down Pipes	PVC MARLEY
Soil Pipe & Fittings	PVC MARLEY

MANZ-SMITH ARCHITECTS LTD.
P.O. Box 338
Cnr Bristol & Queen Sts., Levin
Tel. (06) 368-9625 Fax (06) 368-2757

CHECK LIST

ADDRESS lot 13 Louth Bay - Walk DATE 31/10/94

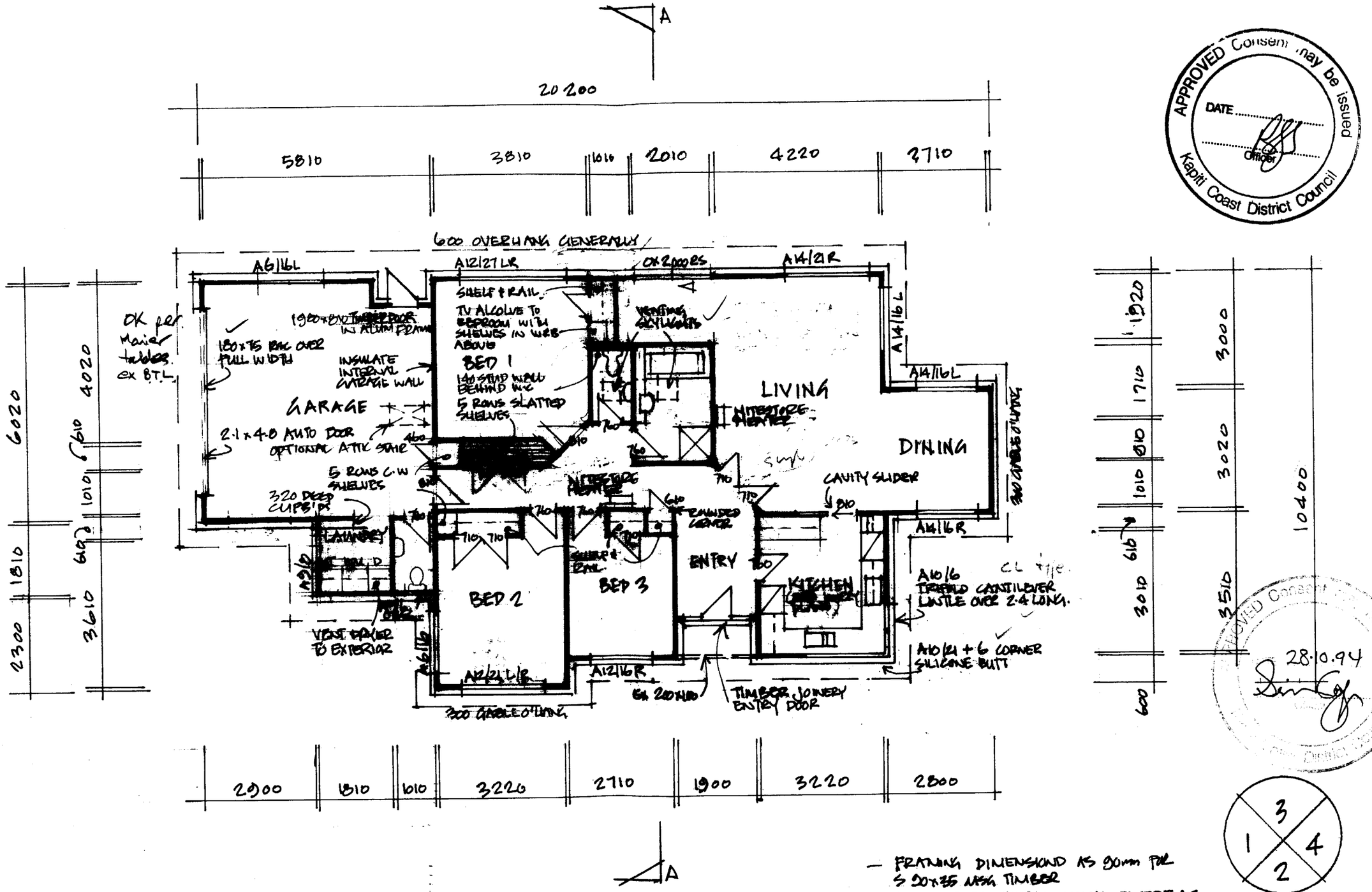
DISTRICT SCHEME DESIGNATION			
COASTAL LINE			
AREA OF PROPOSAL		DOES ANCILLARY BUILDINGS EXCEED 55 sq m	
IS PLANNING INVOLVED		PLANNING OFFICER INFORMED DATE	
SITE VISITED	✓		
NATURE OF GROUND	✓		
FOUNDATIONS	✓		
STEEL REINFORCING	✓		
OVERSITE LEVEL	—		
VENTILATION UNDER FLOOR	—	FLOOR INSULATION	—
DAMP PROOFING TO WALLS	✓	TO SOLID FLOOR	✓
CONCRETE FLOOR SLAB	✓	REINFORCING	✓
BASE PLATES	—	FIXING	?
JOISTS	—		
BEARERS	—	FIXING	—
FLOOR 1ST & 2ND	—	BRACING X ✓	BRACING LATERAL ✓
WALL FRAMING	✓	refer truss info attached	
TOP PLATE	✓		
CEILING JOISTS	✓		
CEILING BATTENS	✓		
RAFTERS	✓	FIXING	✓
COLLAR TIES	—		
PURLINS	✓		
STRUTS	✓		
VALLEY/HIPS	✓		
BEAMS & LINTOLS	✓		
ROOF CROSS BRACING	✓		
ROOF CLADDING	✓	ROOF INSULATION	—
WALL CLADDING	✓	WALL INSULATION	✓
VENTILATION TO ROOMS	✓		
HEIGHT OF STUD	✓	BALCONY	—
MINIMUM SIZE OF ROOMS	—	STAIRS	—
OPEN FIRE/SPACE HEATER/FREE STANDING	—	OTHER	—
HEARTH	✓	POSTS	—
CHIMNEY/FLUE	—		

SIDE YARDS ..... REAR YARDS ..... FRONT YARDS ..... COURTYARDS .....

PLUMBING & DRAINAGE - PLANS PASSED OVER ..... RETURNED .....

AMENDMENT REQUESTED ..... DATE .....

CHECKING INSPECTOR Bob T.



APPROVED Consent may be issued
DATE
Officer
Kapiti Coast District Council

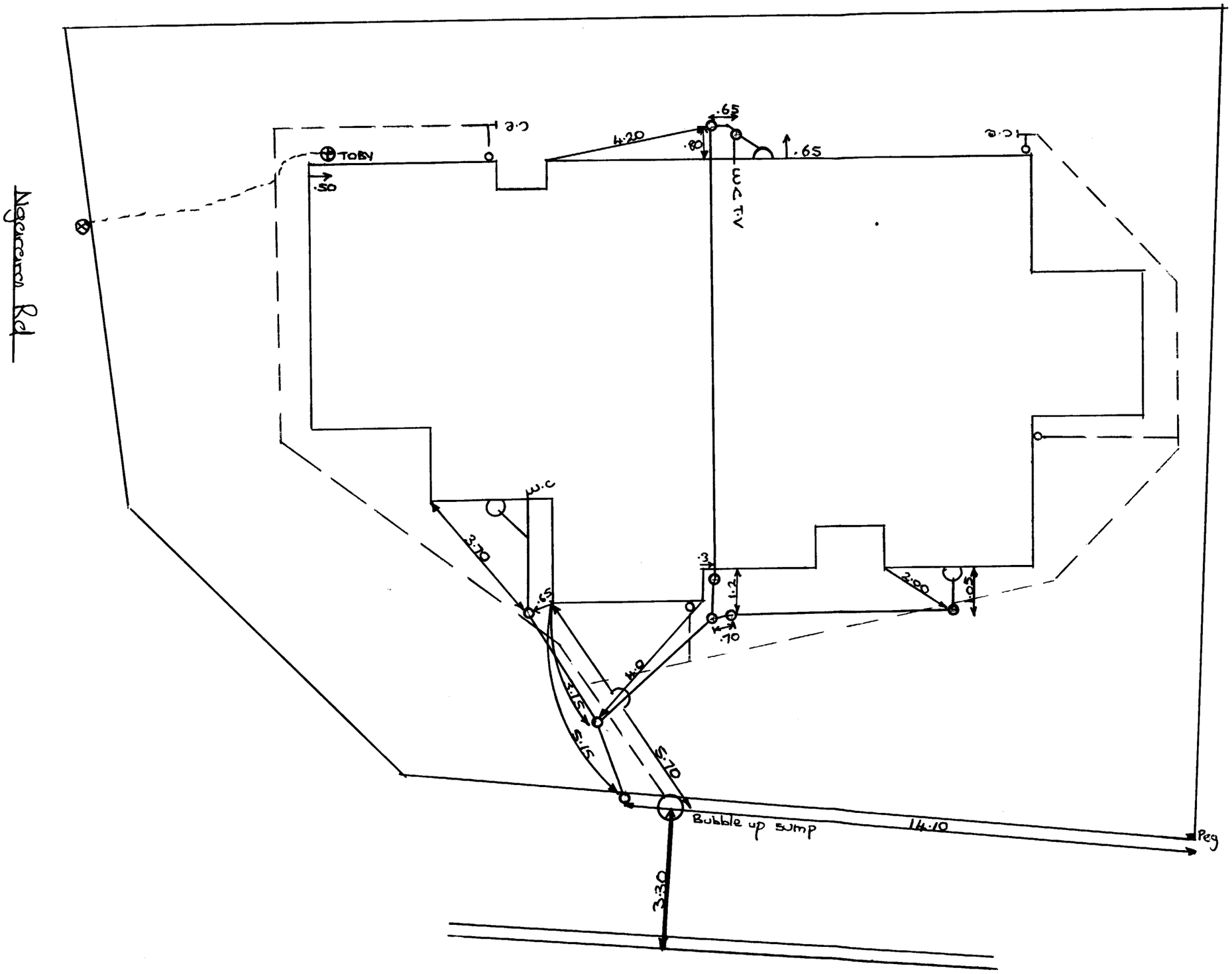
APPROVED Consent may be issued
28.10.94
Officer
Kapiti Coast District Council

- FRAMING DIMENSIONED AS 90mm FOR S 90x35 MGP10 TIMBER
- ALL LINTLES TRIFOLD METAL EXCEPT AS NOTED.
- REFER ELEVATIONS FOR LOCATION OF WINDOW SEGMENTS
- ALL NORTH FACE WINDOWS TO BE GREY TINT EXCEPT GARAGE

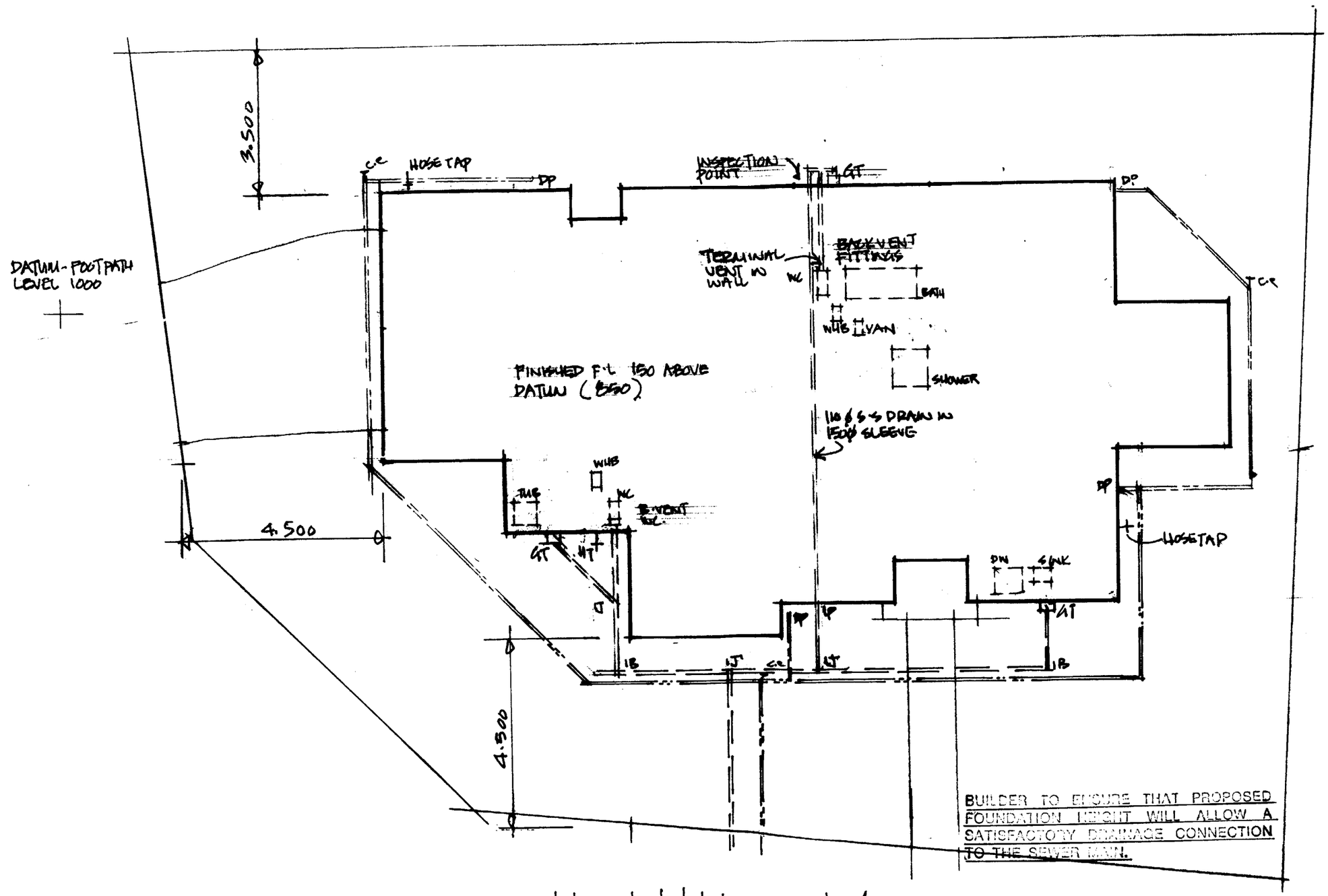
3 1 4 2

FLOOR PLAN 1:100

1815 sq ft (169 m²) AUGUST 94



2 Northbay
Lot 13 D.P 74371
Drainlayer B McWirter



SS drain is to be watertested to a 1.0m head
S-W drain is to have provision for cleaning access
Branch drains longer than 10.0m are to be terminal vented.

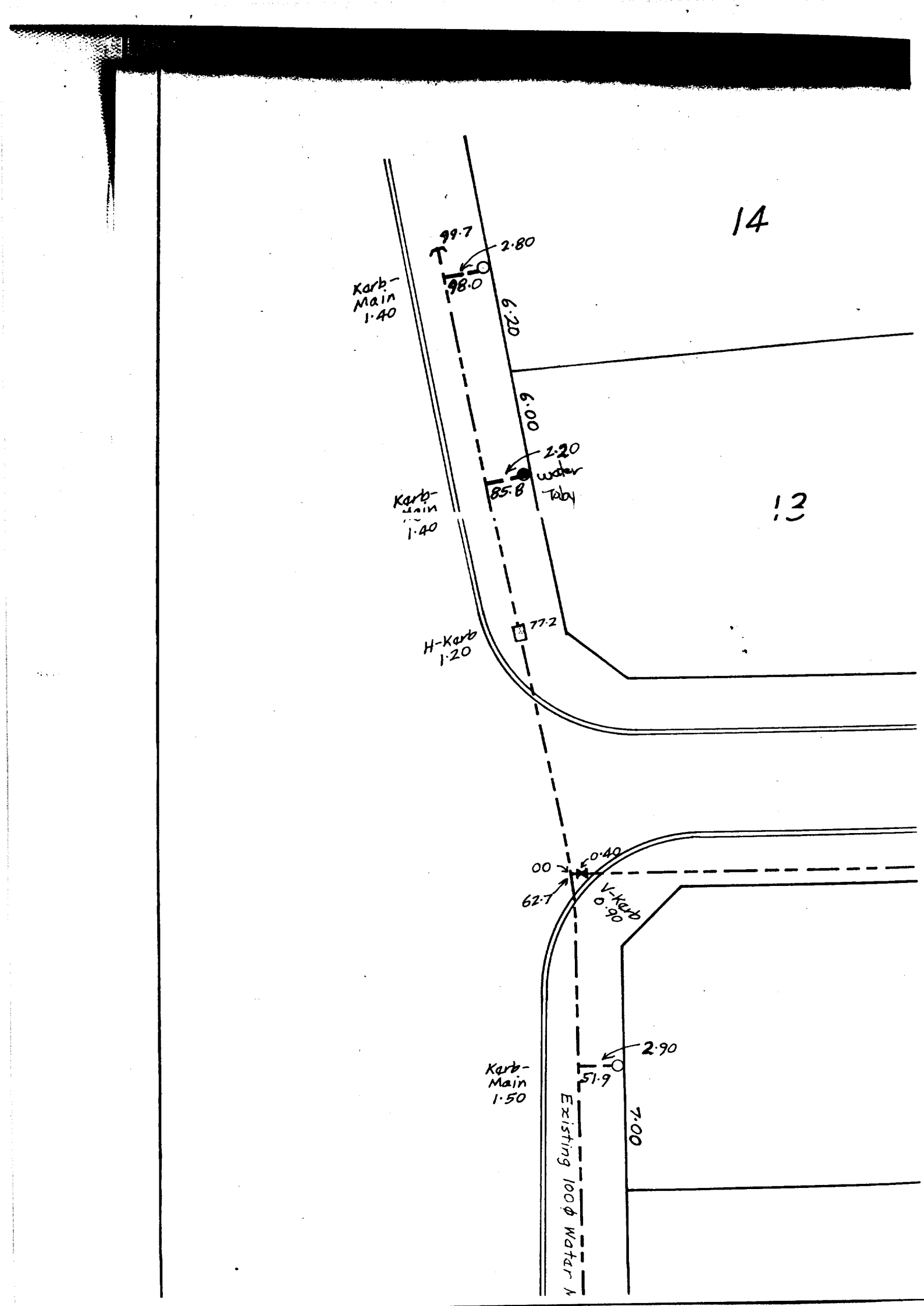
SITE PLAN 1:100

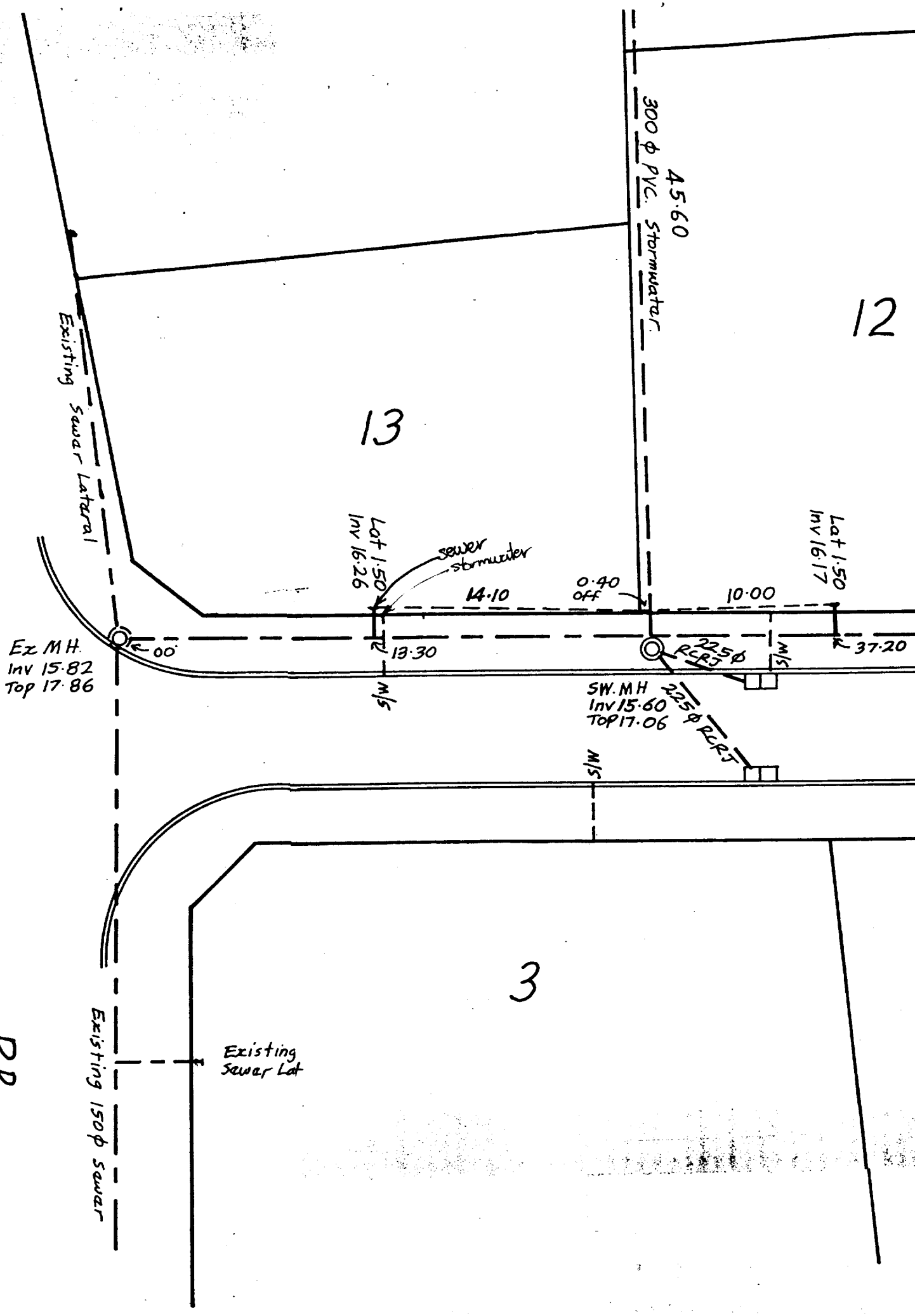
NORTH

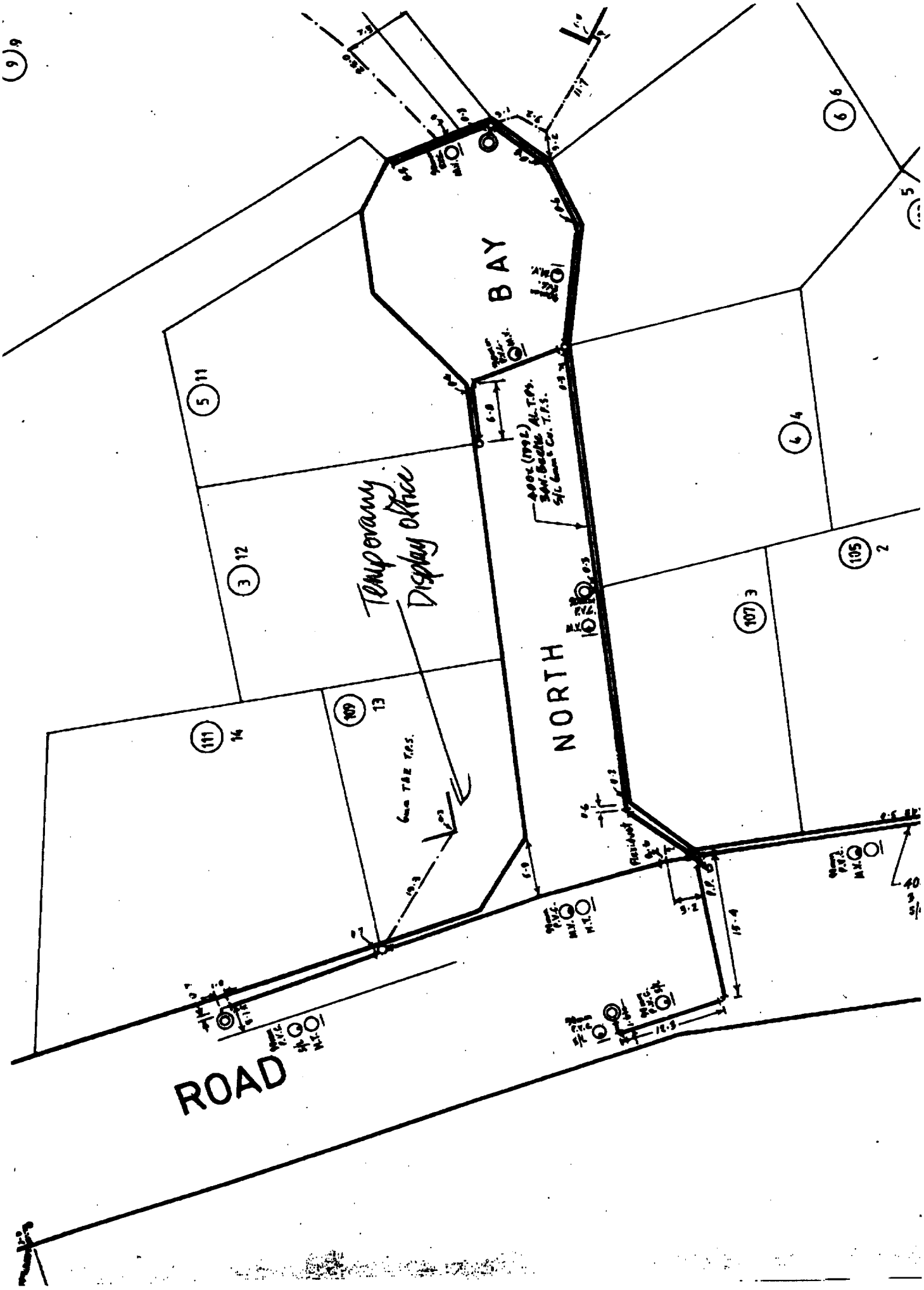
APPROVED Consent may be issued
DATE
Officer
Kapiti Coast District Council

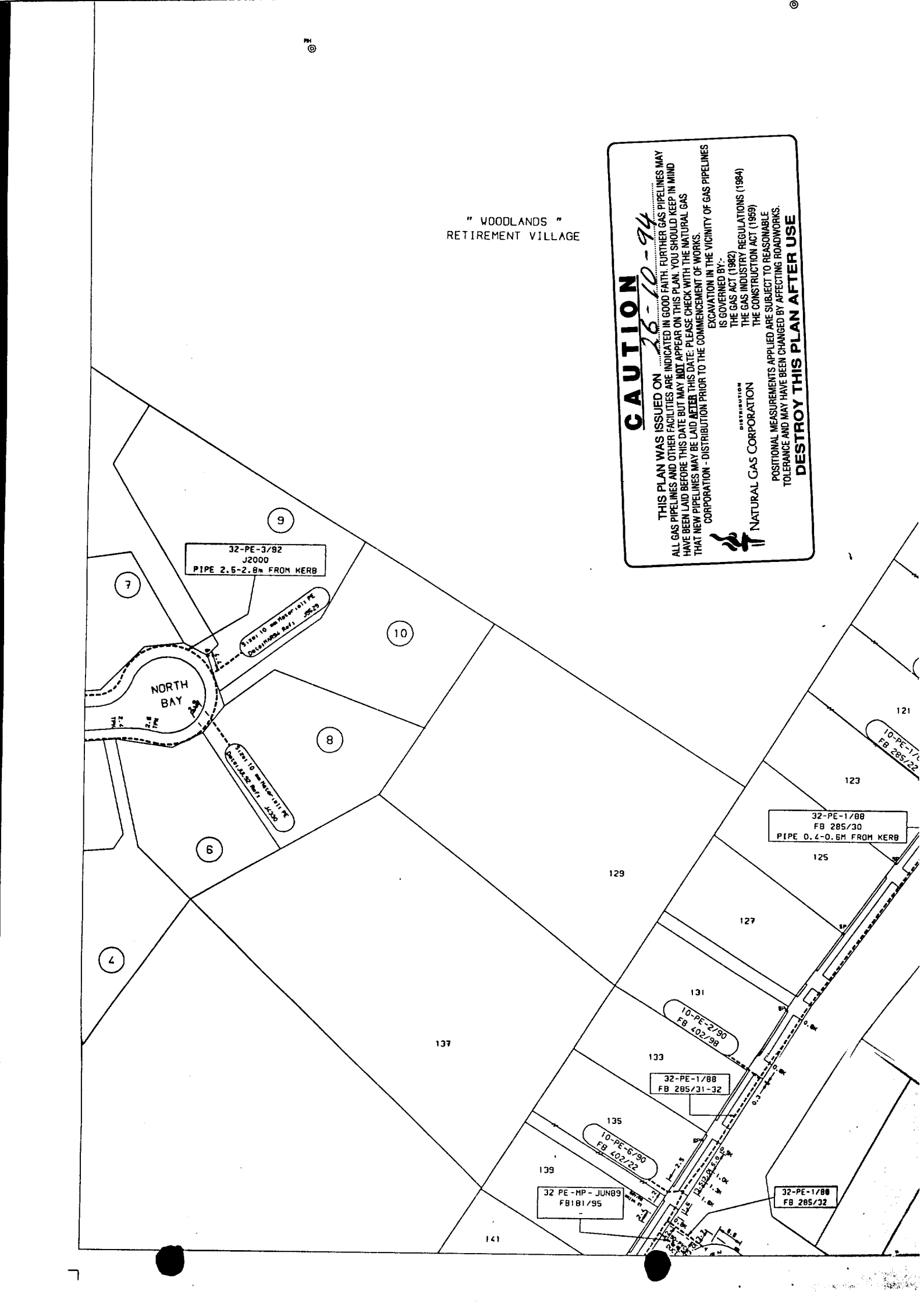
APPROVED Consent may be issued
DATE 28.10.94
Officer
Kapiti Coast District Council

APPROVED Permit may be issued
21/10/94 DATE
DISTRICT PLANNER
Kapiti Coast District Council


14
99.7
2.80
98.0
Karb-
Main
1.40
6.20
6.00
2.20
water
Tobi
85.8
Karb-
Main
1.40
13
77.2
H-Karb
1.20
0.40
00
62.7
V-Karb
0.90
2.90
51.9
Karb-
Main
1.50
Existing 100φ Water
7.00


300 ϕ PVC. Stormwater
45.60
12
13
Existing Sewer Lateral
Lat 1.50
Inv 16.26
sewer
stormwater
14.10
0.40
off
10.00
Lat 1.50
Inv 16.17
Ex MH
Inv 15.82
Top 17.86
00
13.30
225ϕ RCRJ
37.20
SW. MH
Inv 15.60
Top 17.06
225ϕ RCRJ
3
Existing
Sewer Lat
Existing 150ϕ Sewer
RD
SEWER AN


BAY
NORTH
ROAD
Temporary Display office
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6
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107
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109
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111


" WOODLANDS "
RETIREMENT VILLAGE
CAUTION
28-10-94
THIS PLAN WAS ISSUED ON .....
ALL GAS PIPELINES AND OTHER FACILITIES ARE INDICATED IN GOOD FAITH. FURTHER GAS PIPELINES MAY HAVE BEEN LAID BEFORE THIS DATE BUT MAY NOT APPEAR ON THIS PLAN. YOU SHOULD KEEP IN MIND THAT NEW PIPELINES MAY BE LAID AFTER THIS DATE: PLEASE CHECK WITH THE NATURAL GAS CORPORATION - DISTRIBUTION PRIOR TO THE COMMENCEMENT OF WORKS.
EXCAVATION IN THE VICINITY OF GAS PIPELINES IS GOVERNED BY:-
THE GAS ACT (1982)
THE GAS INDUSTRY REGULATIONS (1984)
THE CONSTRUCTION ACT (1959)
POSITIONAL MEASUREMENTS APPLIED ARE SUBJECT TO REASONABLE TOLERANCE AND MAY HAVE BEEN CHANGED BY AFFECTING ROADWORKS.
DESTROY THIS PLAN AFTER USE
NATURAL GAS CORPORATION
DISTRIBUTION
32-PE-3/92
J2000
PIPE 2.6-2.8M FROM KERB
NORTH BAY
32-PE-1/88
FB 285/30
PIPE 0.4-0.6M FROM KERB
10-PE-2/90
FB 402/98
32-PE-1/88
FB 285/31-32
10-PE-6/90
FB 402/22
32 PE-MP-JUN89
FB181/95
32-PE-1/88
FB 285/32
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CAUTION

THIS PLAN WAS ISSUED ON 26-10-94

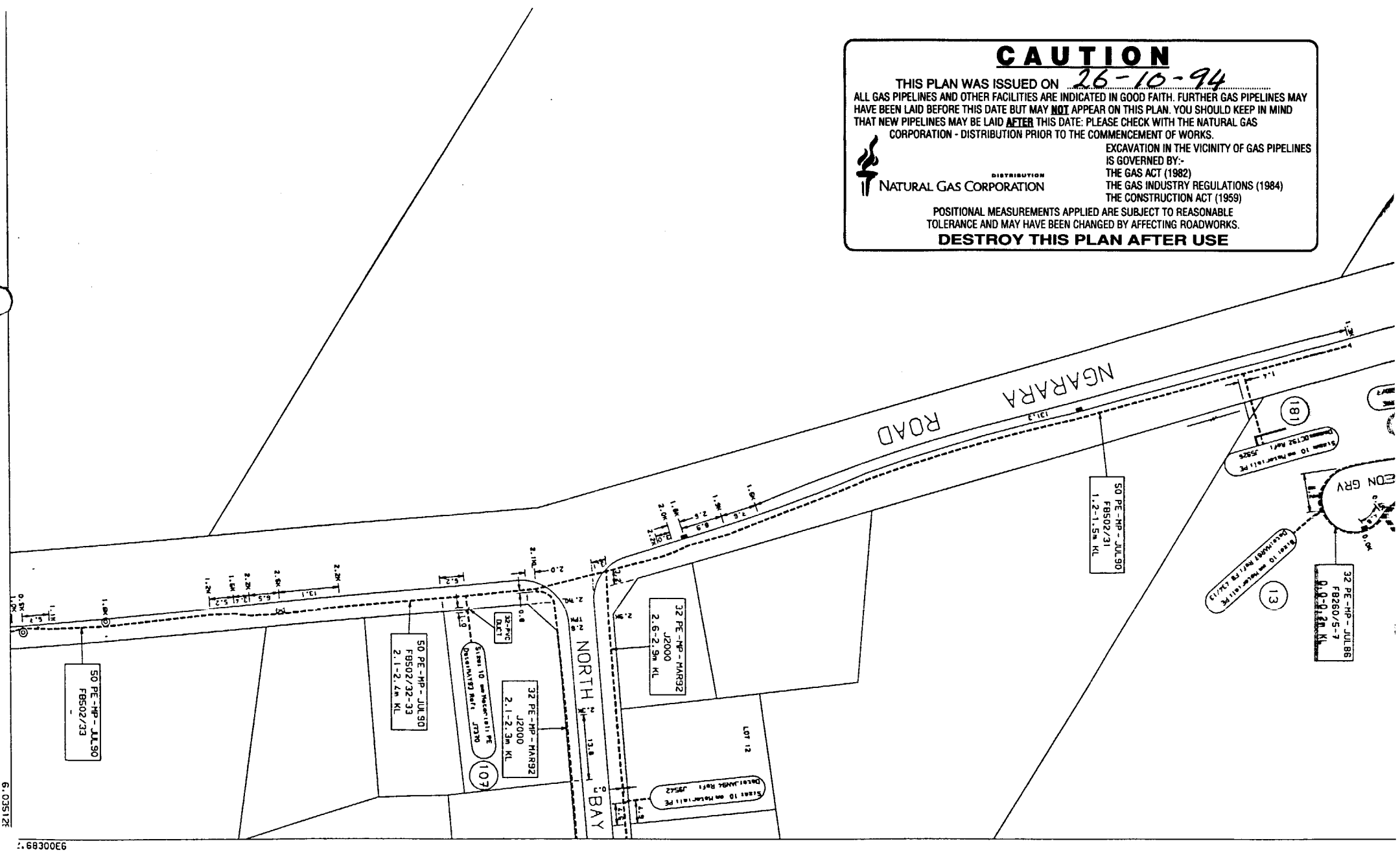
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DISTRIBUTION
NATURAL GAS CORPORATION

EXCAVATION IN THE VICINITY OF GAS PIPELINES IS GOVERNED BY:-
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POSITIONAL MEASUREMENTS APPLIED ARE SUBJECT TO REASONABLE TOLERANCE AND MAY HAVE BEEN CHANGED BY AFFECTING ROADWORKS.

DESTROY THIS PLAN AFTER USE



6.03531E

2.68300E6

ADJOINING SHEET INDEX		
.	.	.
GM14	GM13	GM12
GN14	GN13	GN12

ISS	DATE	BY	CHKD	REVISION
2	MAR94	AVER	SADL	REVISION UPDATE

LEGEND

Polyethylene Gas Pipeline

Steel Gas Pipeline

? Information is unknown for this record and must be field verified

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DRAWN	GARDINER
CHECKED	SADLER
APPROVED	
DATE	14JAN94
ORIGINAL SCALES	1 : 500

WAIKANAE

UNDERGROUND GAS PIPELINE SYSTEM

POSITIONAL MEASUREMENTS SUBJECT TO REASONABLE TOLERANCE

ADDITIONAL LINES MAY HAVE BEEN LAID AFTER DRAWING ISSUED

ALL LINES ARE SHOWN IN GOOD FAITH

ALL LOCATIONS MUST BE VERIFIED BY SAFE AND EFFECTIVE MEANS

NATURA