ST. 89

'B'

PALMERSTON NORTH CITY COUNCIL.

BUILDING APPLICATION FORM.

TO: The City Engineer,
PALMERSTON NORTH.

13-1-69 196 .

Sir,

I hereby apply for permission to Erect 5- Room Dwelling

at 37 Alexandra St

for Maori Affairs Dept (Fitzgerald) (Owner) of (Owner's Address)

according to plans and specifications deposited herewith.

PARTICULARS OF LAND: Lot No. 145 D.P. No: 29133 Sect.

Frontage: 56' By depth of 130' Area:

PARTICULARS OF BUILDING: Foundations Concrete Walls: B/V

Roof: Iron Area of Ground Floor: 1060 sq.ft.

Name of Plumber: R. Weston Estimated Value of Work:

Name of Drainlayer: D. D. M. Crea Building: $ 6710

Plumbing & Drainage: $ 590

TOTAL: $ 7300

SIGNED: J. Weston

ADDRESS: 9 Fairburn Avenue

		Date:	Fee ($)
Values on Application ...	/		$ 27-00
Builders Footway Deposit ...	/		8-00
Temporary Hoardings on Footpath			
BUILDING INSPECTOR -	EJ	14-1-69	
Plumbing & Drainage Requirements & Fees			5-90
Proportion of Water & Sanitary Rates			2-40
Stormwater Crossing ...			
~~Storage of Dangerous Goods, Fuel Oil~~			
General Requirements ...			
PLUMBING INSPECTOR -	ELD	14/1/69	
Sewer Connection and Charge ...			— 50
Stormwater Connection and Charge ...			
DRAINAGE ENGINEER -			
Water Connection requirements & Fees			
WATER INSPECTOR -			
HEALTH INSPECTOR -			
DESIGN ENGINEER -			
TOWN PLANNER -	MMay	14/1/69	
FIRE INSPECTOR -			
LABOUR DEPARTMENT -			$ 43-80

Permits may be issued subject to conditions on back hereof:-

BUILDER Firestone

OWNER Maori affairs Fitzgerald ADDRESS 37 Alexander St DATE 13-1-69.

FOUNDATION:-		FRAMING:-		EXTERIOR SHEATHING:-	
Height		D.P.C.	✓	Plaster Netting	—
Depth		Sleepers	—	B/V Ties	✓
Width		Joists		Fibrolite	—
Reinforcing		Timber Grade		Weather Board	—
H/D Bolts		Studs		Building Paper	—
Cretex Bearing		Braces		Window Ventilation	✓
Vents		Dwangs			
Pile Spacing	✓	Trimmers			
Wire Ties		Herring Bone	—	GENERAL:-	
Water Barrier	—	Ceiling Joists		Flat Rooms	—
		Stiffeners		Laundry	✓
ROOF:		Rafters		Carports & Garages	—
Iron Gauge	✓	Purlins			
Building Paper	✓	Collar Ties		Blockwork	—
Netting		Spacings		Siting	✓
Decromastic	—	Wall Ventilation		Values	✓
Concrete Tiles	—	Beams	—	Heating	✓

The specification and/or plans must be amended to incorporate the following before a permit is issued:-

BUILDING INSPECTOR: E.G. 14-1-69.

1113

PALMERSTON NORTH CITY COUNCIL

Receipt No.....
Permit No. 1384 — 1385
Building Permit No. 1506

Application for Permit for Sanitary Plumbing and/or Drainage Work.

To: The Engineer,

I, the undersigned, hereby apply for permission for the work described herein and set in the plans attached hereto to be carried out in the premises whose owner and location are shown below:-

LOCATION: 37 Alexander St being Lot 145 D.P. 29133 Sec.....

	Name	Address
OWNER:	Mr. Maori Affairs Dept	.....
BUILDER:	Mr. J. Weston	.....
PLUMBER:	Mr. R Weston	.....
DRAINLAYER:	Mr. J.B. McCrea	.....

Details of the Said Works

(1) The installation of:- (see instructions on back of form)

Ground Floor:

Bath	Basin	Shower	Sink	Tub	W.C.	~~Urinal Stall~~	Hot Water Cylinder	
/	/	/	/	/	/		/	$ 3.50

First Floor:

Bath	Basin	Shower	Sink	Tub	W.C.	Urinal Stall	Hot Water Cylinder	
								$.

Second, Third & Fourth Floor:

Bath	Basin	Shower	Sink	Tub	W.C.	Urinal Stall	Hot Water Cylinder	
								$.

(2) The construction of 110 ft. of 4" sewerage drain (Standing Charge 50c) $1.60

(3) The construction of XX Ft. of 4" stormwater drain ... ... $ .80

(4) Miscellaneous (state).....

..... $.

(Drains over 4", special traps, special plumbing fittings, etc.)

Total Permit Fee: $5.90

Charge for:

(Sewer lateral, Stormwater lateral, Stormwater crossing) ... ... $.

TOTAL: $5.90

Signature J. Weston Builder / Owner / Plumber / Drainlayer Date .....

FOR OFFICE USE

Estimated value of work -, Plumbing: $ 350 Drainage: $ 240 TOTAL: $ 590
(for statistical purposes)

REMARKS.....

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.....

.....

E L Dreaver INSPECTOR.

4/1/69

PALMERSTON NORTH CITY COUNCIL 1384 - 1385

INSPECTORS COPY OF PERMIT

To carry out Plumbing and/~~or~~ Drainage

Mr. ~~[illegible]~~ J R McLACHLAN | Registered Drainlayer | ~~Registered Plumber~~

K. J. Wootton Registered Plumber

Mr. Maori Affairs Dept. Owner

No. 37 Alexander Street, Palmerston North, Lot 145

Description of Work: The installation of:—

| Bath | Basin | Shower | Sink | Tub | W.C. ~~Urinal Stall~~ | Hotwater Cylinder

110 ft. Sewerage Drain 11/7/69 60 ft. Stormwater Drain 14/7/69

Miscellaneous:

Note:

FEE PAID $ 5.90 Receipt No.

Building Permit No. 1506

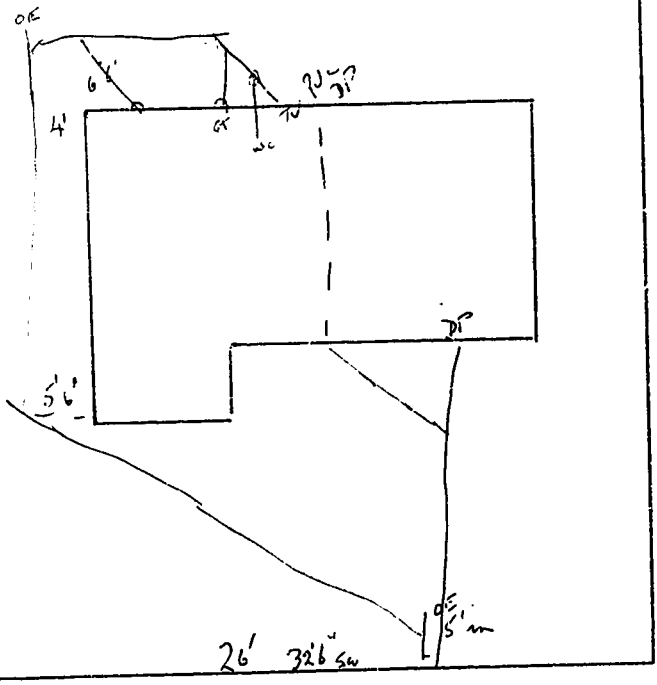
Check:

W.C. Ventilation

Isolation Compartment

Inspector.

Dated this 15th day of Jan 1969.



37 Alexander St Lot 1445

MAORI AFFAIRS DEPARTMENT

SPECIFICATION OF WORK TO BE DONE AND MATERIALS TO BE USED IN THE ERECTION OF TIMBER FRAMED HOUSES SHEATHED WITH WEATHERBOARDS, STUCCO, ASBESTOS-CEMENT-SIDINGS, BRICK AND MASONRY VENEER.

INDEX OF TRADES

PRELIMINARIES

1. GENERAL

The contract is to construct, completely finish, and maintain for a period of one month the various works described or indicated in the plans, specifications, and related documents and in accordance with the conditions of contract. The Contractor shall be deemed to have informed himself and his sub-contractors of every circumstance connected with the Works, and the Contractor must allow in his tender for every contingency that may arise. Except as expressly provided otherwise, the contract price tendered shall be deemed to be all-inclusive and shall not be subject to adjustment.

2. DOCUMENTS

The Contractor and his sub-contractors shall be deemed to have familiarized themselves with all the documents comprising the contract, including any amendments thereto. Such documents shall be regarded as mutually explanatory, but special attention is drawn to Provisional and P.C. Sums and other matters relating to this particular contract which are set out in the Notice to Contractors.

3. CONDITIONS OF CONTRACT

The Maori Affairs Department's Conditions of Contract are to read in conjunction with and form part of this specification. Copies of such conditions may be seen at the Department's District Office.

4. INSPECTION OF SITE

Visit site and ascertain nature and extent of work, rights and interests which may be interfered with, and any other matter or thing which may influence the making up of a tender, or the carrying out of the work in its entirety.

5. LOCAL BODY FEES AND CHARGES

Give all usual notices to Local Authorities and arrange for connection, inspection and testing of Electrical, Plumbing and Drainage work by the Authorities' Inspectors.

The Contractor will pay direct to Local Authority any fees in connection with inspection and testing of work and any charges for permanent connection to any Local Authority service. The Contractor is required to apply and pay for building permits.

Any deposits or charges in connection with roads, footpaths, temporary connections, etc., to any Local Authority service shall be paid for by the Contractor and evidence produced to the District Building Supervisor before the first progress payment will be made. Charges for the use of electricity or water in connection with the construction of the buildings shall be paid for by the Contractor.

6. TEMPORARY LATRINE OR W.C. ACCOMMODATION

Where sewer drains are not in existence provide temporary latrine accommodation and keep in a proper condition to the satisfaction of the Health Authorities.

7. TOOLSHED

Supply Toolshed and temporary water-supply.

If, due to indeterminate position of mains or for any other reason, the cost of installing temporary mains cannot be assessed at the time of tendering, the tender form shall be endorsed stating that no allowance has been made for this item.

8. APPROVAL

Unless otherwise stated "approval" in this specification means to the District Building Supervisor's approval.

9. RESPONSIBILITY FOR PROTECTION OF PROPERTY, ROADS AND SERVICES

Take every precaution during the course of the work to protect the adjoining public and private properties including fences, trees and hedges against damage. All damage done must be made good at Contractor's expense. Contractor shall also indemnify the Department against any claims made by adjoining owners in respect of damage caused by his operations.

10. SETTING OUT WORK

The Contractor will be held responsible for the setting-out of all work, and he shall be required to make good at his own expense any errors which occur. Figured dimensions are to be taken in preference to scale.

Note:

(a) If there is any discrepancy between 1/8" scale drawings and details, the details shall take precedence.

(b) Special details on 1/8" drawings, will supersede the normal details.

(c) Any discrepancy within the drawings or specifications, or between the drawings and specification shall be referred to the District Building Supervisor and his ruling shall be final.

11. TRADE RELATIONS

Each trade shall, before proceeding with any work, inspect the work of any trade against which the material or work is to be placed and report immediately to the General Contractor and the District Building Supervisor any defects or irregularities in the work which would prevent the satisfactory execution or permanency of their work. Work shall not proceed until all defective preparatory work has been corrected. Failure to examine and report will be construed as an acceptance that all preparatory work is satisfactory.

12. GROUND LEVELS

When making up his tender the Contractor shall allow for foundations, excavations and steps as shown on 1/8" scale and detail drawings, and any variation detailed in "notes to contractors".

13. COMPLETE WORK

In this specification and also on the drawings, although it may not be expressly mentioned or shown, each and every item, class, detail or particular work indicated, described or implied shall mean, unless otherwise set forth, the providing and finishing of the same complete in every detail, in order to leave the work in good order and complete. Any work which is not to the satisfaction of the District Building Supervisor shall be removed and made good.

14. CLEARING UP

At completion of the contract remove all temporary roads and deposits of concrete and gravel, fill in truck tracks, and generally leave the whole site clean and fit for gardening.

Leave all floors after floor-sanding broom clean, clean all sanitary fittings, all glass inside and out, and remove all paint and putty marks, replace all cracked and broken glass. Leave each house clean and fit for immediate occupation and to entire satisfaction of the District Building Supervisor. Remove all temporary sheds and stores from the site and take up temporary water supply, unless the temporary water supply has been provided by the Department.

15. SUPERVISION

The term District Building Supervisor shall mean the District Building Supervisor or his accredited representative.

16. INSURANCE

Insurance such as builders' risk, workers' compensation and fire shall be taken out through an approved fire insurance office.

EXCAVATOR

1. CLEAR SITE

On that part of the site to be built upon, clear all trees, stumps, loose stones, etc. In those portions only of the site which are to be excavated, remove the topsoil for a depth of 9" and deposit in a heap where it will not be buried under the subsoil.

2. SETTING OUT

The Contractor is to set out the work on the site as indicated on the site plan, but before proceeding with the work it must be checked for position and levels by the District Building Supervisor.

3. FLOOR LEVELS

The level of tops of ground floor joists is to be determined from the following general rules:-

(a) Level sites generally; minimum height of 1'10" above ground.

(b) Sloping site; refer to the District Building Supervisor for decisions before commencing work. Minimum height 1'10" above permanent ground level after excavation. Excavations must be carried back a minimum of 4'0" from the house at new ground level with banks battered as directed by the District Building Supervisor.

4. GENERAL EXCAVATIONS

Excavate for all site levelling, foundations, posts, blocks, walls, pipes etc., to the various depths, levels and grades required for the erection of the building etc.

All subsoil from the foundations and other excavations is to be evenly spread or deposited on the site where and as directed by the District Building Supervisor.

5. FILLING IN

Fill in and thoroughly consolidate around all piles, footings and foundation walls immediately after stripping boxing. Fill in with well consolidated loam or clay, any depression liable to harbour water within the area of the house.

6. HARDCORE FILLINGS

Hardcore filling shall be composed of old portland cement, concrete, stone etc., all broken to a maximum size of 3". Before concrete is poured the hardcore shall be thoroughly consolidated, and the surface binded with fine broken stone.

CONCRETOR

1. GENERAL

No concrete shall be poured until excavations have been inspected and approved by the Building Supervisor.

2. MATERIALS

All aggregates shall consist of natural sands or gravels, crushed stone or other suitable materials. They shall be hard, strong and durable, and shall be clean and free from vegetable or saline matter, earthy or adherent coatings.

Fine aggregate shall be of such size that it will pass through a 3/16 B.S.S. sieve and no more than 5 per cent by weight shall pass a No. 100 B.S.S. sieve.

Coarse aggregate shall be of such size to be retained on a 3/16" B.S.S. sieve and shall pass through a 1" B.S.S. sieve not more than 5 per cent shall be retained on a 3/4" B.S.S. sieve.

The grading of aggregate between the stated limits shall be such as to produce a dense concrete.

All cement shall comply with N.Z.S.S. No. 43 and shall be properly stored at the site and adequately protected from dampness.

Water shall be free from salt, vegetable or organic matter, in solution or suspension. Water from Local Authority mains is acceptable.

3. REINFORCEMENT

Reinforcement shall consist of round mild steel rods, complying with conditions and tests embodied in N.Z.S.S. 197, accurately fabricated and fixed in position. Hook ends of all rods and lap at least 40 diameters, all laps and intersections being bound together with No. 16 gauge black iron wire. Bend all horizontal rods not less than 2'0" around angles.

Reinforce concrete as follows:-

Foundation Walls	- 3 - $\frac{1}{2}$" rods. 2 at bottom and 1 at top)	
Porch Slabs	- 3/8" rods at 12" centres both ways)	see
Hearths	- 3/8" rods at 12" centres both ways)	details
Chimneys	- Reinforced as detailed)	

B.R.C. and H.R.C. steel mesh may be used in certain positions if approved by the District Building Supervisor.

4. CONCRETE MIX

All materials are to be measured by volume.

Concrete shall be mixed in the proportions of 1 part cement 2 parts fine aggregate to 4 parts coarse aggregate and each cubic yard of concrete shall contain not less than 450 lbs of cement.

5. FORMWORK

When constructing the formwork, form all openings and chases necessary to accommodate air ventilators, flashings, conduits, waste and vent pipes.

6. FOUNDATIONS

Foundations shall conform to the detail drawings in all respects. Pour continuous concrete foundation walls to all houses with stepped foundations and houses having tiled roofs or stucco external sheathing. In all other cases profile foundations with concrete corner walls may be used. Unless otherwise specified in "Notes to Contractors" or "Addenda" Note: Where site is suitable and approval given by District Building Supervisor, tile roofs may have profile foundations as specified.

All piles shall be concrete set at least 12" into solid ground having 2 strands of No. 8 gauge galvanised wire cast 6" into and 9" out of the pile. Where piles are to be reinforced they shall have a 3/8" diameter mild steel rod running throughout their length. Internal concrete piles shall extend up to underside of sleeper with a maximum height of 3'6" above ground level. Where the height exceeds 3'6", piles not less than 12" above permanent ground level shall be placed to support jack framing. Space piles at not more than 4'6" centres under sleepers.

Piles shall be as follows:

Poured in situ:	Position
(a) 8"x 8" as detailed	Exterior piles. Profile foundations
(b) 8"x 8" with 12"x 12"x 6" footing	Supporting interior bearing partitions.
(c) 8"x 8"	All other interior piles.
or Precast	
(a) 8"x 8" on 12"x 12"x 4" Concrete pad.	Exterior piles. Profile foundations.
(b) 8"x 8" on 12"x 12"x 8" Concrete pad.	Supporting interior bearing partitions.
(c) 8"x 8" on 12"x 12"x 4" Concrete pad.	All other interior piles.

Where pumice precast piles are used, they shall have a crushing strength of not less than 1000 lbs. per cubic inch.

Precast piles may be tapered and reduced to not less than 36 square inches in area at the top. All precast piles more than 2'6" long shall be reinforced.

For continuous concrete foundation walls carry the concrete 12" deep across opening to form sill to access door.

7. BASE WALL VENTILATOR OPENINGS

Form ventilator openings 12"x 9" in continuous concrete foundation walls at a distance of 3'0" from end of each wall and spaced at intermediate points at 6'0" centres maxium. Set in approved vermin proofed ventilators slightly recessed.

8. BRICK BASE OR FULL BRICK VENEER

Build in 9"x 6½" vermin proof precast concrete ventilators at 4'6" centres maxium and 3'0" from corners.

9. CONCRETE BLOCK BASE OR CONCRETE BLOCK VENEER

Build in purpose made approved vermin proof block ventilators at 4'0" centres and 3'0" from corners.

Ventilator openings to open verandahs and concrete porches shall be piped through to under floor with 6" diameter E.W. pipes. Finish with ventilators on outside face.

10. BOLTS AND FIXINGS

Build into concrete foundations where required to fix wood plates, $\frac{1}{2}$" diameter wrought iron bolts complete with nuts and washers, or 3/8" diameter rods.

Place 3/8" diameter hooked rods or 1/2" diameter bolts, extending at least 8" into concrete, 6" from angles of walls, and not more than 4'0" centres at intermediate points, with a minimum of two bolts or rods in any plate. Build in dovetail Ht. Totara fillets to external wall foundations and piles for fixing base wall battens.

11. CHIMNEY BLOCKS, ENTRANCE STEPS, PORCH FLOORS AND COPPER BLOCKS

Shall be solid and poured in situ (approved rubble fillings may be used). Porch floors and steps to be graded to an even and consistent fall to drain storm-water. Alternatively porch floors, copper blocks and hearths may be supported on 2 base walls 4" thick or 8"x 8" blocks (see details) so arranged that the reinforcing shall span the shortest distance. Form upstands to porch floors as detailed.

Reinforcement to base walls shall be as for foundation walls. Reinforcement to porch floor, block and hearths shall be 3/8" diameter rods spaced at 12" centres both ways, and turned down 9" into bearing walls as shown in standard details.

Concrete steps generally shall be constructed with treads 12" wide and risers a maximum of 7" in height and foundations taken not less than 6" into ground.

All concrete surfaces which are to be plastered shall be cross-combed to form a key for plaster.

For finish to concrete floors and steps, see under "Plasterer".

12. CONCRETE FLOORS

Concrete floors to toolsheds, basement laundries and pump-boxes shall be 3" thick unreinforced and finished at time of screeding with a dusting of 1 to 1 cement and sand, steel trowelled to a smooth even surface.

Subdivide floors with expansion joints into sections not exceeding 25 square feet, nor more than 6'6" in any direction. Form 12" high concrete upstand to margins of floor slabs in basements.

13. CONCRETE BASES TO TANK STANDS

The concrete base to tank stands shall be 4" thick. Plates shall be secured to upstands with 6"x $\frac{1}{2}$" bolts with malthoid under. The concrete floor to tank stand shall be as shown on detail.

14. INSTALLATION OF INCINERATOR

Concrete block to stand out 12" past front of incinerator and to be supported on a hollow core or hard core foundation, or alternatively on 2 precast piles.

CARPENTER AND JOINER

Note: Tenderers shall base their tenders on the kind and quality of timber as shown in the Schedule of Timbers for the various uses permitted and shall note that substitutions within such schedule will involve no variation to the contract sum.

1. WORKMANSHIP

The whole of the work shown on the drawings and described in the Specification shall be done in the best and most approved trade manner.

All joinery is to be constructed according to the best known methods of joinery woodwork.

The whole of the building is to be properly framed, and the various sections securely spiked together to the satisfaction of the District Building Supervisor. All framing timber shall be of the full size specified, cut true and square. Plates and sleepers shall be halved together at all joints, which in all cases shall be over solid bearing. The roof framing must be securely supported before the roofing material is laid.

Extra nailing shall be used for fixing Pinus Radiata framing timbers than for indigenous timbers to the satisfaction of the District Building Supervisor.

2. QUALITY AND KIND OF TIMBERS

Grade all timber according to N.Z.S.S. 169 and amendments (National Grading Rules). Timber is to be straight and in long lengths.

(a) Indigenous Timber:

Before being built in, all indigenous framing timbers are to be reasonably well seasoned and any which is delivered to the site in an unseasoned condition shall be open stacked, until suitably seasoned to the satisfaction of the District Building Supervisor.

(b) Pinus Radiata:

Pinus Radiata is to be in accordance with the gradings defined in the National Grading Rules (N.Z.S.S. 169 parts 7 and 8). Pinus Radiata No. 2 framing grade may be used as shown in schedule of timbers.

Framing timber shall be dried before erection to a moisture content not exceeding 25% based on oven dry weight and any timber delivered on the site exceeding 25% to be strip stacked clear of ground and covered to prevent decay or sap-staining.

(c) Treated Timbers:

Timbers treated with an approved preservative process in plants licensed by the Timber Preservation Authority involving the use of pressure or vacuum and pressure to ensure substantially complete penetration of the timber. Treated timber must be adequately seasoned or air dried after treatment before fixing, particularly in regard to dressed timber.

(d) Seasoning:

All timbers are to be seasoned to a moisture content appropriate to the end use of the timber concerned.

Note: The Contractor is referred for guidance as to moisture content to N.Z.S.S. 632, Code of Practice for Kiln Drying of Timber.

The Contractor must satisfy himself that all timbers are properly and adequately seasoned at the time of building in. He shall take all necessary steps to ensure that this conditioning is attained and that completed work remains stable and free of movement, shrinkage, warping, etc., to the Supervisor's satisfaction.

Any defects due to subsequent movement or shrinkage of the timber shall be entirely the responsibility of the Contractor and must be made good at his expense.

If the Supervisor considers that the stage of seasoning prescribed has not been reached at the time of use, he may draw the Contractor's attention to the necessity of further seasoning.

(c) Joinery and Finishing Timbers:

Before machining all joinery and dressing timbers shall be properly seasoned by air or kiln drying to a moisture content of 12% to 18% based on oven dry weight.

All joinery, kiln dried timbers, dressed and finishing timber shall, at all times, be protected from the weather. If these timbers should inadvertently become wet they must be thoroughly dried.

3. SCHEDULE OF TIMBERS

The sizes, quality etc., of timbers, unless otherwise shown or specified, are to be in accordance with the following schedules. Any variation from this schedule must be to the satisfaction of the District Building Supervisor:

Designation	Sizes	Quality
Sleeper plates and sleepers	4"x 3"	(B.A.Heart Rimu or B.A.Heart
" " on Cont. Concrete	4"x 2"	(Matai or Pinus Radiata treated No. 1
Bottom plate to jack studs	4"x 2"	(" " " " "
Foundation braces	4"x 3"	(" " " " "
Jack studs interior	4"x 3"	(" " " " "
Jack studs exterior	4"x 2"	(" " " " "
Floor Joists B.A.Heart Rimu or B.A.Heart Matai		**Floor Joists Radiata Pine No. 1**
Spans up to 5'0" at 18" centres	4"x 2"	Spans up to 5'6" at 18 centres 5"x 2"
" " " 6'6"	5"x 2"	" " " 6'6" " " 6"x 2"
" " " 8'0"	6"x 2"	" over 6'6" at direction of District
" " " 9'6"	7"x 2"	Building Supervisor.
" " " 10'6"	8"x 2"	
" " " 12'0"	9"x 2"	
" " " 13'6"	10"x 2"	
" " " 17'0"	12"x 2"	
Trimmer joists of same depth but 1" thicker		
Herringbone strutting to joists of greater depth than 7"	2"x 2"	At maximum 6'0" centres
Bottom wall plates	4"x 2"	(B.A.Ht Rimu or B.A.Heart Matai
		(Radiata treated No. 1
Top wall plates	4"x 2"	(B.A.Rimu or Pinus
		(Radiata treated No. 1
Studs external	4"x 2"	" " " at 18" centres
Studs interior	4"x 2"	" " " at 18" centres
Ceiling joists	4"x 2"	" " " at 18" centres
Dwangs internal	4"x 2"	" " " at approx 2'0" centres
Dwangs external	3"x 2"	" " " at approx 2'0" centres
Studs to openings over 3'6" wide	4"x 3"	" " " or 2/4"x 2" spiked
Ribbon Board	4"x 1"	" " "
Braces: External Walls	6"x 1"	" " "
Braces: Internal Walls	4"x 1"	" " "
Non-bearing studs	4"x 2"	" " " at 18" centres
Rafters - Ungauged Tile Roofs	4"x 2"	" " " at 18" centres
Rafters - Gauged Tiled Roofs	5"x 2"	" " " at 18" centres
Purlins	3"x 2"	" " " at 2'3" centres
Ceiling runners	6"x 2"	" " "

Under purlins to rafters (tiled roofs)	4"x 3"	(B.A.Rimu or Pinus (Radiata treated No. 1 set on edge
Under purlins to rafters (other roofs)	4"x 2"	" " " set on edge
Roof struts 4" x 3" and Collar ties	4"x 2"	" " " at 3'6" centres
	6"x 1"	" " " every alternate pair of rafters
Ridges and hips	8"x 1"	" " "
Ceiling dwangs	3"x 2"	" " " At 3'0" centres
Valley rafters	6"x 1½"	" " " Up to 15'0"
Valley rafters	8"x 1½"	" " " Over 15'0"
Valley boards	8"x 1"	" " "
Sarking	1" thick	" " "
Scribers	2"x ½"	Cedar, Redwood, Totara or tanalized white pine
Eaves bearers and stringers	3"x 1½"	B.A.Rimu or Pinus Radiata treated at each rafter.
Fascia board	8"x 1"	D.A.Heart Rimu, D.A.Heart Matai,
or	6"x 1"	D.A.Heart Totara.
Flooring	4"x 1"	T.& G. D.A.Heart Rimu, D.A.Heart
or	6"x 1"	Matai or treated D.A.Rimu, Matai, Kahikatea.
Flooring	4"x 1"	Treated Tawa.
External dressed timbers		(D.A.Heart Rimu or D.A. Heart Matai
Weatherboards	6"x 1"	(or D.A.Heart Totara or Tanalized D.A.
Baseboards	4"x 1"	(Rimu, Matai, Kahikatea or Cedar.
Battens (Asb.Cement sidings)		(B.A.Heart Rimu or B.A.Heart Matai
Bottom (splayed)	2"x 1¼"	(or Treated Radiata Pine
Others	2"x 1"	" " " " "
Battens (Tiles)	2"x 1"	B.A.Rimu or Matai treated
(No Tawa, Teraire, or Pinus Radiata battens allowed)		
Interior finishings		Dressed "A" Rimu

Note: All framing timbers shall be gauged to uniform widths and thicknesses.

Beam Schedule:

	Tile Roof Lintels		Other Roof Lintels	
	Native Timber Size	Pinus Size	Native Timber Size	Pinus Size
Spans to 3'1"	4"x 2") on flat	4"x 3" on flat	4"x 2") on flat	4"x 3" on flat
" " 4'6"	4"x 3")	2/4"x 2"	4"x 3")	4"x 3" "
" " 6'8"	2/5"x 2"	2/6"x 2"	5"x 2"	6"x 2"
" " 8'10"	2/6"x 2"	2/8"x 2"	6"x 2"	8"x 2"
" " 11'0"	2/8"x 2"	2/10"x 2"	8"x 2"	10"x 2"
" over 11'0"	2/10"x 2"	2/12"x 2"	10"x 2"	12"x 2"

NO. 2 RADIATA PINE:

Note Radiata Pine No. 2 may be used for the following purposes conditional upon the timber being treated, dressed or thcknessed. The timber is not required to be dressed four sides.

(a) 2"x 2" herringbone strutting.

(b) 4"x 2" studs for non-bearing partitions if dwanged at not greater than 2'3" centres.

(c) Bottom plates of non-load bearing partitions.

(d) Top plates of non-load bearing partitions if lintels are provided to transfer the load of the ceiling runners to at least two studs.

(e) 3"x 2" and 4"x 2" dwangs.

(f) 3"x 2" framing round bath.

Note: Where Pinus Radiata framing is used as a substitute in accordance with the above schedule any increase in the sizes of timber required or additional strutting shall be at the discretion and approval of the District Building Supervisor.

Check beams and trimmers of spans over 3'6" and not exceeding 6' 8" - $\frac{1}{2}$" into studs. Support beams exceeding 6'8" at each end on full length 4"x 2" studs spiked to general wall framing.

4. CEILING RUNNERS: B.A. RIMU:

When ceiling joists span up to 12' put in one runner. When ceiling joists span over 12' put in one runner, for every 6' of span, evenly spaced.

5. FINISH OF TIMBERS

With the exception of base wall battens, machine dress all external woodwork. Machine dress and sand, to remove all machine marks, all internal finishing timbers and joinery fittings and shelving, except mantelshelves and dresser tops which are to be hand dressed to a first class finish.

Unless otherwise detailed the backs of all internal finishing timbers are to be hollow run.

Remove all arrises, all rough or uneven patches, hammer marks, and other surface defects to the satisfaction of the District Building Supervisor before painting or staining is begun.

6. BUILDERS' IRONMONGERY

Provide all nails, brads, screws, metal clips, bolts and other sundry ironmongery required throughout the work. Nails for weatherboarding to be 3"x 10 gauge, and for flooring to be $2\frac{1}{2}$"x 12 gauge floor brads. All nails and ironmongery to be best quality and of size to the District Building Supervisor's approval.

All screws used externally or where exposed to the weather to be either galvanised or of solid brass. Use only galvanised nails and brass or galvanised screws in totara or redwood or cedar timbers.

See "Hardware" for hinges, lock sets and other special hardware.

7. WORK FOR OTHER TRADES

Cut for, attend on, and make good after all trades, and provide and fix all necessary bearers, dwangs and blocks for securing work of other trades and any access traps required by the Plumber or the Electrician. Dwangs for fixing taps and lavatory basin brackets shall be B.A.Rimu and not Pinus Radiata.

Keep to a minimum the cutting or checking of framing timbers for the accommodation of pipes, conduits etc., notching of joists in the middle third of the span is not permitted. Where possible bore the framing at the centre line of depth for such pipes.

Where plugs are necessary in brick or concrete work, use Rawl or other approved purpose made plugs. Where external access doors are provided under floors take special care to ensure that vermin will not pass from the basement to the upper levels of the building.

8. PROTECTION OF WORK

Protect material generally and all finished or partly finished work from weather or damage from any other cause. Protect floors and finishing timbers from discolouration and other surface injury. Make good any affected work to the satisfaction of the District Building Supervisor.

9. FORMS - FALSEWORK ETC. See under "Concretor".

10. DAMP-PROOF COURSE:

Between all faces of timber in contact with concrete or brickwork, place a full width, layer of approved damp-proof material of two or more ply standard manufacture.

DROPPERS

Droppers for base boards are required only if piles are spaced at more than 4'6" centres.

11. FOUNDATION AI. FLOOR FRAMING

Where continuous concrete foundations are used, fully bed sleeper plates on flat and fix by bending rods over them and securely stapling to same or by nuts and washers to bolts. (see "Concretor")

Where sleepers are borne on foundation piles (see under "Concretor") secure by wrapping the wire tightly around sleeper and stapling with three $1\frac{1}{4}$"x 10 gauge galvanised staples. Before fixing sleeper plates, the tops of piles are to be true and level. Joints to sleeper plates shall be made over piles, with a halved joint. Allow for 4"x 2" plate B.A.H. to be fixed round top of porch upstand and finished flush with floor joists as shown on detail.

Where the top of the floor joist is more than 5'3" above ground level, support the interior sleepers on jack studs, which shall be secured to 4"x 2" continuous bearer plates fixed to foundation blocks by two $1\frac{1}{4}$"x 10 gauge galvanised staples to each wire tie.

Where stepped concrete foundations are used for the external walls, they shall have 4"x 2" B.A.H.Rimu or B.A.H.Matai studs and bottom plates, and 4"x 3" B.A.H. Rimu top plates carried up to the underside of joists. Studs shall be spaced at 18" centres.

Brace all jack studs to the District Building Supervisor's satisfaction.

Gauge floor joists over stringers and sleeper plates to a uniform level, packing will not be allowed. Space at 18" centres. Floor joists which are not in one length between outer walls shall be jointed only over a support, and shall be lapped at least 12" to every third pair, well nailed from both sides with nails of sufficient lenth to pass through both timbers. All joists shall have a minimum bearing of 2". Provide two joists blocked at 24" centres, under all 4" partitions running parallel with floor joists. Where it is necessary to butt joints on stringers, the maximum bearing shall be $1\frac{1}{2}$". Double joists blocked or single joists with 4"x 3" blocks at 18" centres may be used in the exterior walls.

Trim all joists where required. Splay check all joists and trimmers to their supporting members.

12. WALL FRAMING

Any timbers enclosed with the foundations and exposed to ground atmosphere shall be heart or treated timbers. Ceiling heights shown on 1/8" scale drawings are between floor joists and ceiling joists in all cases.

Gauge all studs to a uniform width. Plates shall be in long lengths gauged to a uniform width and thickness and shall be halved together at all connection points. Joints are to be made midway between studs; all such connections are to be solidly supported on blocks off sleeper plates or dwangs between studs under top plate and nailed thereto.

Cut braces in flush with face of stud at an angle of approximately 45^{o}. In each unit brace all walls up to 15' long with one brace, from 15' to 35' with two braces. Where this bracing is not possible on short sections of external walls, cut 4"x 1" dog-leg into studs where directed. Where trimmer studs or other concentrated loads occur between supporting members, the plate shall be supported by 4"x 3" blocks.

Frame all external angles, except to brick veneer walls with 3 studs. Form angles to brick veneer walls with 2 studs blocked together at 18" centres and securely spiked. At angles and intersections spike walls together at not less than 18" centres, woodpacking blocks used as directed to secure the section together. To all lined walls, provide three rows of dwanging, dwanging to be fixed at equal centres. Fix blocks between studs to provide intermediate nailing of skirting. Dwang ceilings at 3'0" centres.

Window openings of 4'6" or more shall have 4"x 3" bottom trimmer. The framing of all exterior or interior bearing walls shall be completed before any tiles are placed on the roof. In addition provide and fix all bearings and dwangs required to accommodate the work of all trades.

13. ROOF FRAMING - Pitched Roofs

Set tile roofs to 32° pitch, reduced to 28 where shown on porches, etc. Set all other roofs to pitch as indicated on drawings but nowhere less than 12°. Rafters shall be in single lengths birds-mouthed over and securely spiked to wall plates.

Space rafters for tile roofs at 18" centres.

Hip and valley rafters shall be in single lengths. Where ridge boards are joined they are to be well spliced together, with 1" boards spiked on both sides. Provide under-purlins as previously specified and as detailed, set on edge, extending the full length of the roof under all rafters, and securely fix to gable walls at ends and mitre at hips.

Strut and brace all roofs with 4"x 2" material at 3'6" centres to under-purlins; secure all struts and braces to a 4"x 2" bearer plate fixed to ceiling joists over bearing partition walls. Fix 6"x 1" collar ties to alternate pair of rafters. Fix 6"x 1" hanger from ridge to collar ties. Brace all gable ends by carrying 4"x 2" struts to 45° from gable pieces to bearer plates over bearing partitions. Framing shall be fixed not less than 1" clear of the chimney shaft.

For pitched roofs cover with standard corrugated iron of approved manufacture. Space rafters at not more than 2'6" centres. Intermediate purlins 3"x 2" shall be fixed at not more than 2'3" centres. See page 29 "Corrugated Iron Roofs" for fixing.

Note: All roofing material to be nailed into 3"x 2" purlins.

14. EAVES AND GABLE FINISH

All finishing timbers shall be as shown in Schedules. Line eaves soffit with 3/16" plain asbestos sheets covered at joints with dressed or asbestos battens fixed close alternatively 3/16" tempered hardboard may be used. Finish eaves to roofs as detailed with 1½" scotia and ¼" round moulding. Alternatively fascia boards may be grooved to receive soffit lining and ¼" round may be omitted.

15. CEILING FRAMING

Space 4"x 2" ceiling joists at not more than 18" centres.

Ceiling joists which are not in one length between outer walls shall be jointed only over a support, and shall be lapped at least 12" to every third pair, well nailed from both sides with nails of sufficient length to pass through both timbers. All joists shall have a minimum bearing of 2" on intermediate partitions and a minimum of 4" on exterior walls and well spiked together at laps and wall plates, and where possible to rafters. Joists shall be run at right angles to ridge.

Secure joists spanning more than 8'0" to ceiling runners previously specified by 1½"x 1½" hangers well spiked to each member. The ceiling framing shall not be suspended from or strutted to roof timbers. Ceiling joists to porches, etc. of spans less than 4'0" may be of 3"x 2" material. Ceiling dwangs at 3'0" centres.

16. HERRINGBONE STRUTTING AND DWANGING

Herringbone strut or dwang joists 8" or more deep at not more than 6'0" centres and for their full depth.

17. BUILDING PAPER

Where required by local building by-laws or provided for in "Notes to Contractor". All exterior walls to be finished with weatherboards or vertical board and batten, shall be covered from top plate to sleeper place and to the tops of gables with an approved saturated building paper weighing not less than 30 lbs per roll of 500 square feet.

Fix paper horizontally, lap not less than 2" at all joints and secure along all edges and at intermediate points with galvanised clouts spaced at not more than 12" centres.

18. SHEATHING TO EXTERNAL WALLS

Weatherboarding:

Weatherboarding shall be in accordance with schedule in long lengths, shall be 6"x 1" bevel back, fixed with not less than $1\frac{1}{4}$" lap, or rebated type. Bore butts for nailing.

Where treated tawa is used for external sheathing it shall be limited to 6" in width and having $1\frac{1}{2}$" lap.

Weatherboards to be gauged to show a uniform width and lower face edge to be arrissed.

Joints are to be staggered mitred at 45° and double nailed, internal angles scribed, and all set in thick lead and oil paint.

External angles shall be finished in either of the following ways:-

(a) Bevel-back weatherboards shall be accurately mitred and set together in thick white lead and oil.

(b) Bevel-back and rebated weatherboards shall be close butted (no short-cut boards will be allowed). Angles shall be covered with angle boxes and scribers. Angle boxes shall be constructed with 4"x 1" and 3"x 1" full length timber.

(c) Gal. or copper soakers may be used.

Asbestos Cement Flat Sheets:

Fix 3/16" thick asbestos cement sheets complying with N.Z.S.S.282 vertically to walls with $1\frac{1}{2}$" gal. flat headed nails. Joints to be covered with D.A.H. grade battens of Rimu or Matai, stagger nailed at 12" centres. Sheets secured at all edges to studs or dwangs and nailed at 4" centres and at intermediate points on the face of sheets to hold sheets flat and true. External and internal angles finished with purpose made asbestos cement mouldings.

Asbestos Cement Sidings:

Fix 2"x 1" battens as scheduled to external face studs. All as shown on detail.

Cover the whole of the exterior walls to be sheathed with sidings with 12" wide continuous strips of one ply bituminous fabric, fix all horizontally with lapped joints to face of battens with galvanised clouts at 12" centres.

Cover walls with approved wavy edged 3/16" thick asbestos cement sidings lapped $1\frac{1}{2}$" fixed with $1\frac{1}{4}$"x 12 gauge galvanised flat headed nails.

Keep courses to a true horizontal line and stagger vertical joints.

Cut the top row when necessary, to allow a uniform lap of $1\frac{1}{2}$" on all rows. Off-cuts may be used on hip roof houses only, as the top course, showing a straight edge finish.

Part sidings may be used, provided that the horizontal length is not less than half a full siding.

Finish external angles with purpose made galvanised iron angle flashing or purpose made wood mouldings. Note: Wood angle stops to be primed four sides and given one coat of finishing paint before fixing sidings.

External Plaster Work on:

(a) Cement Board or Flat Asbestos Cement Sheets:

Foundations: See under concretor.

Ventilation:

Framing to be continuously ventilated with 3/4" drilled or checked openings in plates and dwangs between all studs with vermin stop protection.

Saturated Felt:

The whole of the exterior walls to be covered with 2 ply saturated felt to have not less than 3" horizontal lapped joints.

Cover the whole of the felt with cement plaster board $\frac{1}{2}$" thick of approved brand or alternatively flat asbestos cement sheets all joints to be on either studs, plates or dwangs securely nailed with galvanised nails at 6" centres on edge of sheets and 12" centres to dwangs. All angle sheets shall extend the full thickness of return boarding so that solid corners will be formed.

Note: For gal. iron flashings to window and door frames etc. see Plumber Page 33.

Wirenetting:

Cover whole surface to be plastered horizontally with $1\frac{1}{2}$" mesh by 17 gauge galvanised wire netting, properly stretched, lapped 1" at edges and 6" at ends and all angles and secured over the No. 6 wire or spacers to framing with galvanised staples. Netting shall not be lapped nearer than 18" to any angle. Netting shall be trimmed into rebates of window and door frames, over top of flashing and properly secured. Additional strips of wire netting 3'x 1'0" shall be fixed diagonally to studs at an agle of 45° at all angles of door, window and other openings.

As an alternative to the above $1\frac{1}{2}$" mesh, welded fabric up to 2" mesh may be used. The netting shall be taken around all external angles and bent neatly round all internal angles. On each external corner a strip of wire netting not less than 3'0" wide must be fixed full height, and secured to the first stud from angle stud. Carry out any other work required to leave whole ready for plaster.

Note: Wirenetting may be applied by "Plasterer". See "Notes to Contractor" and must be inspected by the District Building Supervisor before plaster is applied.

(b) Diagonal Boarding:

All exterior walls shall be covered with 6"x 3/4" boarding spaced 2" apart, and nailed to outside of all framing with 2 nails to each stud and at ends, sloping at 45° with highest point of each board at angles of building. All butts scattered, and cut at 45° to give full bearing on studs.

Cover whole area over boarding with high grade flexible untearable bituminous felt. (On no account shall "Sisalcraft" be used). Felt shall be secured to boarding with gal. couts, having 2" side lap and 6" end lap, and fixed perfectly flat. No material torn or damaged shall be used. Over underlay fix lengths of No. 6 galvanised wire vertically at stud centres, at all angles and wherever else required to keep netting clear of underlay.

Alternatively:

Short metal or wood spacers behind all netting may be used in lieu of No. 6 gal. wire. Wire shall be secured with heavy galvanised staples spaced to approval.

Flashings:

All openings to be flashed in approved manner with 26 gauge galvanised iron or copper. See under "Plumber".

Vertical Board and Batten:

Vertical board and batten work shall be constructed with 1" boards not less than 8" nor more than 12" wide, grooved on the front edges. Cover joints with 2"x 1" battens. Nail boards through one edge only and clench nail on the other. Nail battens through the centre between boards. Scribe the lower ends of boards and battens where these are shown finishing on to weatherboard sills. In board and batten work finish round window frames with battens mitred at angles.

(c) Base Boards:

Base boards are to be dressed 4"x 1" arrised on edges with a 2"x 2" fixed vertically at mid span, and braced off floor framing with a 3"x 1" set at approximately 45°. All as detailed.

Where sloping sections are used, the maximum number of base boards shall be limited to five with an overall hight of 2'2".

19. WINDOWS

Construct all frames strictly in accordance with detail drawings. All jambs, sills, mullions and mouldings etc., to be run in accordance with N.Z.S.S.496 profiles of moulding and joinery.

Sills shall be D.A.heart grade of Matai, Totara or Rimu. To sills resting on brickwork, fix full length Heart Totara fillets pointed with mastic and finished with mortar. Styles mullions and heads shall be D.A. heart grade of Rimu, Matai or Totara or other approved treated timber. Under exterior sills fix suitable 7/8" quarter round cover mould.

Set sills resting on timber on accurately fitting blocks 2" thick spaced at not more than 18" centres. Where corner windows occur, mitre the sill at angle.

Window Sashes:

Construct all sashes of clean heart Totara, Redwood or Cedar. Sashes are to be of sizes shown on 1/8" scale drawings.

All Redwood and Cedar sashes shall be fixed with gal. $2\frac{1}{4}$" rose-head nails.

Provide and fix "whitco" sashes to sizes shown on plan and to detail drawings.

External French casement doors shall be of width shown on drawing, rebated at meeting styles when opening in pairs. Timber grades for styles, rails, sills etc., shall be as for windows.

When shown on 1/8" scale drawings or asked for in "Notes to Contractor" construct double-hung frames and sashes with timber as specified above. Provide and fix spiral balances of suitable sizes as recommended by the manufacturer.

20. DOORS AND DOOR FRAMES

Construct all doors to comply with N.Z.Standard Specification for doors N.Z.S.S.1158.

External Door Frames:

Sills shall be of D.A. heart grade of Rimu, or Matai, and styles and heads shall be of D.A. heart grade of Rimu, Totara or Matai or approved treated timber. Insert full-width full-depth packings under sills, to prevent entry of vermin.

Where front entrance doors are shown with side lights, construct the whole frame as a single unit with double rebated throated and grooved mullions out of 5"x 3".

Internal Door Frames:

To be D.A.Rimu either out of $1\frac{1}{2}$" thick solid rebated material or out of 1" thick material with full-width $\frac{1}{2}$" thick planted stops.

Doors:

External entrance and storm doors shall be out of D.A.H. grade of Totara, Rimu or Matai or approved treated timber. All interior doors shall be D.A.Rimu or dressing grade Pinus Radiata hollow core, faced both sides with No. 1 grade Rimu plywood. Flush doors shall have a $\frac{1}{2}$" clashing strip on lock stile. Glazed interior doors shall be used only where indicated on plans, or "Notes to Contractor".

Note: All cores to internal doors shall be of approved treated timber.

Sizes and Types:

Front Doors and Front Entrance Storm Doors:

6'6"x 2'10"x 1.11/16" Four panel glazed or to approval. Type 6

Rear Entrance Doors and Rear Entrance Storm Doors:

6'6"x 2'8"x 1.11/16" Framed ledged with glazed top panel or framed ledged type. " 5A

Laundry Doors:

6'6"x 2'6"x 1.11/16" Framed ledged type. " 5

Linen Cupboard, Wardrobe and Coat Cupboard Doors:

6'6"x 2'2"x 1.11/16" Flush Panel. " 2

Note: Doors will be required to coat cupboards only when shown on plans.

Interior Doors:	6'6"x 2'8"x 1.11/16" (flush panel))	
Bathroom Doors:	6'6"x 2'6"x 1.11/16" " ")	Type 2
Interior W.C. Doors:	6'6"x 2'2"x 1.11/16" " ")	
Other W.C. Doors:	6'6"x 2'2" frame ledged braced and treated.	
(Detached E.C. Doors: (and Toolsheds	6'6"x 2'6" ledged and braced T.G. & V. treated.	

Where the rear entrance door leads directly from porch to kitchen the inner face shall be lined with 3/16" No. 1 grade plywood or Pinex hardboard, flush with frame.

Where external and internal casement doors are indicated on plans they shall be in pairs 6'6"x 5'0" wide out of D.A. Rimu. Interior doors shall have glazing beads and moulded and rebated meeting styles.

Access Doors:

Provide an access door in position where directed in external continuous foundation wall and doors to tank stands. Construct the door and frame of D.A. heart grade of Totara or Matai. The door shall be 2'0" in width by full practicable height, ledged, braced and vertically sheeted with 4"x 1" V-jointed T. & G. heart timber, and hinged to swing inward, to solid rebated frame out of 4"x 2". A wood sill will not be required.

Where battened foundations are used provide ledged door hung on 6" galvanised T. hinges. Alternatively provide suitable access door in floor where directed.

21. FLOORING

Flooring shall be in accordance with schedule and shall comply with N.Z.S.S.495. "Profiles of flooring, weatherboards and matchlining". Flooring shall be in long lengths, cut hard against plates, and layed continuously under all 3" partitions, cupboards, baths and fittings throughout with butts well scattered, cramped up tightly and nailed to joists with two brads at each bearing; lines of boards and brads shall be straight and parallel; bore butts. Punch all brads below surface. Fix 2" mitred margins to hearths and concrete floor slabs. All by-wood shall be removed. The use of end matched flooring will be permitted.

Before laying flooring, remove all shavings, pieces of wood, and all trade debris of every kind from under the floor joists.

Floor Sanding:

With No. 1½ paper, machine glass paper to approval all floors with the exception of wardrobes and cupboards, but including coat cupboards. Paper floors with the grain. When treated D.A.Rimu flooring is used, clean floor in two operations. The first paper shall be No. 1½ the second shall be No. 0. If machine papering cannot be carried close up to skirting finish off by hand.

22. FRONT ENTRANCE PORCHES

All houses sheathed with weatherboards shall have recessed porches lined with weatherboards unless otherwise specified in Notes to Contractor. Houses sheathed with masonry or other permanent material shall have porches lined with ¼" asbestos porch panel, ¼" asbestos or ¼" tempered hardboard fixed to treated 6"x 1" hit and miss sarking and battened with suitable cover battens.

Alternatively porches for masonry veneer may be lined with ship lap heart or treated vertical boarding and battened. Cover joint between masonry and timber linings with suitable cover battens.

Where shown on drawings porch roofs to be supported on 2½" G.W. iron pipe.

Rear Porches:

To give maximum width rear porches may be lined with ¼" asbestos porch panel, ¼" flat asbestos sheets, or ¼" tempered hardboard fixed to studs. Fix suitable cover battens. Cut in between studs immediately above bottom plate fix 8"x 1" dwangs to provide protection from damage to asbestos lining.

Projecting Porches:

All projecting porches except where shown as brick, line as for rear porches.

23. TRELLIS

Where trellis is fixed between piers or wood posts it shall be out of 2"x 1½" material. All timbers used for trellis shall be D.A. heart grade of Totara or Rimu, and all nails shall be galvanised.

24. INTERNAL LININGS

Line all walls and ceilings as scheduled in addenda or specified in "Notes to Contractor".

Gibraltar Board:

Gibraltar board shall be 1st grade 3/8" thick. Fixed and stopped as specified for fibrous plaster. (See under "Plasterer").

Where specified to be enamelled or in wardrobes and coat cupboards with doors, joints shall be covered with approved cover battens.

Fibrous Plaster:

Fibrous plaster shall be 3/8" thick wall quality, with joints pointed flush (see "Plasterer"). Ceilings and walls to be left unpapered shall be lined with "Ceiling" quality fibrous plaster.

Ceilings:

Unless otherwise specified, line ceilings with ½" first grade Pinex board. Fix with 1½" panel pins driven in pairs skewed to form a dovetail at not more than 12" centres on the face of the sheets. Joints between sheets shall be covered with approved moulded or 2" battens. All cornices including those required to linen cupboards, wardrobes and coat cupboards shall be a 1½" scotia mitred at external angles and scribed at internal angles. Ceiling joints in wardrobes and cupboards shall be covered with half round battens on face of sheets.

Porch Ceilings:

Line porch ceilings with 3/16" flat asbestos cement sheets or 1/8" temptered Pinex hardboard. Fix 1½" scotia cornice and half-round cover battens to jointing.

Notes: To external angles of all rooms lined with Gibraltar Board or fibrous plaster, fit a $1\frac{1}{2}$"x 3/8" D.A.Rimu stop finished with rounded edge.

Pinex Hardboard:

May be used for walls and ceilings not intended for papering. It shall be fixed with 1" panel pins set at approximately 60° and driven in pairs to form a dovetail at 8" centres round edges of sheets and at 12" centres on face of sheets. Joints shall be spaced 1/8" and covered with half-round moulding.

Note: Pinex shall not be used for wall linings.

Dado:

Supply and fix hardboard 3 ply or other approved material 4'0" high, dwanged at intersections of Gibraltar board and hardboard. Fix 2 rows of dwangs at equidistances from dado line to floor. Cover vertical joints as specified for hardboard and cover intersections of Gibraltar board and hardboard with $1\frac{1}{2}$" bevel and rebated moulding.

25. SHOWER BOX

Where requested in addenda construct shower box to detail. See plumber for fixing tray and waste etc.

26. ACCESS DOOR IN CEILING

In laundry ceiling or where directed provide a 24"x 20" access door to roof. Frame door out of 1" material and sheath with typical ceiling materials. Provide 3/4" lining, 1/2" planted stops, and finished round margin with 1" half round mould mitred at angles.

27. KITCHEN FITTINGS See details.

Kitchen Dresser:

Construct dresser of the size shown on detail drawings, out of 1" timber. The bench top is to be out of 1" material with exposed edges rounded, finished at interior with 5/8" half round.

Drawers shall have dovetailed fronts out of 1" and sides and backs out of $\frac{1}{2}$". Bottom shall be 3/16" thick plywood grooved into sides and shall have hardwood strip glued hard against bottom and side.

Kitchen Cupboard Doors:

Frame kitchen cupboard doors out of 2"x 3/4" timber with cross rails spaced at not more than 15" centres, sheathed flush on both sides with 3/16" thick No. 1 grade Rimu three-ply or Pinex hardboard to finish 1" thick. Sink cupboard doors to be similar in all respects. Alternatively approved grade coreboard may be used.

Sink Bench:

Provide Formica or stainless steel sink top. Construct sink bench front to size shown on plan. All material to be out of $1\frac{1}{4}$" thick D.A.Rimu.

Bottom shelving shall be out of 4"x 1" T.& G. D.A.Rimu flooring and intermediate shelf shall be out of 1" thick D.A.Rimu.

Where there is a small space between the end of sink bench and wall, build this in with 1" material to height of sink top. Where this space is greater than 6" and not more than 18" build the top across and fix three open shelves. Where one end of sink bench is free standing, finish with 3/4" finished thickness end panel.

Hot Water Cupboard:

Where hot water cupboards are free standing frame up out of $1\frac{1}{2}$" thick D.A. Rimu material and sheath with 3/16" plywood. Top and bottom doors shall both be hinged. Make cupboard to allow for removal of cylinder and to give easy access to heating element. Around edges of ceiling, bore not less than 10 1" diameter ventilating holes. Fix three loose shelves out of 1" material. The slats to shelf immediately above cylinder shall be spaced $\frac{1}{2}$" apart. All to detail. Where hot water cupboards are built into framing, frame up with 3"x 2" framing and line with Gibraltar board or fibrous plaster.

Alternatively provide a false panel, immediately in front of cylinder and full width of cupboard, secured with a screwed cover batten.

Food Safe:

The bottom shall be out of 1" T. & G. D.A. Rimu flooring.

Provide and fix food safe in position shown on plan and as shown on detail.

Where food safe is shown on interior wall provide and fix ventilation to floor and ceiling.

Where safe is shown to exterior wall louvre shall be fixed as shown on plan.

Cover vents or louvres with approved flyproof non-ferrous gauze and secure with $\frac{1}{2}$" cover beads.

Doors shall be fitted in solid rebated jambs or shall have 1"x $\frac{1}{2}$" stops around inside to prevent the ingress of flies. All as shown on detail.

28. BATHROOM CABINET

Make a bathroom cabinet between studs 2'0"x 1'4".

Frame door out of 2"x 1", and fix mirror and 3/16" plywood back secured with wood beads (see under "Glazier"). Finish around cabinet at intersection of wall with 1/2" quarter-round beads. All as detailed.

29. WARDROBES

Finish wardrobes internally with a full-length shelf out of 12"x 1" at a neight of 6'0" above floor.

Provide a 3/4" gal. pipe supported at ends on neat wood fillets 2" below upper shelf. Provide and fix four hat and coat hooks. (see "Hardware").

30. COAT CUPBOARDS

Provide top shelf as for wardrobes. In coat cupboard or recess provide and fix six hat and coat hooks. (see "Hardware"). Finish opening to coat recess with jamb linings out of 1" timber and finish with typical architraves on both sides.

31. LINEN CUPBOARD

Provide in linen cupboard five full length full depth shelves out of 1" material. Space shelves at 12" centres and support upon 2"x 1" ledges.

Note: All cupboards and wardrobes, except coat cupboards shall have battened joints with quarter round to all corners.

32. FINISH TO BATH

Omit cast-iron legs and support bath on two cradles out of 2" thick material. Frame up front and ends where necessary with 3"x 2" B.A.H. timber or approved treated timber on flat. Front shall be set to slope and lined as for walls. Finish the intersection of bath flanges and wall with 6"x 1" D.A. heart Rimu or approved treated timber skirting scribed accurately to bath, set in sealastic, mitred at angles, and finished with rounded upper edge and ends.

33. FINISHING TRIM TO DOORS AND WINDOWS

Finish external door frames in weatherboard houses with facings out of 3"x 1" D.A.H. Rimu and approved scribers. Alternatively provide 4"x 2" D.A.H. Rimu solid facing to be checked over weatherboards.

Internally finish door and window openings with architraves mitred at angles.

Finish all windows throughout with sill boards, of necessary width with external edges and ends slightly rounded, with mould or apron under.

34. SKIRTINGS

Skirtings shall be bullnose or plain splayed. Scribe skirtings accurately to floor and internal angles. Mitre at external angles.

35. MANTELPIECES AND FINISHING TRIM TO FIREPLACES

Mantel shelves shall be out of 2" D.A.Rimu. Side architraves to tile and terrazzo fireplace surrounds shall be out of $1\frac{1}{2}$" D.A.Rimu.

To all raised hearths, where required provide moulded wood kerbs 2"x $1\frac{1}{2}$" mitred at angles and scribed to wall finish.

Fix to all mantel shelves, sides of fireplaces, hearths of tile surrounds and raised brick hearths 7/8" quarter round.

36. SHELVING

In addition to the shelving specified to be fixed in sundry cupboards and fittings throughout, provide and fix 25' lineal of 8"x 1" minimum width shelving in the laundry.

Fix the shelving in lengths and position as directed by the District Building Supervisor and support upon wooden brackets in the solid or framed up out of 1" timber or upon stock metal shelf brackets, screw fixed to walls. Where open shelving is shown on the plans in kitchen or living rooms, construct it out of 1" materials with shelves secret housed to side linings.

37. WOOD SEATINGS FOR SUPPLY TANK IN ROOF

Provide in roof space where directed, for support of water-tank supplying hot water cylinder, three 4"x 2" joists placed across ceiling joists and immediately beneath the bearing bosses of the concrete tray and over main partition walls. Where copper supply tanks are used they shall be supported as above with the addition of close decking 4" wider than the tank. Where concrete trays are not available provide lined wooden trays.

38. SUNDRY INTERNAL FINISHINGS

Along back of wash-tubs and end, where against wall, provide a full-length rebated and bevel short skirting out of 6"x 1" secured to wall linings with galvanised nails or galvanised screws.

Where smaller type pumps are installed they may be housed under tubs in laundry. Provide and fit pair of core board doors complete with suitable fasteners.

To all fittings and at the back of bench tops, plant a $\frac{1}{2}$" quarter round wood fillet against wall.

Around edges of ceilings of all cupboards, wardrobes etc. fix typical $1\frac{1}{2}$" cornice mould.

39. DOOR STOPS

Supply and fix rubber door stops to all doors.

Trays for Lavatory Pedestal:

Where trays are required by Local Authority provide in accordance with the Local Body By-Laws.

40. FIXING OF SWITCHBOARD

Form recess for switchboard in thickness of interior or exterior wall as required by power boards. See also "Electrician". Line recess with 1" timber faced with a fire resistent material. Finish with architraves. Switchboard shall be hung on 2" surface hinges, bolted to panel, screw fixed to architraves. Fasten panel with two round head C.P. screws. Alternatively allow for purpose metal switch box, size to Local Power Authority requirements.

41. TANK STANDS

Where tanks are to be installed they shall be to sizes shown in the details and described as under:-

Concrete Base:

Concrete bases are to be to sizes shown in drawings and described under concrete work in the general specification. The concrete floor shall be 4" thick and floated to a smooth and even surface. (See under "Concretor").

Timbers: To be Heart or approved treated timbers.

Bottom Plates:

4"x 2" to be scarfed and to have 2 ply malthoid strip full width placed under, plates to be fixed down with 3/8" bolts or No. 8 Galvanised wire 3 ft. Crs.

Studs:

Openings to doorways and louvres shall have 4"x 3" studs. All corner and alternative studs to be 4"x 3". All other studs to be 4"x 2" and to be checked into plates, studs not to be more than 18" centres.

Top Plates: 4"x 3".

Joists:

All joists are to be 6"x 2", having a bearing over studs.

Decking:

Close board with 6"x 1" H.B.A. Sarking double nailed to each joist in contact, the overhang of the decking to be carried past the external sheathing so that the flashing or tray can be weathered over same. (see "Plumber"). The decking shall have 1" fall from one side to the other and decking shall be covered with 26 gauge gal. corr. iron to be painted before fixing tanks.

Bracings:

The whole structure to be adequately braced in accordance with standard details. Four tank stands shall have centre partition solidly braced with door to each section.

Exterior Sheathing:

Unless otherwise specified in "Addenda" or "Notes to Contractor". All tank stands shall be enclosed to match main dwelling and have access. See details.

HARDWARE

1. GENERAL

Provide and fix all hardware to complete the contract. See "Carpenter and Joiner", clause 6 for Builders' Ironmongery.

2. DOOR BUTTS, HINGES AND SASH BUTTS

Hang in accordance with the following schedule:

Item	Hinges	Screws
Base doors up to 4' high	1 pair 8" galv. T hinges	$1\frac{1}{2}$" x 9 gauge galv.
Base doors over 4' high	$1\frac{1}{2}$ pairs 8" galv. T hinges	" "
Other external doors	$1\frac{1}{2}$ pairs 4" x $2\frac{3}{4}$" galv. butts with loose pins	$1\frac{1}{4}$" x 9 gauge galv.
Internal doors	$1\frac{1}{2}$ pairs $3\frac{1}{2}$" x $2\frac{1}{4}$" antique copper on steel with loose pins	1" x 9 gauge antique copper
Kitchen cupboard doors	1 pair $2\frac{1}{2}$" galv. butts	$\frac{3}{4}$" x 7 gauge galv.
Lower cylinder cupboard doors	$1\frac{1}{2}$ pairs $2\frac{1}{2}$" galv. butts	" "
Side-hung sashes up to 4'5" high	1 pair 3" x 2" hot-galv. butts with fixed brass pins	$1\frac{1}{4}$" x 7 gauge galv.
Side-hung sashes over 4'5" high	$1\frac{1}{2}$ pairs 3" x 2" hot-galv. butts with fixed brass pins	" "
Fanlights	1 pair 3" x 2" hot-galv. butts with fixed brass pins	" "
Sliding doors	Approved tracks and runners	

3. DOOR AND WINDOW LOCKS, FASTENERS, FURNITURE, ETC.

Allow in tender the sum per house provided in "Notes to Contractors" for the cost only of all door locks, furniture, fasteners, socket bolts, cabin hooks, door stops and all sash fasteners, stays and fanlight openers; for drawer pulls and hat and coat hooks. Samples to be submitted for approval.

Door Furniture:

Fit doors with furniture in accordance with the following schedule. All door furniture to be metal and spring loaded lever type.

Item	Furniture
Front entrance door	Night latch and mortice latch or night latch and handle.
Rear entrance door	Mortice lock.
Interior doors	Mortice latch sets.
Bathroom door	Mortice latch and 3" socket bolt.
W.C. door	Mortice latch and 3" socket bolt.
Wardrobe doors	To wardrobes 2 ft. deep. Provide full latch sets.
Basement and toolshed doors	Rimlocks.
Cupboard doors	Cupboard catches.
Access doors to foundation	6" Padbolt (galv.)
Tank stand doors	6" Padbolt (galv.)
Sashes "Casement"	Telescopic Stay and wedge fastener.
" "Whitco"	Wedge fastener to style.

Fitting Chart for "Whitco" Type Sashes

Fitting Size	Max. Depth Sash
10" Standard	18"
12" "	22"
14" "	24"
16" "	27"
18" "	30"
20" "	33"

All door and sash hardware to be bronze unless otherwise specified in "Notes to Contractor".

Sash Furniture:

Sash fasteners, stays and fanlight openers shall be fixed with 1"x 7 gauge antique copper screws. All screws in totara or redwood shall be either brass or galvanised.

Fanlights and "Whitco" sashes 2' or more in width shall have two quadrant stays fitted, one on each stile. Under 2'0" shall have one quadrant fitted and wedge fasteners respectively.

4. FIRE GRATES

To each living-room fireplace provide an approved 16" wide Colonial-type grate, or a Crystal or similar approved grate, complete with ash pan.

5. COAL RANGE

Provide and fix complete with plate rack and register sheet, a 3'0" enamelled coal range of approved make and finish. Colour to be selected. See "Addenda" and "Notes to Contractor".

6. AUXILIARY WATER HEATER

(a) Incinerator:

When required provide and fix approved type incinerator, complete with all necessary fittings and damper length flue. Colour to be selected. See "Addenda" and "Notes to Contractor". To be installed as per detail. See "Concretor" for floor and slab.

(b) Wet Back to Fireplace:

When required provide and fix approved type wet back to fireplace. See "Addenda" and "Notes to Contractor".

BRICKLAYER

1. BRICKS

All bricks shall be of approved manufacture and conform to N.Z.S.S. No. 366.

Brickwork shall be of the following grades:

Grade A: All exposed work, including 12½% of slightly overburnt to give a pleasing variety of colour.

Grade B: External work plastered or painted.

Grade C: Enclosed chimney work.

2. MORTAR

Mortar shall be composed of:

(a) 1 part of cement to 3 parts sand, or

(b) 2 parts of cement to 1 part lime to 9 parts sand.

Lime shall be well mixed with the sand and water and allowed to stand for at least 48 hours before being used. Immediately before use gauge with cement.

No mortar which has become set or dead shall be used.

3. WORKMANSHIP

Build the whole of the brickwork as shown on drawings. Fully flush all joints with mortar. Carry up in even heights with no part rising more than 3'0" above adjoining work. Properly bond angles and intersections and keep all perpends true. Form all openings and chases necessary to accommodate ventilators, flashings, pipes etc. Well wet bricks before use.

4. BUILD IN

Securely build in all metal and other fittings as the work proceeds. Fully flush brickwork against fillets or window frames. (See "Carpenter" page 15).

5. WALL TIES

Secure brick veneer walls to the wall framing with No. 8 gauge gal. iron wire ties. Build in ties at 3'0" centres to every fourth course and at all angles, openings and ends of walls. Well bed ties into the brickwork and secure to studs with two 1¼" x 10 gal. staples.

Wire ties to be fixed in a rising position to studs.

6. JOINTS

Joints shall not exceed ⅜" in thickness. All joints in exposed facing brickwork are to be weather-struck as the work proceeds.

7. VERMIN PROOFING

Build in 4" wide strips of 4 mesh 19 gauge netting secured to bottom wall place with ¾" x 14 gal. staples and carried across cavity and taken 1" into brickwork rising to plate. Similarly, vermin proof all chimneys and similar places.

8. BRICK VENEER WALLS

Build brick veneer walls 1½" clear of the wooden framing, care being taken to keep the framing free from mortar droppings. Flush the mortar on the back of the walls as the work proceeds, and at regular intervals during the work clean the mortar droppings from the wire ties and vermin proofing.

9. CEMENT DAMPCOURSE

When brick walls are shown on drawings to be carried up from foundation slab. provide a 1" thick dampcourse composed of 2 parts approved waterproof cement to 1 part of sand at a height of not more than 3 courses above permanent grade level, unless otherwise shown on ⅛" scale drawings.

Lay all firebricks with not more than 1/8" thick joints in fire cement, the mortar being hammered in to finish flush with the surface.

Rake out joints as the work proceeds, to accommodate Plumber's flashings.

10. BRICK CHIMNEYS

Construct all chimneys strictly to detail drawings. Bed $\frac{5}{8}$" reinforcing rods from top of gathering to finish 3" from top of flue. Fully bed all rods in mortar. Build chimney stacks with end-slotted bricks where obtainable, and parge flues with 1-to-3 lime and sand mortar.

Where end-slotted bricks are not obtainable build chimneys with approved 9" internal diameter E.W. flue liners, wrapped with corrugated cardboard and secured with wire as shown on detail drawings.

Brickwork forming throat to flue is to be carried over in 9" work.

Weather the tops of chimney-stacks with 1 to 3 cement and sand mortar, steel trowelled to a dense smooth surface. With the exception of precast concrete chimneys finish all chimneys with E.W. flue liner to project 1" above flaunching.

All chimneys shall finish 2'0" above ridge line.

Render those portions of the chimney stack which pass within 3" of timber work.

Finish the offsets of external chimneys with either bricks set on edge or quarry tiles as directed, set in cement mortar to 60° pitch. Alternatively plaster same with 1 to 3 cement mix trowelled smooth.

11. BRICK FIREPLACES

Construct brick fireplaces surrounds with selected Grade A bricks. All joints shall be raked out as the work proceeds, and pointed at completion with coloured mortar. Flat brick arches to be supported on $2\frac{1}{2}$"x 3/8" wrought-iron bars cambered 1/8" with ends split and turned up and down into brick joints. Line fireplaces, in firebricks, and form hobs with fire-bricks set on edge. Bond fire-bricks to brickwork of jambs; leave back free but fill cavity in with clean fine shingle, finishing at top with 2" cement compo.

Finish hearths to brick surrounds with first quality 4"x 4" or 3"x 3" common red flooring tiles.

12. TILE FIREPLACE SURROUNDS AND HEARTHS

Allow a p.c. sum (see "Notes to Contractor") for the supply and fixing of tile surrounds and hearth with 16" grate and ashpan complete.

Fix surround to wall in tradesmanlike manner and wire 4 W.I. lugs to studs.

Supply and fix firebrick back in approved manner, see under "Brick fireplaces".

The bottom of kitchen range is to be kept up 3" above floor level on concrete base.

13. CLEAN DOWN FACE BRICKWORK

During construction and at completion, clean down all exposed face brick-work with weak acid solution and leave free from stains or defects of any description to the entire satisfaction of the District Building Supervisor. Take adequate precaution to protect the work from injury.

14. PRE-CAST CONCRETE CHIMNEYS

Precast pumice concrete chimneys shall be of approved manufacture constructed in accordance with N.Z.S.S.95 part 12 and as follows:

From hearth to top of flue the chimney is to be constructed with precast units with 3/4" minimum rebated joints; damaged blocks are not permissable. All joints are to be well filled with mortar and the flue left absolutely clean inside. Reinforce shaft from gathering to top of flue with four $\frac{1}{2}$" diameter rods, well grouted in.

Rods shall be placed and grouted when blocks have reached roof level. Vibrate rods to work the grout thoroughly into position, the remaining blocks to be threaded over rods and properly grouted. Alternatively rods may be lapped not less than 20" at ceiling level.

Note: All chimneys shall finish 2'0" above ridge line.

The fireplace opening shall be fitted with approved firebrick lining complete with hobs. Space behind firebricks is to be filled with fine shingle and sealed with 2" cement compo. All precast units are to be well wetted before building in.

CONCRETE BLOCK-LAYER

1. MATERIALS

Concrete Blocks:

Concrete blocks shall be "Vibrapac", or other equal and approved precast masonry units complying with the requirements of N.Z.S.S.595, Class A and special clauses of this specification.

Special Blocks:

Provide all necessary purpose-made special blocks, in addition to the standard units, high temperature steam cured, of good even quality, precise in form and dimension and without fractures or chipped corners and arrises.

Cement, Aggregates Water and Reinforcing Steel:

Cement, aggregates, water, and reinforcing steel shall be as specified under "Concretor".

Sand:

Sand shall be clean, sharp river or pit sand, predominantly coarse grained and of approved quality, free from loan, clay, dust, organic matter or other adherent coatings and shall be a size to pass a 1/10" mesh.

Lime:

Lime shall be an approved hydraulic lime. Alternatively, Plimortar or other approved compositions may be used in the proportions recommended by the manufacturer.

Mortar:

Mortar shall be mixed in the proportions of 1 part cement, $\frac{1}{2}$ part lime, and $4\frac{1}{2}$ parts sand ($1 - \frac{1}{2} - 4\frac{1}{2}$) and shall have a compressive strength of 1800 lbs per square in. at 28 days.

Concrete:

Concrete shall be Class I concrete as specified under "Concretor".

Grout:

Grout for filling masonry cavities shall be one part cement to two parts sand and two parts $\frac{3}{8}$" aggregate and shall attain a compressive strength of 1500 lbs per sq.in. at 28 days. The water/cement ratio shall not exceed $6\frac{1}{2}$ gallons of water per 94 lb. bag of cement.

Additives:

Additivies are not permitted in mortar, concrete, or grout unless it is established to the Supervisor's satisfaction that they will not materially impair the bond between the masonry units and the mortar, concrete or grout.

2. DAMP-PROOF COURSE

Damp-proof courses shall be composed of one part sand to two parts approved waterproof cement mixed to the manufacturer's instructions.

Damp-proof courses shall be 1" thick, continuous, and shall be located at a height not less than one complete block course above finished ground level or as shown on the drawings.

Mortar and grout below the level of the damp proof course shall have an approved waterproofing compound added in accordance with the manufacturer's directions, but strength shall not be impaired.

3. WORKMANSHIP

The work shall comply with the relevant requirements of N.Z.S.S. 95, Part 7 (Fire resisting construction and means of egress) and part 10 (Masonry buildings of bearing wall construction) and shall be properly co-ordinated with that of other trades.

Work shall be carried out by tradesmen skilled in concrete block construction in accordance with the best trade practice. Walls shall be erected true to line and plumb; blocks shall be level in regular courses properly bonded and bedded and jointed in mortar. Extreme care shall be taken to prevent mortar droppings. All formwork shall be made tight, and any concrete, grout, or mortar spilled on the wall shall be washed off before it can set.

4. CONCRETE BLOCK VENEER CONSTRUCTION

Bonding:

Where no bond pattern is shown, the wall shall be laid in straight uniform courses with regular running bond, laid true and plumb to a plane surface. Perpends shall be kept true with vertical joints corresponding with joints in alternate courses.

External corners shall be formed with special return-end blocks.

Work shall be set out to ensure a proper bond to spaces between windows, doors, or corners. The use of three-quarter, half or one-quarter blocks only will be permitted for closures. Concrete bricks are not to be used for closures.

Joints:

Unless otherwise specified or detailed, horizontal and vertical mortar joints shall be 3/8" thick, with full mortar coverage on the face shells and be straight, clean, and uniform in thickness. Joints shall be solidly filled from face of block to depth of the face shell, pointing where necessary to fill the joints completely. Furrowing of mortar is not permitted. Form half-round sunk joints to horizontal joints on exposed walls. Tooling is to be done when mortar is partially set but still sufficiently plastic to bond, firmly compacting the mortar. Vertical joints shall be struck flush.

Block Cutting:

Proper purpose-made blocks shall be used for all windows, doors, lintels, etc. to keep block cutting to a minimum. Where cutting is necessary, it shall be neat and regular.

Vermin Proofing:

Provide and fix vermin proofing as specified and where indicated on detail drawings.

Precast Concrete Vents:

Provide and build in 8"x 8" precast concrete vents spaced at 4' centres maximum.

Galvanised Wire Wall-Ties:

Build in galvanised wire wall-ties as specified at 3' centres to every second course and at all angles, openings, and ends of walls. Adjacent rows of ties shall be staggered to fix to alternate studs. Studs shall not be secured to veneer blockwalls until 14 days after laying.

5. PROVISION FOR OTHER TRADES

Provide chases, openings, and raglets, and instal anchors, nailing strips, bolts, hangers, etc. where required to accommodate the work of other trades.

6. MASTIC

The space between concrete and timber frames and between concrete and other panels shall be weatherproofed with an approved mastic, as detailed.

7. CLEANING DOWN

Extreme care shall be taken to prevent mortar splotches on wall faces. No construction supports shall be attached to walls except where specially permitted by the Supervisor. Mortar and grout spilled on walls shall be washed off before it can set. Before paint is applied, ensure that all blocks and joints are cleaned down, all knobs or projections of mortar are removed by rubbing down, and all sunk joints are true and even.

Finish:

At completion all exposed internal and external blockwork shall be thoroughly cleaned down and painted as specified.

CORRUGATED IRON ROOFS

Where corrugated iron roofing is specified see "Addenda". All roof framing shall be covered with 2" mesh gal. wire netting stapled to purlins and covered with building paper, laid with 2" laps and secured to purlins with large headed clouts. Any building paper that becomes torn is to be replaced.

Securely fix 26 gauge corrugated galvanised roofing, complete with all ridges, hips and verges, and leave roof in a thoroughly watertight condition. End laps to be not less than 9" and side laps one and one half corrugations. Where pitch of roof is 15° or under, the side laps shall be of two corrugations and end laps shall be not less than 12".

Securely nail sheets to 3"x 2" purlins with lead headed nails at top centre and bottom. Bottom and top of sheets shall be nailed at every second corrugation. Bottom of corrugations at ridge shall be bent upwards.

Valleys:

Valleys shall be 24 gauge galvanised flat iron 15" wide, with beaded edges. End laps shall not be less than 6" and shall finish well down into spouting.

Ridging:

Fix 24 gauge 18" lead edge ridging and dress down into corrugations of roofing, to make a thoroughly watertight job.

Where required and requested for by the District Building Supervisor provide and fix one length of approved 24 gauge ventilated ridging to the main ridge.

Capping:

Over flash intersections of hips and ridges with 4 lb lead capping neatly dressed down over ridging and roofing or alternatively purpose-made processed 26 gauge gal. iron caps may be used on roofs of 20° to 1/4 pitch.

Spouting:

Shall be of 26 gauge copper or 24 gauge galvanised iron; see "Addenda" and "Plumber" for relative fixing.

Priming:

All end and side laps in roofing, and laps and underside of ridging and valleys shall be painted before fixing (see "Painter").

Note: For painting of Gal. Corrugated Iron Roofs and tops of tank stands see under "Painter".

Roof shall finish true and watertight, all to the satisfaction of the District Building Supervisor.

TILE ROOFS

GENERAL

All roof tiling shall be carried out by an approved tiling contractor who shall be given adequate notice of the date the work is required to be put in hand. Spouting, flashings, valleys, vent pipes, chimneys etc. are to be completed and in position before the sub-contractor is called upon to carry out the work.

Spoutings and downpipes may be copper or galvanised iron and valleys shall be copper. See "Addenda" and "Plumber" for relative fixing.

ROOFER

1. SETTING OUT

Wherever practicable, set out the tiles to the main slope so that when laid there is a complete course of tiles both at the eaves and at the ridge and furnish the carpenter with the exact lengths of the rafters. No end lap shall be less than $2\frac{1}{2}$". Keep the tiles in straight vertical and horizontal lines.

2. BATTENS

Tile battens shall be 2"x 1" B.A. Heart Rimu, Pressure Treated B.A. Rimu or Matai. Set out accurately and fix with $2\frac{1}{2}$" nails.

Note: Tawa or pinus battens shall not be permitted.

3. HIPS

A batten shall be placed parallel to end against the hip rafter at the starting side, to support the heads of all cut tiles.

4. INTERLOCKING

Adjacent tiles shall interlock without irregular cavities between them so that the whole roof presents a regular and even appearance.

5. VALLEYS

Wooden wedges shall be placed under all valley tiles. Such wedges shall be cut from 1" timber to the difference between the roof pitch and the pitch of the underside of the tiles.

6. SECURING TILES

Each alternative tile in every course shall be separately secured by wiring. The wiring of successive courses shall be staggered to the covering tile. Where any tile unwired the covering tile thereto shall be wired.

All wiring shall be done with galvanised iron or hard drawn copper wire not less than 18 S.W.G. tightly attached to the batten, with projecting ends turned up against batten. Clench nailing will not be allowed. When normal wiring method cannot be used, all tiles shall be wired with galvanised or hard drawn copper lacing wire not less than 18 S.W.G., secured by galvanised or copper nails at intervals not exceeding every third tile. On gable ends the end ridge tiles and all verge tiles shall be fixed with galvanised screws and lead washers.

7. CUT TILES

All tile cutting shall be neatly performed and all tiles shall be of adequate size and shape for their purpose. Tiles at valleys shall be cut to alignment.

8. BEDDING AND POINTING OF TILES

All hip and ridge tiles shall be bedded with 2:1 screened sand and cement mortar and pointed to match tiles with coloured cement mortar.

9. CONCRETE TILES

Concrete tiles shall be manufactured in accordance with N.Z.S.S. 795.

10. CLAY TILES

Clay tiles shall be Marseilles pattern tiles of standard colour, complying with N.Z.S.S. 794.

11. GUARANTEE

The Tiling Sub-Contractor shall supply a satisfactory guarantee covering all roof tiling for a period of two years. This guarantee is to cover the making good of all defects which may arise through faulty manufacture or fixing of tiles or ridging and for the purpose of future maintenance leave six tiles and two ridge tiles of the same colour and pattern used. Stack same in the roof area adjacent to the manhole.

PLUMBER

1. GENERAL

All work shall be carried out in accordance with the drawings, specifications, and to the complete satisfaction of the District Building Supervisor. See "Addenda" and where applicable "Notes to Contractor". The Plumbing sub-contractor should refer to clauses under "Preliminaries", which apply to all trades.

All plumbing and sanitary work to be in accordance with the local body by-laws.

Anything specified and not shown on plans or anything not specified but necessary in accordance with the normal trade practice, shall be allowed by the sub-contractor in his tender.

The whole of the work to be left in perfect working order, to the satisfaction of the Local Health Inspector.

2. MATERIALS

All materials shall be the best of their respective kinds specified or implied.

3. CONNECTIONS

Joints in pipes and fittings shall be water and air tight and made as follows:

In Cast-Iron Work:

To be caulked with tarred gaskin and run with molten lead to the full depth of the socket and thoroughly caulked.

Screwed Galvanised Wrought Iron:

To have British standard threads fixed with approved jointing compound. Remove burrs before fixing.

Lead: Wiped ball joints.

Lead or Copper to Wrought Iron:

With intermediate screwed brass ferrule or "Sanitary" union.

Copper to Copper:

Joints to hot water cylinder shall be of compression type to allow ready disconnection of cylinder. All other joints shall be made by brazing with silver solder, with melting point not exceeding 850°. Butt joints only in tubing will be permitted to be made upon the job. These joints are to be made with the end of one pipe flared. All other joints throughout, including "Y" connections, T's and tap terminals, are to be shop made by experienced artisans and with approved equipment. One branch at least of shop made fittings shall not exceed 2" in length, in order that the joint may be inspected for faults.

4. LAYOUT AND FIXING OF PIPES AND TUBES

Water pipes and tubes shall be set out in straight runs of even gradients. Easy bends are to be used throughout.

Copper tubing is to be secured in position by copper straps, 1" wide screw fixed to the wood framing with brass screws. Straps shall be spaced not more than 4'6" apart. Care must be taken that galvanised iron and copper tubing are not placed in contact with each other.

Fixing of copper pipes, either temporary or permanently with steel nails is prohibited.

5. TESTS

Subject all water installation to a full water-pressure test of not less than 12 hours duration. All fittings and fixtures shall be treated and left in perfect working order to the satisfaction of the District Building Supervisor.

6. TERMITE CAPPING

To all foundation piers where required by local body by-laws provide and fix 26 gauge copper or galvanised iron termite caps. Caps shall be splayed out at an angle of 45° from pier faces with all angles well soldered. Care shall be taken that all holes through which bolts etc. pass are soldered round and entirely filled.

To foundation walls provide a continuous strip or termite capping splayed out and soldered all as above and with joints soldered, and as shown on standard details.

Paint underside of all capping with bituminous paint before fixing.

7. FLASHINGS

Sheet Iron:

For porches, tank stands and flashings to windows and door frames shall be 26 gauge galvanised iron.

Sheet Lead:

Flashings generally to be best-milled lead of a minimum average weight of 4 lbs per square foot.

Sheet Copper:	Valley	24 gauge
	Spouting and Downpipes	26 gauge

General:

Care is to be taken in the fitting and fixing of flashings to ensure perfect efficiency, and the instructions of the District Building Supervisor in this respect are to be strictly adhered to. All flashings shall accurately fit the work and shall be machine bent and cut. Flashings shall be in as long lengths as possible; all joints are to be well lapped. The back edges of flashings where not shown to be beaded are to be folded $\frac{1}{2}$". Do all flashings necessary to render the building water-tight to the satisfaction of the District Building Supervisor. Flash vertical joints between external chimneys and sheathing, and point with 1 to 3 cement and sand mortar, into chase in chimney.

Tile and Corrugated Iron Roofs:

All flashings to chimneys, incinerators, pipes, vents etc., where they pass through the roofing shall be of sheet lead with the exception of chimneys passing through Gal. Corrugated Iron where the flashings shall be 24 gauge gal. flat iron.

Chimneys - Tile Roofs:

Flash and step flash chimney shafts at intersections with the roof, under flashing to be turned 3" up face of chimney and dressed 9" out over roof; over flashing shall be beaded and turned not less than 1" into chase in chimney and shall be plugged with lead and pointed with 1 to 3 cement and sand mortar. Apron-flash the haunches of external chimneys, carrying lead 2" up behind sheathing and 6" out over Haunches. For Gal. Corrugated Iron roofs see flashings above.

Pipes:

Flash and over-flash all vent and flue pipes. Apron-flash copper flue as specified for main chimneys and dress flashing to roofing materials.

Flash intersections of hips and ridges of Gal. Corrugated Iron roofs with sheet lead dressed down neatly to ridging. For materials see under relative types of roof covering.

Galvanised Iron Flashing:

Flashings to be securely fixed with 3/4" flat head galvanised nails at 3" centres. Flash under jambs of window frames with 9" long 26 gauge galvanised iron shoes. Shoes shall be turned up 2" at end of sill. Flash head of all window frames which do not abut soffit lines, flashing to be carried up 2" behind sheathing, and down over front of cap to form drip. Return drip round ends.

All external door frames shall be flashed at head.

8. ROOF VALLEYS

Valleys shall be at least 15" wide with beaded edges. End laps shall be 6" and the lower end shall finish well down into spouting. For material see under relative types of roof covering.

9. SPOUTING, DOWNPIPES AND RAINWATER HEADS

General:

For materials for spouting, downpipes see "Addenda" and under relative types of roof coverings.

All spoutings to be firmly fixed to facia board as close up as possible to the roofing materials at highest point allowing adequate and even fall to downpipes or outflow to tanks.

(a) Copper:

Shall be 26 gauge and all joints, stop ends, mitred returns and outlets shall be brazed or silver soldered and supported on double 1"x 18 gauge copper clip or approved cast brass brackets. Spaced at not more than 3' centres, and screwed to facia with 1"x 8 brass screws.

(b) Galvanised Iron:

Shall be 24 gauge and all joints, stop ends, mitred returns and outlets shall be rivetted and soldered and supported on approved galvanised iron clip brackets spaced at not more than 3' centres and screwed to facia with 1"x 8 galvanised screws. Interior and back of spouting shall be primed with anti-corrosive paint before fixing.

Downpipes:

Downpipes shall be 26 gauge (according to spouting material) seamed and welted with slipped end joints and shall be $2\frac{1}{2}$" diameter for main roofs and 2" diameter for small flat roofs.

Fix downpipes to walls using 26 gauge machine-made offset brackets of the same material as downpipes, screw fixed with galvanised steel or brass screws for respective materials, each downpipe to have at least two such brackets. See "Notes to Contractor" and drainage plan for downpipes, tank out-flow, etc. Fix to head of all downpipes plastic or brass strainers.

10. VENT PIPES AND SOIL STACK

The contractor shall allow in his price for vent pipes to be in 4" cast iron or 3" copper for the first 6'0" above ground level, with 24 gauge seamed copper extension for all roofs. Subject to the local authority by-laws.

Soil stacks shall be $\frac{1}{4}$" thick cast iron as specified and of diameter required by the Local Authority By-Laws. Secure cast iron pipes to walls with brass screws. No free standing joints above eaves-level will be allowed.

Where permitted by local body 4"x 5/16" full length fibrolite terminal vents may be used.

All vertical vent and soil pipes shall be supplied and fixed by the Plumber, including cast iron upstands from bend to W.C. pan, where same is over 3'0" from ground, and unless the pan is seated on a concrete block from ground level.

Where back vent is required it shall be 2" G.W.I. Pipe with lead bend from vent horn.

When vent pipes are on the street elevation they are to be carried up inside building.

Terminate vents 18" through all roofs. All main or terminal vent pipes within the building shall be of cast iron. Provide brass or other approved material balloon cowls to tops of vent pipes.

11. WASTE FROM SANITARY FITTINGS

The joint between the W.C. pan and the socket into which it is connected shall be made by the Plumber as follows:

Care shall be taken that a $\frac{1}{4}$" end clearance is left and the joint is made by fully packing with white Hydroseal, or other similar materials, over a suitable gasket. All other joints shall be made by Plumber in a like manner except that there shall be no end space between spigot and socket.

Earthenware Traps and Lead Pipes:

Joints between earthenware traps and lead soil pipes shall be made by wiping a brass or cast lead socket to the lead soil pipe so that a radial space of not less than 5/16" remains when the spigot is fully home in such socket. Such space shall be filled with a spun yarn ring and sulphur, bitumen, cement mortar, or other material, so as to make a gastight joint.

Other Traps and Wastes:

Fit lavatory basins with chromium plated brass or chromium plated antimonial lead alloy traps and wastes not less than $1\frac{1}{4}$"diameter with C.P. floor flange. All other traps and wastes shall be solid drawn copper of $1\frac{1}{2}$" bore.

All wastes shall be taken straight down through and carried under the floor to discharge through the wall immediately into the gully trap. Wastes discharging beneath gratings shall finish flush with internal surface of gully trap riser.

The flange of the bath waste fitting shall be properly bedded in thick white lead. A 5 lb lead washer shall in all cases be used between the bath and backnut, and no greater force shall be exerted on the backnut than is required to hold the fitting firmly in position. "Hand-tight" should be generally sufficient for this purpose.

Allow for all wastes to sanitary fittings to be taken to a point vertically under fittings and down to ground floor level. In addition allow the length of 6'0" to each sanitary waste pipe from ground floor level to gully trap. To fittings below ground floor level allow 6'0" from outside of waste trap to gully trap.

12. COLD WATER SUPPLY

Lay on cold-water from either the street main or section boundary as required by the Local Authority in $\frac{1}{2}$" copper tubing.

Where position of mains is not fixed at the time of tendering, tenders are to be based on a 40' connection, subject to measurements and adjustments. Where mains are laid, item will be non-adjustable.

Within the limits of the building, all high pressure cold water shall be conveyed in $\frac{1}{2}$" diameter copper tubing.

When a service cock is not provided by the Local Authority, or when the by-laws require the provision of a service cock in addition to that installed for the use of the Local Authority, the Contractor shall supply and fix same, together with C.I. toby box and lid where directed. Lid of toby to be flush with, or slightly above finished ground level. Supply and fix an approved water meter box and cover when required by the Local Authority.

Water piping outside the limits of the building is to be sunk not less than 18" into the ground and is to enter the building under or through the wall foundation. No piping is to be exposed to view. Take branches to bath, hot-water supply tank, basin, sink, each compartment of wash-tubs, washing copper, W.C. flushing cistern, and to one exterior hose tap.

Branches to 2 hose taps are to be fitted at front and rear at a height of 2'0" from the permanent ground level. Position to be determined by District Building Supervisor. Where dwelling is on tank supply provide for only 1 hose tap at rear.

13. DOMESTIC WATER SUPPLY

Alternatives:

"A" Supply and fix see "Addenda" tanks of approved manufacture and take all services above from this supply source and carry to points mentioned above in 3/4" copper piping.

Tanks:

Sides of tanks to be of 24 gauge galvanised corrugated iron bottoms to be 24 gauge gal. flat iron and tops of 26 gauge plain galvanised iron the top to have a 21" diameter manhole with suitable approved cover. Fix 3" diameter overflow, provide and fix between tanks a 1" diameter galvanised wrought iron connector with valves so that any tank can be isolated without interrupting water supply to house. Bottom of tanks to be painted before fixing. Connect tanks with 3" gal. downpipes as near top as possible to facilitate filling.

"B" Provide and fix (see "Addenda") concrete reservoir tank and one (see "Addenda") concrete water tank (header) as supply tank set on top of reservoir. Allow for necessary pipe connections from electric pump to reservoir and supply tank.

Run supply to house from supply tank in 3/4" copper tubing. Fit 2" diameter 24 gauge overflow pipe from header tank to reservoir. Reservoir to be 8'0" from dwelling.

To all types of water reservoirs provide downpipe to overflow and connect to separate soak hole.

Electric Pump:

Provide and fix one approved type motor and pump. Pump to be installed according to the 1935 Wiring Regulations and amendments and to the requirements of the local authority, complete with thermo switch to be built into motor. See "Addenda" for type of motor and pump.

Provide an approved make of float switch to tank for control. Provision is also to be made for the installation of an overload thermo switch when tank is dry.

Pressure Pump:

Where specified in "Addenda" supply and fix an approved type pressure pump outfit complete with an approved overload switch with automatic re-set.

Electric wiring to go underground. Switch for pump to be installed in washhouse or on switch board.

Pump Box:

Build close to concrete reservoir, pump box 3'0" long x 2'0" wide x 18" high inside. Walls and lid of box to be close sarked and covered in 26 gauge gal. iron. The lid to be hinged with fitting for padlock. Where smaller type pumps are installed they may be housed under tubs in laundry.

Site:

Site for reservoir to be levelled off by builder.

Other approved types of concrete reservoirs may be installed to suit local conditions.

Concrete Tank Guarantee:

In all cases a written guarantee of 20 years shall be given to the Department of Maori Affairs.

14. HOT WATER SUPPLY SYSTEM

All piping conveying hot water, including vent pipe from hot water cylinder shall be copper.

Supply Tank:

In the roof except when a pressure-reducing valve is used, provide a precast 25 gallon reinforced concrete tank and a circular concrete tray with an internal diameter of not less than 26", of approved manufacture. The outlet of the tray shall consist of a C.W.I. socket to take a 1½ bore screwed G.W.I. pipe.

Carry pipe to discharge through eaves soffit. Alternatively provide a 24 g. copper circular 25 gallon capacity supply tank complete with 26 g. copper tray having 3" clearance on all sides with 3" high upstands and 26 g. seamed copper overflow pipe.

Supply tank for dual system:

Supply tanks shall be used in all cases where the water is heated by either a solid fuel range or an independent boiler, and the tank shall be 30 gallon capacity.

Alternatively:

Approved pressure reducing valves may be used where permitted by Local Authority and sanctioned by the District Building Supervisor.

Hot Water Cylinder:

Provide and instal electric hot-water cylinder 30 gallons capacity for up to 3 bedroom houses and 40 gallons capacity for 4 bedroom houses. Hot water cylinders shall comply with the N.Z.S.S. 720. The cased and lagged cylinder, shall be readily removable from the cupboard. Cylinders for coal ranges or incinerators shall be of the same size.

Fix element and thermostat provided by Electrician. If element has tapered thread, joint may be made with graphite. On no account shall the joint either for element or thermostat be made with red or white lead.

Pipe Running:

From supply tank in roof or pressure reducing valve take 3/4" diameter copper cold feed pipe to base of hot water cylinder, and from the lowest point of the cold feed pipe take a $\frac{1}{2}$"copper drain pipe to deliver through the outside wall, except that in "hard" water districts the District Supervisor may direct that a 3/4" drain shall be provided. Fit sludge pipe and terminate through outside wall with screwed brass cap.

Carry out pipe running and carry 3/4" branch to bath, and $\frac{1}{2}$" branches to sink, basin, shower if required (see "Addenda") one compartment of tubs and (if installed) electric copper.

Note: The pipe run from electric cylinder to kitchen sink taps shall be by the shortest possible route, and in accordance with local by-laws.

Dual System:

When an electrically heated hot water cylinder is connected to another source of heat such as an incinerator or fireback the installation shall be as detailed. The Contractor's attention is drawn to the following requirements:-

(i) The bottom of the cylinder casing shall be level with or above the top of the incinerator or fireback.

(ii) The cylinder shall have an internal flow pipe as required by N.Z.S.S. 720.

(iii) Flow and return connections should enter the base of the cylinder, but side entry will be permitted if the former is impracticable.

(iv) The circulating pipes shall be 1" diameter. Where such pipes pass through concrete or brickwork provision shall be made to permit movement due to expansion.

(v) The circulating pipes shall be insulated with one thickness of lagging as specified below.

Cylinder Vents:

Vents returning over supply tanks, after rising not less than 18" above water level, shall terminate in tank above the level of the ball valve, at a point remote from the float. To cylinders less than 40 gallons, vents shall be $\frac{1}{2}$" diameter and for 40 to 60 gallons inclusive, 3/4" diameter.

Vents to dual systems, and systems using pressure-reducing valves shall be 3/4" diameter carried through roof; all others shall be $\frac{1}{2}$" diameter.

When vent pipes pass through metallic roofs, they shall be suitably insulated electrically to prevent intermittent contact with the roofing material, which otherwise might become a source of radio interference.

Lagging:

All pipes conveying hot-water shall be completely covered by spirally winding with "Plumbers Felt" tightly wrapped and secured in position with 20 gauge copper wire binding at 2" spacing; wound on in opposite direction to lagging. Similarly lag 3'0" of cold feed pipe immediately adjoining cylinder, and vent pipe to the height of water level, in supply tank. In the case of pressure-reducing valves, lag vent pipe to the underside of the roof.

15. INCINERATOR

Where specified in "Addenda" instal where shown on plan.

Ceiling:

Where chimney passes through ceiling allow on ceiling a gal. iron sleeve so that chimney stands 1" clear all round from the inside edge of sleeve.

Chimney to be standard copper flue 7½" cased and pumice core chimney with 4" flat iron bands fitted to all joints. Bottom section of chimney to be damper flue 2' complete.

Wall Lining:

Free standing incinerators. Back wall and side walls, including that to hot water cylinder, to be constructed of brick on edge or of concrete to a thickness of not less than 3", and to project not less than 4" above the top of incinerator and the full width of incinerator. Brick or concrete work shall be plastered to a smooth finish. Above the brick or concrete wall, line walls to ceiling with flat asbestos sheet. All to detail.

Incinerator fitted alongside the electric range as a dual unit will have the concrete or brick wall formed on 2 sides only, back and side away from the range where circulating pipes connect to hot water cupboard.

Incinerator chimney:

To be set at least 4½" away from walls or woodwork.

16 HOT AND COLD WATER COCKS AND CONTROL VALVES

All cocks and control valves shall be of approved New Zealand manufacture.

Taps are to be provided and fixed in accordance with the following schedule.

Bath:

3/4" diameter chromium-plated streamlined cocks with 3" extensions.

Lavatory Basin:

½" diameter chromium-plated streamlined pillar cocks.

Sink:

½" diameter chromium-plated streamlined cocks with 3" extensions.

Tubs and Copper:

½" diameter chromium-plated streamlined cocks

W.C. Flushing Cistern:

½" diameter chromium-plated streamlined stop cocks.

Shower:

When required see "Addenda" for type and position. Lay on hot and cold water supply to shower. Shower to be controlled by approved C.P. type mixing valves and an adjustable type C.P. wall type shower rose.

Shower waste to be 1½" copper and suitably trapped to nearest gulley.

Hose Taps:

Exterior hose taps $\frac{1}{2}$" diameter polished brass cocks with screw ruff for hose connection.

Valve to Supply Tank in Roof:

On supply pipe to tank in roof provide a brass stop cock, approved ball valve, and silencer pipe.

Control Valves:

Provide a 3/4" diameter gate valve in an accessible position in cylinder cupboard on the cold supply pipe to cylinder, and a 3/4" gate valve in the drain pipe as close as possible to the junction with the cold feed pipe.

Ball Floats:

Ball floats for the supply tank and W.C. cisterns are to be either approved glass or approved plastic floats.

Taps other than hose taps shall be marked "HOT" or "COLD" as required. Those to cold supply shall have leather washers and those to hot supply, fibre washers with captive jumpers.

Note: Where outside tanks are used all cocks shall be pinned for low pressure.

All sanitary fittings or wingback bends and tees shall be fixed to Rimu dwangs with brass screws.

17. SANITARY FITTINGS

Bath:

Bath shall be 5'6" first quality cast-iron porcelain enamelled standard square type, unless otherwise specified in "Notes to Contractor". Also under "Carpenter"

Basin:

Basin shall be 22"x 16" porcelain fixed to cast-iron cantilever brackets with $\frac{1}{4}$" galvanised bolts. Front edge of basin shall be 30" above the floor level.

Sink and Bench Top:

Sinks shall be 18"x 12" or 16"x 14"x 7" internal dimensions, stainless steel and of not less than 19 gauge.

Sink bench tops shall be "Utility" stainless steel or approved laminated plastic as directed in "Notice to Contractor".

Bench Tops shall be supplied as a unit by the manufacturer.

W.C.

The W.C. pan shall be white glazed earthenware 1st Grade fitted with an approved single polished seat, complete with approved C.P. on brass hinges and rubber buffers. When W.C. is in bathroom, a double-flap polished seat shall be provided.

W.C. Flushing Cistern:

Provide to W.C. pan one "low-down" flushing cistern of approved manufacture in accordance with N.Z.S.S. 245. Flush pipe to be chrome.

Shower Box: Where requested in "Addenda".

18. WASHING COPPER

When requested in "Addenda". Provide and fix where shown a 12 gal. approved pumice concrete copper of approved pattern complete with all appurtenances, including a lid of approved gauge aluminium. Flue pipes $4\frac{1}{2}$" internal diameter gal. iron clad pumice concrete to extend to a height of 2'6" above the highest point of its intersection with the roof. The lower length of flue pipe shall be fitted with an approved cast iron damper and soot door. Set all joints in 1 to 3 cement and sand mortar. The top of flue

shall be fitted with a four bar cast iron bird proof grating cast into pipe. Cover all joints in flue with 3" wide strip of plain 26 gauge gal. iron. At ceiling and roof levels secure the flue pipe to wall and roof framing with 2" collar bands of 22 gauge gal. iron screw fixed to woodwork.

19. WASHING TUBS

Supply and fix first quality two-compartment, reinforced concrete washing tubs of approved standard manufacture. Tubs shall be complete with $1\frac{1}{2}$" brass waste unions and plugs and chains. Support tubs on concrete pedestals, set 9" in from ends of tubs.

All sanitary fittings shall be of approved New Zealand manufacture and shall be free from all blemishes. Bath, sink and basin shall be fitted with ebonite plug and C.P. on brass chain.

20. TRAYS UNDER W.C.'s AND BATHROOM OUTLETS

Where required by the Local Authority, W.C. shall be provided with a tray of 4 lb. lead approximately 3'0"x 2'0". Tray shall be neatly dressed into angles, carried up walls behind skirting and shall be secured with copper tacks into rebated strips provided by the Carpenter. Provide an overflow pipe $1\frac{1}{4}$" diameter to discharge through outside wall, and fix brass grated outlet.

Note: All the above fittings are to be allowed for and supplied by the sub-contractor unless otherwise specified in "Notes to Contractor".

DRAINLAYER

The General Building Contractor is to collaborate with the Drainage Contractor and arrange with him for the carrying out of his work at such times and in such manner as will cause the minimum amount of inconvenience and delay.

The Drainage Sub-Contractor is referred to "Preliminaries" for general clauses which apply to all trades.

Note: Earthenware pipes and fittings will be supplied and fixed by the Drainage Contractor, but all sanitary plumbing work required to connect sanitary fittings to drains shall be provided and fixed complete by the plumber notwithstanding any omission in the specification describing same.

1. SEWERAGE AND STORMWATER

Dig all trenches and lay sewerage and waste drains where shown in 4" glazed earthenware socketted and jointed pipes. Pipes are to be laid with easy bends and falls not less than that demanded by the Local Authorities. All sewerage pipes are to be first quality and stormwater selected second quality.

Every joint shall be of an approved flexible type and alternative types of joints are not to be used except at the express direction and with the approval of the District Building Supervisor.

Connect all stormwater drains to soak pits or street channels.

Supply and fix all necessary terminal vents, gulleys, inspection joints, cleaning eyes, etc. as required by the Local Authority.

2. DOWNPIPES

Unless contrary to the local by-laws, downpipes shall deliver directly into an earthenware bend connected to the stormwater drain. The socket of the bend shall terminate 3" above finished ground or paving level and shall be protected by a concrete kerb not less than 2" thick. The kerb shall extend 6" below ground level, and shall cover the top of the socket. All downpipes shall discharge onto cast iron gratings fitted to sockets.

3. SEPTIC TANKS

Construct all septic tanks in reinforced concrete in accordance with the details and specifications supplied. See H.O. Job 2/52. Precast tanks shall be used only at the approval of the District Building Supervisor.

Drains under Buildings:

Drains either sewer or stormwater, which pass beneath the building are to be entirely surrounded by concrete to a minimum thickness of 4" all round. Alternatively and when so directed by the Building Supervisor, they shall be of cast Iron with lead caulked joints.

4. FIELD TILES FOR EFFLUENT DRAINS

Open jointed field tiles of 4" internal diameter shall be laid on shingle bed and carefully packed around with clean shingle. Trench shall be 18" wide refilled with similar shingle to provide a minimum cover of 6" to sides and bottom of drain. Before the spoil is backfilled on to the shingle, place a cover of scrub, old galvanised iron, malthoid or similar material. Backfilling shall be left neatly above surface level.

Field Tile Drains: - Basements

On sloping sites provide a 4" field tile drain behind walls of all basement rooms, laundries etc. This drain shall be laid to an outward fall of at least 3" in 10'0" and terminate 6'0" clear of building. Provide 6" of cover to sides, top and bottom of drain with coarse shingle.

6. SOAK PITS

Construct soak pits 3'0" diameter and of sufficient depth to take stormwater drainage where required. Fill pits with river boulders of approved size and cover with scrub or other material as for field tiles and back fill the top 18" with soil.

Soak pits to be formed at least 6'0" away from building.

7. GULLY TRAPS

Gully trap shall be set on a level bed of concrete not less than 4" thick and 64 square in. in area.

Gully trap kerbs or surrounds shall be not less than 2" thick, carried not less than 6" below ground, and shall extend not less than 3" above finished or paving level as the case may be.

Unless otherwise required by the local body, all gully traps shall be of the "closed type" with wastes discharging beneath the grating. The following alternative method of construction may be used:

Cast in situ, or place a precast concrete kerb round the trap, and with cement and sand compo, neatly dish to the gully socket. Plaster as above, setting in a removable 'D' shaped cast iron grating flush with the top. Waste pipes are to enter below the grating, and terminate with a slight downward bend.

8. GREASE TRAPS

Where required provide grease traps. The top shall be flush with the ground level. Excavation and concrete work shall be carried out as specified for septic tanks.

9. FILLING

Fill in all trenches with spoil; the top 18" being top soil. Ram and consolidate spoil before laying top soil which is to be piled above the ground level to allow for settlement.

10. TESTING

Allow for testing all drains before filling in.

All work to be carried out in accordance with the local Health Authority's regulations and to the satisfaction of the District Building Supervisor.

ELECTRICIAN

1. GENERAL

The electrical work shall be carried out in accordance with the N.Z. Electrical Wiring Regulations 1961, the local Electrical Supply Authority's By-Laws and to the complete satisfaction of the District Building Supervisor. Permit to be obtained before the work is commenced.

See also under "Preliminaries" for general clauses which apply to all trades.

2. MATERIALS

All materials shall be of best quality complying with the relevant N.Z. Standard Specifications. The use of products bearing the "Standard Mark" or of brands specified herein, will ensure compliance with this Clause. With respect to other materials, the Contractor may be required to provide test certificates, or other evidence that the material he is using is of satisfactory quality. The District Building Supervisor reserves the right to reject any of the materials used not considered to be in accordance with this specification.

3. WORKMANSHIP

The installation shall be carried out in accordance with sound trade practice by competent registered electricians who shall co-operate with the other trades to avoid delays and provide a first class job. All wiring shall normally be run concealed (e.g. behind linings, in roof space, under floors etc). All parts required to be concealed in other work shall be erected in advance of the said work or in co-operation with the trade concerned. (Refer also to Carpenter and Joiner).

4. ELECTRICAL SUPPLY

Unless directed otherwise in "Notice to Contractors" allow for supply by aerial service line to point of entry as directed by the Electrical Supply Authority, subject always in particular cases to agreement by the District Building Supervisor. Facilities shall be provided (approved bracket if necessary) to enable the service line to be attached to the building to comply with the requirements of the Electrical Wiring Regulations. Provide suitable insulators for attachment of service line if so required by the Electrical Supply Authority. Where supply is to be given by underground cable allow for all work involved to meet the Electrical Supply Authority's requirements and in accordance with directions in "Notice to Contractors".

5. WIRING TO BE CONCEALED

All wiring shall be run concealed behind linings or in roof or under floors. Tough rubber or tough plastic sheathed cables run under floors in foundation space or in unlined basements shall be installed on side of floor framing timbers and close to underside of flooring or in similar protected position. All parts required to be concealed in other work shall be erected in advance of the said work or in co-operation with the trade concerned.

6. POINT OF ENTRY

The point of entry for service mains shall be as determined by the Local Authority's Engineer in collaboration with and to the satisfaction of the District Building Supervisor. The Contractor shall supply and fix terminal insulators for attachment of service line if these are not provided by the Local Supply Authority.

7. SWITCHBOARD

Switchboards shall be hinged flush panels or other approved type. Size in accordance with Supply Authority's requirements. Locate switchboard in position where directed with top of panel 7'0" above floor level. Drill panel for meters and provide for waterheating control as required by Supply Authority. Provide and fix all necessary switchgear labelled to approval with at least two fuses for lighting circuits.

8. METER CABINET

Alternatively allow for purpose made metal switch box, size to Local Power Authority requirements. Meter cabinets will normally be located in porches recessed into wall thickness but may have occasionally to be provided on an exterior wall in which case the contractor shall instal the cabinet recessed in an approved manner with weatherproof flashings.

9. FUSES

Circuit fuses shall be white procelain of an approved type with rewireable carriers marked to distinguish circuits of different capacities.

10. EARTHING

Provide and install main earth connection, using earthed water supply system if available otherwise provide driven pipe earth in approved position.

11. LIGHTING CIRCUITS

Provide lighting outlets with individual control switches in positions shown on drawings. Switches controlling lighting outlets shall be 5 amp. flush type for wall mounting and comply with N.Z.S.S.931 and of an approved manufacture.

Mount switches 4'6" above floor level.

12. LAMPHOLDERS

All light points shall be equipped with batten type moulded plastic lampholders, bayonet type, complying with N.Z.S.S.144. Provide lamp shrouds for lampholders in back porches, laundry, bathroom, W.C. and kitchen.

13. LAMPS

Supply and fix lamps as specified in schedule below. Lamps shall be B.C. coiled coil and shall comply with N.Z.S.S. 158. Lamps shall be pearl where used in open type shades and clear where enclosed in opal glassware.

14. SWITCHES

Wall switches shall be flush type complying with N.Z.S.S.931 and be P.D.L. or other approved manufacture. Switches may be either tumbler or rocker type but the same type should be used throughout any one installation. Switches for control of lighting outlets shall be fixed 4'6" above floor level in positions shown on the drawings with two-way control provided when so indicated.

Note: Care must be taken that the bathroom light switch is not located directly above the bath. All lights must be independently switched unless otherwise shown on the drawings.

15. SOCKET OUTLETS

Provide sockets outlets with switches in position shown on drawings. Plug sockets shall be 10 amp. capacity flush type of approved manufacture and comply with N.Z.S.S. 198. They shall be fixed 12" above floor level and be without control switches in living room. In kitchen, meals recess or dining room, socket outlets shall be combination switch and plug points located 4'6" above floor level, or 3'6" above floor where incorporated in kitchen dresser.

16. FLUSH PLATES

Provide ivory colour, smooth surface flush plates of approved manufacture. Switch dollies and plug socket bodies may be cream throughout. Use matching flush plates for socket outlets and lighting switches and multigang plates where two switches or two sockets occur at same location. Combination plates shall be used for switched sockets.

17. INSTALLATION SCHEDULE

Lighting points, socket outlets and special lighting fittings shall be provided in accordance with the following schedules: and "Notes to Contractor".

Location	Lamp Wattage and Fitting	Plug Socket
Front Porch	60	-
Front Hall	60	-
Living Room	100	1
Living Room with Meals Recess	2-100	1
Dining Room	100	1
Kitchen	100	1
Kitchen with Meals Recess	2-100	1
Bedrooms (including sunroom)	60	1
Bathroom	60	-
W.C.	60	-
Passages	60	-
Back Porch	60	-
Laundry	60	1

Note: All points shall be provided with white conical plastic shades of approved manufacture.

18. ELECTRIC COOKER

Allow the sum as set out in "Notes to Contractor" for an electric cooker to be purchased as directed. Allow in addition for fixing into position complete as follows:

Provide point (allowing for 7.5 k.w. rating) with approved flush mounted isolating switch in position convenient to user. Where Supply Authority requires water heating to be on changeover switch with cooker, provide approved type of switch and install as directed.

Install cooker with 2'6" minimum flexible metal conduit and 3/4" angle connector at wall arranged to permit cooker to be moved clear for servicing or access and so that when cooker is in position against wall, the flexible connection is concealed at rear.

Alternatively in place of flexible metal conduit connector install approved socket with P.V.C. cable connector.

19. WATER-HEATING

Provide "Plumber" with element and thermostat of approved manufacture for fitting into hot water cylinder. Elements shall comply with N.Z.S.S.918, thermostat with N.Z.S.S.802. Element wattage shall be as required by Supply Authority for domestic tariff.

Wire water-heating circuit from switchboard in accordance with Supply Authority's requirements.

Connect element and thermostat using flexible conduit to enclose conductors between the fixed wiring and the water-heater terminal box.

Care shall be exercised when installing conductors in cylinder cupboard that space for removal of cylinder is not obstructed.

20. WASHING MACHINE

Where washing machine is installed (see "Addenda") in laundry provide and fix combination switch and plug socket 3'6" above floor level. Switch to be in accordance with by-laws.

21. DOMESTIC WATER SUPPLY - ELECTRIC PUMP

Refer to page 36 under "Plumber"

22. RADIO AERIAL

Provide 7/.029 V.I.R. or P.V.C. insulated stranded copper cable approximately 50' total length slung between insulators installed in roof space. Connect aerial to independent radio outlet plate in living room and install 7/.029 earth lead under floor and couple with an earthing clip to nearest convenient water pipe.

Radio outlet plates shall be flush mounted and of an approved pattern to match switch and plug socket flush plates. Terminals shall be non-removable and marked "Aerial" and "Earth" respectively.

23. TESTING

The Electrician shall carry out all testing as required by the Electrical Wiring Regulations and the installation shall not be deemed to be satisfactorily completed until the requirements of the Regulations and this Specification have been met in full and the installation passed by the Electrical Supply Authority's Inspector.

PLASTERER

1. MATERIALS

Cement and Sand: To be as specified under "Concretor"

Hydrated Lime: Shall be mill-hydrated of an approved brand.

2. PLASTERING ON BRICK OR CONCRETE

Internal exposed concrete walls to basement laundries and all exposed chimney-stacks, shall be plastered with a $\frac{1}{2}$" thick coat of 1 part of cement to 3 parts of sand with 10% hydrated lime added, finished with a wood float to a straight even surface.

Make good all surface defects, broken edges and angles in external base walls with compo as specified above and finish with a coat of 1 to 3 cement and sand in accordance with "Addenda".

3. MOULDED WORK ETC.

Run all mouldings, projections, or other features, and form drips where required.

4. HEARTHS, FLOORS, INCINERATOR RECESS, STEPS AND FOUNDATIONS

Throughout are to be plaster finished as detailed and as follows:

Immediately before applying plaster, all concrete surfaces are to be well cleansed and soaked with clean water. Render and straighten floors and steps with 1 to 3 cement and sand plaster laid not less than 3/4" thick and finished with wood float to a straight even surface. Hearths to be finished with a steel float.

Coal Range Recess:

Sides and back of coal range recess shall be lined with sheet enamel covings as supplied by manufacturers.

Continuous Concrete Foundations:

Finish as for other concrete surfaces and in accordance with "Addenda".

Wire Vents:

Fix vents (see under "Concretor") in positions as indicated on drawings.

5. EXTERNAL PLASTER WORK ON NETTING

Note: Where netting is to be applied by plasterer (see "Notes to Contractor") refer to "Carpenter and Joiner" for fixing specification.

First Coat:

To be not less than 3/8" thick composed of 3 parts of clean sharp sand and one part cement with one part hydraulic lime added. Surface to be cross scratched to provide key for second coat.

Curing:

After initial set, surface to be kept wetted during daylight hours. This also applies to second coat.

Second Coat:

The second coat is not to be applied until at least seven days after finish of first coat, to compose one part cement, 3 parts sand to which may be added not more than 5 parts of hydrated lime by volume of the cement used. The second coat to be not less than $\frac{1}{2}$" in thickness to have a true and even surface. To this coat add 5 pounds of "Pudlo", "Repello" or other approved waterproofing to each 100 pounds of cement. This coat to stand at least seven days before third coat is applied and surfaces scratched for key.

Finishing Coat:

This to be at least 1/8" to $\frac{1}{4}$" in thickness and finished in texture and tint to approval. All angles to be left true.

6. FIBROUS PLASTER

Where specified under "Carpenter" "Addenda" or "Notes to Contractor", line the walls and ceilings of rooms with fibrous plaster of the quality mentioned. Walls and ceilings shall be pointed flush.

Fibrous plaster sheets shall be 3/8" standard thickness and approved manufacture.

Fixing:

Sheets shall be securely nailed with galvanised large headed nails not less than 1" in length, spaced at not more than 5" at edges and not more than 18" at intermediate points. Sheets to be pressed hard against joists, studs etc., while being nailed. Only thoroughly dry sheets free from cracks or blemishes are to be fixed.

Alternative ceiling sheets may be suspended in an approved manner to the satisfaction of the District Building Supervisor.

7. POINTING AND FINISHING OF FIBROUS PLASTER AND GIBRALTAR BOARD

When all heavy hammering and nailing has been completed, stop all joints, nail holes and imperfections with pure plaster-of-paris pressed and trowelled to a smooth even surface. The plaster shall be left clean and free from irregularities that would be visible when it is papered, distempered or painted. Retarding compounds or lime must not be used.

External angles of walls are to be finished with a wood fillet (see under "Carpenter and Joiner").

Note: Stopping of Gibraltar Board by plasterer or painter will be specified in "Notes to Contractor".

PAINTER AND PAPERHANGER

1. GENERAL

The "Painter and Paperhanger" should refer to Clause under "Preliminaries" which apply to all trades and also to Paint Schedule, colours, extent of work and finish to exterior and interior surfaces etc. Right is reserved to take sample of material for analysis.

2. MATERIALS

All materials to be the best of their respective kinds specified or implied and to comply with relative N.Z.S.S. 521 for paints and varnishes and N.Z.S.S. 1056 for priming.

3. WORKMANSHIP

All work shall be carried out strictly in accordance with the N.Z. Standard Code of Practice for Painting (N.Z.S.S. C.P. 5). All work shall be of the highest standard, performed by skilled tradesmen and finished to the satisfaction of the District Building Supervisor. No paint containing oil is to be applied to damp surfaces, and no external painting is to be done during frosty or unsuitable weather. Between each coat, rough patches, etc. shall be rubbed down with glass-paper to obtain a good surface. Any work damaged by dust, rain or by any other cause shall be rubbed down and recoated. Each coat of paint or distemper is to be finished with one coat over all surfaces before a further coat is applied.

4. PROTECTION OF WORK

The contractor is to take adequate precautions during and after painting operations both inside and out, to protect his work from dust, dirt or any disfiguration whatsoever. He shall provide pans or trays on which to keep his materials, and shall carry out all necessary floor and wall protection. Any damage caused shall be made good. Care is to be taken in cutting in around door and window furniture, and any disfiguration of same is to be cleaned off at completion.

5. PICKING OUT

Allow for picking out all sashes, external doors, and other features. Window frames, excluding sills generally shall be the same colour as walls. Base doors shall be painted to match foundation colour.

6. EXTERNAL WORK

The whole of the external woodwork usually painted, whether particularly mentioned or otherwise and including weatherboards, joinery, doors and sashes (including tops and edges of same) and woodwork of porches shall be treated as follows:

Priming:

Prime all exterior timbers, including all meeting surfaces, both faces of lape ends, four sides of battens, all exterior door and window frames, and sashes on four sides including rebates, woodwork of eaves, wood porch flooring, including edges, and all frames and finishing woodwork that comes into contact with concrete, brickwork etc., with priming complying with N.Z.S.S. 1056 Type L.R. or other approved mix. Totara priming shall not be used on timbers other than Totara.

Priming coat shall be brushed thoroughly into the woodwork to completely cover the whole surface and not sprayed on. All exterior timber and joinery shall be primed before fixing into position. Priming shall not be exposed for more than four weeks before receiving the next coat.

As soon as priming has set, stop all nail holes and defects with best linseed oil putty.

Exterior:

Stop all defects and nail holes with best quality lead and oil putty. Rub down where necessary and paint all exterior woodwork with one coat of an approved undercoating to be followed with one coat of an approved finishing coat. See "Schedule of Finishes".

Front Entrance Doors and Sills:

Apply a priming coat and second coat as specified for external woodwork and finish with one coat of approved exterior enamel as supplied by the manufacturer.

7. PAINTING OF EXTERNAL AND INTERNAL CONCRETE, PLASTER ASBESTOS CEMENT ETC.

Paint exposed portions of the following with two coats of exterior quality P.V.A. paint of approved type, the first coat to be matt, the finishing coat to be semi-gloss. To avoid ropiness, the first coat may be thinned up to 10% maximum in strict accordance with the manufacturer's instructions.

(a) Concrete base walls.

(b) Exterior plastered walls including plastered walls in porches.

(c) Internal exposed portions of plastered walls, unless specified elsewhere to be papered.

(d) Asbestos-cement sheathing (except sidings and toolsheds).

(e) Asbestos-cement roofs (except toolsheds).

(f) Concrete block exterior walls.

(g) Exterior plastered chimneys and concrete flue pipes.

(h) Asbestos-cement terminal vents and soil stacks.

8. EXTERNAL METAL WORK

All metal work above eaves level, shall receive two coats of approved New Zealand manufacture anti-corrosive paint in colours to match roofing. Other metal work shall receive undercoat and final coat as for exterior woodwork and shall match walls for colour. Any metal work coated with bitumastic compound shall first receive a coat of exterior aluminium paint.

Priming:

All end and side laps in roofing, including tops of tank stands, and laps and underside of ridging and valleys shall be painted before fixing (See under "Corrugated Iron Roofs").

Gal. Corrugated Iron Roofs:

Roofs are to be painted in one coat of approved paint. This work shall be left to weather for a period of six months before painting - alternatively to weathering, the roof may be treated with an approved keying solution.

The painting of all Gal. Corrugated Iron roofs to be included in the contract.

9. INTERNAL WORK

For all interior finishes the Contractor is referred to the schedule of finishes.

Preparation:

Prime where painted or oil where varnished all woodwork and stop with best linseed oil putty coloured where required.

Wallboards:

Stop all pinex, hardboard and gibraltar board, (where not done by plasterer) with approved stopping compounds.

Sealing:

Seal all gibraltar board, fibrous plaster, hardboard and pinex where required with an approved sealer containing 3 ozs to the gallon of fungiside added.

Enamel and Flat Finish:

Apply one coat of undercoating and finish with an approved enamel or paint.

Wardrobes:

Paint interior of all wardrobes, coat cupboards etc. with two coats to match existing work in rooms, alternatively these can be papered to match rooms.

Ceilings:

Where shown on schedule apply to ceilings where directed two coats of approved P.V.A. type paints. Paints to have mould inhibiters added.

Note: Alternatively ceilings may be finished if required with two coats of an approved flat finish paint.

10. VARNISHING OF INTERIOR SURFACES

Preparation of Surfaces:

Stop where necessary with linseed oil putty stained to match surfaces where applied.

Finish A:

Apply two coats of white polish or other approved clear P.V.A. sealer, excluding any type of water sealer, followed by one coat of palest clear varnish.

Finish B:

Apply one coat of white polish or sealer as above, followed by one coat of palest clear varnish.

Finish C:

Alternatively two coats of knotting, followed by one coat of clear varnish.

Paperhanging:

Hang where directed selected colour-matched wallpapers of British manufacture. Allow the sum shown in "Notes to Contractors" per standard roll (34'6" in length 1'9" in width) for the purchase only of wallpapers. Fresh approved paste shall be used. The paste shall have an approved fungicide mixed with it. No ingredient is to be added which would affect the fungicide.

All papers are to be trimmed, cut straight and true, butt jointed and hung true and plumb. Patterns are to match.

At completion, papers are to be left free from all defects and disfigurements.

Thermal Areas:

Specially prepared paints and selected wallpapers shall be used in all thermal areas.

Specifications relating to materials and application of these will be supplied by the Department's District Office at Rotorua.

11. AT COMPLETION

Make good inside and outside after all trades (see under "Prelimimaries" for cleaning of house).

GLAZIER

1. GENERAL

All glass shall be of approved British manufacture. Cut glass to fit openings, with due allowance for expansion; secure with metal sprigs and properly bed and back putty and neatly finish with a quick setting putty.

2. SASHES

Glaze all sashes as follows:

Sash panes under $3\frac{1}{2}$ sq. ft. superficial area shall be glazed with 18 oz. sheet glass of ordinary glazing quality; sash panes from $3\frac{1}{2}$ sq. ft to 7 sq. ft. shall be glazed with 24 oz. sheet glass of ordinary glazing quality; sash panes over 7 sq. ft. shall be glazed with 32 oz. sheet glass of selected glazing quality.

All bathroom and W.C. sashes shall be glazed with white translucent glass of approved patiern.

3. DOORS

Internal double-folding doors and external French casements and side-lights shall be glazed with 24 oz. sheet glass of ordinary glazing quality.

Front door and side lights and back doors when glazed shall be glazed as above or with white translucent glass of approved pattern.

4. MIRROR TO BATHROOM CABINET

In bathroom cabinet door, provide a glass mirror of best silvering quality. Edges of mirror to be spirit blacked and back of mirror shall be given a coat of waterproof varnish, prior to backing and beading.

DEPARTMENT OF MAORI AFFAIRS

PLAN SERVICE INVENTORY AND ADDENDA TO DEPARTMENTAL STANDARD SPECIFICATIONS

NAME: ..... FILE: .....

ADDRESS OF SECURITY: .....

.....

PLAN: ..... AREA: ..... SQ. FT.

DESCRIPTION OF SITE: LOT ..... D.P. .....

SITE ACCESS: .....SITE DEVELOPMENT: .....

.....

FOUNDATIONS: .....

TYPE EXTERIOR SHEATHING: ..... COLOUR: .....

TYPE ROOF: ..... MATERIAL: ..... COLOUR: .....

SPOUTING: 5" .....

WATER SUPPLY: .....

DRAINAGE: .....

EFFLUENT: .....

STORMWATER: .....

EXTERIOR JOINERY: SASHES AS PER PLAN OR .....
DOORS " " " .....
OTHER .....

CHIMNEY TYPE: ..... SURROUND: .....

PLASTERER: BASE: .....CHIMNEY.....STEPS .....

COAL RANGE RECESS: .....HEARTH: .....

INTERIOR LININGS: WALLS .....
..... CEILINGS .....DADO .....

ELECTRICITY: DISTANCE SERVICE LINE: ..... POLES REQD.....

LIGHTING: ..... COOKING ..... WATER HEATING: .....

INTERIOR LIGHT: PTS.....HEAT PTS.....

EXTERIOR LIGHT:PTS.....AERIAL: .....

SINK BENCH:.....LENGTH..... .....

BATH PORCELAIN:.....BASIN: .....

SHOWER:.....WALLS:.....TRAY:.....

COPPER:..... WASHING MACHINE: .....

TUBS:.....

SHED SIZE, TYPE: .....

CONC. PATHS:.....

REVOLVING CLOTHES LINE 16 FT. DIAMETER: TYPE:.....

TANK STAND & SIZE TANKS: .....

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DEPARTMENT OF MAORI AFFAIRS

PLAN SERVICE INVENTORY AND ADDENDA TO DEPARTMENTAL STANDARD SPECIFICATIONS

NAME: ..... FILE: .....

ADDRESS OF SECURITY: .....

.....

PLAN: ..... AREA: ..... SQ. FT.

DESCRIPTION OF SITE: LOT ..... D.P. .....

SITE ACCESS: .....SITE DEVELOPMENT: .....

.....

FOUNDATIONS: .....

TYPE EXTERIOR SHEATHING: ..... COLOUR: .....

TYPE ROOF: ..... MATERIAL: ..... COLOUR: .....

SPOUTING: 5" .....

WATER SUPPLY: .....

DRAINAGE: .....

EFFLUENT: .....

STORMWATER: .....

EXTERIOR JOINERY: SASHES AS PER PLAN OR .....
DOORS " " " .....
OTHER .....

CHIMNEY TYPE: ..... SURROUND: .....

PLASTERER: BASE: .....CHIMNEY.....STEPS .....

COAL RANGE RECESS: .....HEARTH: .....

INTERIOR LININGS: WALLS .....
.....CEILINGS.....DADO .....

ELECTRICITY: DISTANCE SERVICE LINE: ..... POLES REQ'D.....

LIGHTING: ..... COOKING ..... WATER HEATING: .....

INTERIOR LIGHT: PTS.....HEAT PTS.....

EXTERIOR LIGHT:PTS.....AERIAL: .....

SINK BENCH:.....LENGTH..... .....

BATH PORCELAIN:.....BASIN: .....

SHOWER:.....WALLS:.....TRAY:.....

COPPER:..... WASHING MACHINE: .....

TUBS:.....

SHED SIZE, TYPE: .....

CONC. PATHS:.....

REVOLVING CLOTHES LINE 16 FT. DIAMETER: TYPE:.....

TANK STAND & SIZE TANKS: .....

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PLAN SERVICE INVENTORY AND ADDENDA CONTINUED

ALLOW THE FOLLOWING P.C. SUMS

ELECTRIC RANGE	£	FUEL RANGE	£ .....
" COPPER	£	RESERVOIR	£ .....
" PUMP & MOTOR	£	SINK BENCH	£ .....
INCINERATOR	£	WALL PAPERS	£ .....
FIRE PLACE SURROUND	£	CLOTHES LINE	£ .....
HARDWARE	£	WASHING MACHINE	£ .....
		SHOWER TRAY	£ .....

Where P.C. sums are stated such sums shall mean the actual net amounts paid to the supplier approved by the District Building Supervisor after all other trade discounts have been deducted. The Contractor shall add to these sums in his tender an amount of 5% to cover his profit. Any unexpended portion of the specified sum will be deducted from the contract amount.

Progress payments will be made on request at any of the usual stages.

The department's conditions of contract are to be read in conjunction with these notes and are to apply to this contract.

No alteration or departure from Plan, details or specification will be permitted without the written consent of the District Building Supervisor.

The Contractor shall ensure at all times for the work to be carried out in an entirely expeditious and tradesmanlike manner. He shall allow during working hours inspections to be made by the District Building Supervisor or his accredited representative.

SPECIAL CONDITIONS AND NOTES TO CONTRACTORS

Signed: ..... Contractor. Date .....

Signed: ..... Supervisor. Date .....

PALMERSTON NORTH CITY COUNCIL

Application for ☑ PIM 13983 A20/37

☑ Building Consent 13984

OWNER DETAILS

Name: C.L. Krumenacher

Mailing Address: 37 Alexander St.
Palmerston North.

CONTACT

Name: Y.M. Noffke

Phone: 356.4036 Fax:

PROJECT LOCATION

Street Address: 37 Alexander St.
Palmerston North.

Legal Description *(as shown on Certificate of Title)*

Valuation Roll Number: 14640/700.00

Lot: 145 D.P. 29133

Section O 0668

PROJECT INFORMATION

New Building ☑ Alteration ☐ Demolition ☐

Being Stage 1 of an intended 1 stages

Estimated Value (inclusive of GST) $ 5000

Intended Uses: To build garage

Floor Area (of New Building Work) ☐ Square metres

Intended Life:

Indefinite but not less than 50 years ☑ Specified as ..... years

FOR COUNCIL USE

PIM P/C BC B.I

Receipt Number:

V2240 930728/945483

Received: 10/2/92

TEMPORARY VEHICLE ACCESS TO SITE

PROPOSED METHOD OF ACCESS		(Please tick one)
1.	Planks across footpath and berm	[ ]
2.	Metal across footpath and berm	[ ]
	Plates across footpath and berm	[ ]
4.	Other N.A.	[ ]

Applicant is responsible for any footpath, grass berm and services damage due to building activities. Any damage to footpaths, berms, etc. will be repaired by the Council and charged to the applicant. Alternatively, applicants may reinstate all damage themselves to Council standards. Approval will be required for any repairs from the Roading and Transport Unit. (Refer to Council Streetworks Officer.)

☐ PLEASE SUBMIT ALL SUPPORTING DOCUMENTS IN DUPLICATE.

Name: Y.M. Noffke Position: Owner

Signature: Y.M. Noffke Date: 10/02/1997

NOTES TO APPLICANTS

1. The information in this application will be held by the Palmerston North City Council
2. The information contained in this application will be held on a "public register" as defined by the Privacy Act 1993 and will be available for inspection and copying by members of the public in terms of the requirements of the Building Act 1991.
3. It is a mandatory requirement of the Building Act 1991 that the information required in this application be provided and the application cannot proceed unless all relevant information is provided.
4. You have a right of access to and, if necessary, correction of the information supplied in this application.

PART B: PROJECT DETAILS

The project involves the following matters *(Cross each applicable box, if any, and attach relevant information to the duplicate):*

- ☐ Location in relation to legal boundaries, and external dimensions of new, relocated or altered buildings
- ☐ New provision 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, disconnecton 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)

The application is accompanied by *(Cross each applicable box and attach relevant information to the 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): .....

Building Certifier(s): .....

Builder(s): Owner .....

Registered Drainlayer: .....

Registered Plumber: .....

Registered Gasfitter: .....

Registered Electrician: .....

Other: .....

PROJECT INFORMATION MEMORANDUM AND / OR BUILDING CONSENT APPLICATION

The Building Act 1991

PALMERSTON NORTH
CITY COUNCIL

PALMERSTON NORTH CITY COUNCIL

CODE COMPLIANCE CERTIFICATE No:3437
Section 43(3), Building Act 1991

Building Consent No: 13984

Owner Details

Name: CHRISTOPHER LOUIS KRUMENACHER
Mailing Address: 37 ALEXANDER STREET, PALMERSTON NORTH

Contact: MRS YVONNE MARGARET NOFFKE
Phone: (06) 353-6646 Fax: (06) 356-4034

Project Information

The project is for Minor Work
Intended Use(s): ERECT A GARAGE
Intended life: Indefinite but not less than 50 years
Value of Work: $5,000.00

Project Location

Street Address: 37 ALEXANDER STREET, PALMERSTON NORTH
Assessment No: 14640/700.00
Legal: LOT 145 DP 29130

Council Charges

Council's charges for this CODE COMPLIANCE CERTIFICATE :

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

Signed for and on behalf of the Council:

Name: R.A.WALKER. SENIOR BUILDING OFFICER.

Signed: R.A.Walker Date: 25/6/97

Project Information Memorandum No:13983
Section 31, Building Act 1991

Name: CHRISTOPHER LOUIS KRUMENACHER
Mailing Address: 37 ALEXANDER STREET, PALMERSTON NORTH

Contact: MRS YVONNE MARGARET NOFFKE
Phone: (06) 353-6646 Fax: (06) 356-4034

The project is for Minor Work
Intended Use(s): ERECT A GARAGE
Intended life: Indefinite but not less than 50 years
Value of Work: $5,000.00

Street Address: 37 ALEXANDER STREET, PALMERSTON NORTH
Assessment No: 14640/700.00
Legal: LOT 145 DP 29133

Council's charges for this Project Memorandum are: $72.00

Receipt number: 930728 Date: 11Feb97 Amount: $72.00
Total: $72.00

1: This Project Information Memorandum is:

- Confirmation that the proposed building work may be undertaken, subject to any requirements of the Building Consent - Attached.

Fees of $202.50 to be paid before Building Consent may be uplifted.

2: The following information relating to special features or characteristics of the land concerned that are likely to be relevant to the design or construction of the proposed building work have been identified from Councils records.

Existing light duty dish vehicle crossing adequate for residential use.

3: Information relating to other authorisations under any Act (other than the Building Act 1991) which must be obtained from Council in relation to the proposed project.

- The Plumbers Gasfitters and Drainlayers Act 1976 requires that only Registered Drainlayers may undertake drainage work and that only Craftsman Plumbers may undertake plumbing work.

Signed for and on behalf of the Council:

Name: R.A.WALKER. SENIOR BUILDING OFFICER.

Signed:..... Date: ../../..

Building Consent No:13984
Section 35, Building Act 1991

Name: CHRISTOPHER LOUIS KRUMENACHER
Mailing Address: 37 ALEXANDER STREET, PALMERSTON NORTH

Contact: MRS YVONNE MARGARET NOFFKE
Phone: (06) 353-6646 Fax: (06) 356-4034

The project is for Minor Work
Intended Use(s): ERECT A GARAGE
Intended life: Indefinite but not less than 50 years
Value of Work: $5,000.00

Street Address: 37 ALEXANDER STREET, PALMERSTON NORTH
Assessment No: 14640/700.00
Legal: LOT 145 DP 29133

Council's charges for this Building Consent are: $256.50

Receipt number: 930728 Date: 11Feb97 Amount: $54.00
Total: $54.00

- Where any building work is to be undertaken to which this Building Consent relates, and is not shown IN DETAIL on the approved plans and specifications, such building work is to be completed to acceptable building standards and to the requirements of the New Zealand Building Code 1992.

- Your Building Consent Issue Fee has incorporated all Mandatory inspection costs.

  If inspections are requested and the job is not ready or they are not Mandatory inspections, they will incurr an additional fee of $76.50 per inspection.

1: This Building Consent is issued subject to the following conditions:-

Concrete floor to be minimum 100 mm above surrounding ground level.

Stormwater to be completed prior to issue of Code of Compliance Certificate.

2: IT SHALL BE A CONDITION OF THE BUILDING CONSENT THAT THE OWNER AND/OR THE PERSON CARRYING OUT THE BUILDING WORK ENSURE THAT THE FOLLOWING INSPECTIONS ARE CARRIED OUT BY PALMERSTON NORTH CITY COUNCIL OFFICERS:-

Foundations

Pre exterior linings

Completion - Building
- Plumbing

Notice that building work is ready for inspection shall be given to the Palmerston North City Council at least 1 (one) working day in advance.

Upon completion of all the building work necessary to comply with the Building Code, the owner is required to apply to the Palmerston North City Council for a Code Compliance Certificate using the Building Work Completion Advice form provided.

Signed for and on behalf of the Council:

Name: R.A.WALKER. SENIOR BUILDING OFFICER.

Signed:..... Date: ../../..

Raw

PALMERSTON NORTH CITY COUNCIL

Field Inspection Sheet
Building Consent No:13984
Related BIK No: 13913

Owner Details

Name: CHRISTOPHER LOUIS KRUMENACHER
Mailing Address: 37 ALEXANDER STREET, PALMERSTON NORTH

~~Contact: MRS YVONNE MARGARET NOFFKE~~

Project Information

The project is for Minor Work
Intended Use(s): ERECT A GARAGE
Intended life: Indefinite but not less than 50 years
~~Value of Work: $5,000.00~~

Project Location

Street Address: 37 ALEXANDER STREET, PALMERSTON NORTH
~~Assessment No: 14640/700.00~~
~~Legal: LOT 145 DP 29133~~

DATE INSPECTED	REMARKS (Eg: stage reached with work)
17.3.97	Siting & bearing ok, no steel in place yet, steel on & chairs on site.
17.3.97	Steel in footing & on chairs.
11.4.97	Slab poured & Steel garage being erected. ok
5.6.97	Garage built & Stormwater connected ok. Completed ok
	B Morris 5.6.97.

BI/PD

Palmerston North City Council

DOCUMENT REPORT

Application Type: PIM Project Information Memorandum

Application: 13983 ERECT A GARAGE
Situation: 37 ALEXANDER STREET
PALMERSTON NORTH

Rela
V

Legal Descr: LOT 145 DP 29133
Applicant: KRUMENACHER, CHRISTOPHER LOUIS

Area:
37 ALEXANDER STREET
PALMERSTON NORTH

Builder: NOFFKE, YVONNE MARGARET
37 ALEXANDER STREET
PALMERSTON NORTH

Code: PIM Project Information Memorandum
Scale: P/C Minor Buildings (no new services) D'nage (new services)
Project: M Minor Work Value of work: $5,000
Building: Main building Purpose: ERECT A GARAGE

Status	Recieved	Begun	Est Due	Granted	Issued
Processing	Date: 10/02/97	11/02/97	26/02/97		

	DAYS		Construction Estim	Actual
Since Received:	0	Start:		
Until Due:	11	End:		
To Complete:	11			
Float:	52			

Document List

	Description	Folder	Other Party
1 Check Answer:	O.K.		
2 Check Answer:			
3 Check Answer:	Plumbers act.		
4 Check Answer:			
5 Check Answer:			
6 Check Answer:			
7 Check Answer:			
8 Check Answer:			
9 Check Answer:			

L.a. Barr 14.2.97

TP

Palmerston North City Council

DOCUMENT REPORT

Application Type: PIM Project Information Memorandum

Application: 13983 ERECT A GARAGE
Situation: 37 ALEXANDER STREET
PALMERSTON NORTH

Rela
V

Legal Descr: LOT 145 DP 29133
Applicant: KRUMENACHER, CHRISTOPHER LOUIS

Area:
37 ALEXANDER STREET
PALMERSTON NORTH

Builder: NOFFKE, YVONNE MARGARET

37 ALEXANDER STREET
PALMERSTON NORTH

Code: PIM Project Information Memorandum
Scale: P/C Minor Buildings (no new services) D'nage (new services)
Project: M Minor Work
Value of work: $5,000
Building: Main building
Purpose: ERECT A GARAGE

Status	Recieved	Begun	Est Due	Granted	Issued
Processing Date:	10/02/97	11/02/97	26/02/97		

DAYS		Construction	Estim	Actual
Since Received:	0			
Until Due:	11	Start:		
To Complete:	11	End:		
Float:	52			

Document List

	Description	Folder	Other Party
1	Check Answer:		
2	Check Answer:		
3	Check Answer:		
4	Check Answer:		
5	Check Answer:		
6	Check Answer:		
7	Check Answer:		
8	Check Answer:		
9	Check Answer:		

OK Plg

12/2/97.

Palmerston North City Council

Streets

DOCUMENT REPORT

Application Type: PIM Project Information Memorandum

Application: 13983 ERECT A GARAGE
Situation: 37 ALEXANDER STREET
PALMERSTON NORTH

Rela
V

Legal Descr: LOT 145 DP 29133
Applicant: KRUMENACHER, CHRISTOPHER LOUIS

Area:
37 ALEXANDER STREET
PALMERSTON NORTH

Builder: NOFFKE, YVONNE MARGARET

37 ALEXANDER STREET
PALMERSTON NORTH

Code: PIM Project Information Memorandum
Scale: P/C Minor Buildings (no new services) D'nage (new services)
Project: M Minor Work
Value of work: $5,000
Building: Main building
Purpose: ERECT A GARAGE

Status	Recieved	Begun	Est Due	Granted	Issued
Processing	Date: 10/02/97	11/02/97	26/02/97		

	DAYS	Construction	Estim	Actual
Since Received:	0			
Until Due:	11	Start:		
To Complete:	11	End:		
Float:	52			

Document List

	Description	Folder	Other Party
1	Check Answer:		
2	Check Answer:	Existing Light Duty Dish Vehicle	
3	Check Answer:	Crossing Adequate For Residential	
4	Check Answer:	Use.	
5	Check Answer:		
6	Check Answer:		
7	Check Answer:		
8	Check Answer:		
9	Check Answer:		

BI | PD

Palmerston North City Council

DOCUMENT REPORT

Application Type: BC Building Consent

Application: 13984 ERECT A GARAGE
Situation: 37 ALEXANDER STREET
PALMERSTON NORTH

Rela
V

Legal Descr: LOT 145 DP 29133
Applicant: KRUMENACHER, CHRISTOPHER LOUIS

Area:
37 ALEXANDER STREET
PALMERSTON NORTH

Builder: NOFFKE, YVONNE MARGARET

37 ALEXANDER STREET
PALMERSTON NORTH

Code: BC Building Consent
Scale: B1 Unserv. O/Bs,Fm Bldgs, Conservs(exist founds)+add/alts
Project: M Minor Work
Building: Main building

Value of work: $5,000
Purpose: ERECT A GARAGE

Status	Recieved	Begun	Est Due	Granted	Issued
Processing Date:	11/02/97	11/02/97	26/02/97		

DAYS		Construction	Estim	Actual
Since Received:	0			
Until Due:	11	Start:		
To Complete:	8	End:		
Float:	52			

Document List

	Description	Folder	Other Party
1 Check Answer:	① Concrete floor to be minimum 100 mm above surrounding ground level.		
2 Check Answer:			
3 Check Answer:			
4 Check Answer:	② Stormwater to be completed prior to issue of C.C.C.		
5 Check Answer:			
6 Check Answer:			
7 Check Answer:			

T.a. Barr 14.2.97

① Foundation.
② Pre exterior linings
③ completion - plumbing also.

TP

Palmerston North City Council

DOCUMENT REPORT

Application Type: BC Building Consent

Application: 13984 ERECT A GARAGE
Situation: 37 ALEXANDER STREET
PALMERSTON NORTH

Rela
V

Legal Descr: LOT 145 DP 29133
Applicant: KRUMENACHER, CHRISTOPHER LOUIS

Area:
37 ALEXANDER STREET
PALMERSTON NORTH

Builder: NOFFKE, YVONNE MARGARET

37 ALEXANDER STREET
PALMERSTON NORTH

Code: BC Building Consent
Scale: B1 Unserv. O/Bs,Fm Bldgs, Conservs(exist founds)+add/alts
Project: M Minor Work
Building: Main building

Value of work: $5,000
Purpose: ERECT A GARAGE

Status	Recieved	Begun	Est Due	Granted	Issued
Processing Date:	11/02/97	11/02/97	26/02/97		

DAYS		Construction	Estim	Actual
Since Received:	0			
Until Due:	11	Start:		
To Complete:	8	End:		
Float:	52			

Document List

	Description	Folder	Other Party
1	Check Answer:		
2	Check Answer:		
3	Check Answer:		
4	Check Answer:		
5	Check Answer:		
6	Check Answer:		
7	Check Answer:		

Ok Plg

12/2/97.

FREDERICK R SMITH BE (civil), MIPENZ, MACENZ
Registered Consulting Structural and Civil Engineer

23 Glamorgan Drive, Torbay, Auckland
P O Box 35 422, Browns Bay, Auckland
Telephone/Facsimile 64 9 473 1262
Mobile Telephone 025 997 139

1614
16 September 1996

The Manager
Local Territorial Authority

Attention: Senior Building Controller

Dear Sir

STEEL FRAMED BUDGET BUILDINGS
GARAGES - FARMSHEDS - HAYBARNS - CARPORTS

As the New Zealand representative, of the Austalian designer of the above range of Spic-N-Span cold formed steel framed buildings, I have been requested, by some Local Authorities, to issue a blanket Producer Statement for these specific designed structures.

I consider the Producer Statement to be a legal document, that is unique to a particular building on one site, but I can issue thefollowing statement:

1. The buildings are constructed from high tensile steel with high tensile steel cladding and no timber is used.

2. The buildings are fabricated from zincalume protected steelwork, all members are fixed with zinc plated Tekscrews and any member, 'with moderate ease' can be removed and treated for corrosion at any time, 'without reconstruction or major renovation'.

3. The buildings are light and, even with the concrete floor slab, the required ground bearing pressure is less than 75kPa.

4. The maximum uplift, in any post, is 12.5 KN and the building will be stable provided the support system will resist these forces. Zincplated Rawlplug Excalibur screwbolts are used to fix the structure to the concrete floor slab or concrete footings and these fasteners can be removed for inspection and treatment or replacement at any time.

5. The W37 and W42 buildings will withstand site wind speeds (NZS 4203:1992 clause 5.4.1) of 45 and 50 metres per second respectively.

6. The buildings will withstand snow loads of 0.7Kpa and loadings of up to 1.2kPa can be resisted by strengthening the roof trusses and adding extra purlins.

Please contact me for further information.

Yours faithfully

F R Smith

FREDERICK R SMITH B.E.(HONS) MIPENZ MACENZ
Registered Consulting Structural and Civil Engineer

23 Glamorgan Drive, Torbay, Auckland
P O Box 35 422, Browns Bay, Auckland
Telephone/Facsimile 64 9 473 1262
Mobile Telephone 025 997 139

STEEL FRAMED BUDGET GARAGES FARMSHEDS & CARPORTS

STATEMENT OF DURABILITY

NEW ZEALAND BUILDING CODE

The DURABILITY requirement, of the Building Regulations 1992, requires the structure of the building, without reconstruction or major renovation, to have a life of at least 50 years (clause B2.3 (a)) whereas building elements which do have a moderate ease of access (clause B2.3 (c)) shall have a life of at least 15 years and components such as linings, doors and windows shall have a life of at least 5 years (clause B2.3 (d)), with only normal maintenance, unless the *building* is given a *specified intended life.*

NORMAL CONDITIONS

In areas of normal conditions (500m from breaking surf, in the immediate vicinity of calm salt water such as estuaries and harbour foreshores, more than 500 metres from industrial emissions and subject to little or no fallout from them and away from geothermal areas) provided the building is located, where possible, with the openings away from prevailing inclement weather, doors are kept closed and the building is given 'normal maintenance', as specified for corrosive conditions below, then the life of the building will be 50 years.

CORROSIVE CONDITIONS

In area of corrosive conditions (within 500m of breaking surf, heavy salt deposits, constant smell of salt spray, the continuous presence of a smell of industrial chemicals, such as sulphur or acids, close to industrial emissions and/or geothermal areas and subject to light fallout from them) because all of the components of the building can be replaced 'with moderate ease' without 'reconstruction or major renovation' the specified intended life of the building is nominated as 20 years. After this period the local authority may request an inspection and assessment of the future life of the building.

For the life of the building to be at least 20 years - framing that is to be boxed or lapped with other framing members shall prior to assembly be degreased, etched with a primer suitable for galvanised iron and zincalume and given a heavy coat of anti-corrosive zinc-rich paint, or equivalent protective paint system, as supplied by a reputable paint supplier and the zinc plated Rawlplug screwbolts, securing the building to the foundations, shall be liberally coated with Selleys Roof and Gutter Sealant, as shall the angle fixing brackets.

'Normal maintenance', as required by the Building Code, shall then consist of annual washing of areas, unwashed by rain, for buildings in moderate corrosion environments, twice annually washing down, in areas of severe corrosion and a complete protective painting system, for buildings in very severe atmospheres.

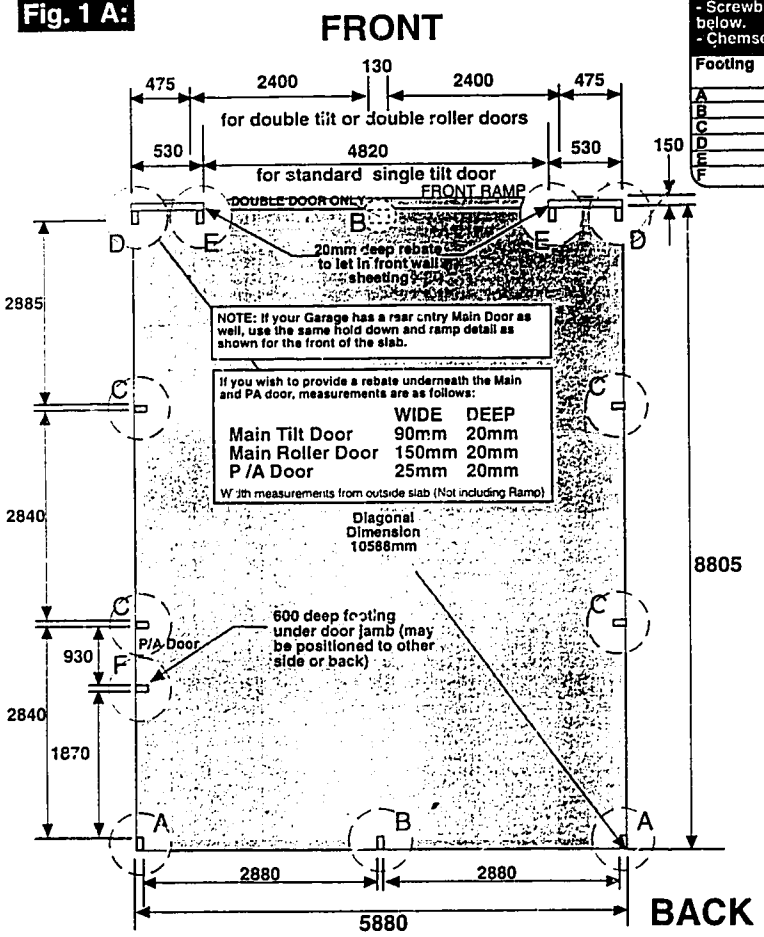
(amended : 15.09.96)

Pour a perfectly level concrete slab to the dimensions shown in Figure 1A. This is to be 100mm thick, reinforced with F72 Mesh, laid 30mm from the top with edge thickening shown in Figure 1B and a ramp at the front (Figure 1C). Concrete strength is to be 20MPA at 28 days.

If you would rather erect your Garage on footings, the locations are shown as dotted lines( ) in Figure 1A, a side view of the footing and a size schedule are shown in Figure 1D.

The Garage has been designed so the slab size and the external frame size are the same. The wall sheeting then overlaps the top of the slab by 20mm to form a waterproof joint. If you plan to erect your Garage on a slab larger than the one specified, it will be necessary to trim 20m off each wall sheet, then seal the joint between the slab and wall sheet with Silicone.

Fig. 1 A:



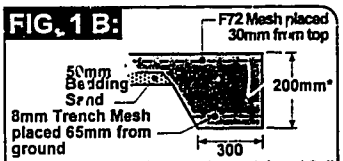
No. of anchors to be used for each Leg:
- Screwbolts: M10x75mm all cases x qty shown below.
- Chemsets: as shown below.

Footing	2.4Wall H.	2.7Wall H.	3.0Wall H.
A	1 X M10	1 X M10	1 X M10
B	2 X M8	2 X M8	2 X M8
C	2 X M8	2 X M8	2 X M8
D	2 X M10	2 X M12	2 X M12
E	2 X M10	2 X M12	2 X M12
F	1 X M8	1 X M8	1 X M8

NEW ZEALAND ONLY

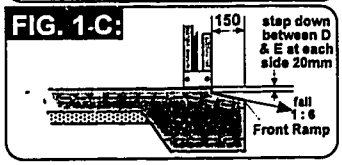
Fig 1b, c & d are **NOT** to be used in New Zealand conditions refer to **SLAB AND FOUNDATION SHEDULE** attached to plans, for detailed drawings.

FIG. 1 B:



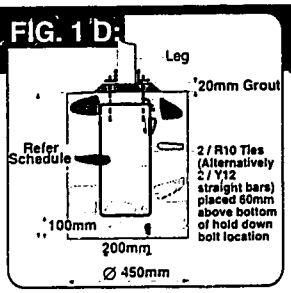
*NOTE: Victoria Only: Depth to suit Local Soil Conditions (Refer By-Laws)

FIG. 1 C:



Refer to this Section ONLY if FOOTINGS are being used instead of concrete slab!

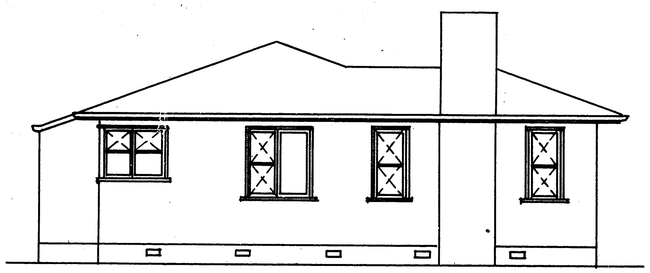
FIG. 1 D:



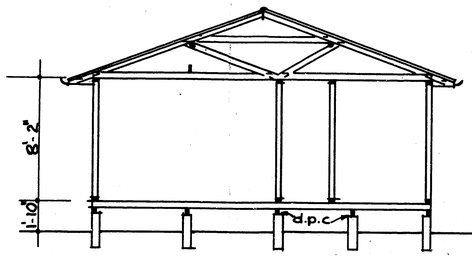
FOOTING DEPTH SCHEDULE (mm)

Wall Height	A		B		C		D		E		F	
	20 kpa	10kpa	20 kpa	10kpa	20 kpa	10kpa	20 kpa	10kpa	20 kpa	10kpa	20 kpa	10kpa
2.4H.	900	1150	950	1150	650	1050	1000	1700	900	1300	600	600
2.7H.	950	1150	1050	1250	850	1050	1450	2550	1300	2200	600	600
3.0H.	950	1150	1050	1250	850	1050	1450	2550	1300	2200	600	600

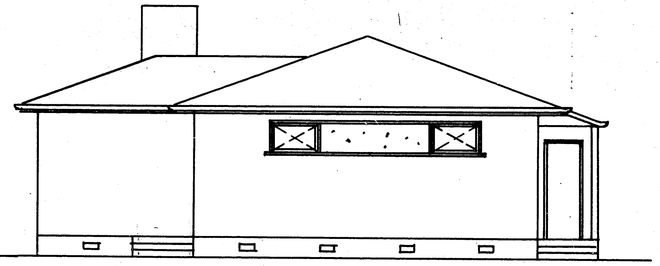
NOTE: Most soils meet 20kpa requirements.For soft soil use 10kpa value. For shaft adhesion value in your area consult your local soils engineer.



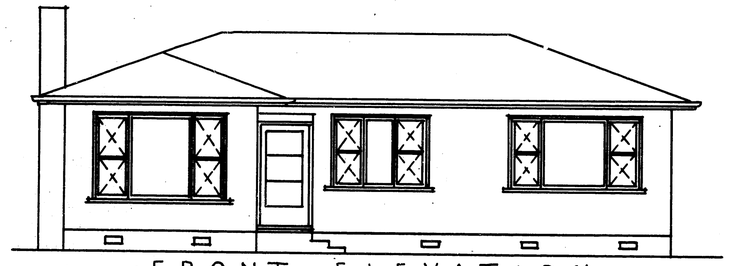
·SIDE · ELEVATION·



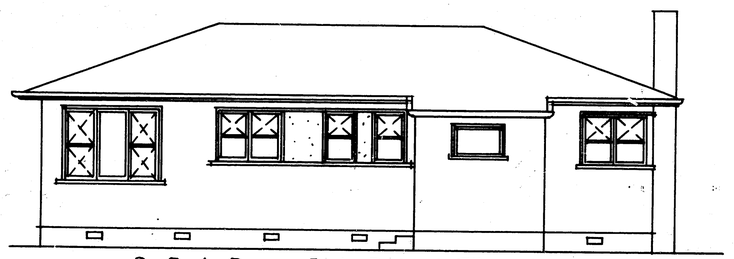
·SECTION·A-A·



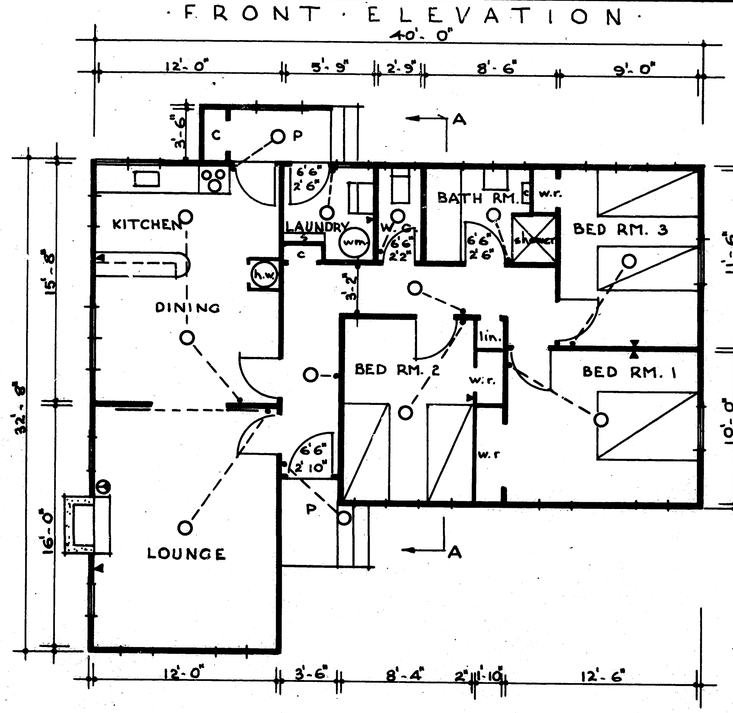
·SIDE · ELEVATION·

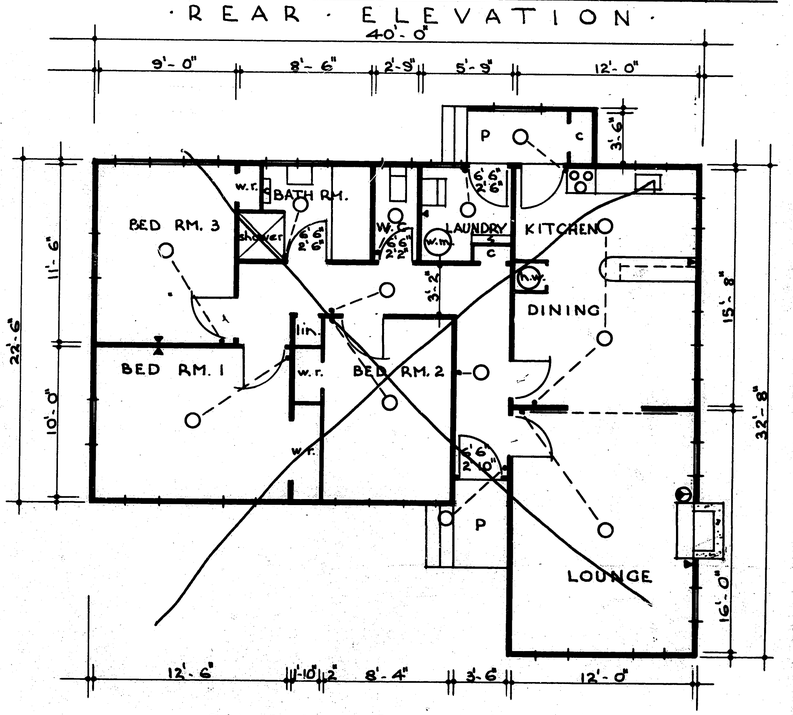


·FRONT · ELEVATION·



·REAR · ELEVATION·





·PLAN · REVERSED·

N

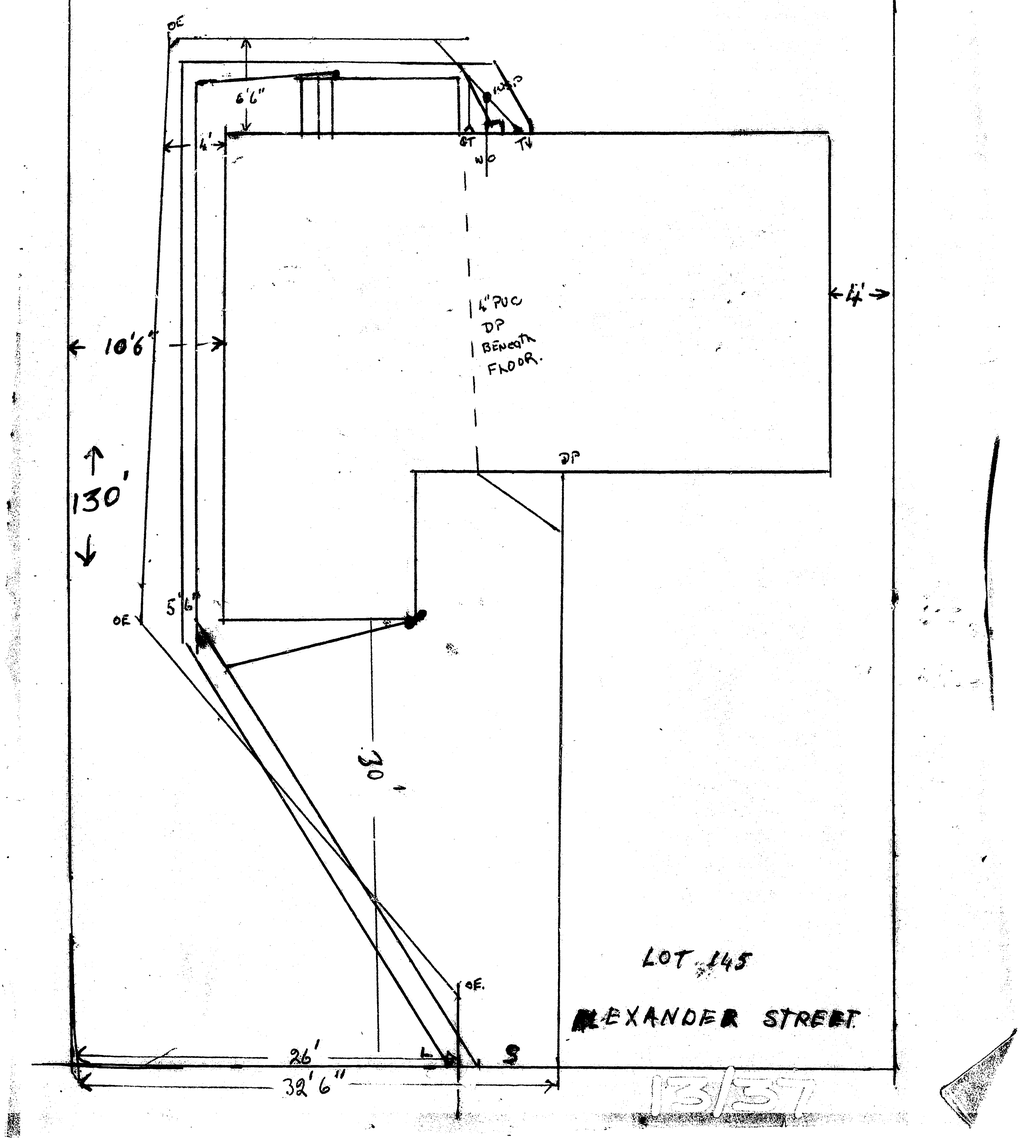
AREA 1060 ft²	JOB NO. 10/64 DRAWN. RKW	·DEPARTMENT · OF · MAORI · AFFAIRS ·STANDARD · PLANS·

17/37

3/31

STREET:- 37 ALEXANDER ST	BDG. PERMIT No. 1506
LOT No. 145	DATE DEPOSITED.
BUILDER:-	PERMIT No. 1384
OWNER	INSPECTED BY
DRAINLAYER. MCLACHLAN	DATE COMPLETED. 14/7/69

56'

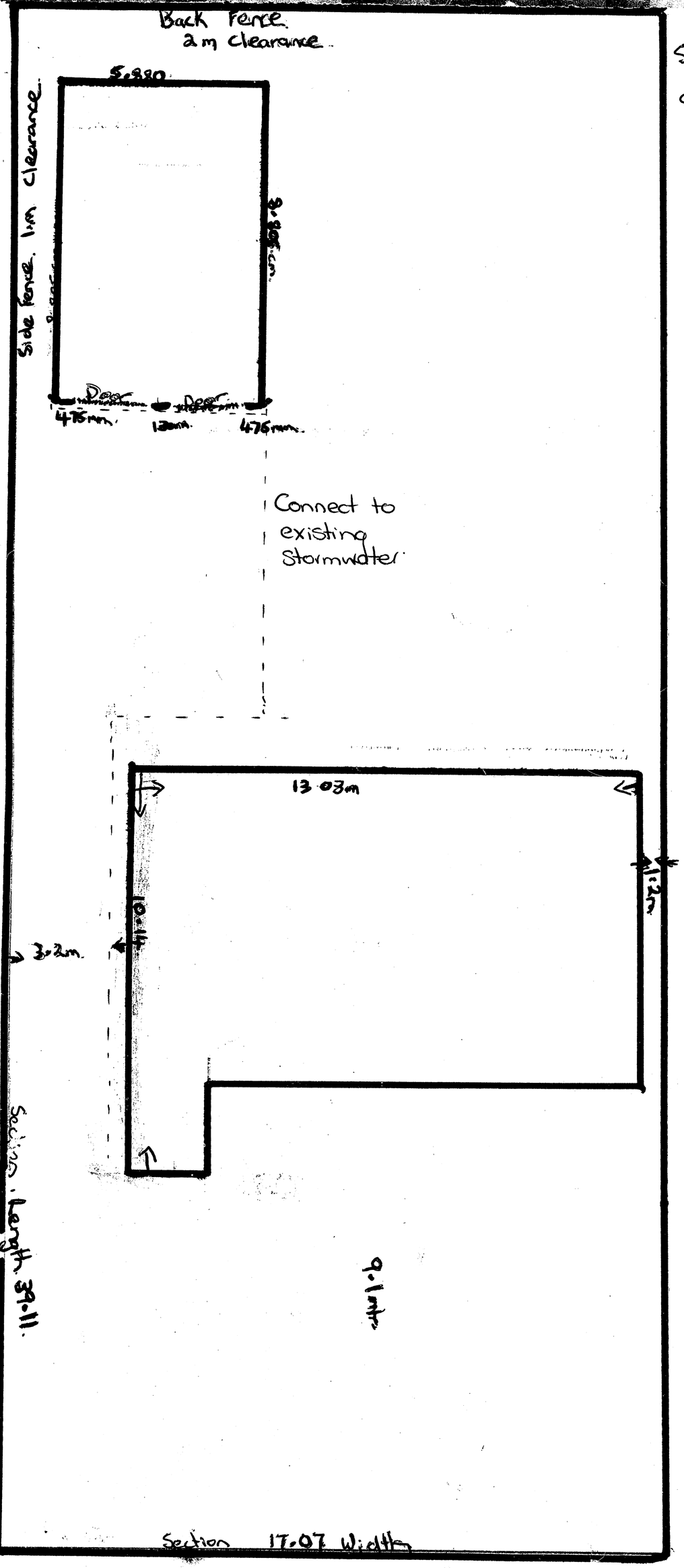


13/37

Site plan for double garage
at 37 Alexander St.

Lot 145.

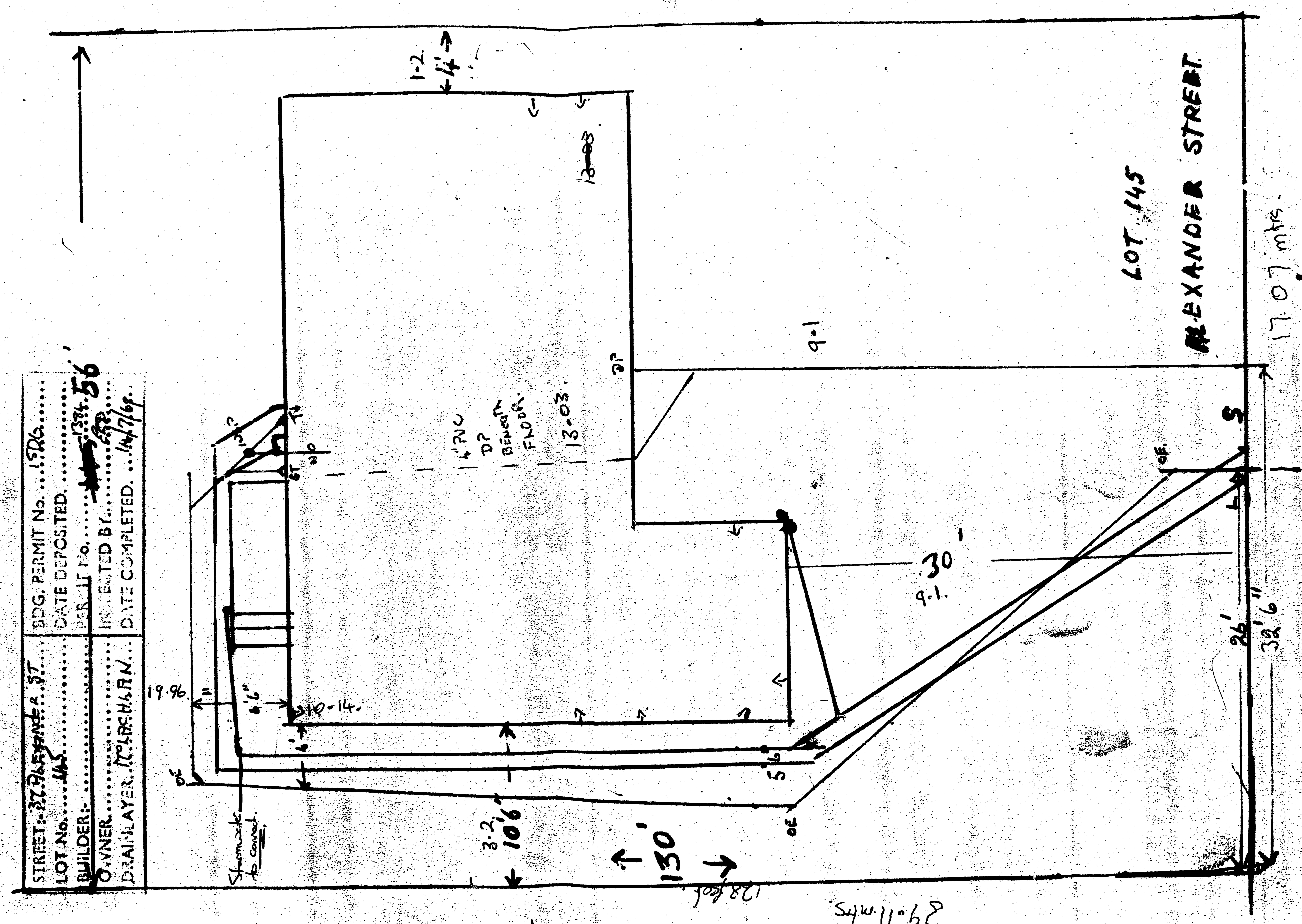
A20/37



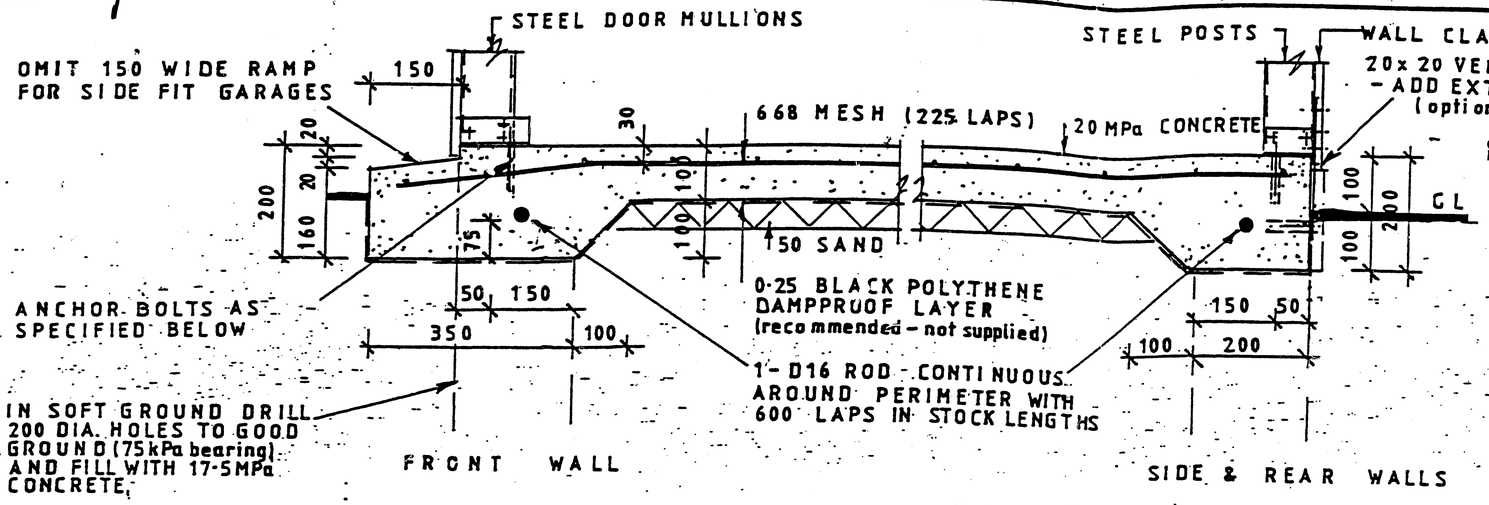
Site area = 667m².
× 35%
= 233m² Sc

House : 135m²
Garage : 52m²
187m² ✓

A20/37



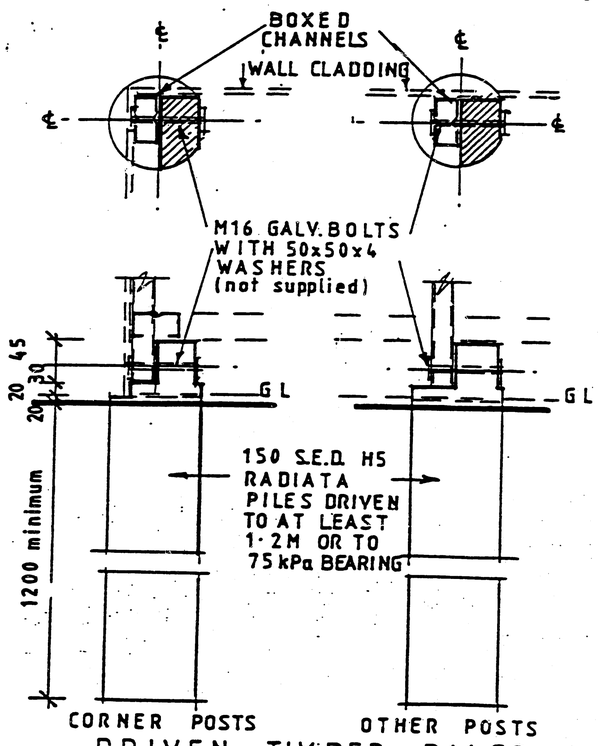
A20/37



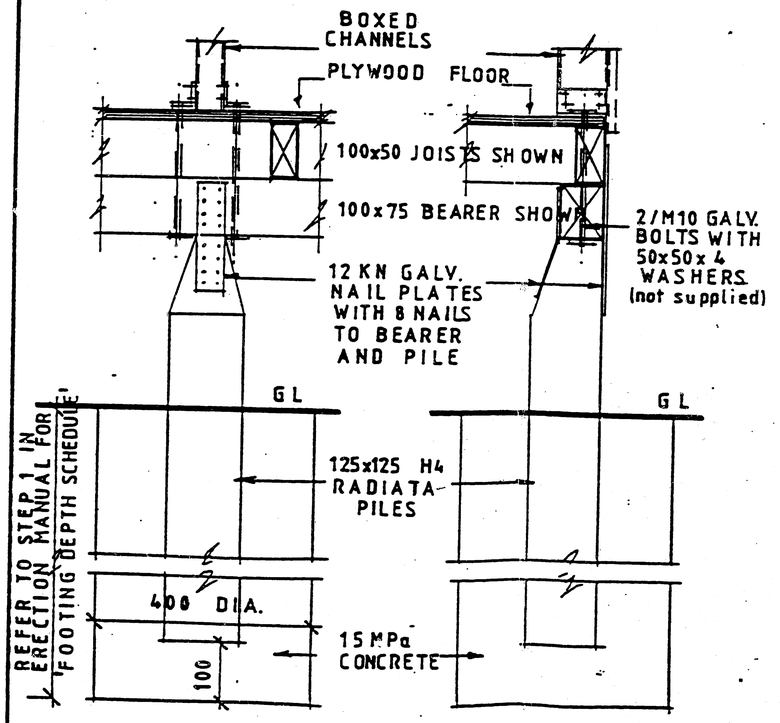
CONCRETE SLAB

SLAB AND FOUNDATION SCHEDULE

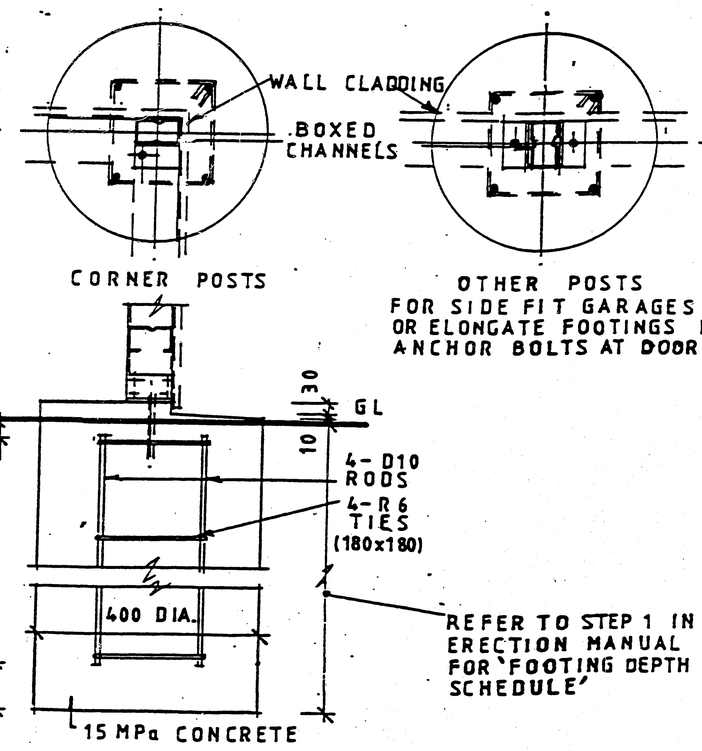
DELETE OPTIONS NOT APPLICABLE



DRIVEN TIMBER PILES



TIMBER PILES IN CONCRETE



CONCRETE FOOTINGS

ANCHOR BOLTS TO CONCRETE SHALL BE RAWLPLUG M10x75 ZINC PLATED HEX HEADED EXCALIBUR SCREWBOLTS

ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NEW ZEALAND BUILDING CODE

Designer: Des Newport, Consulting Engineer Brisbane, Australia

Regd. Eng: FREDERICK R SMITH CONSULTING ENGINEER 23 Glamorgan Drive, Torbay Auckland Ph/Fx 09 473 1262

25·7·96 amended
28·8·96

BUDGET GARAGES LTD

SHEET 4

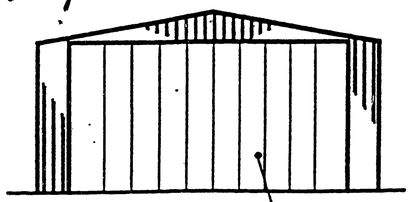
STEEL FRAMED GARAGES

CONCRETE FLOOR SLAB - FOOTINGS OR TIMBER PILES

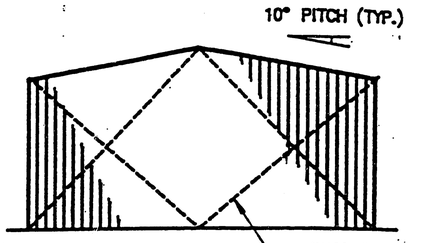
Manufacturer: Spic - N- Span, Brisbane, Australia

Distributors: BUDGET GARAGES LIMITED 5A Ryan Place, P O Box 76 318, Manukau City, Auckland, Phone 09 262 2803, Free Phone 0-00 103 545, Fax 09 262 2798

A20/37

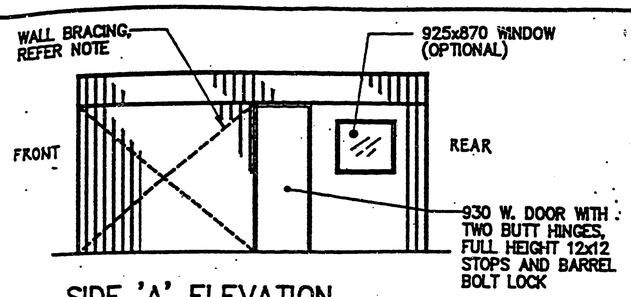


FRONT ELEVATION



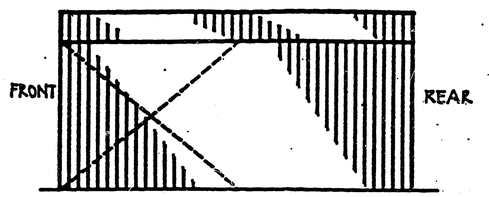
REAR ELEVATION

1 PERSONELL DOOR MAY BE INSTALLED IN THIS WALL PROVIDED THE NUMBER OF BRACING SETS IS MAINTAINED AS SCHEDULED
2 WALL BRACING (2 BAYS) EX. G550 STRAPS:-
S42 - 6-12m L. GARAGE - 21x0.8 STRAPS 3 SCREWS/CONN.
15m L. GARAGE - 50x0.8 STRAPS 4 SCREWS/CONN.
S50 - 6-9m L. GARAGE - 50x0.8 STRAPS 3 SCREWS/CONN.
12-15m L. GARAGE - 50x0.8 STRAPS 4 SCREWS/CONN.



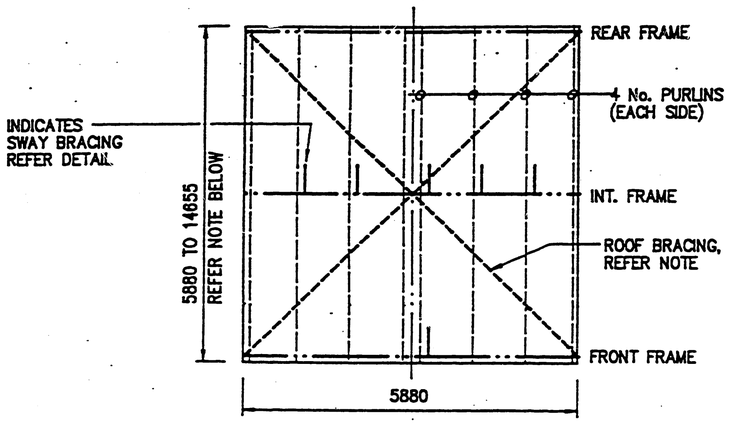
SIDE 'A' ELEVATION

WALL BRACING EX. G550 STRAPS:-
S42 - 6-9m L. GARAGE - 1 BAY OF 21x0.8 STRAPS 3 SCREWS/CONN.
12-15m L. GARAGE - 2 BAYS OF 21x0.8 STRAPS 2 SCREWS/CONN.
S50 - 6m L. GARAGE - 1 BAY OF 50x0.8 STRAPS 5 SCREWS/CONN.
9-12m L. GARAGE - 2 BAYS OF 21x0.8 STRAPS 3 SCREWS/CONN.
15m L. GARAGE - 3 BAYS OF 21x0.8 STRAPS 3 SCREWS/CONN.



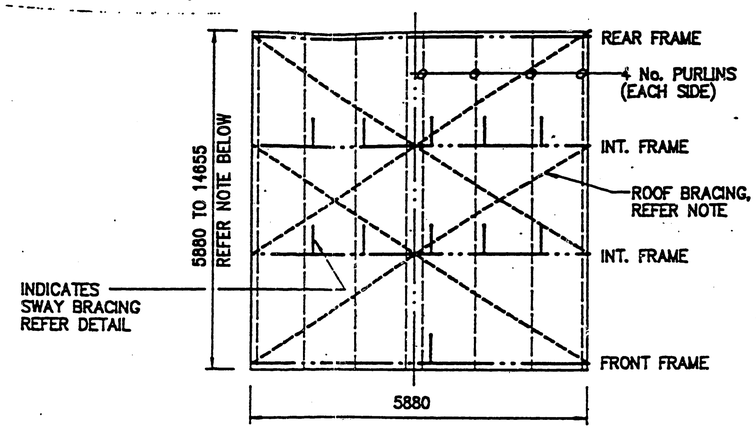
SIDE 'B' ELEVATION

WALL BRACING REFER SIDE 'A' ELEVATION



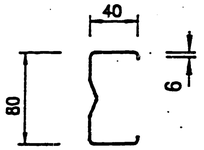
FRAMING PLAN - S42

1 S42, 6m WIDE GARAGES MAY BE EXTENDED TO MAXIMUM 15m LONG BY INSERTING INTERNAL FRAMES AT 3000 CTS. MAXIMUM. BRACING LAYOUT SIMILAR.
2 ROOF BRACING EX. G550 STRAPS:-
6-12m L. GARAGE - 21x0.8 STRAPS (3 SCREWS/CONN.)
15m L. GARAGE - 50x0.8 STRAPS (3 SCREWS/CONN.)

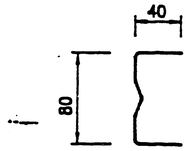


FRAMING PLAN - S50

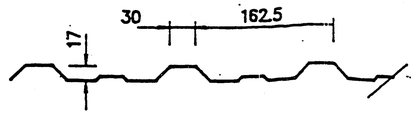
1 S50, 6m WIDE GARAGE MAY BE EXTENDED TO MAXIMUM 15m LONG BY INSERTING INTERNAL FRAMES AT 2000 CTS. MAXIMUM. BRACING LAYOUT SIMILAR.
2 ROOF BRACING EX. G550 STRAPS:-
6-9m L. GARAGE - 50x0.8 STRAPS 4 SCREWS/CONN.
12-15m L. GARAGE - 50x0.8 STRAPS 5 SCREWS/CONN.



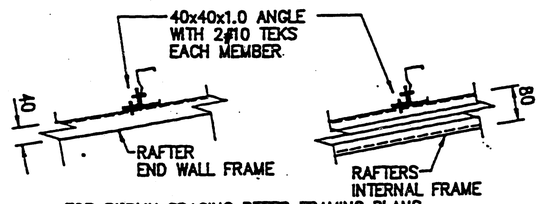
TYPICAL SECTION INT. & REAR FRAMES



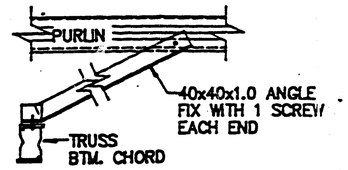
TYPICAL SECTION FRONT FRAME ONLY



SHEETING PROFILE 0.35 T.C.T.



FOR PURLIN SPACING REFER FRAMING PLANS
PURLIN FIXING



TYPICAL SWAY BRACING DETAIL

A	RELEASED FOR BUILDING APPROVAL	JULY 1996
SUFF	REVISION	DATE

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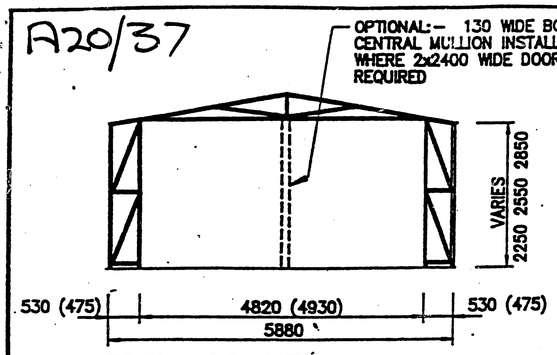
PROJECT
RANGE OF GARAGES
6m WIDE FRONT ENTRY
SITE WIND SPEED
42m/s AND [illegible]m/s
2.4m, 2.[illegible] Height

SUBJECT
ELEVATIONS, FRAMING PLANS, CONNECTION DETAILS

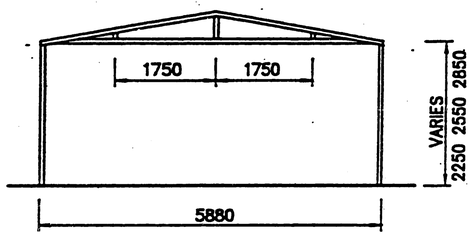
JOB No. 91099NZ
DWG No. 1
REVISION SUFFIX A

A20/37



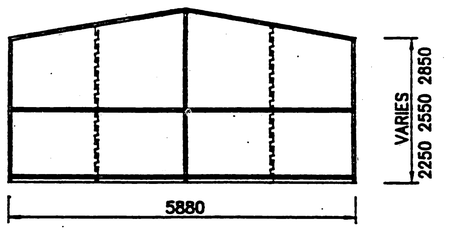
FRONT FRAME

1 ALL MEMBERS TO BE EX. 80x40 CHANNELS, 0.8 B.M.T.
2 DOOR HEAD AND DOOR MULLIONS TO BE BOXED CHANNELS



INTERNAL FRAME

1 ALL MEMBERS TO BE BOXED 80x40 CHANNELS (RAFTERS TO BE 2 / 80x40 CHANNELS)



REAR FRAME

1 REFER "REAR FRAME NOTES" FOR MEMBER SIZES AND SPACINGS

NOTE:- M10 "AVDEL TEXTRON SCREWBOLTS" MAY BE USED IN LIEU OF CHEMSETS FOR HOLD DOWN OF ALL FRAMES (SEE NOTES)

SIDE WALL GIRT NOTE

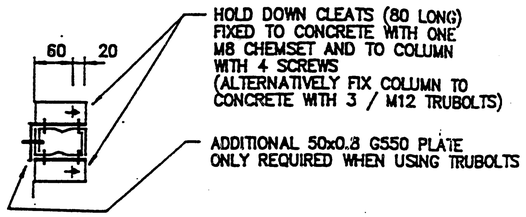
1 ALL SIDE WALL GIRTS TO BE SINGLE 80x40 CHANNELS, 0.8 B.M.T.
2 SPACING OF SIDE WALL GIRTS AS PER REAR WALL ELEAVTION.

FRONT FRAME – HOLD DOWN SCHEDULE

FIX EACH COLUMN OF FRONT FRAME WITH HOLD DOWN CLEAT/S FIXED TO CONCRETE WITH CHEMSETS AND TO COLUMN WITH SCREWS:-

2.4m HIGH GARAGE	2.7m AND 3.0m HIGH GARAGE
6m LONG; S42 – 2/CH8 (4 SCREWS) S50 – 2/CH10 (5 SCREWS)	6m LONG; S42 – 2/CH10 (6 SCREWS) S50 – 2/CH12 (8 SCREWS)
9m LONG; S42 – 2/CH10 (5 SCREWS) S50 – 2/CH12 (7 SCREWS)	9m LONG; S42 – 2/CH12 (8 SCREWS) S50 – 4/CH10 (10 SCREWS)
12m LONG; S42 – 2/CH10 (6 SCREWS) S50C – 2/CH12 (9 SCREWS)	12m LONG; S42 – 4/CH10 (10 SCREWS) S50 – 4/CH12 (14 SCREWS)
15m LONG; S42 – 2/CH12 (6 SCREWS) S50 – 4/CH10 (12 SCREWS)	15m LONG; S42 – 4/CH12 (14 SCREWS) S50 – 4/CH12 (16 SCREWS)

NOTE:- NUMBER OF SCREWS INDICATED IS THE TOTAL NUMBER PER COLUMN (DIVIDE EQUALLY BETWEEN THE NUMBER OF CLEATS REQUIRED)



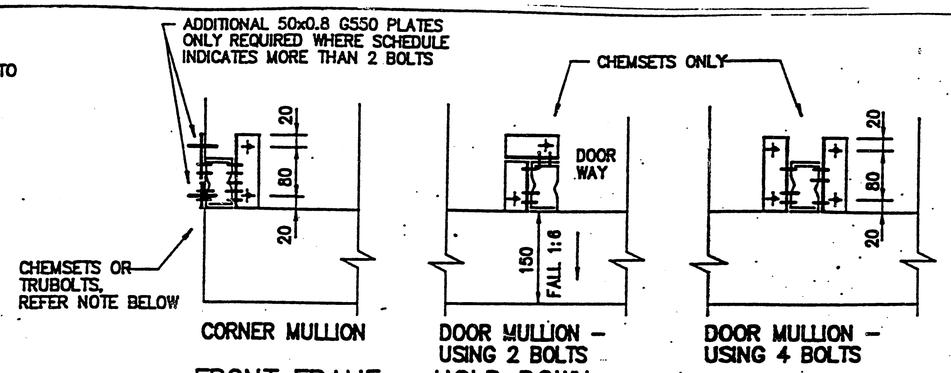
INTERNAL FRAME – HOLD DOWN

1 HOLD DOWN CLEATS TO BE EX. 40x40x2.0 ANGLE
2 BOLTS DESIGNATED CH8 TO CH12 REFERS TO M8 TO M12 CHEMSETS INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.
3 M8 TO M12 CAST-IN BOLTS MAY BE USED IN LIEU OF CHEMSETS
4 M10 "AVDEL TEXTRON SCREWBOLTS", 75mm EMBEDMENT INTO CONCRETE, MAY BE USED IN LIEU OF CHEMSETS

REAR FRAME NOTES

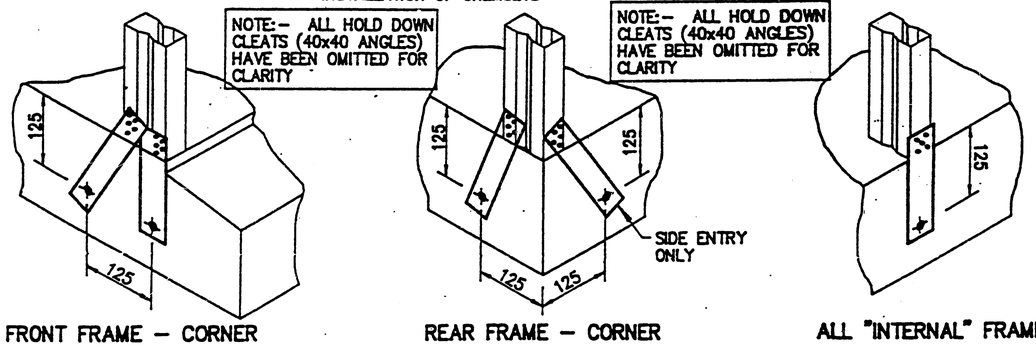
1 ALL MEMBERS EX. 80x40 CHANNELS, 0.8 B.M.T. (BOXED MULLIONS TO BE FLANGE CONNECTED WITH SCREWS AT 600 CTS.)
2 GIRT LAYOUT TO BE AS SHOWN. ALL GIRTS IN END WALL EX. SINGLE CHANNELS. (SIDE WALL GIRT LAYOUT SIMILAR).
3 CORNER MULLIONS TO BE TYPE A, ALL D.W.V., ALL HEIGHTS
4 NUMBER OF "INTERNAL" MULLIONS AS PER FOLLOWING:-

2400 H. GARAGE	1 TYPE B – S42 1 TYPE B – S50	TYPE A
2700 H. GARAGE	1 TYPE B – S42 3 TYPE B – S50	
3000 H. GARAGE	1 TYPE B – S42 3 TYPE B – S50	TYPE B



FRONT FRAME – HOLD DOWN

1 M12 TRUBOLTS MAY BE USED IN LIEU OF CHEMSETS FOR HOLD DOWN OF FRONT FRAME CORNER MULLION IN FOLLOWING CASES ONLY:-
– 2.4m HIGH GARAGE; S42, 6–15m L. GARAGE; USE 3 TRUBOLTS
S50, 6–9m L. GARAGE; USE 3 TRUBOLTS
12–15m L. GARAGE; USE 4 TRUBOLTS
– 2.7–3.0m H. GAGARE; S42, 6m L. GARAGE; USE 3 TRUBOLTS
9–12m L. GARAGE; USE 4 TRUBOLTS
S50, 6–9m L. GARAGE; USE 4 TRUBOLTS
2 REFER "INTERNAL FRAME – HOLD DOWN" FOR NOTES REGARDING;
– SCREWBOLTS AND CAST-IN BOLTS USED IN LIEU OF CHEMSETS
– INSTALLATION OF CHEMSETS



HOLD DOWN – WHERE ADDITIONAL 50x0.8 G550 PLATES ARE REQUIRED

REAR FRAME CORNER – HOLD DOWN SCHEDULE

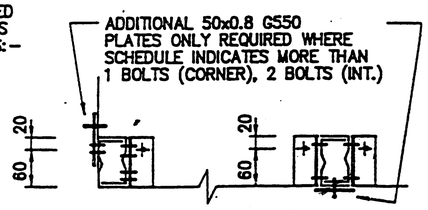
HOLD DOWN CLEAT/PLATE FIXED TO CONCRETE WITH CHEMSET/S AND TO COLUMN WITH SCREWS:-

6m LONG GARAGE;
S42 – 1/CH10 (2 SCREWS)
S50 – 1/CH10 (2 SCREWS)

9m LONG GARAGE;
S42 – 1/CH10 (3 SCREWS)
S50 – 2/CH8 (3 SCREWS)

12m LONG GARAGE;
S42 – 2/CH8 (3 SCREWS)
S50 – 2/CH10 (3 SCREWS)

15m LONG GARAGE;
S42 – 2/CH10 (4 SCREWS)
S50 – 2/CH10 (4 SCREWS)



REAR FRAME "INTERNAL" – HOLD DOWN SCHEDULE

TWO HOLD DOWN CLEATS, EACH FIXED TO CONCRETE WITH ONE CHEMSETS AND TO COLUMN WITH SCREWS:-

6–12m LONG GARAGE;
S42 – CH8 BOLT, 3 SCREWS
S50 – CH8 BOLT, 3 SCREWS

15m LONG GARAGE;
S42 – CH10 BOLT, 3 SCREWS
S50 – CH10 BOLT, 3 SCREWS

REAR FRAME – HOLD DOWN

1 M12 TRUBOLTS MAY BE USED IN LIEU OF CHEMSETS FOR HOLD DOWN REFER FOLLOWING; –CORNER MULLIONS; USE 2 TRUBOLTS
–"INTERNAL MULLIONS"; USE 3 TRUBOLTS
2 REFER "INTERNAL FRAME – HOLD DOWN" FOR NOTES REGARDING;
– SCREWBOLTS AND CAST-IN BOLTS USED IN LIEU OF CHEMSETS
– INSTALLATION OF CHEMSETS

SUFF	REVISION	DATE
A	RELEASED FOR BUILDING APPROVAL	JULY 199[illegible]

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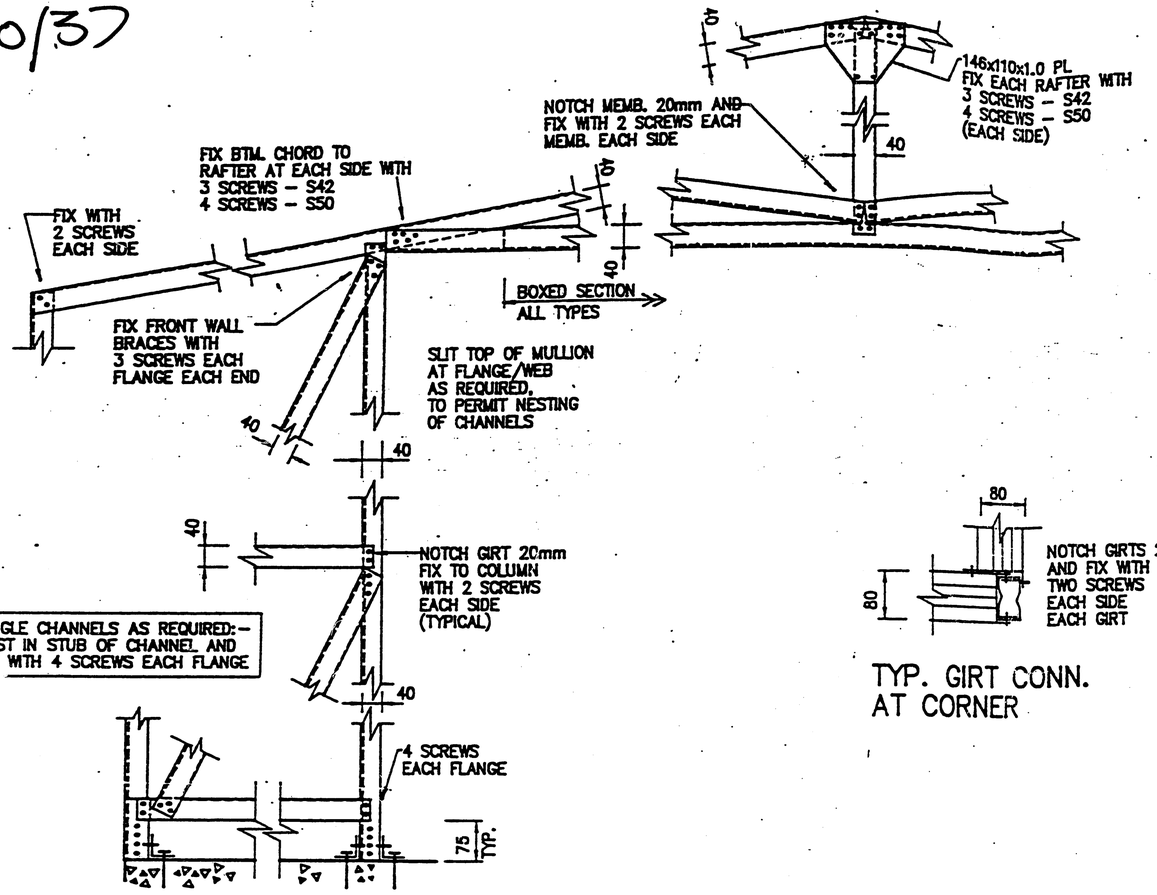
PROJECT
2.4m, 2.[illegible] Height
RANGE OF GARAGES
6m WIDE FRONT ENTRY
SITE WIND SPEED
42m/s AN[illegible]/s

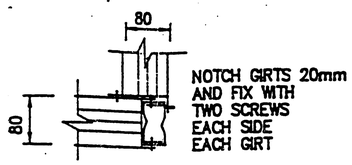
SUBJECT.
DETAILS OF FRAMES, HOLD DOWN DETAILS

JOB No. 91099NZ
DWG No. 2
REVISION SUFFIX A

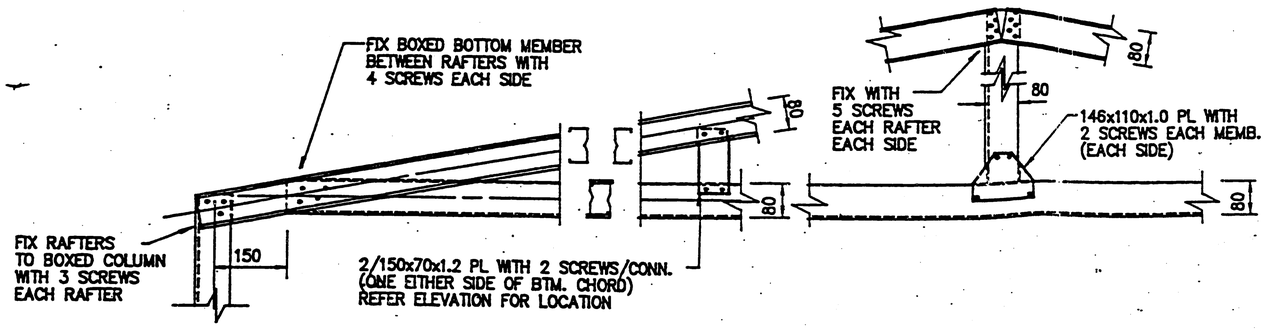
A20/37



FRONT FRAME – CONNECTION DETAILS



TYP. GIRT CONN. AT CORNER



INTERNAL FRAME – CONNECTION DETAILS

GENERAL NOTES

1 ALL WORK SHALL CONFORM TO THE NEW ZEALAND BUILDING CODE.
2 DRAWINGS SHALL NOT BE SCALED FOR ANY FABRICATION OR ERECTION DETAILS.
3 AT SET OUT, DIAGONALS MUST BE CAREFULLY CHECKED TO ENSURE BUILDING IS SQUARE.

LOADINGS

1 STRUCTURE HAS NOT BEEN DESIGNED TO CARRY OCCASIONAL LOADING AS STIPULATED IN 3.8.3 OF AS 1170.1.
2 WIND LOAD IN ACCORDANCE WITH NZS 4203–1992
D.W.V's REFERRED TO ON DRAWINGS ARE:
–S42, ULTIMATE SITE WIND SPEED OF 42.5m/s
–S50, ULTIMATE SITE WIND SPEED OF 50.4m/s
3 ROOF LIVE LOAD:– 0.25 kPa
4 MAXIMUM SNOW LOAD SHALL BE 0.7 kPa. HEAVIER SNOW LOAD WILL NEED EXTRA PURLINS.
5 BUILDING SITES ABOVE 1000m ABOVE SEA LEVEL WILL NEED SPECIFIC DESIGN.

CONCRETE

1 SERVICES OF AN EXPERIENCED CONSULTING ENGINEER SHOULD BE ENGAGED TO ADVISE ON SUITABILITY OF SOIL CONDITIONS.
2 CONCRETE SHALL HAVE MAXIMUM AGGREGATE SIZE OF 20 mm, SLUMP OF 80±20 AND ULTIMATE COMPRESSION STRENGTH AT 28 DAYS OF 20 MPa.
3 CONCRETE SHALL BE PLACED IN ONE CONTINUOUS OPERATION AND BE COMPACTED BY EXTERNAL VIBRATION OR HAND TAMPING.
4 FOOTING EXCAVATIONS SHALL BE THOROUGHLY CLEANED OF ALL LOOSE MATERIAL BEFORE PLACING CONCRETE.
5 FOUNDING MATERIAL SHALL HAVE SAFE BEARING CAPACITY OF 75 kPa.
6 POUR SLAB ON 50 mm COMPACTED SAND AND 25um POLYTHENE WATERPROOF MEMBRANE (LAPPED 200 AND SEALED WITH APPROPRIATE TAPE).

STEELWORK

1 ALL STRUCTURAL FRAMING MEMBERS SHALL BE G550 GRADE STEEL AND ALL CLEATS SHALL BE G450 GRADE STEEL GALVANIZED TO MIN Z200.
2 ROOF AND WALL SHEETING SHALL BE G550 GRADE STEEL PROTECTED WITH ZINCALUME AZ150.
3 EVERY CLADDING SHEET IS TO BE FIXED AT RIDGE PURLINS AND EAVES WITH ONE SCREW AT EVERY PAN. AT OTHER PURLINS, GIRTS ETC. FIX WITH ONE ONE SCREW AT EVERY SECOND PAN. ALL SCREWS INTO ROOF SHEETING TO HAVE NEOPRENE WASHERS.
4 PURLINS AND GIRTS EX. 80x40 LIPPED, CRIMPED CHANNELS
5 AT FRONT, INTERNAL AND REAR FRAMES CONNECT GIRTS WITH 2/10 SCREWS PER FLANGE PER MEMBER U.N.O. SCREWS TO HAVE MINIMUM EDGE DISTANCE OF 6mm AND A MINIMUM PITCH OF 12mm.
6 SCREWS TO BE WAFERTEKS No. 10 U.N.O.MANUFACTURED BY DEUTSCHER (OR EQUIVALENT).
7 FRAME AROUND PERSONNEL DOOR EX. 80x40x0.8 UNLIPPED CHANNELS. FIX MULLIONS TO FLOOR WITH 40x40x0.8 CLEAT AND 1/D10 DYNABOLT. –FLANGE CONNECT MEMBERS WITH 2 SCREWS EACH FLANGE. (FRAME AROUND WINDOW OPENING SIMILARLY)
8 PERSONNEL DOOR FRAMED EX. 40x40 CHANNEL AND CLAD WITH STANDARD SHEETING PROFILE.
9 RIDGES, BARGES AND ALL PENETRATIONS TO BE FLASHED WITH 0.4mm ZINCALUME FINISHED STEEL.
10 GUTTER AND DOWNPIPES TO BE FITTED AND DISCHARGED TO EXISTING STORMWATER SYSTEM. SPLICE GUTTER AT CENTRE OF BUILDING. PROVIDE TWO SCREWS INTO EACH WEB AND SEAL WITH SILICONE.
11 BOXED MEMBERS TO BE FLANGE CONNECTED WITH #10 TEKSCREWS AT 600 CTS.
12 STEELWORK SHALL ALL COMPLY WITH THE REQUIREMENTS OF:–
NZS 4203 WIND LOADING CODE
AS 1170 PARTS 1 & 2 LOADING CODES
NZS 3404 STEEL STRUCTURE STANDARD
AS 1538 COLD FORMED STEEL STRUCTURE CODE
AS 1562 DESIGN AND INSTALLATION OF METAL ROOFING
AS 1111/1112 METRIC HEXAGON COMMERCIAL BOLTS AND SCREWS
AS 2313 GUIDE TO THE PROTECTION OF IRON AND STEEL
AS 3566 SELF DRILLING SCREWS FOR BULDING & CONSTRUCTION INDS

I certify that if constructed in accordance with these drawings the project will be structurally adequate complying with all relevant Australian and New Zealand Standards and Codes of Practice.

D.B. NEWPORT
M.I.E. (Aust.)
R.P.E.Q. (1155)
N.E.E.P. 3080 (N.T.)
ED-1779 (VIC.)

A	RELEASED FOR BUILDING APPROVAL	JULY 1996
SUFF	REVISION	DATE

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PROJECT
RANGE OF GARAGES
6m WIDE
SITE WIND SPEED
42m/s AND 50m/s
2.4m, 2.[illegible]m Height

SUBJECT
CONNECTION DETAILS AND NOTES

JOB No. 91099NZ
DWG No. 3
REVISION SUFFIX A