

BRUCE R. SCOTT. A.N.Z.I.A.

REGISTERED ARCHITECT

P.O. BOX 20.
WHANGAMATA, N.Z.
Telephone: 0816.58340

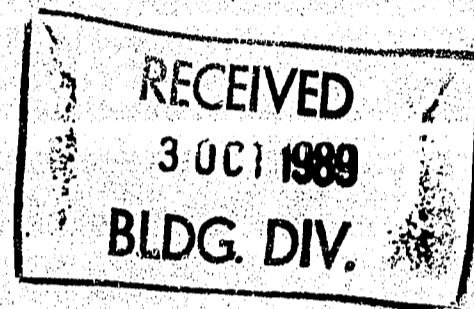
19 April 1988

BRACING REQUIREMENTS

TIMBER PAC HOMES

ATTIC DESIGN A4A

Roof Type Light
Roof Pitch 45°
Wind Area Medium
Earthquake Zone B
Roof Length 8M
Roof Width 8.5M + 3M low
Cross Plan Area - Ground Floor 97.5 SM
Attic Floor 44.6 SM



Bracing Unit Calculations:

Single Storey Wind - 14+55 = 69 B.U.'s/M
Earthquake - say 4 B.U.'s/SM

Earthquake: .U.'s Along & Across = 4x97.5 = 390 B.U.'s
Across = 69x8.5 = 14x3 = 628.5 B.U.'s
Along = 69x8 = 552 B.U.'s

Across	Type	Length	B.U.'s/M	Total
1	1	2.4	42	100.8
2	1	2.4	42	100.8
3	1	2.4	42	100.8
4	1	2.4	42	100.8
5	8	0.9	67	60.3
6	8	1.2	67	80.4
7	1	2.4	42	100.8
628.5 B.U.'s Required				644.7 B.U.'s

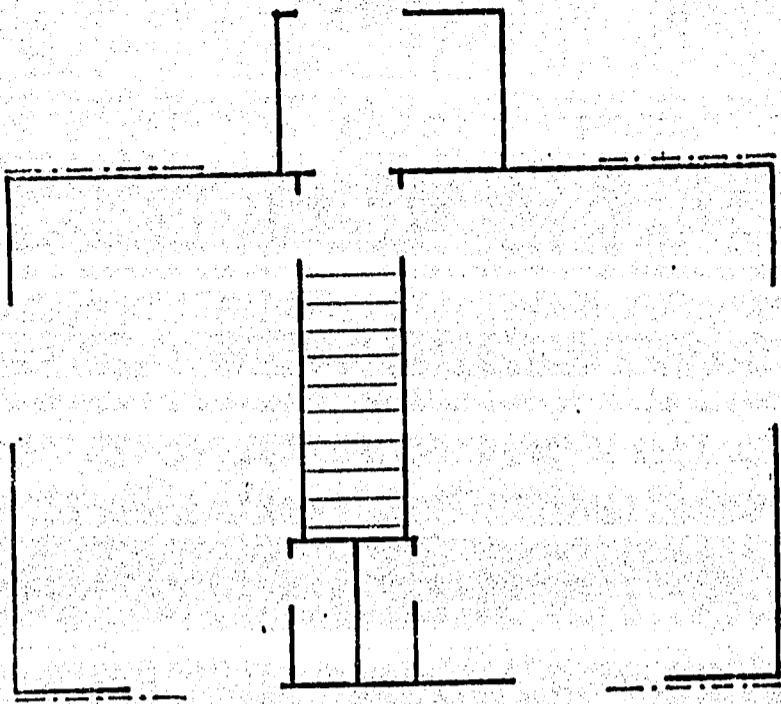
8	1	2.4	42	100.8
9	1	2.4	42	100.8
10	1	2.4	42	100.8
11	1	2.4	42	100.8
12	1	2.4	42	100.8
13	1	2.4	42	100.8
552 B.U.'s Required				604.8 B.U.'s

Replace with 3x TYPE 8
① .700 ② .600 ③ .600

Additional to upper floor - see plan.

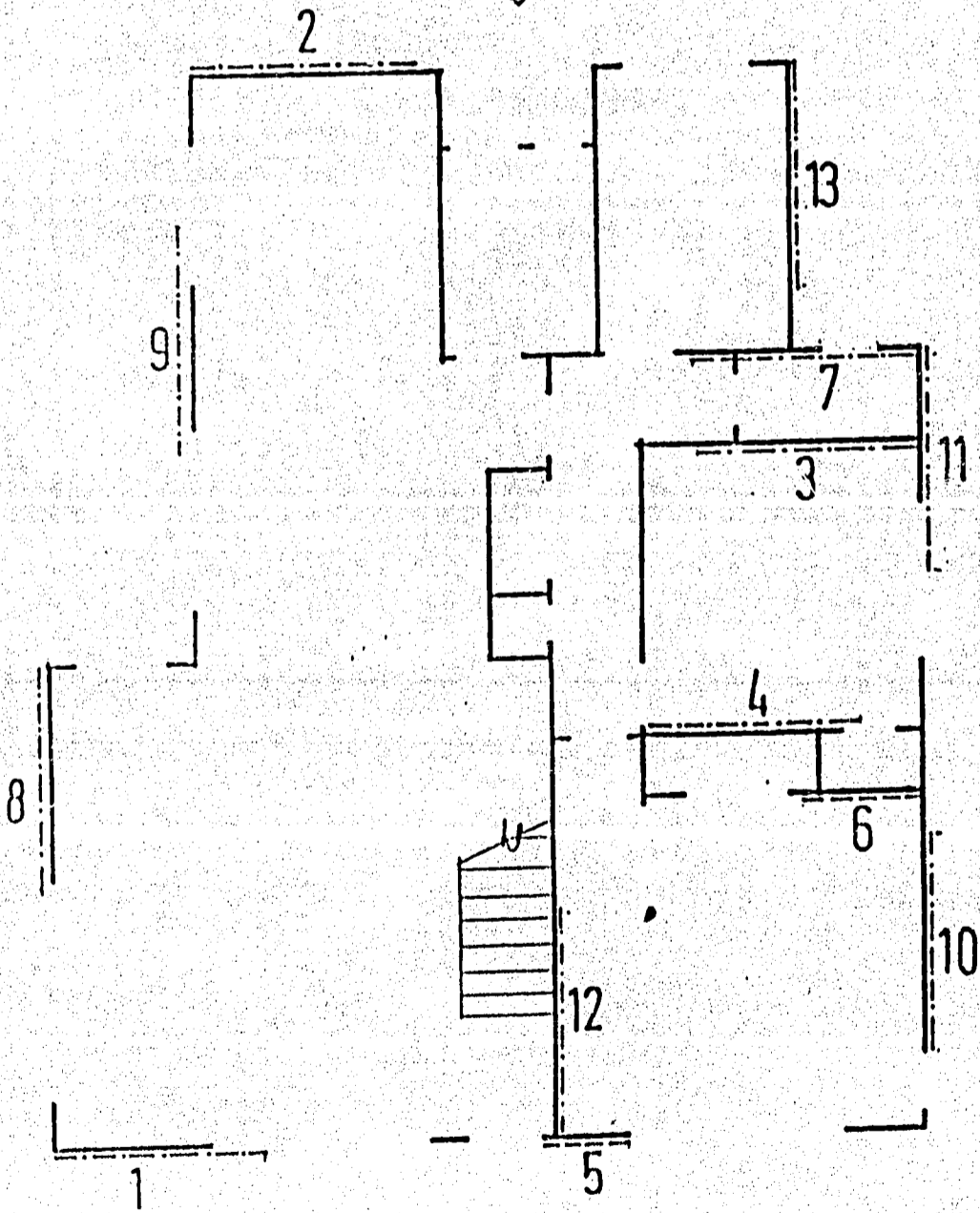
Roof Bracing - Strap each way in each plane.

B.R. SCOTT



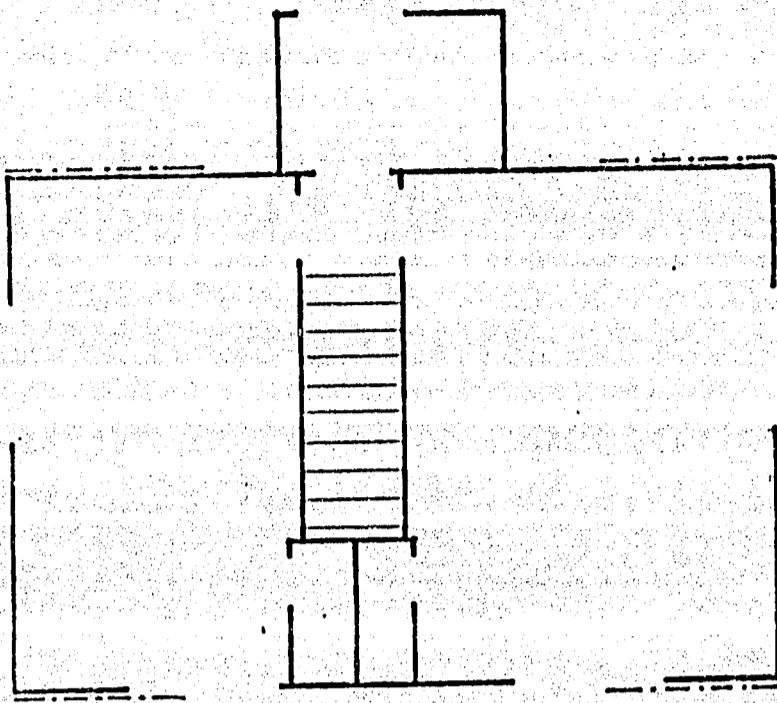
ATTIC FLOOR PLAN

552



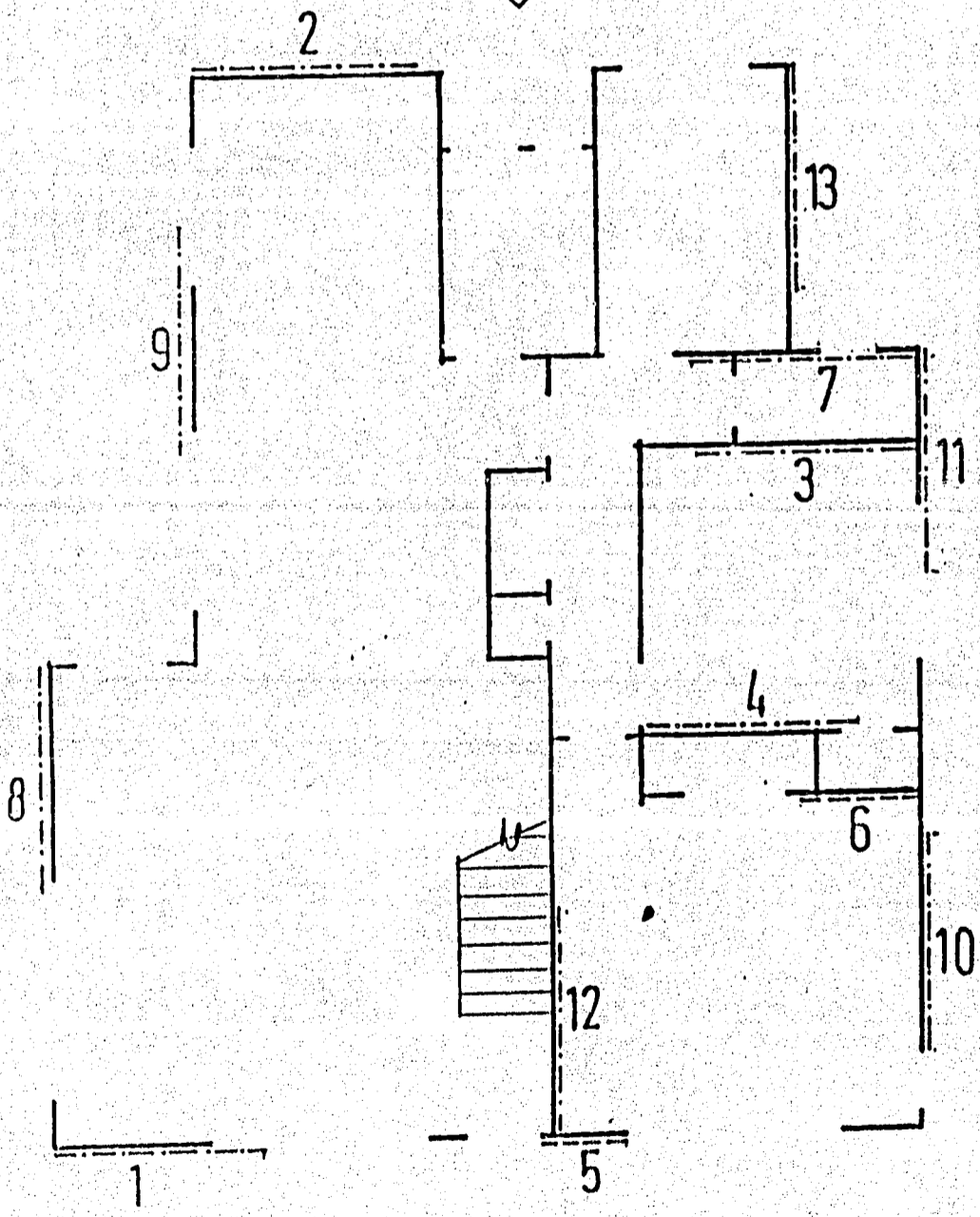
5829

FLOOR PLAN A.A.A.



ATTIC FLOOR PLAN

552



585

FLOOR PLAN A.A.A.

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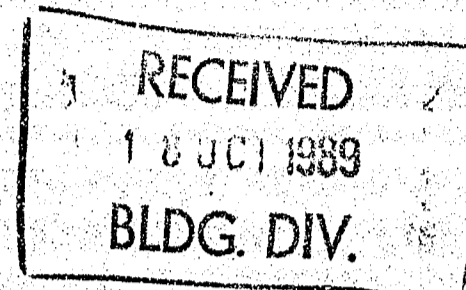
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Wind Area Medium
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Attic Floor 44.6 SM



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1	1	2.4	42	100.8
2	1	2.4	42	100.8
3	1	2.4	42	100.8
4	1	2.4	42	100.8
5	8	0.9	67	60.3
6	8	1.2	67	80.4
7	1	2.4	42	100.8

628.5 B.U.'s Required

644.7 B.U.'s

8	1	2.4	42	100.8
9	8	0.9	67	60.3
10	1	2.4	42	100.8
11	1	2.4	42	100.8
12	1	2.4	42	100.8
13	1	2.4	42	100.8

552 B.U.'s Required

~~604.8 B.U.'s~~

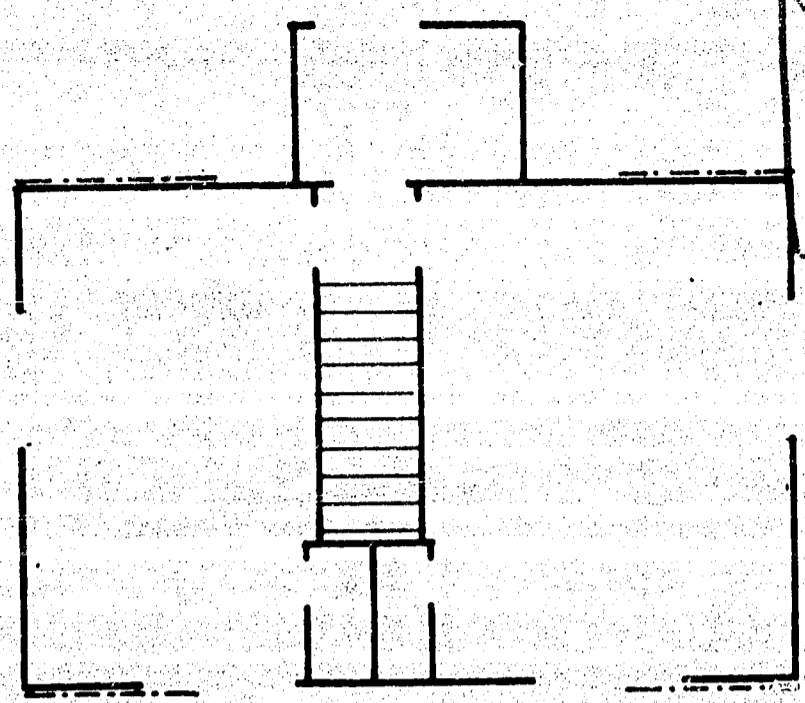
564.3 B.U.'s

Additional to upper floor - see plan.

Roof Bracing - Strap each way in each plane.

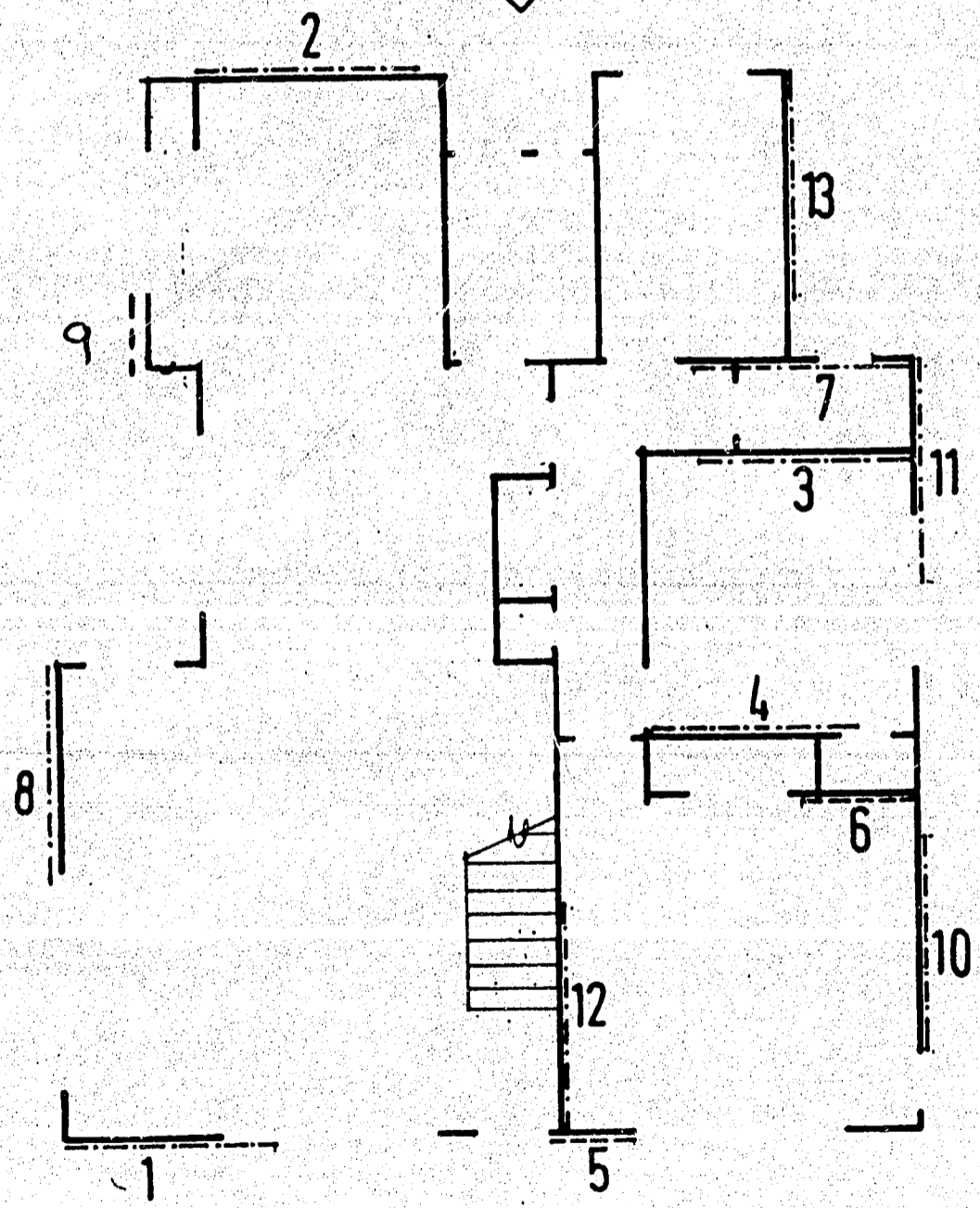
B.R. SCOTT

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18 OCT 1989
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ATTIC FLOOR PLAN

552



FLOOR PLAN A.A.A.

HAMURANA DESIGN SERVICE
KASKA RD., P.O. BOX 164
HAMURANA NGONGOTAHA
PHONE 23-850

Bracing calculation sheet A

NAME : AAA STD. PLAN

ADDRESS : HAMILTON

STOREY : ~~Single or Uppermost~~
~~lower of two or middle of three~~
~~lower of three~~

ROOF TYPE : Light ~~Roof~~

ROOF PITCH : ~~20° - 25°~~ / 26° - 45°

WIND AREA : ~~high / medium / low~~

W = 46 B.U.'s / m

EARTHQUAKE ZONE : ~~A / B / C~~

E = 2 B.U.'s / m²

ROOF OR BUILDING LENGTH

BL = 8.1 m

ROOF OR BUILDING WIDTH

BW = 8.5 m

GROSS ROOF OR BUILDING PLAN AREA

GPA = 68.9 m²

EARTHQUAKE: B.U.'s ALONG AND ACROSS

E x GPA = 2 x 68.9 = 137.8 B.U.'s

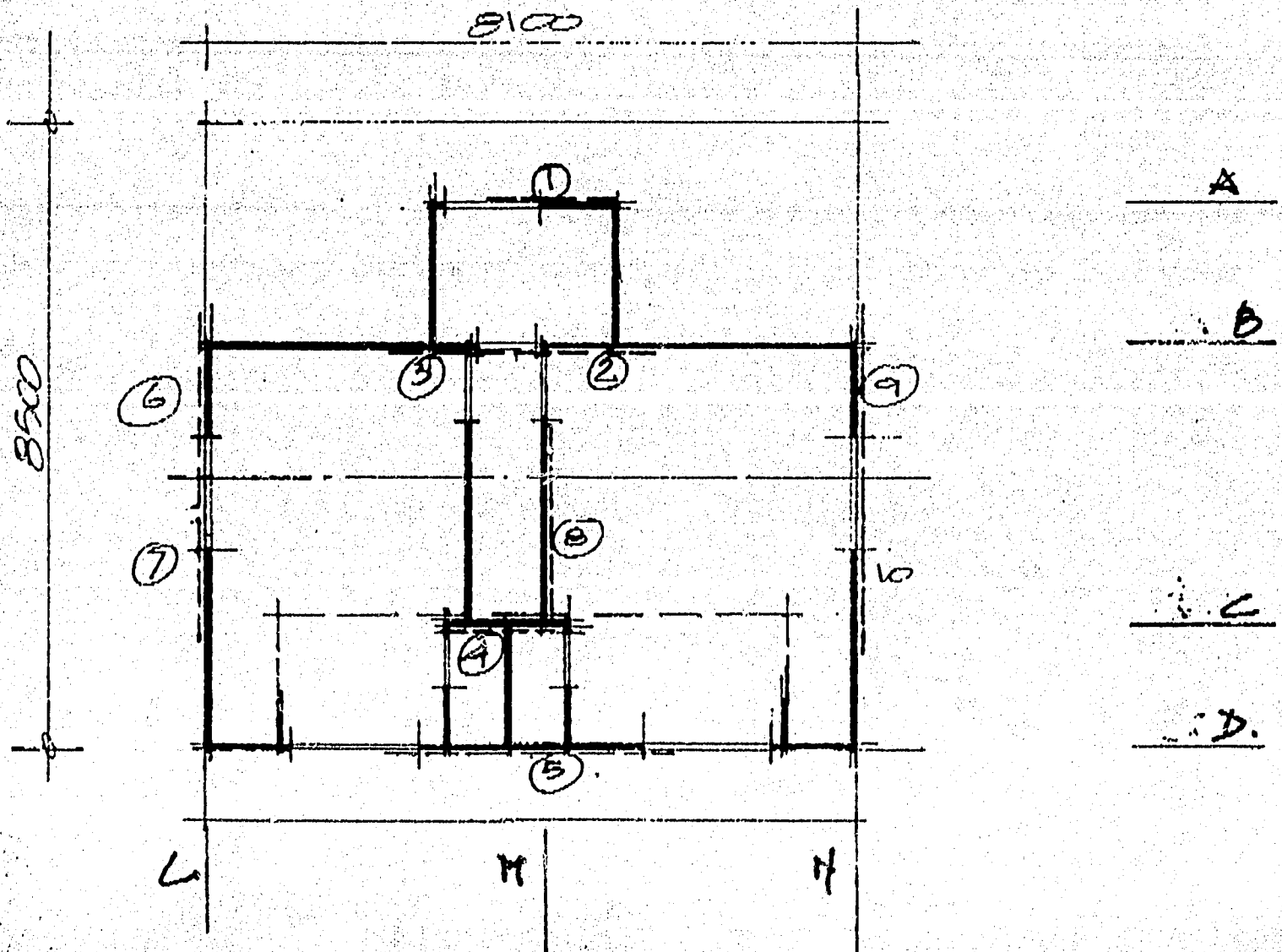
WIND B.U.'s ALONG

W x BW = 46 x 8.5 = 391 B.U.'s

WIND B.U.'s ACROSS

W x BL = 46 x 8.1 = 372.6 B.U.'s

SKETCH PLAN (external and internal walls) :



BRACING CALCULATION SHEET B

TOP STOREY.

1 Total B.U.'s required	2	3	5 Wall bracing elements provided				8	
	Wall Label	Line Minimum B.U.'s required	4 Label No	Type	6 Rating B.U.'s/m	7 Length (m)	B.U.'s provided	
ALONG	A	2.4x10	①	1	42	1.5	63	
			Sub. total					63.
	B	70	②	1	42	1.5	63.	
			③	1	42	1.2	50.4	
			Sub. total					113.4
	C	70	④	2	62	1.4	74.4	
			Sub. total					74.4
	D	81	⑤	1	42	3.6	151.2	
			Sub. total					151.2
	391	Total		Total				402
	ACROSS	L	8.5x10	⑥	1	42	2.1	88.2
				⑦	1	42	2.1	88.2
Sub. total					176.4			
M		70	⑧	2	62	2.4	148.8	
			Sub. total					148.8
N		85	⑨	1	42	2.1	88.2	
			⑩	1	42	2.1	88.2	
			Sub. total					176.4
O								
Sub. total								
P								
Sub. total								
372.6	Total		Total				501.6	

CROSS SECTION

REVISED ROOF EXTENSION AT KITCHEN BEAM.

.300 INCREASE.

DOUBLE.
200 x 50
RAFTER.

150 x 50
RAFTER.

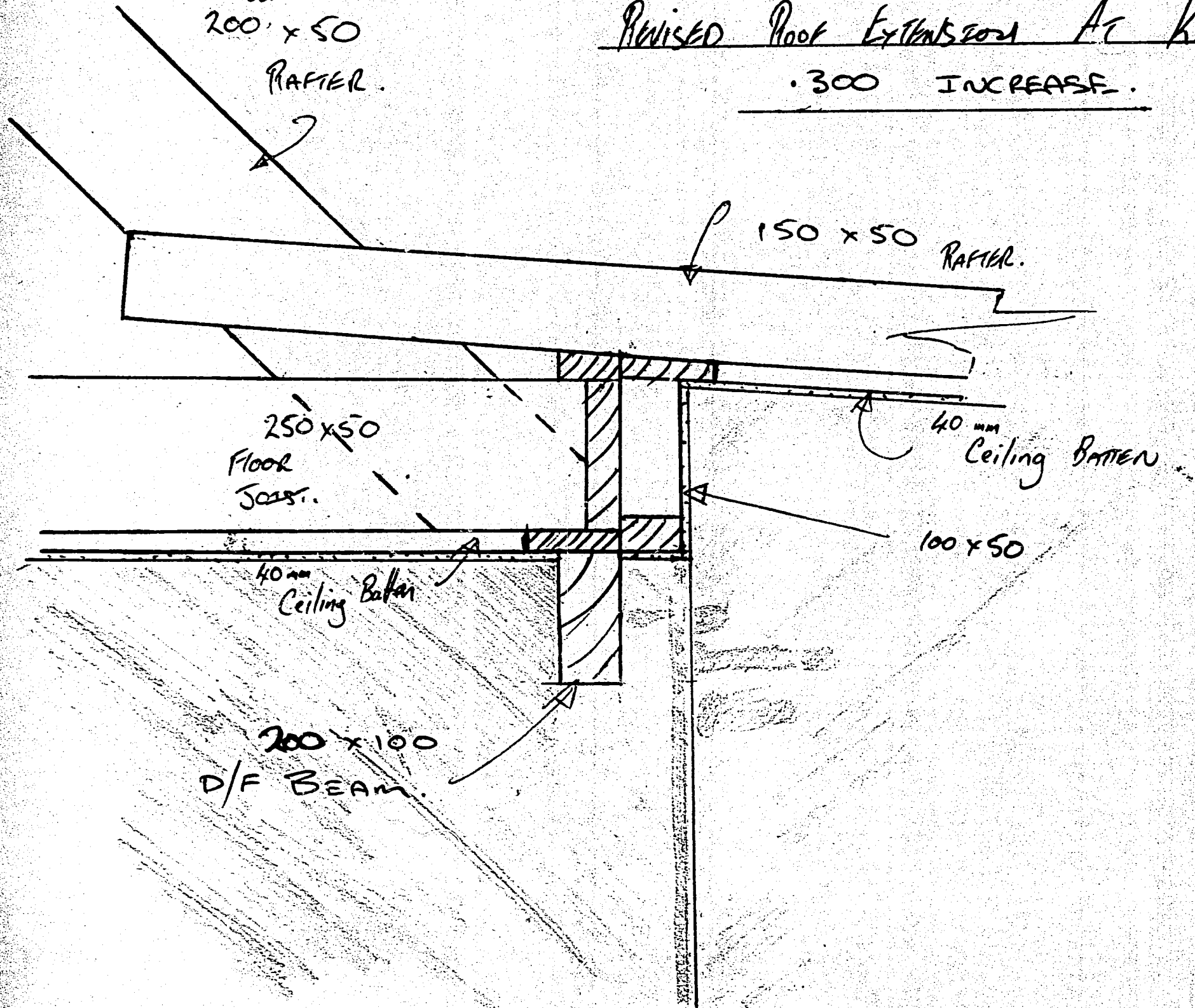
250 x 50
FLOOR
JOIST.

40 mm
Ceiling BATTEN

40 mm
Ceiling Batten

100 x 50

200 x 100
D/F BEAM.



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