

Job No:

103/09

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Sheet No:

1

Job: KITCHEN ALTERATION

Date: 18/8/09

THE WOODLANDS BOSTAL RD GOSBELT

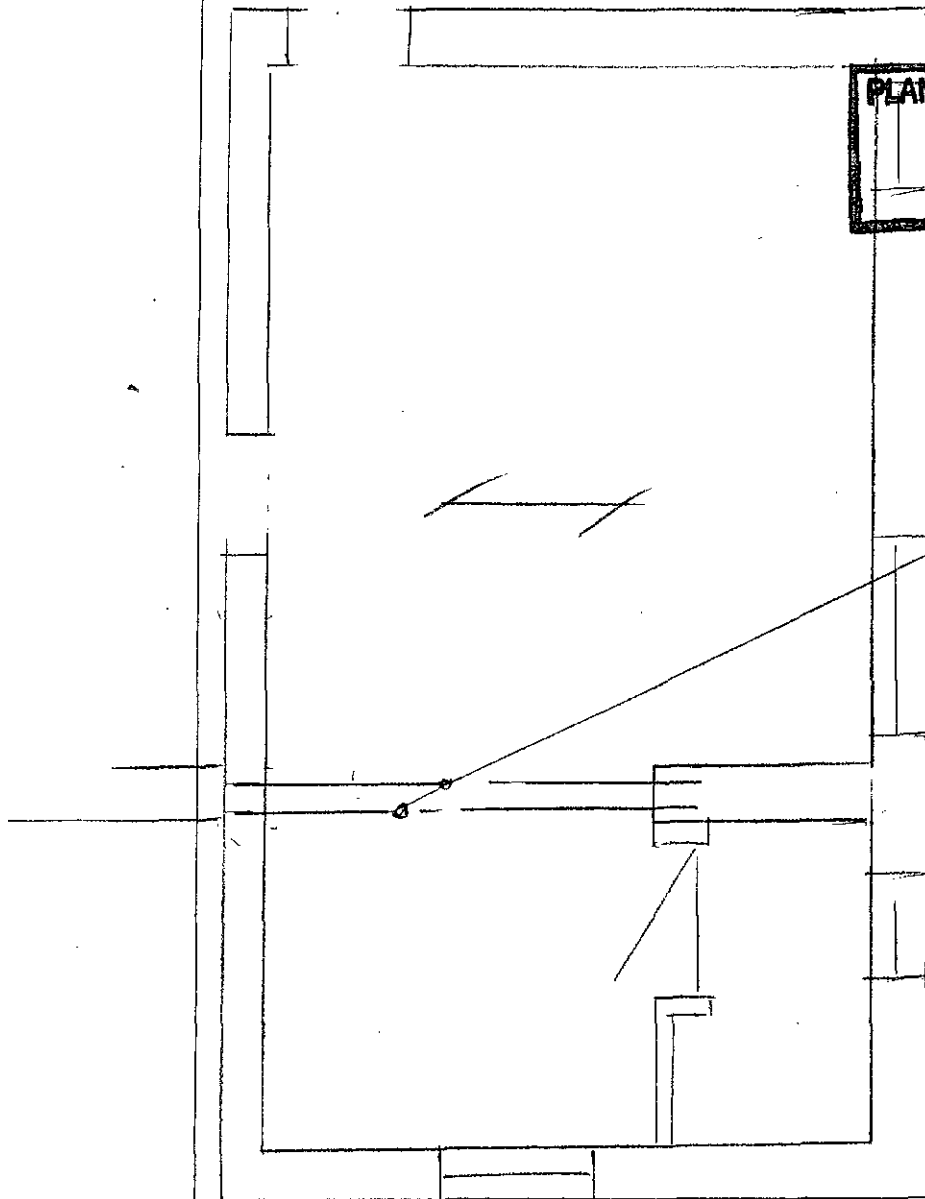
PROPOSAL GF. PLAN:

DETERMINED
PLAN

PLANNING & DEVELOPMENT

24 AUG 2009

ce



2 No
203x133
x 25 OB'S
BATED &
SEPARATED
@ 1.5m C/S
& SUPPORTED
ON 3 COURSES
OF ENGINEER
BRICKS.

- 270 - BRG
LENGTH

NB. STEELWORK TO BE GRADE
43 & TO BE SHOTBLASTED
(Sa 2 1/2) & THEN PRIMED.

Job:

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LOADING

ASSUME 2.8 m EFF SPAN.

a) EXT WALL - 7.5 kN/m^2 b) LEAN-TO ROOF - 2.0 kN/m^2 ASSUME Δ MASONRY LOAD
OVER ENTIRE

$$W_a = 0.533 \times 2.8^2 \times 7.5$$

$$= 25.5 \text{ kN}$$

$$W_b = 2.0 \times 2.8 \times 1.1$$

$$= 6.2 \text{ kN}$$

ASSUME THIN BEAMS

$$\text{MAX LOAD} = \frac{25.5}{2} + 6.2$$

$$= 19.0 \text{ kN}$$

- SAY 20 kN.

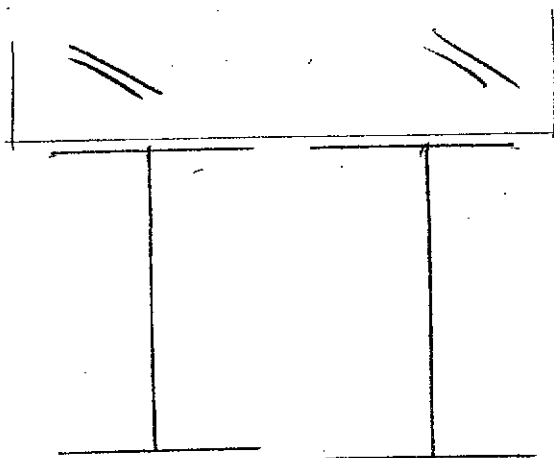
STRENGTH

$$\text{MAX BM} = 20 \times 2.8 / 8$$

$$= 7 \text{ kN-m}$$

Job:

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TRY 203 x 133 x 25 UB

$$Z_{xx} = 231.9 \text{ cm}^3 \quad P = \frac{1.1 \times 2800}{31}$$

$$I_{xx} = 2356 \text{ cm}^4 \quad = 99.4$$

$$r_{yy} = 3.1 \text{ cm} \quad D_K = 26$$

$$REQ'D \Delta Z_{xx} = 7 \times 10^3 / 128$$

$$= 54.7 \text{ cm}^3$$

 $A_{xx} = 128 \text{ cm}^2$

OK

DEFLECTION

$$\delta_{max} = \frac{5}{384} \times \frac{20 \times 10^3 \times 2.8^3}{2 \times 2356}$$

$$= 1.21 \text{ mm} < \frac{L}{360} \quad \text{OK}$$

RESULT

USE 2 NO 203 x 133 x 25

UB'S BOLTED & SEPARATED @ 1.5m C