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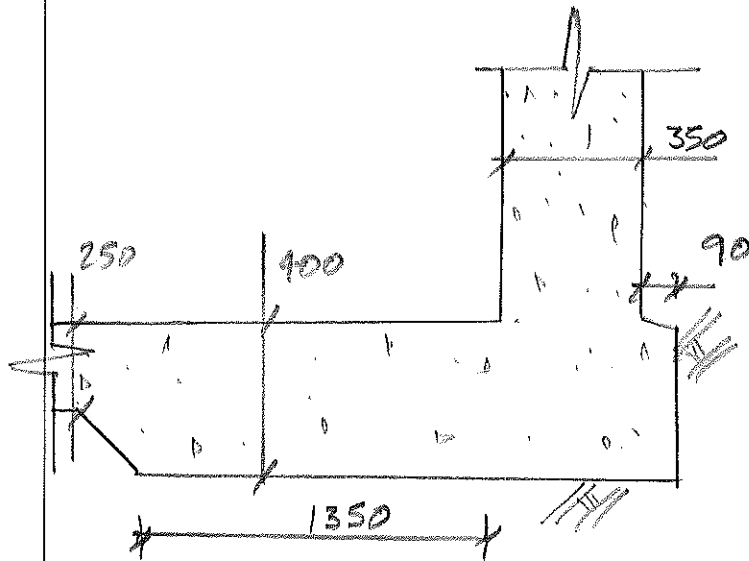
Job No.	Sheet No.	Rev.
44-35	P1	
Member/Location		

Job Title	Drg. Ref.	Made by	Date	Chd.
46 HOCHDALE ROAD	RETAINING WALL CALC	RT	JAN 2018	

RETAINING / UNDERPIN DESIGN

ATTRIBUTES 7m OF 215 WALL + 4m OF 327 WALL + 3m OF 350 R.C. WALL + 3m OF GROUND, 1ST, 2ND & ROOF.

∴ DEAD LOAD	kN/m (UWAR)	LIVE LOAD	kN/m (UWAR)
7x5 =	35		
4x7.5 =	30		
3x0.35x24 =	26		
(3x0.6) 3 =	6	3x1.5x3 =	14
3x1.6 =	5	3x0.75 =	3
	<u>102 kN/m</u>		<u>17 kN/m</u>



$$\sigma = \frac{119}{179} = 67 \text{ kN/m}^2$$

FROM LBH SRC. = 120 kN/m<sup>2</sup>

∴ BEARING STRESS O.K. ✓



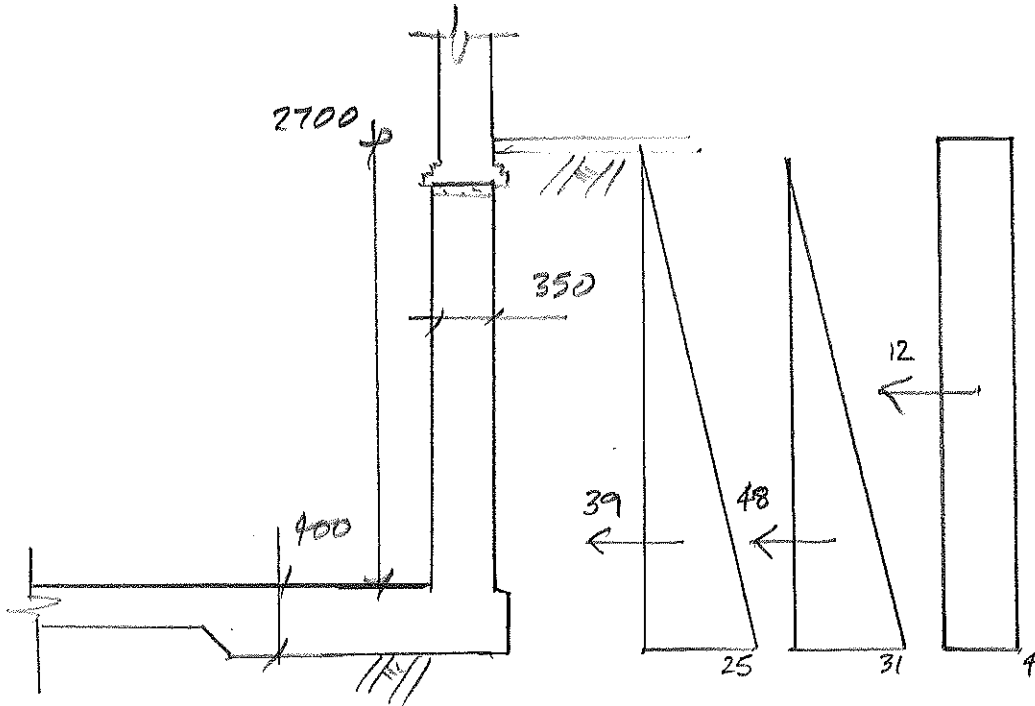
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RETAINING CUR :



$K_0 = 0.8$

SOIL :  $3.1 \times 10 \times 0.8 = 25 \text{ kN/m}^2$   
 WATER :  $3.1 \times 10 = 31 \text{ kN/m}^2$   
 SURCH :  $5 \times 0.8 = 4 \text{ kN/m}^2$

$M_{max} \text{ B.M.} = (39 + 48) \times 1.04 + 12 \times 1.6 = 110 \text{ kNm/m CURR}$

$\times 1.5 = 165 \text{ kNm ULT}$

$K = \frac{165 \times 10^6}{1000 \cdot 300^2 \cdot 40} = 0.05$

$A_s = \frac{165 \times 10^6}{0.95 \cdot 460 \cdot 0.99 \cdot 300} = 1339 \text{ mm}^2/\text{m}$

$\frac{\text{SPAN}}{d} = 9.6$

TEN M.F. = 1.4  
 $f_s = 176$

$\therefore 7 \times 1.4 = 9.8$

ACTUAL = 9.6 < 9.8

$\therefore$  PROVIDE B20-150 BOTH FACES ✓