

Strip ICDJ

$$q_c = 26.91 \frac{KN}{m^2}, q_D = 25.19 \frac{KN}{m^2}$$

$$q_{ave} = \frac{26.91 + 25.19}{2} = 26.05 \frac{KN}{m^2}$$

$$\text{soil reaction} = 26.05 * 4.25 * 21.5 \\ = 2380 \text{ KN}$$

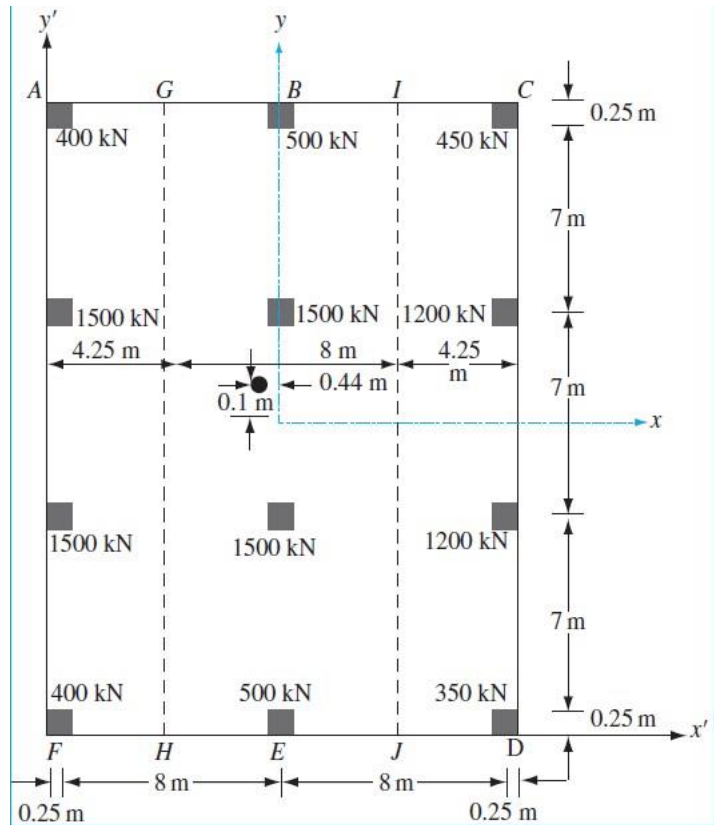
$$\text{Column load} = 450 + 1200 * 2 + 350 \\ = 3200 \text{ KN}$$

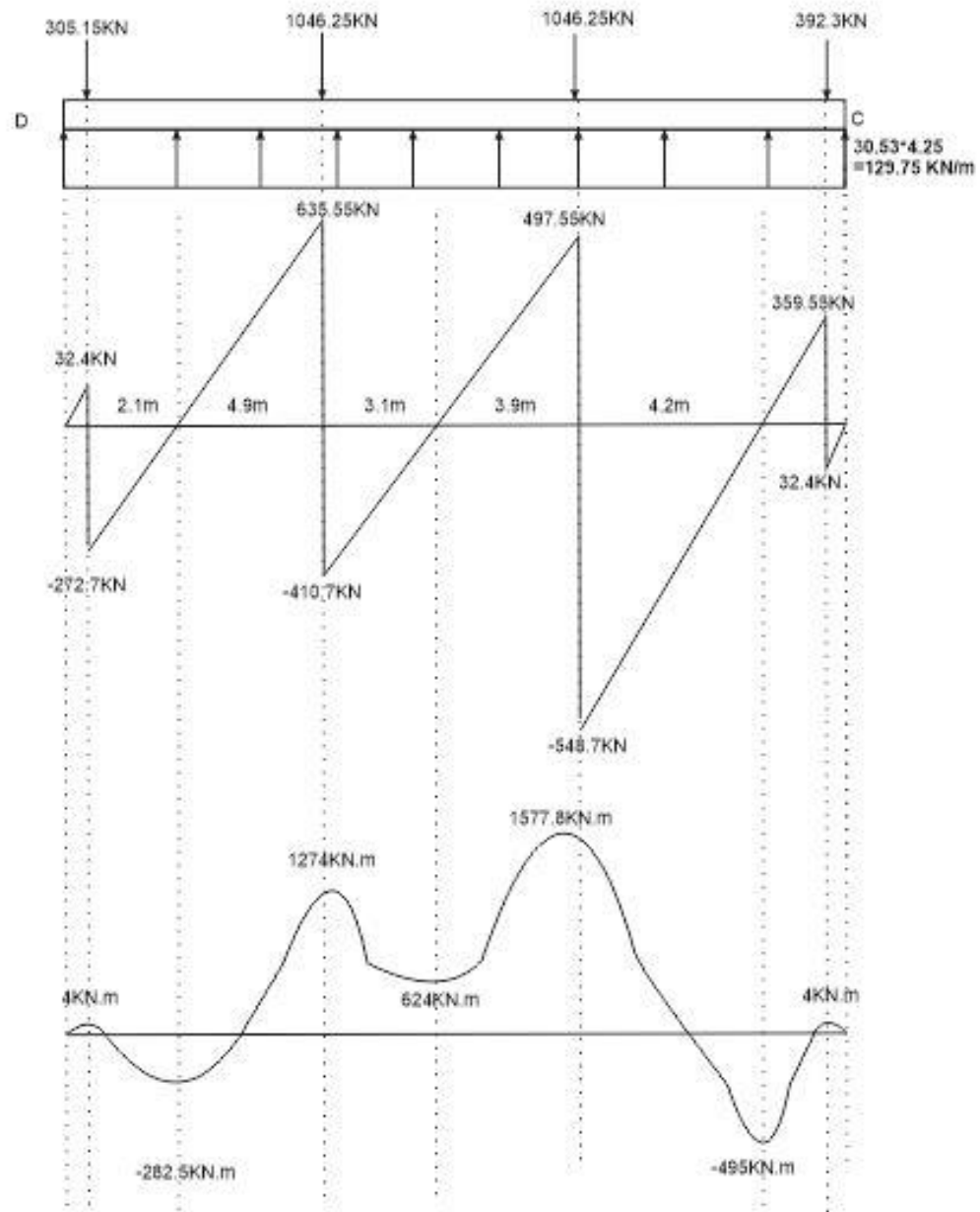
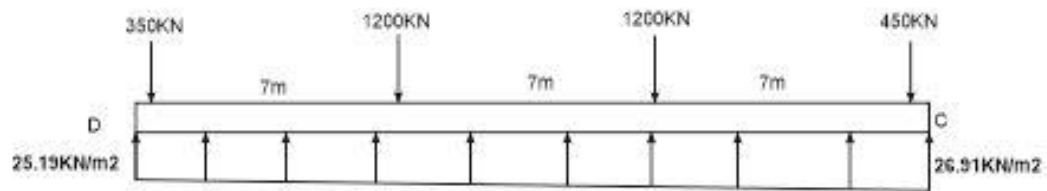
Average loads

$$= \frac{\text{Soil reaction} + \text{column loads}}{2} \\ = \frac{2380 + 3200}{2} = 2790 \text{ KN}$$

$$q_{ave(modified)} = q_{ave} * \frac{\text{average loads}}{\text{soil reaction}} \\ = 26.05 * \frac{2790}{2380} = 30.53 \text{ KN}$$

$$F_1 = F1 * \frac{\text{average loads}}{\text{Column loads}} = 450 * \frac{2790}{3200} \\ = 392.3 \text{ KN}$$





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Table Y

Strip No.	$+M_{max}$ (KN.m)	$-M_{max}$ (KN.m)	V_{max} (KN)
AGHF	1725.5	326.7	822.4
GIJH	1620	638	990
ICGJ	1677	495	635
Maximum	1725.5	638	990

Table X

Strip No.	$+M_{max}$ (KN.m)	$-M_{max}$ (KN.m)	V_{max} (KN)

- Choose the most max and min moments and shear force from Tables (X and Y).
- Determine **d** for **max shear** and **max load** and **critical punching shear**.
- Estimate the reinforcement due to Maximum and negative moments for the whole foundation.