

Centre of gravity of Pile group.

$$x = 2.65 + 2.25 = 4.9\text{m}$$

$$y = \frac{4 \times (5.65 + 2.8) + 5 \times 2.8}{14} = 3.41\text{m}$$

Pile No  $\rightarrow$  1 2 3 4 5 6 7 8 9 10 11 12 13 14

$dx \rightarrow$  -4.9 -2.17 2.18 4.9 -4.9 -2.25 0 2.25 4.9 -4.9 -2.25 0 2.25 4.9

$dy \rightarrow$  5.04 5.04 5.04 5.04 -0.61 -0.61 -0.61 -0.61 -0.61 -3.41 -3.41 -3.41 -3.41 -3.41

$$I_x = \sum_{i=1}^{14} d_{yi}^2 = 4 \times 5.04^2 + 5 \times 0.61^2 + 5 \times 3.41^2 = 161.6\text{m}^2$$

$$I_y = 4.9^2 + 2.17^2 + 2.18^2 + 4.9^2 + \dots + 2.25^2 + 4.9^2 = 173.7\text{m}^2$$

$$M_x = \Sigma V (3.41 - 1.4) = 4950 \times 2.01 = -9949.5 \text{ kNm}$$

$$M_y = 0.$$

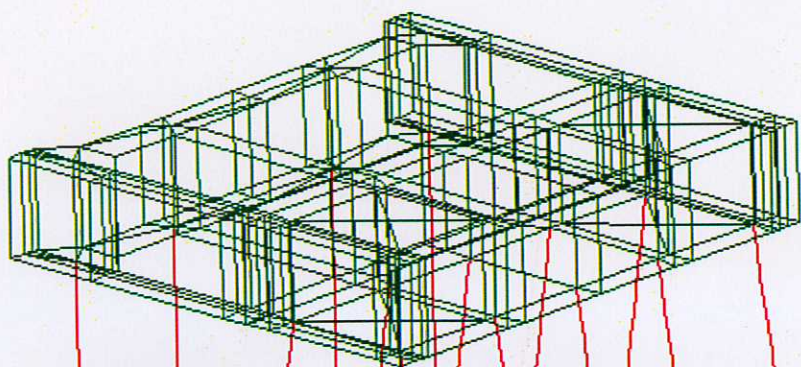
Pile loads due to dead load from Tms1.

$$P_1 = \frac{\Sigma V}{n} + \frac{M_x d_{y1}}{I_x} + \frac{M_y d_{x1}}{I_y}$$

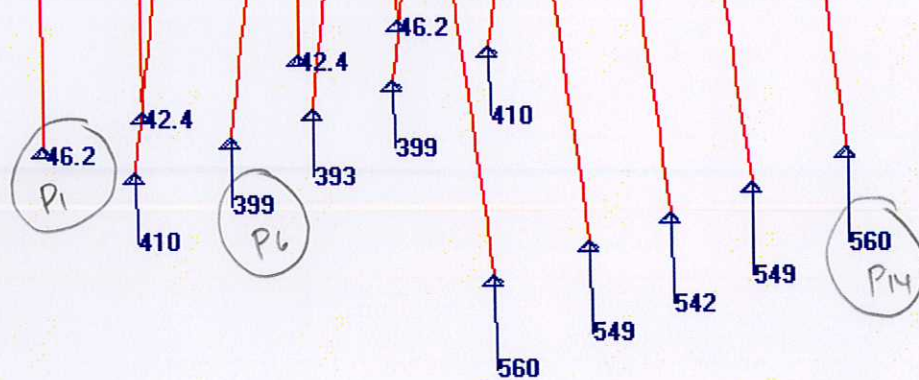
$$= \frac{4950}{14} - \frac{9949.5 (5.04)}{161.6} = 353.6 - 310.3 = 42.3 \text{ kN.}$$

$$P_{14} = \frac{4950}{14} - \frac{9949.5 (-3.41)}{161.6} = 353.6 + 209.9 = 563.5 \text{ kN.}$$

$$P_6 = \frac{4950}{14} - \frac{9949.5 (-0.61)}{161.6} = 353.6 + 37.5 = 391.1 \text{ kN.}$$



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— STRAP RESULTS. —