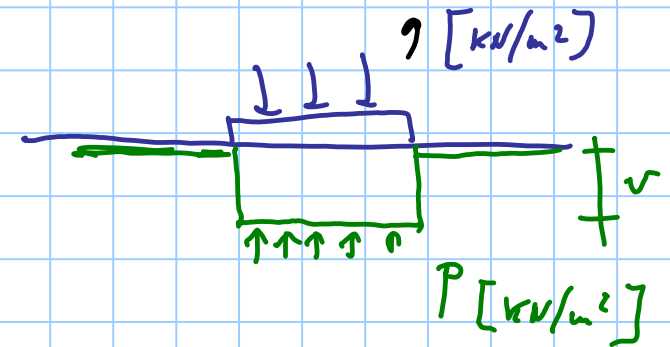
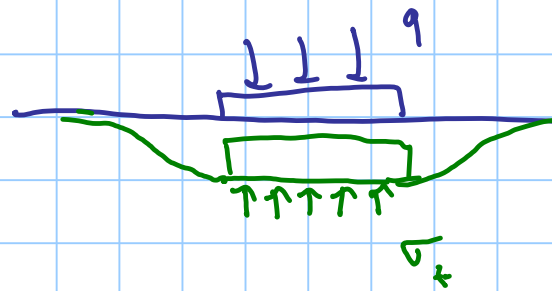
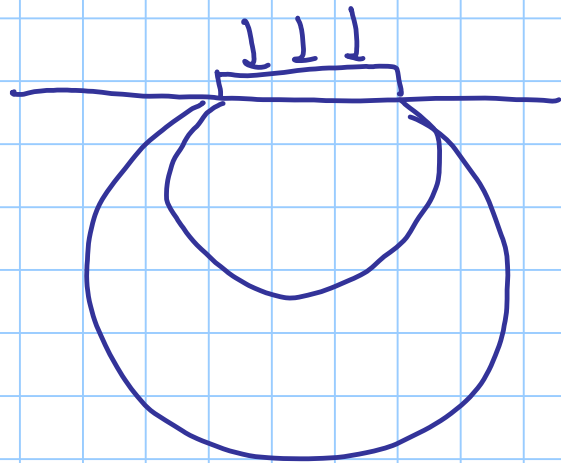


- Terreni a grana grossa
- Terreni a grana fine

CEDIMENTI

CAPACITA' PORTANTE



$$P = - k v \quad \text{Winkler}$$

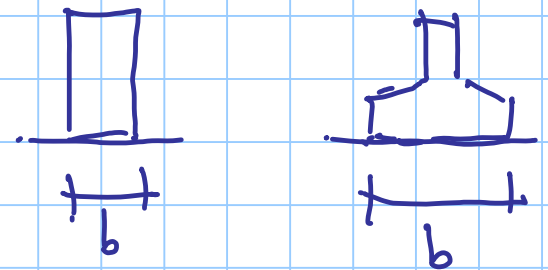
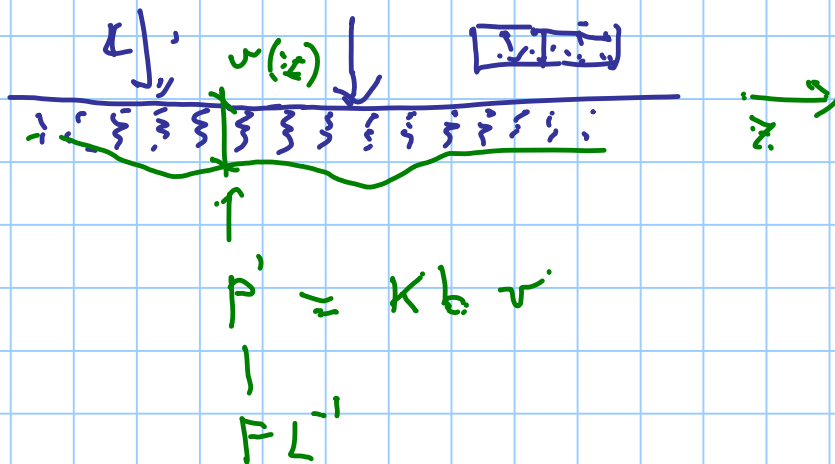
$$k [F L^{-3}]$$

ELEMENTI RIGIDI su mole elastico  
condizioni di equilibrio

ELEMENTI DEFORMABILI su mole elastico  
intervengono anche le deformazioni

Es. Trave elastica su mole elastico

$$p = - \frac{FL^{-3}}{L^2}$$



$$\frac{d^4 v}{dz^4} = \frac{q(z)}{EI}$$

solution  
homogeneous is

$$\frac{d^4 v}{dz^4} = 0$$

$$v = c_0 + c_1 z + c_2 z^2 + c_3 z^3$$

$$q(z) = q'(z) + p'(z) = q'(z) - kbv$$

$$\frac{d^4 v}{dz^4} = \frac{q'(z)}{EI} - \frac{kb}{EI} v$$

$$\frac{d^4 v}{dz^4} + \frac{kb}{EI} v = \frac{q'(z)}{EI}$$

$$\frac{d^4 v}{dz^4} + 4\lambda^4 v = \frac{q'(z)}{EI}$$

$$\lambda = \sqrt[4]{\frac{kb}{EI}} \quad [L^{-1}]$$

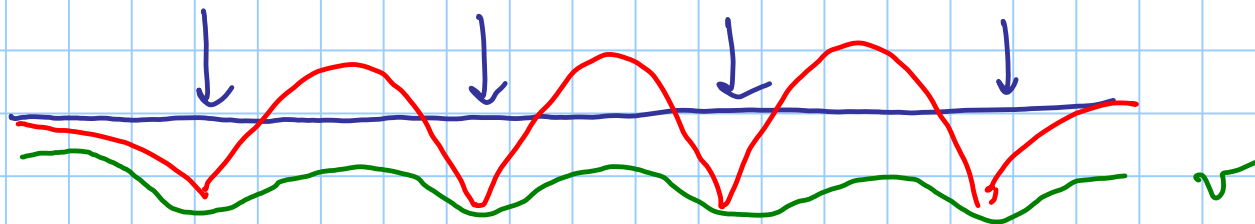
$$\frac{d^4 v}{dz^4} + 4\lambda^4 v = \frac{q'(z)}{\epsilon_1}$$

homogen. ansatz:

$$\frac{d^4 v}{dz^4} + 4\lambda^4 v = 0$$

$$v = c_1 e^{\lambda x} \sin \lambda x + c_2 e^{\lambda x} \cos \lambda x + c_3 e^{-\lambda x} \sin \lambda x + c_4 e^{-\lambda x} \cos \lambda x$$

M



v

fondazioni dirette

singoli pilanti

travi

reticolo di travi

platea

fondazioni su pali

pilanti

PLINTO SU PALI

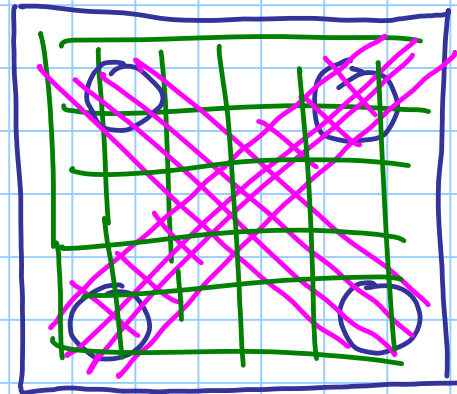
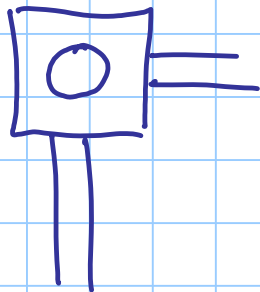
pil.  $N_{EA} = 2420 \text{ KN}$

pal  $N_R = 700 \text{ KN}$

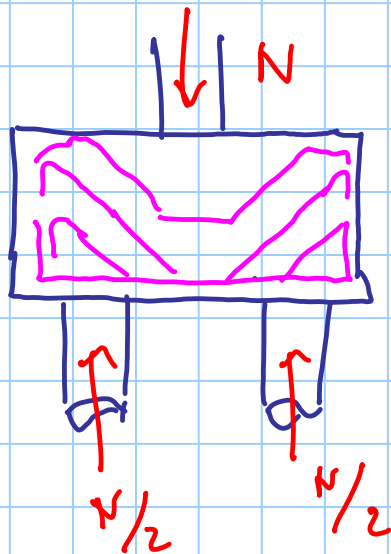
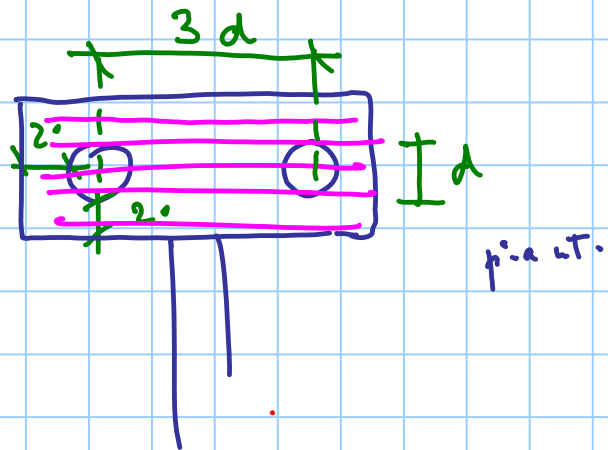


4 pali

plinto a un pal

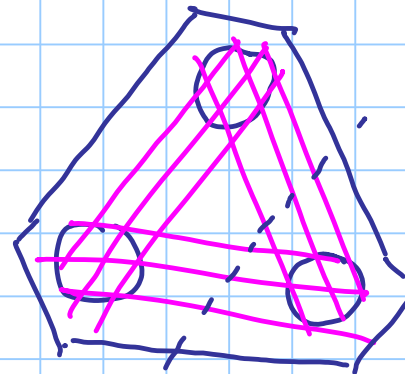


planta a 2 pilas

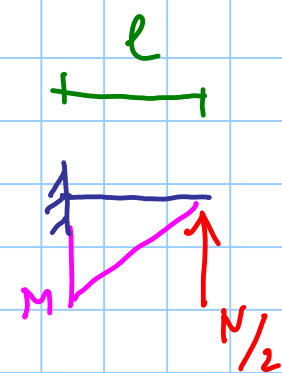


vista  
lateral

planta a 3 pilas



=

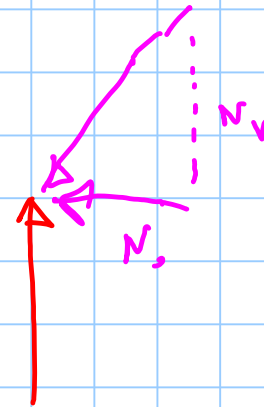
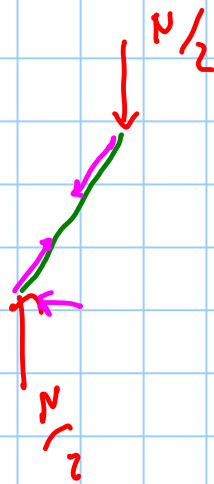
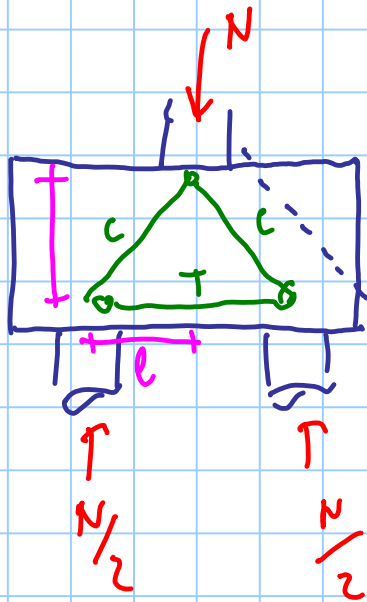


$$V = \frac{N}{2}$$

$$M = \frac{N}{2} l$$

$$A_s = \frac{M}{0.5 A f_{yd}}$$





$$N_o = \frac{N}{2} \frac{l}{0.9d}$$

