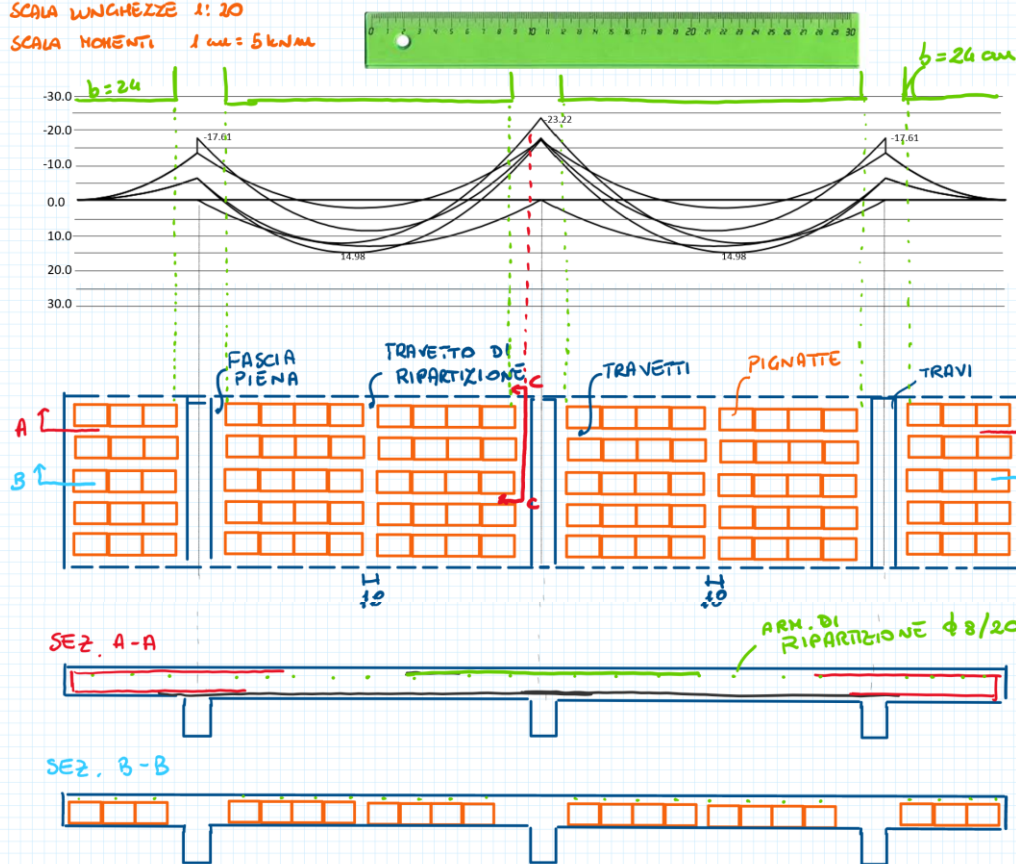


SCALA LUNGHEZZE 1:20

SCALA MOMENTI 1 cm = 5 kNm



TRAVETTO DI RIPARTIZIONE

FASCIA PIENA  $\approx 10 \div 15$  cm

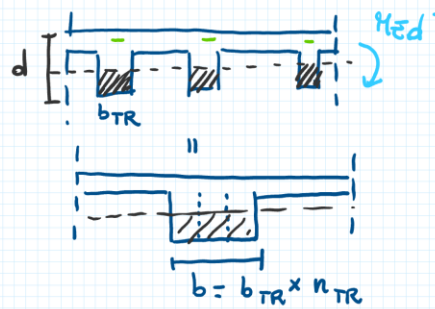
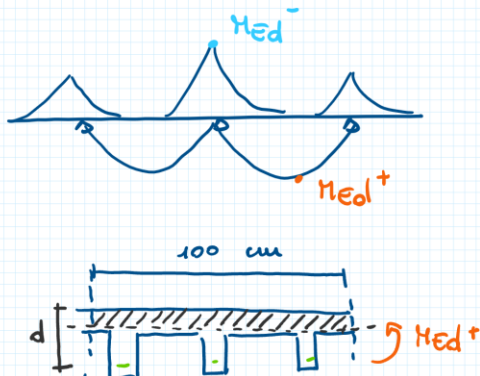
$$\Rightarrow L_{sol} > 4.0 \text{ m}$$

$$b = 10 \text{ cm}$$

$$4 \phi 10$$

$$\phi 8/20 \text{ cm}$$

VERIFICA DELLA SEZ. IN CLS



# ① CALCOLO $M_{Rd}^+$



$$b = 100 \text{ cm} = 1 \text{ m}$$

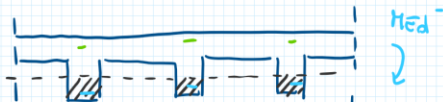
$$h_{sol} = 23 \text{ cm} \Rightarrow d = 23 - 3 = 20 \text{ cm}$$

$$M_{Rd} = \frac{b d^2}{z^2} = \frac{1.0 \times 0.2^2}{0.0197^2} = 103.0 \text{ kNm}$$

LA SEZ. IN CLS

OVVIAMENTE VERIFICA IN CAMPATA

# ② CALCOLO $M_{Rd}^-$



$$b = 3 \times 8 = 24 \text{ cm} = 0.24 \text{ m}$$

$$(b = 2 \times 10 = 20 \text{ cm} = 0.20 \text{ m})$$

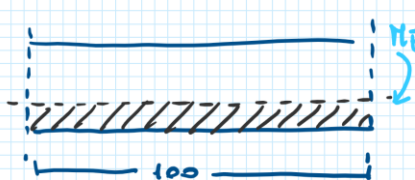
$$d = 23 - 3 = 20 \text{ cm} = 0.20 \text{ m}$$

$$M_{Rd} = \frac{b d^2}{z^2} = \frac{0.24 \times 0.20^2}{0.018^2} = 29.6 \text{ kNm}$$

$$3 \text{ TRAV.} / 1 \text{ m} \Rightarrow z' = 0.018 \Rightarrow \begin{cases} \mu = 20\% \\ d = 20 \text{ cm} \\ \gamma = \frac{c}{d} = \frac{3}{20} = 0.15 \end{cases}$$

$$2 \text{ TRAV.} / 1 \text{ m} \Rightarrow z' = 0.019$$

SEZ. C-C  $\rightarrow$  IN CORRISPONDENZA DELLE FASCE PIENE



$b = 100 \text{ cm} \Rightarrow M_{Rd}$  FORTE !!

DAL FILA DELLA FASCIA PIENA IL  $M_{Rd}$  CRESCE

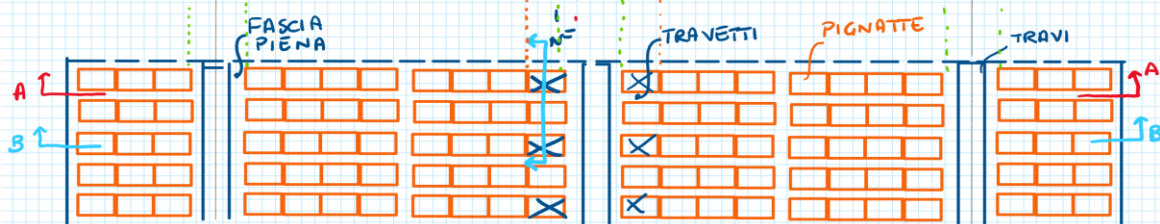
DA QUELLO DATO DALLA  $b = 24 \text{ cm}$  (o  $b = 20$  PER 2 TRAV./1 m)

A QUELLO CALCOLATO CON  $b = 100 \text{ cm}$

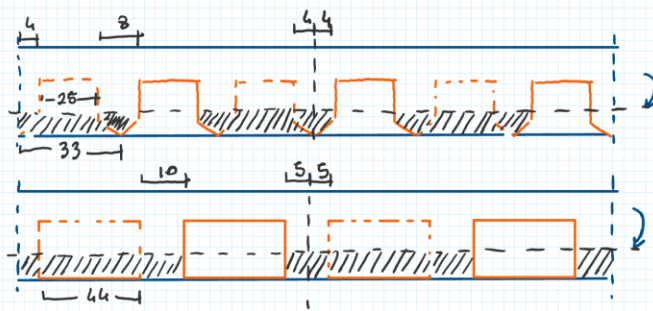
SE  $M_{Rd} < M_{Ed}$  SUALI APPOGGI ?

SCALA LUNGHEZZE 1:20

SCALA MOMENTI 1 cm = 5 kNm



⇒ FASCE SEMIPIENE



$$b = 3 \times 8 + 25 + \frac{25}{2} = 61.5 \text{ cm}$$

$$M_{rd} = \frac{0.615 \times 0.20^2}{0.018^2} = 75.9 \text{ kNm}$$

$$\delta \varepsilon \text{ HO } 2 \text{ TR/mm}$$

$$b = 2 \times 10 + 40 = 60 \text{ cm}$$