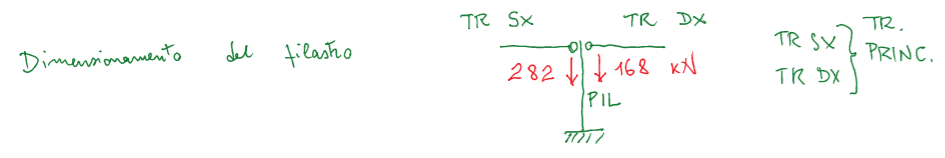


- Completamento del particolare costruttivo:  
 modo trave princ./sec./filario
- Collegamenti: cerni generali, bulloni
- Considerazioni generali nella sicurezza antisismica



Taglio sulla travata

$$T_{Sx} + T_{Dx} = 450 \text{ kN}$$

$$45000 \text{ daN}$$

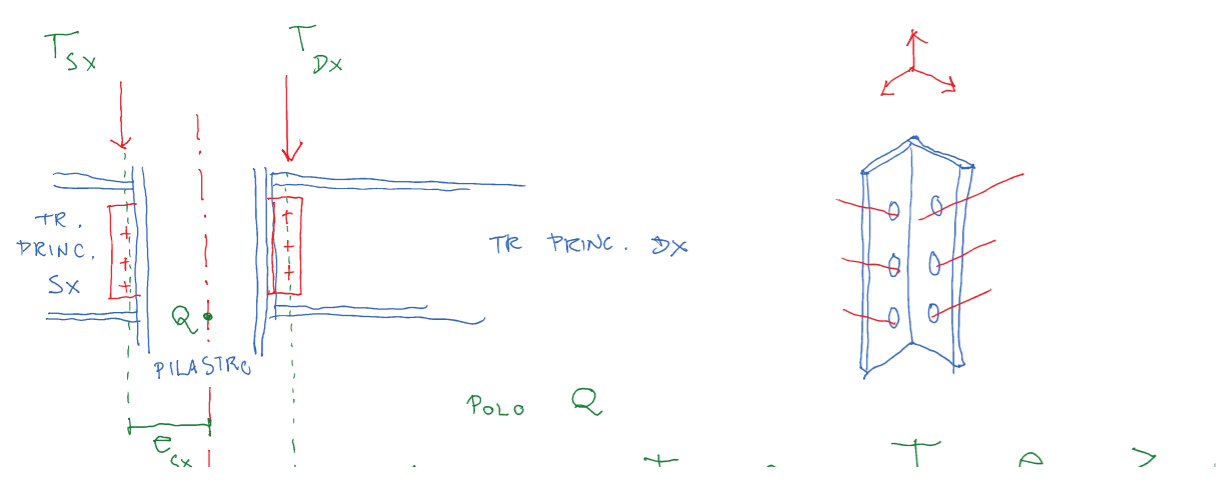


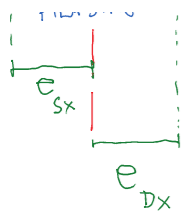
Dimensionamento del filario al liv. inferiore

$$N = 1800 \text{ kN}$$

$$S_{275} \quad f_{yk} = 275 \text{ MPa}$$

$$\sigma_{MAX} = \frac{f_{yk}}{S}$$





Polo Q

$$M_{PILASTRO} = T_{sx} \cdot e_{sx} - T_{dx} \cdot e_{dx} \geq 0$$

Per il dimensionamento del pilastro ipotizziamo  $M_{PIL} \cong 0$

e conseguentemente si approssima aumentare S

per esempio  $S = 2.5$

$$\sigma_{MAX} = \frac{f_{yk}}{2.5} = 1100 \frac{daN}{cm^2}$$

$$\sigma = \frac{N}{a}$$

$$a_{MIN} = \frac{N}{\sigma_{MAX}} = \frac{180\,000 \text{ daN}}{1100 \text{ daN/cm}^2} = 163.6 \text{ cm}^2$$

HE 400 B  $a = 197.8 > 163.6$

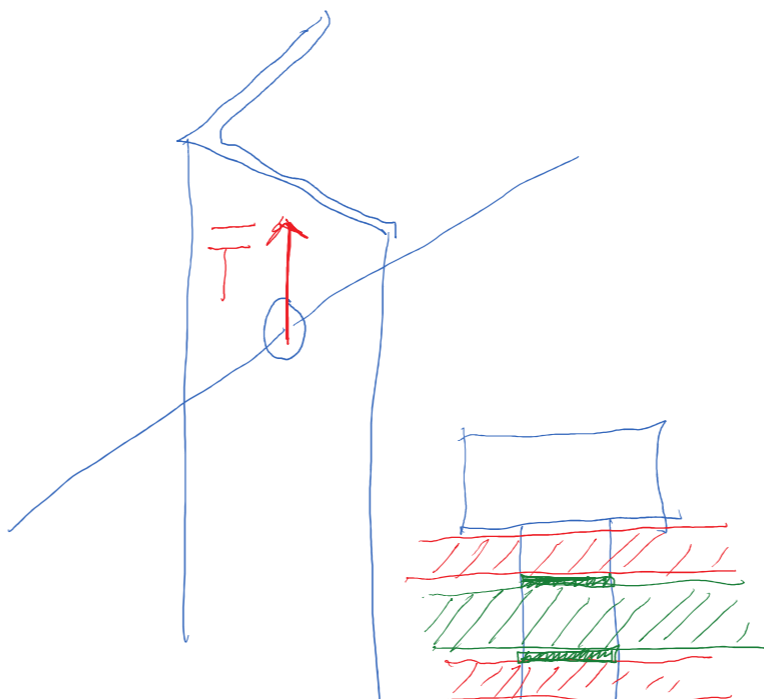
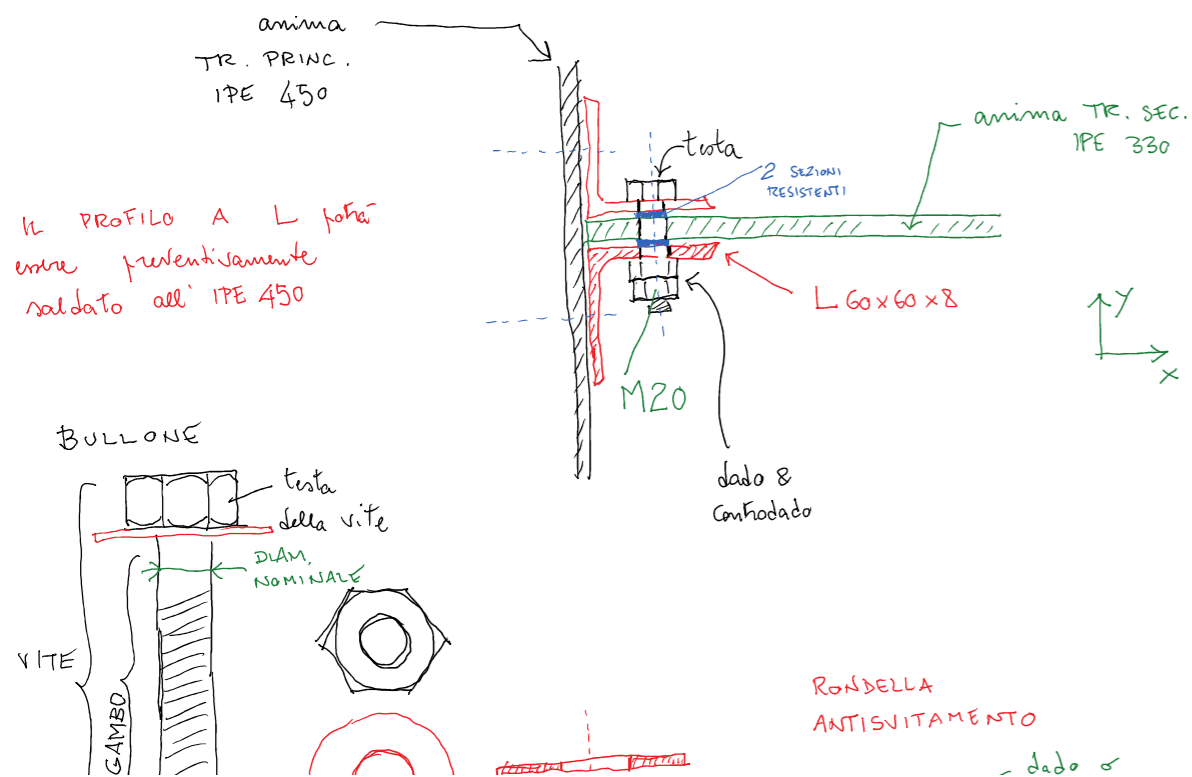
MATERIALE  
DEI BULLONI  
TIPO 8,8

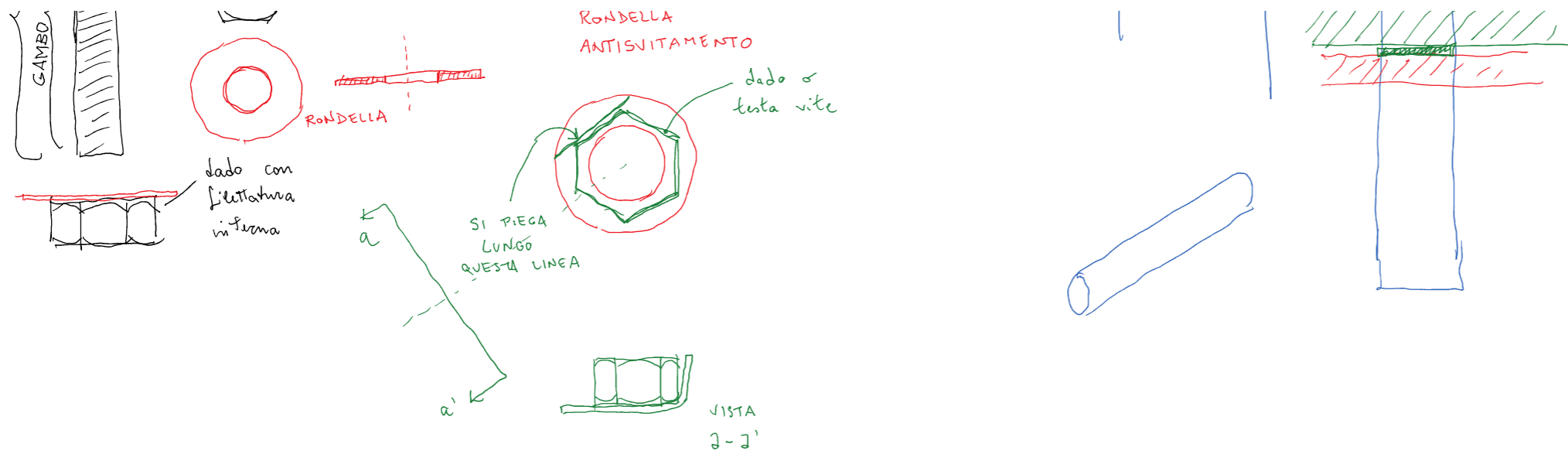
$f_{tkb} = 640 \text{ MPa}$  (snervam. caratt.)

$f_{tkb} = 800 \text{ MPa}$  (rottura)

DETTAGLIO DEL COLLEGAMENTO (V. FIGURA PRECEDENTE)

FRA TR. PRINC. E TRAVE SECONDARIA



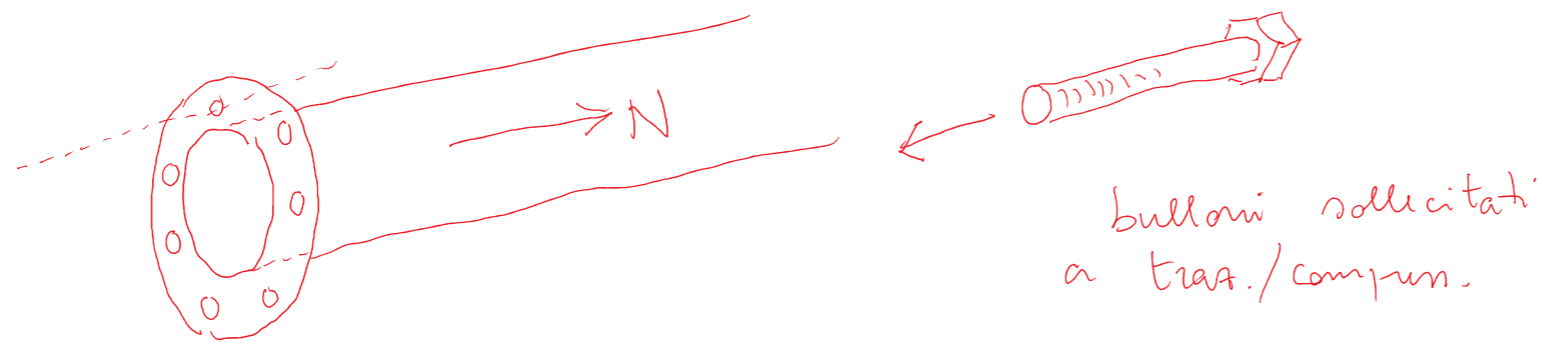


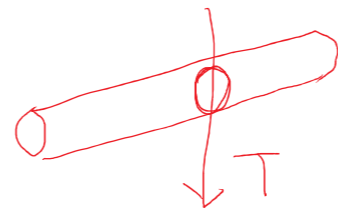
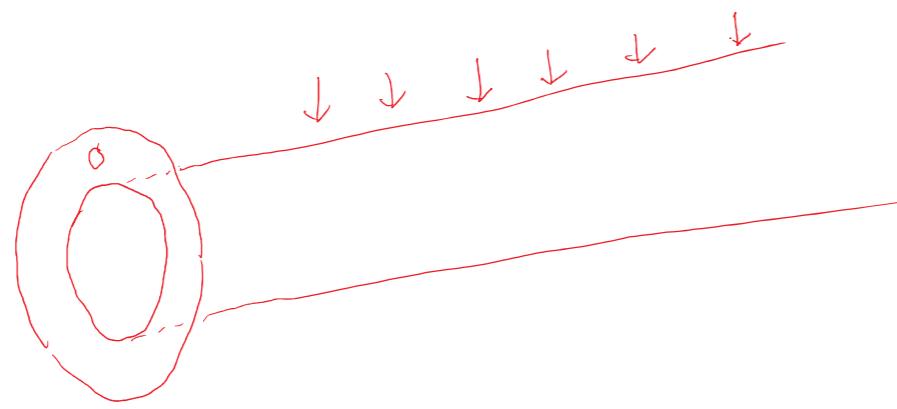
Dimensioniamo il collegam. mediante bulloni

collegam. TR. SEC. / TR. PRINC.

3 M20      2 sezioni resistenti

Sollecitat. di progetto  $T_{TR. SEC.} = T_{max} = 11,25 \times 400 = 4500 \text{ daN}$





bulloni sollecitati  
a taglio

$$F_{VRd} = 442368 \text{ N}$$

$$\approx 44000 \text{ daN}$$

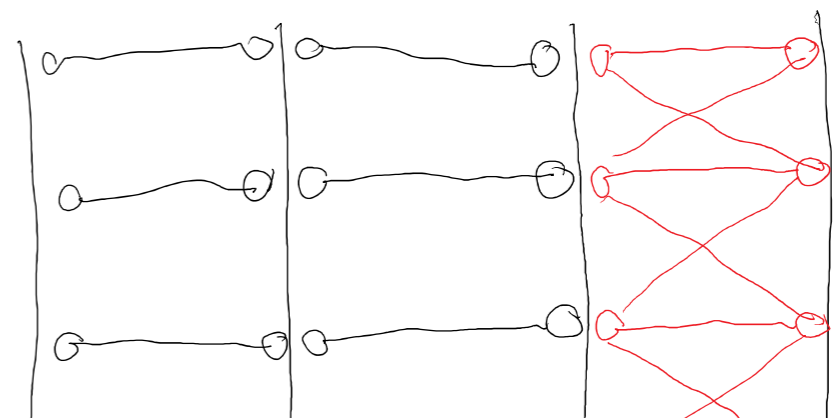
$$44000 \gg 4500$$

Il collegam 3M20 2 mt res.  
è verificato

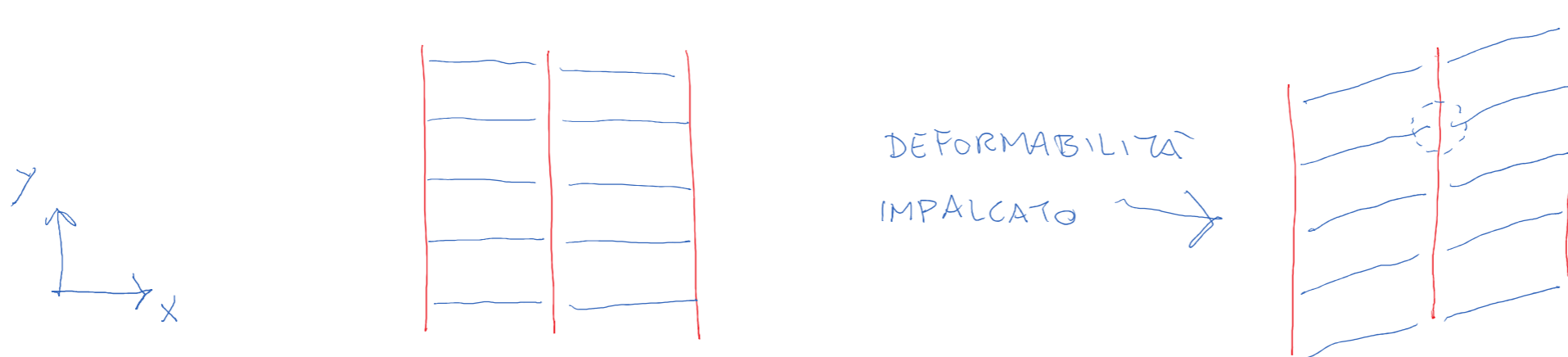
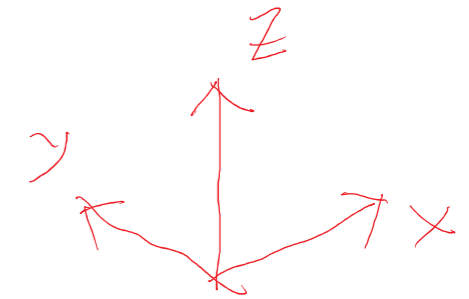
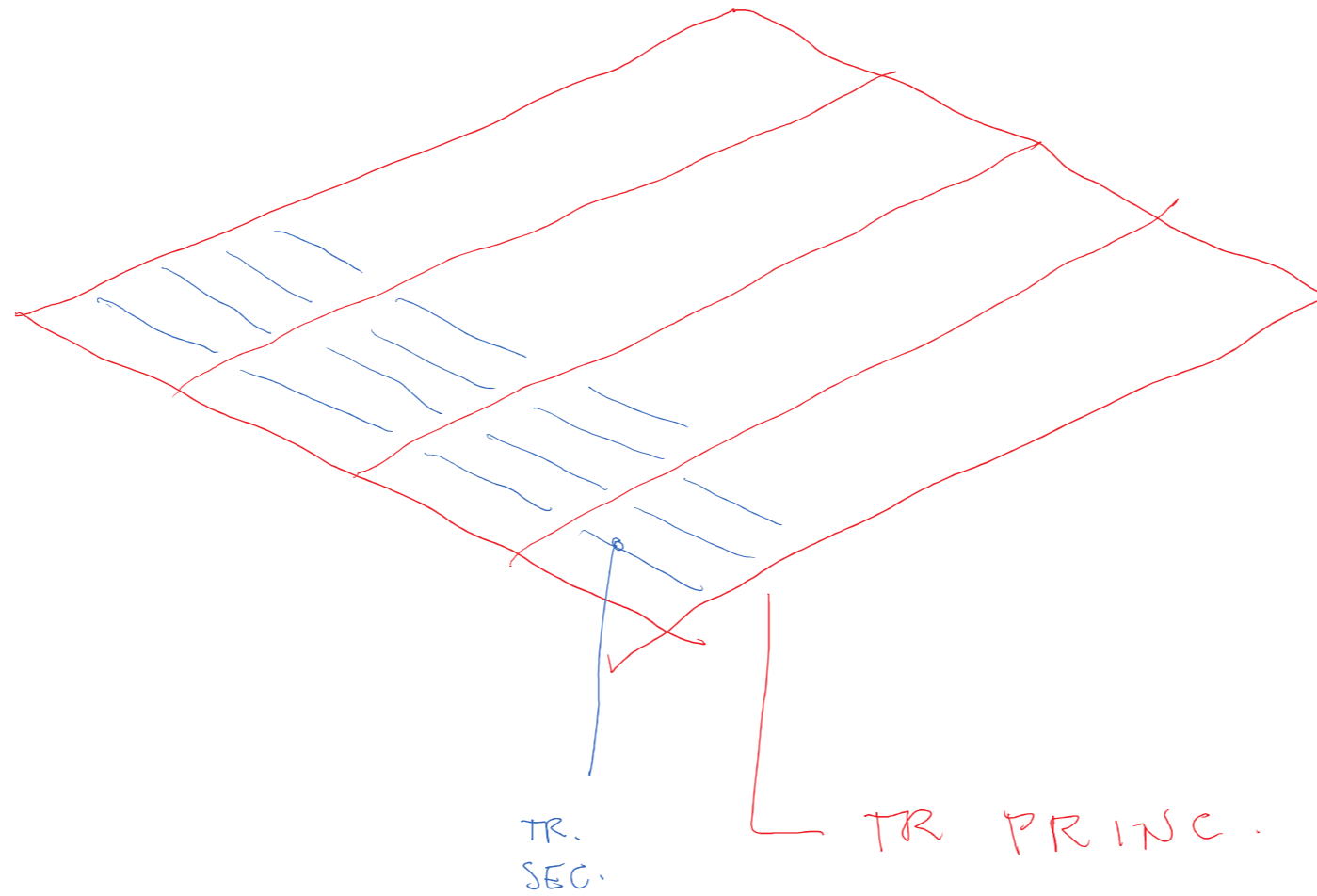
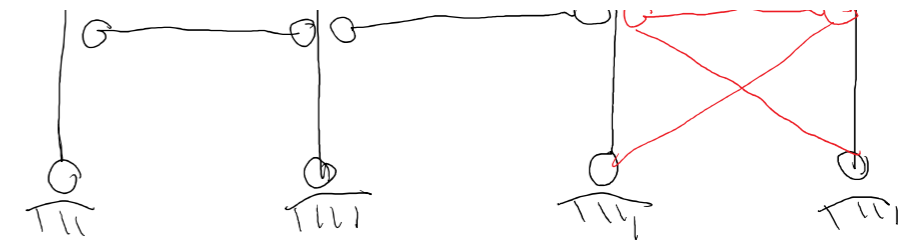
$$F_{VRd} = 241152 \text{ N} = 24000 \text{ daN} \gg 4500$$

CONTROVENTI

CONTROVENTI DI  
PARETE

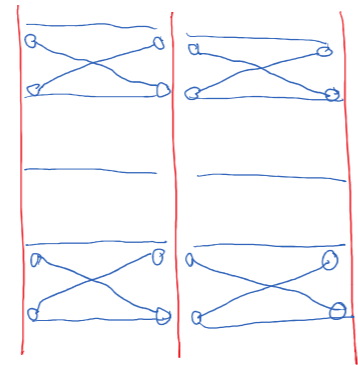


Z  
↑

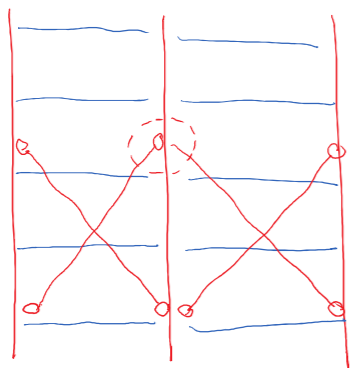


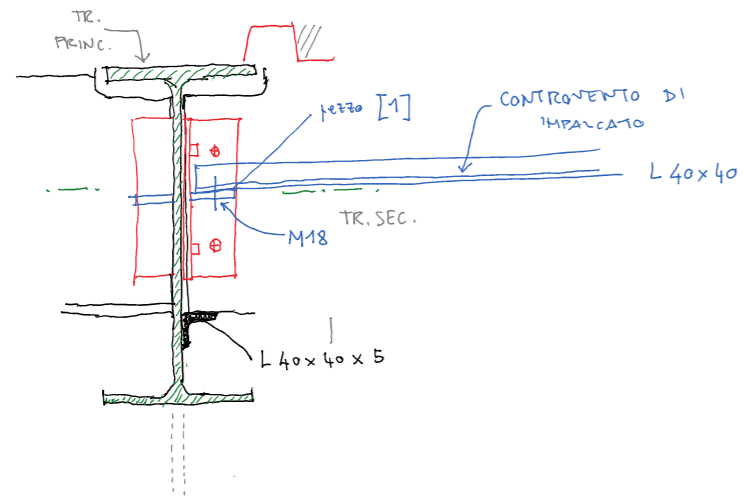
INSERENDO CONTROVENTI DI IMPALCATO

L'ORIZZONTAMENTO DIVENTA INDEFORMABILE NEL PIANO  $xy$

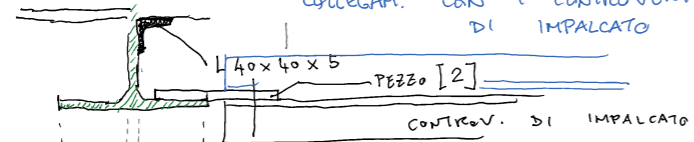


CONTROV. DI IMPALCATO

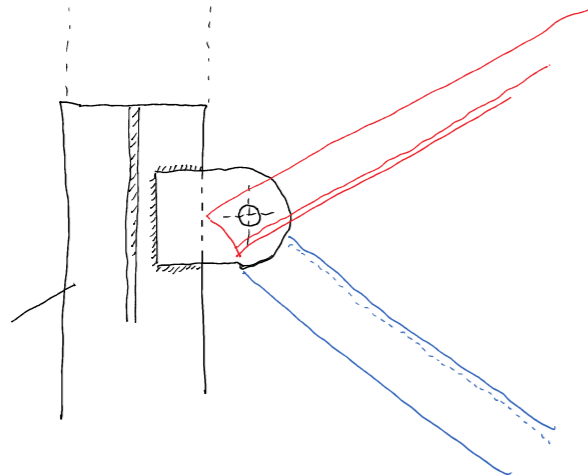




DETTAGLIO ALA INF. TR. PRINC. CON IL PEZZO [2] PER COLLEGAM. CON I CONTROVENTI DI IMPALCATO



ALA INF.  
TR. PRINC.

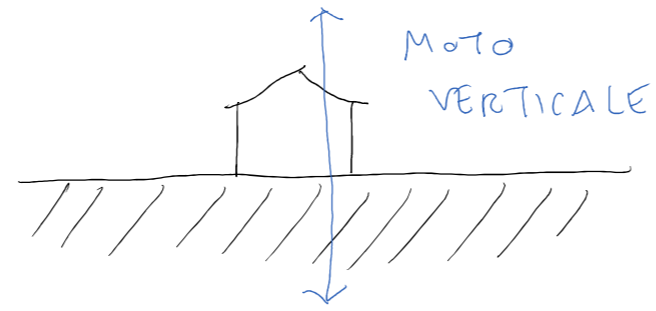


AZIONE

SISMICA

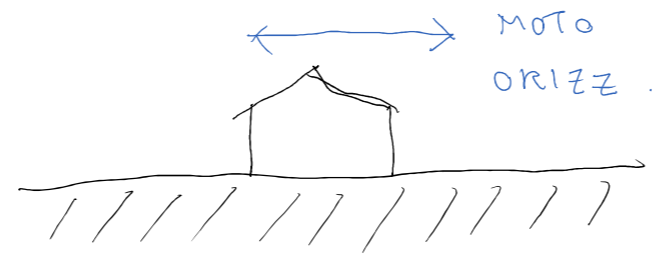
①

COMPONENTE  
SUSSULTORIA  
del SISMA



②

COMPONENTE  
ONDULATORIA

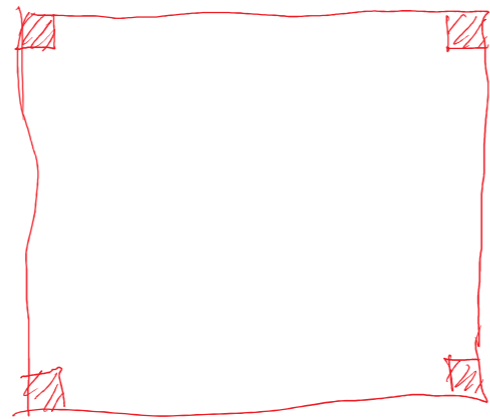


AZIONI SISMICHE

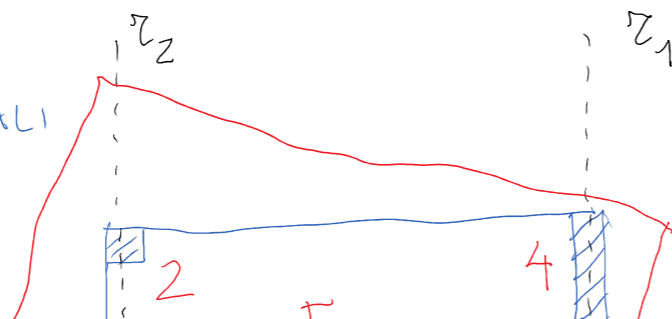
ORIZZ.

(CASO ② v. SOPRA)

PLANIMETRIA  
DI UN EDIFICIO



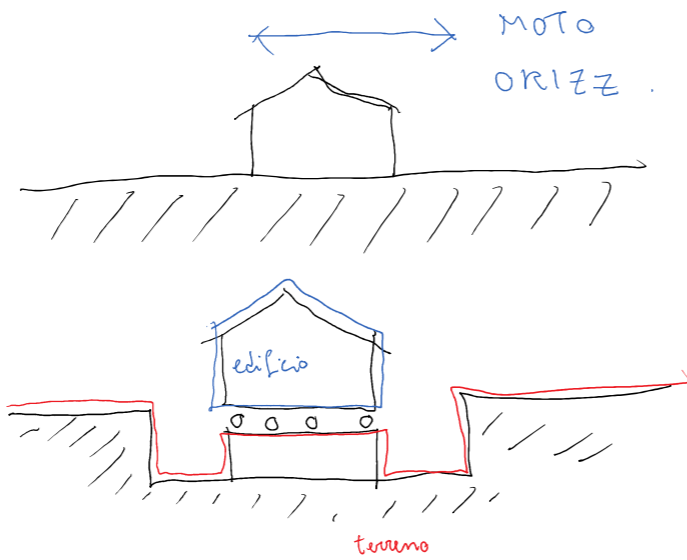
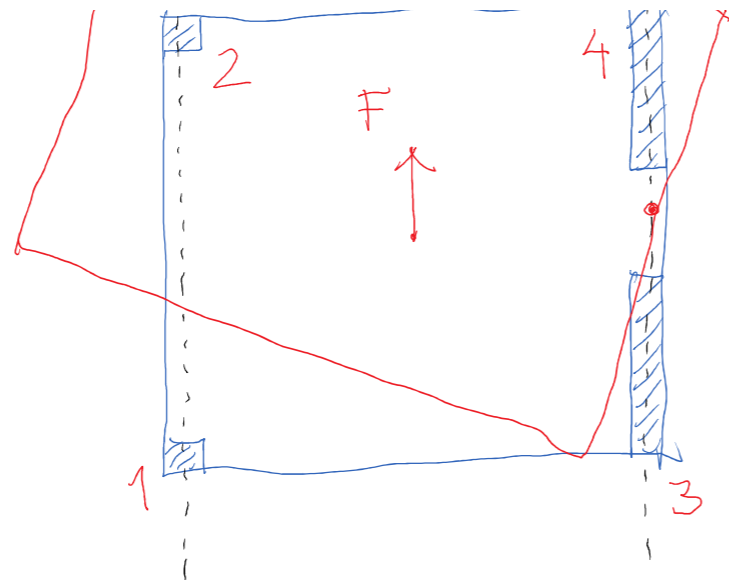
SOPRA DIMENSIONAM.  
DEGLI ELEMENTI STRUTTURALI





AZIONI INERZIALI

$$F = m a$$



Nel terreno  $\ddot{a} \neq 0$       Nell'edificio  $\ddot{a} \approx 0$

BASE ISOLATION SYSTEM