

CARICO SCALA

Titolo nota

27/03/2014

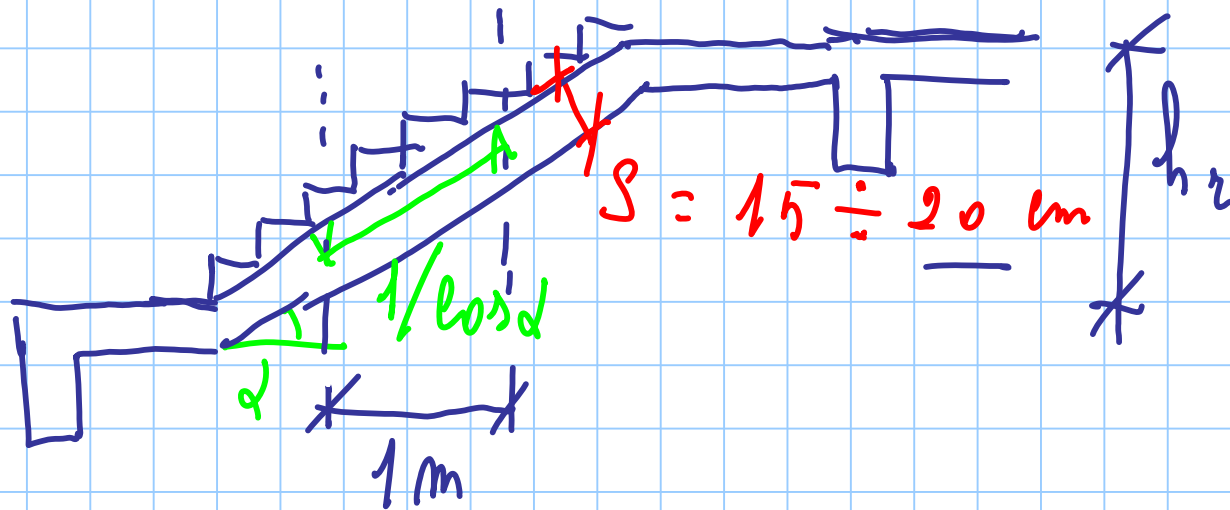
SOLETTA RAMPANTE : SOLETTA PIENA

SOLETTA ALLEGGERITA

TRAVE A GINOCCHIO

I valori di q

- $q_{fissato}$
- q_{temp}



SOLETTA

$$1 \times \frac{1}{\cos(28,1^\circ)} \times 0,2 \times 25 =$$

$$= 4,41 \text{ KN/m}^2$$

$$\alpha = \arctan\left(\frac{h_r}{l_r}\right) =$$

$$= \arctan\left(\frac{1,6}{3,0}\right) =$$

$$= 28,1^\circ$$

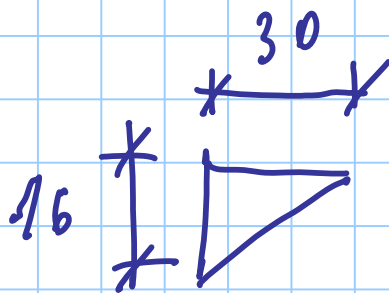
GRADINI $1 \times \frac{0,16 \times 0,3}{2} \times 24 \times \frac{1}{3} \times 10 = 1,92 \text{ kN/m}^2$

INTONACO $1 \times \frac{1}{28,1} \times 0,02 \times 18 = 0,41 \text{ kN/m}^2$

HALTA $1 \times 1 \times 0,02 \times 21 = 0,42 \text{ kN/m}^2$

MARMO $1 \times 1 \times 0,02 \times 27 = 0,54 \text{ kN/m}^2$

$3,29 \text{ kN/m}^2$



SEZIONE
GRADINO

RAMPA

G_k

$$4,41 + 3,29$$
$$7,7 \text{ kN/m}^2$$

Q_k

$$4,0 \text{ kN/m}^2$$

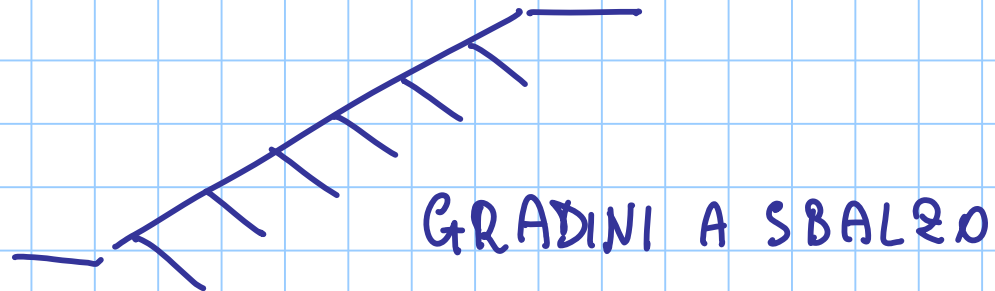
G_d

$$1,3 \times 7,7$$
$$10,0 \text{ kN/m}^2$$

Q_d

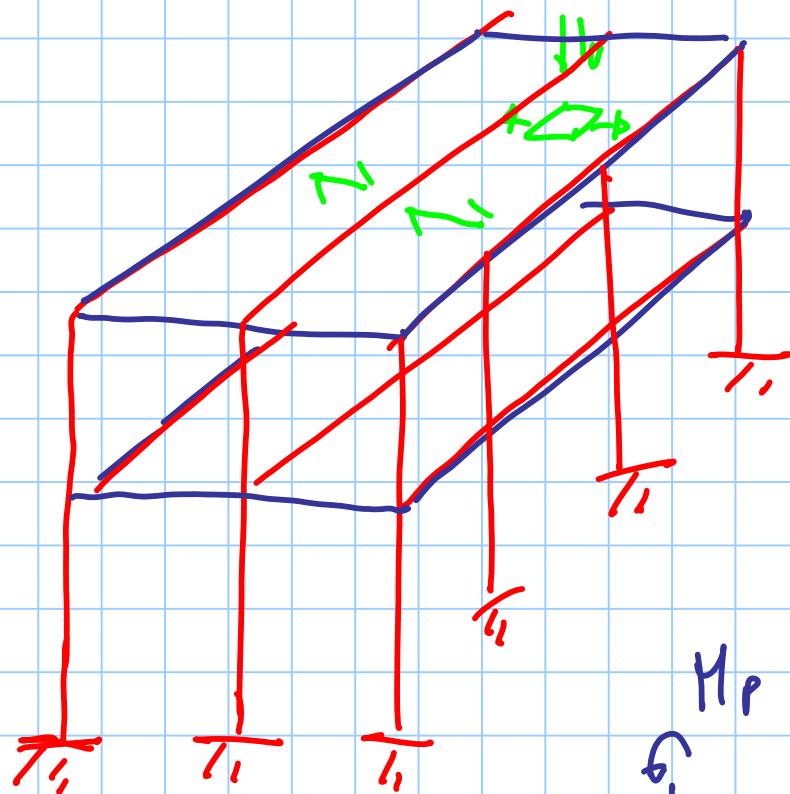
$$1,5 \times 4$$
$$6,0 \text{ kN/m}^2$$

SCALA CON TRAVE A GINOCCHIO



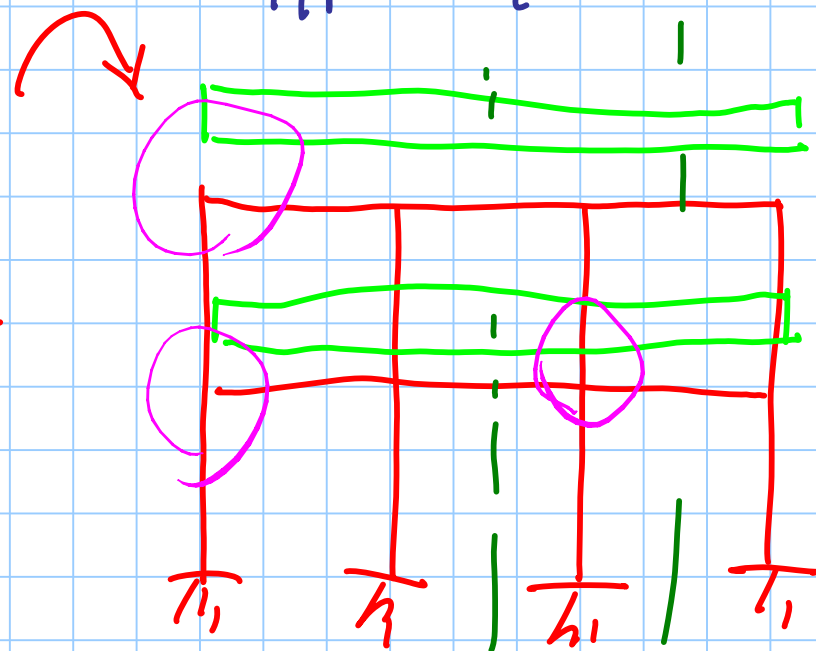
	G_k	Q_k	G_d	Q_d
SOLAI	$4,95 \text{ KN/m}^2$	$3,60 \text{ KN/m}^2$	$6,43 \text{ KN/m}^2$	$5,4 \text{ KN/m}^2$
BALEONE	$4,4 \text{ KN/m}^2$	$4,0 \text{ KN/m}^2$	$5,72 \text{ KN/m}^2$	$6,0 \text{ KN/m}^2$
SCALA	$7,7 \text{ KN/m}^2$	$4,0 \text{ KN/m}^2$	$10,0 \text{ KN/m}^2$	$6,0 \text{ KN/m}^2$
TAMPONATURA	$5,1 \text{ KN/m}$		$6,6 \text{ KN/m}$	
TRAVI (80x25)	$2,55 \text{ KN/m}$		$3,32 \text{ KN/m}$	
(30x50)	$2,83 \text{ KN/m}$		$3,69 \text{ KN/m}$	

MODELLAZIONE PILASTRI



$$\int_P dM_t$$

$$M_p = M_t$$



$$M_p$$

$$M_t$$

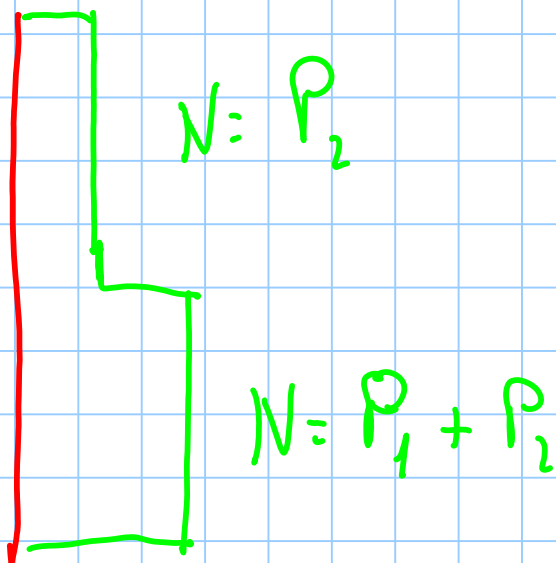
$$M_p$$

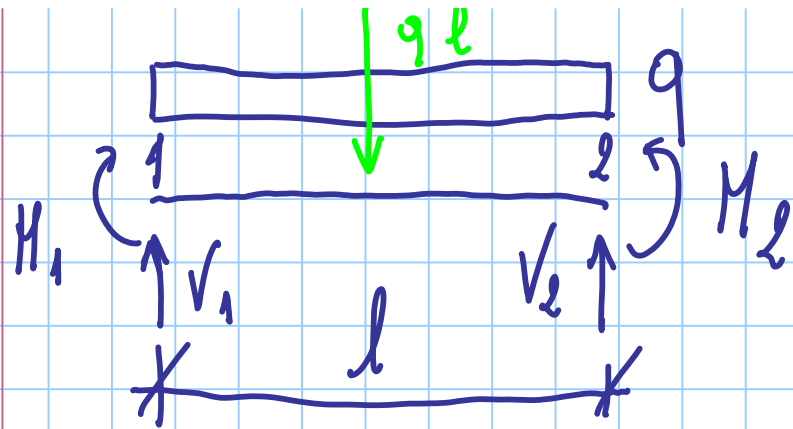
$$M_p = \frac{M_t}{2}$$

$$M_{2t}$$

$$M_{1t}$$

$$M_p \approx 0$$





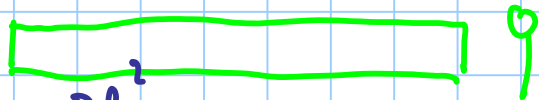
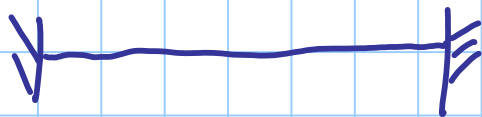
COEFFICIENTI DI
CONTINUITA'

$$-V_1 l + \frac{q l^2}{2} - H_1 + H_2 = 0$$

$$V_1 = \frac{q l}{2} + \frac{H_2 - H_1}{l}$$

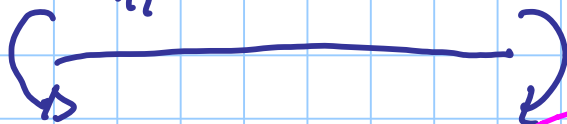
$$V_2 l - \frac{q l^2}{2} - H_1 + H_2 = 0$$

$$V_2 = \frac{q l}{2} - \frac{H_2 - H_1}{l}$$



$$-\frac{ql}{12}$$

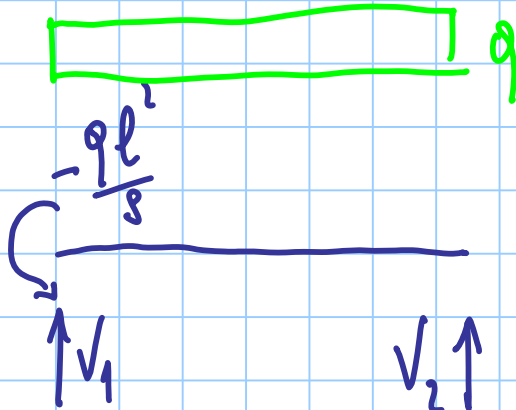
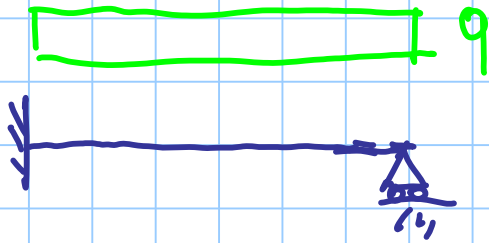
$$-\frac{ql^2}{12}$$



$$-\frac{ql^2}{12} + \frac{ql^2}{12} = 0$$


$$V_1 = \frac{ql}{2} + \frac{-\frac{ql^2}{12} + \frac{ql^2}{12}}{l} = \frac{ql}{2}$$

$$V_2 = \frac{ql}{2} - \frac{-\frac{ql^2}{12} + \frac{ql^2}{12}}{l} = \frac{ql}{2}$$



$$V_1 = \frac{ql}{2} + \frac{0 + \frac{ql^2}{8}}{l} = \frac{5}{4} \frac{ql}{2} = 1,25 \frac{ql}{2}$$

$$V_2 = \frac{ql}{2} - \frac{0 + \frac{ql^2}{8}}{l} = \frac{3}{4} \frac{ql}{2} = 0,75 \frac{ql}{2}$$

$$M_1 = -\frac{ql}{8}$$


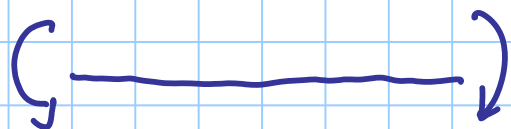
$$\frac{1}{1.25} \times \frac{ql}{2}$$

1.20

$$\frac{2}{0.75} \times \frac{ql}{2}$$

1

$$M_1 = 2M_2$$

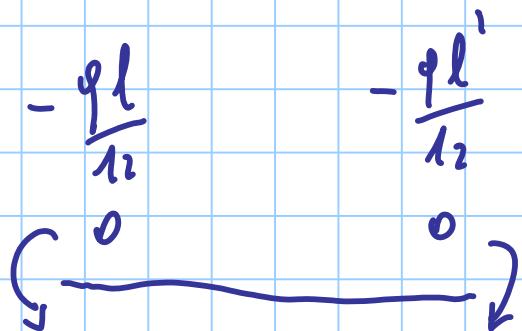


$$\frac{1}{1.25} \times \frac{ql}{2}$$

1.10

$$\frac{2}{0.875} \times \frac{ql}{2}$$

1



$$1 \times \frac{ql}{2}$$

$$1 \times \frac{ql}{2}$$

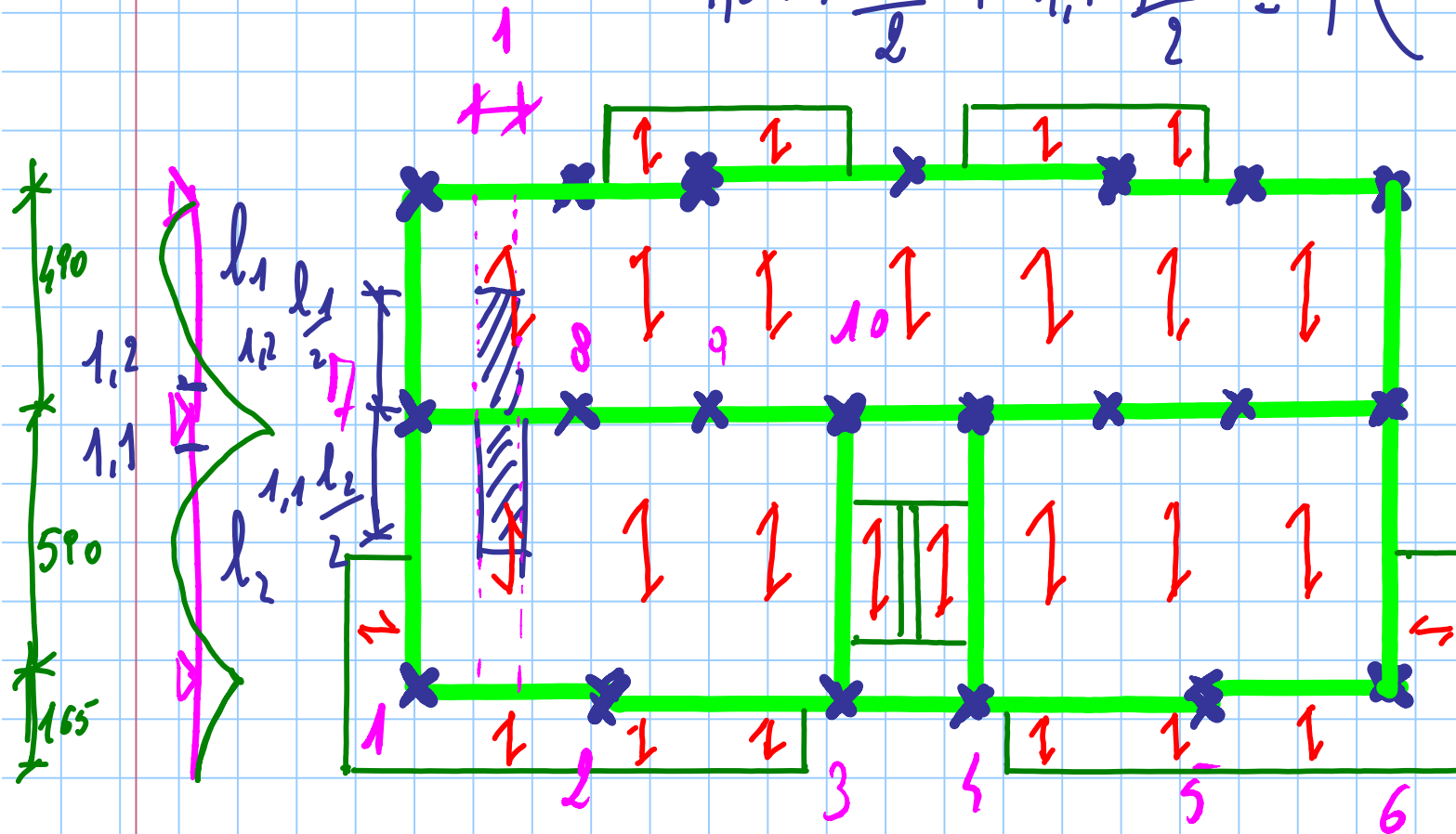
COEFFICIENTI DI CONTINUITA'

PILASTRO 8

Titolo nota

03/03/2014

$$1,2 \times 9 \frac{d_1}{2} + 1,1 \times 9 \frac{d_2}{2} = 9 \left(1,2 \frac{d_1}{2} + 1,1 \frac{d_2}{2} \right)$$

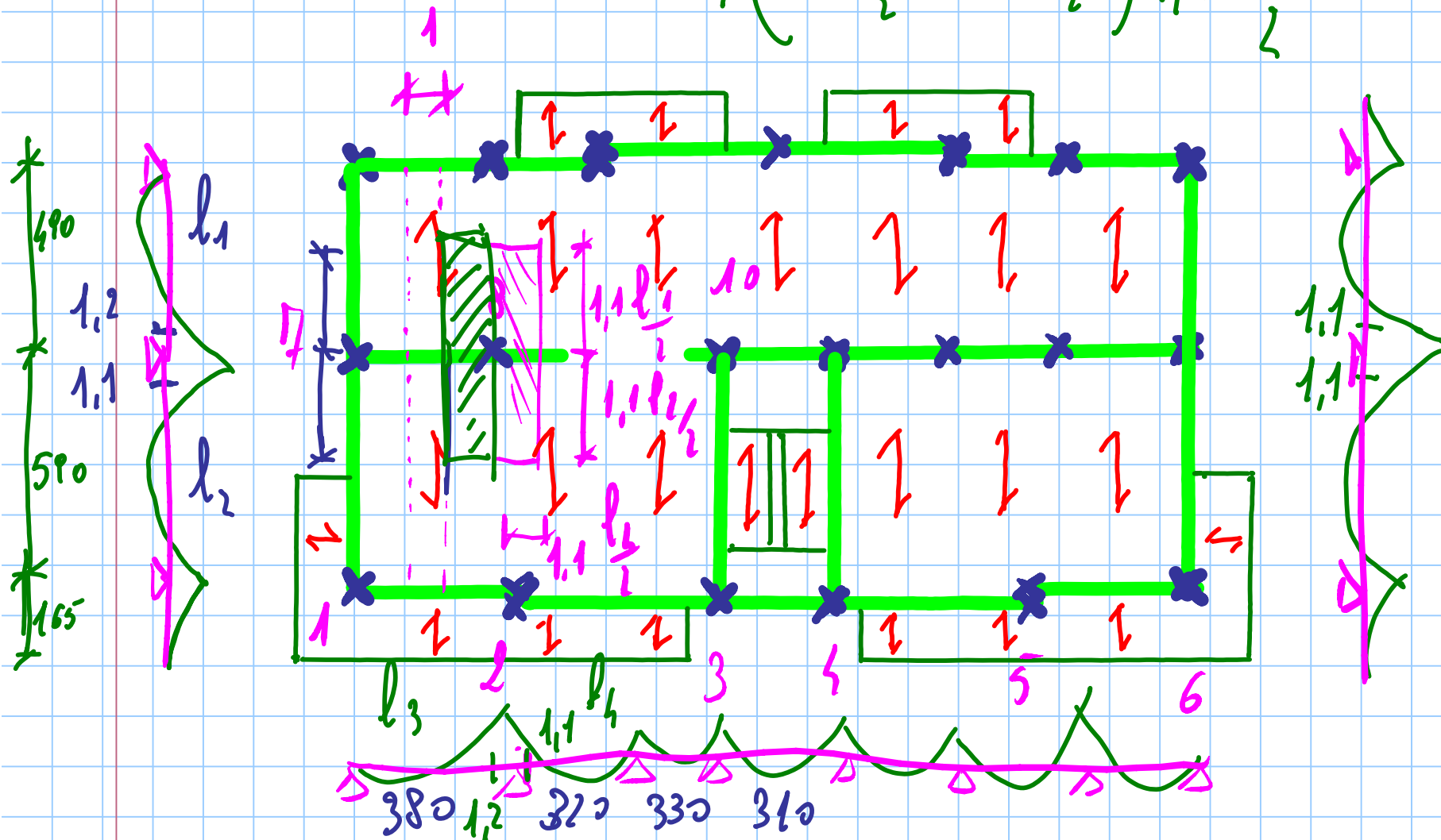


PILASTRO 8

Titolo nota

23/03/2014

$$q \left(1,2 \frac{l_1}{2} + 1,1 \frac{l_1}{2} \right) 1,2 \frac{l_3}{2}$$



$$q \left[\left(1,2 \frac{l_1}{2} + 1,1 \frac{l_2}{2} \right) \times 1,2 \frac{l_3}{2} + \left(1,1 \frac{l_1}{2} + 1,1 \frac{l_2}{2} \right) \times 1,1 \frac{l_3}{2} \right]$$

A_8

AREA D'INFLUENZA DEL PILASTRO

Pilastro 8

$$\begin{aligned} \text{SOLAI0} \quad g_d & \left[\left(1,2 \times \frac{4,9}{2} + 1,1 \times \frac{5,9}{2} \right) \times 1,2 \times \frac{3,8}{2} + \right. \\ & \left. + \left(1,1 \times \frac{4,9}{2} + 1,1 \times \frac{5,9}{2} \right) \times 1,1 \times \frac{3,2}{2} \right] = \\ & = g_d \times 24,55 = 6,43 \times 24,55 = 157,9 \text{ kN} \end{aligned}$$

$$0,8 \times q_d \times 24,55 = 0,8 \times 5,40 \times 24,55 = 106,1 \text{ kN}$$

$$\begin{aligned} & q_d + q_d + 0,9 q_d + 0,8 q_d + 0,7 q_d + 0,6 q_d + 0,5 q_d \\ & (1 + 1 + 0,9 + 0,8 + 0,7 + 0,6 + 0,5) / 7 = 0,73 \end{aligned}$$

Pilester

30LA10

TRAVE

G_d

157,9

Q_d

106,1

$$3,69 \times \left(1,2 \times \frac{3,8}{2} + 1,1 \times \frac{3,2}{2} \right)$$

14,9 kN

$P = 278,4 \text{ kN}$

172,8 kN

106,1

278,9 kN

$$\frac{17}{100} \times 278,9 \text{ kN} = 19,5 \text{ kN}$$

Pus platko