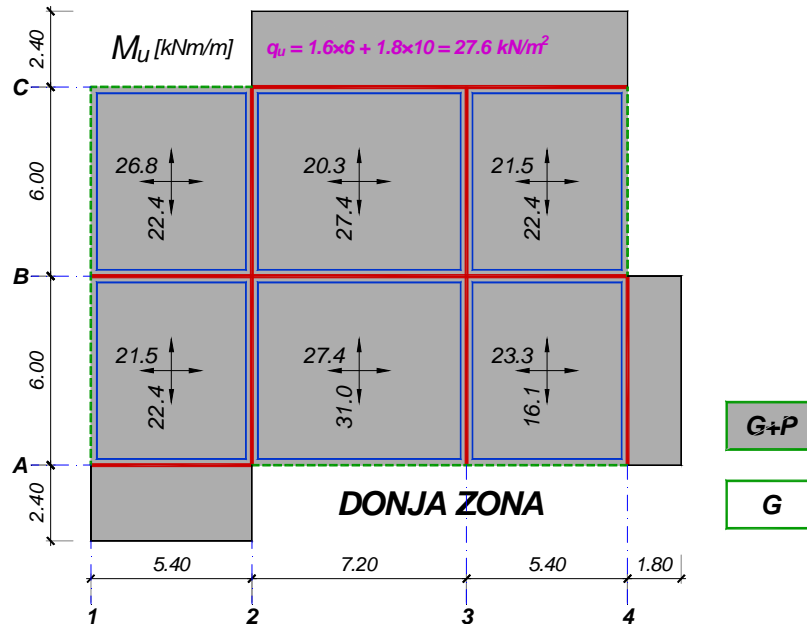


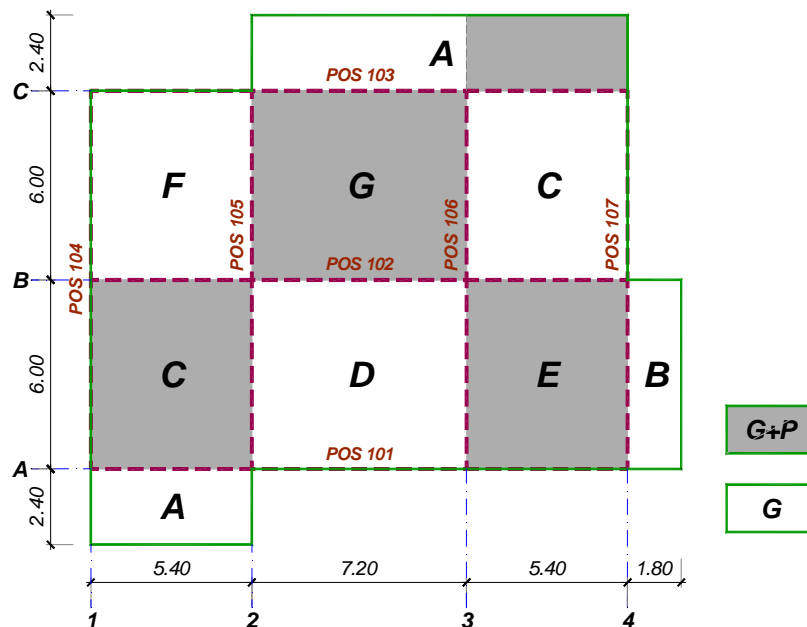
## Donja zona, $q_u = 1.6 \times G + 1.8 \times P$ (totalno opt.)

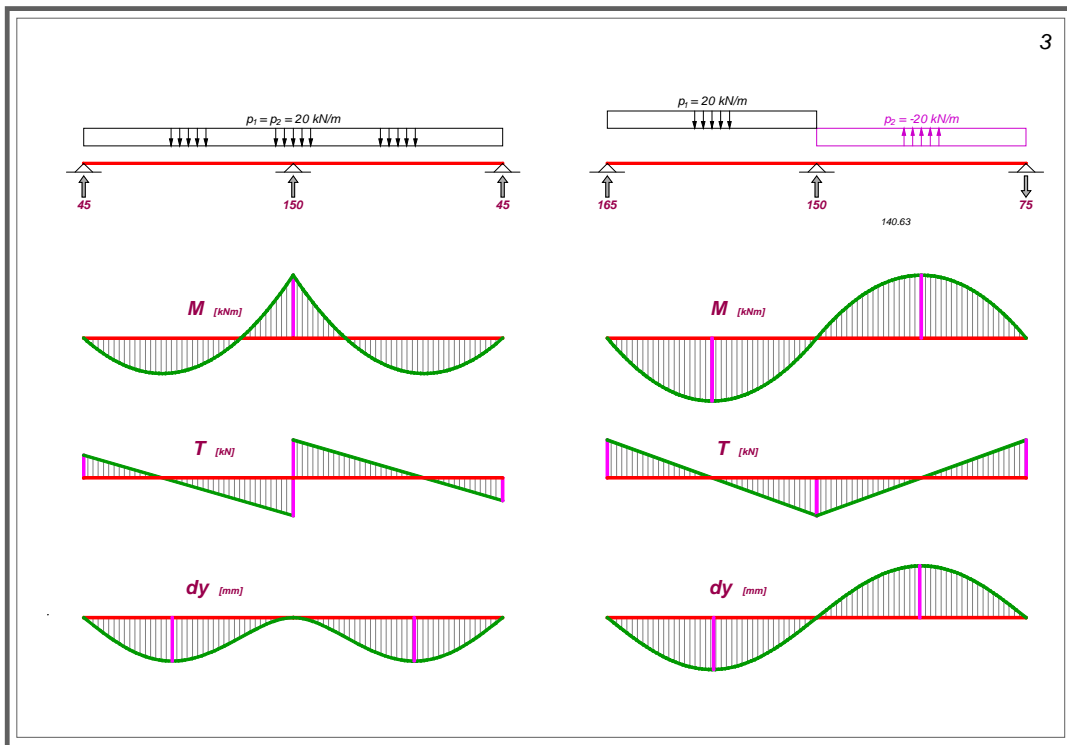
1



## Šema opterećenja za polja (položaj opt. 1)

2





$$q_u = 1.6 \times 6.0 + 1.8 \times 10.0 = 27.6 \frac{\text{kN}}{\text{m}^2}$$

$$q_{u1} = 1.6 \times 6.0 + 1.8 \times \frac{10.0}{2} = 18.6 \frac{\text{kN}}{\text{m}^2}$$

$$q_{u2} = \pm 1.8 \times \frac{10.0}{2} = \pm 9.0 \frac{\text{kN}}{\text{m}^2}$$

$$M_{u1,X}^C = \frac{18.6}{27.6} \times 21.5 = 14.5 \frac{\text{kNm}}{\text{m}}$$

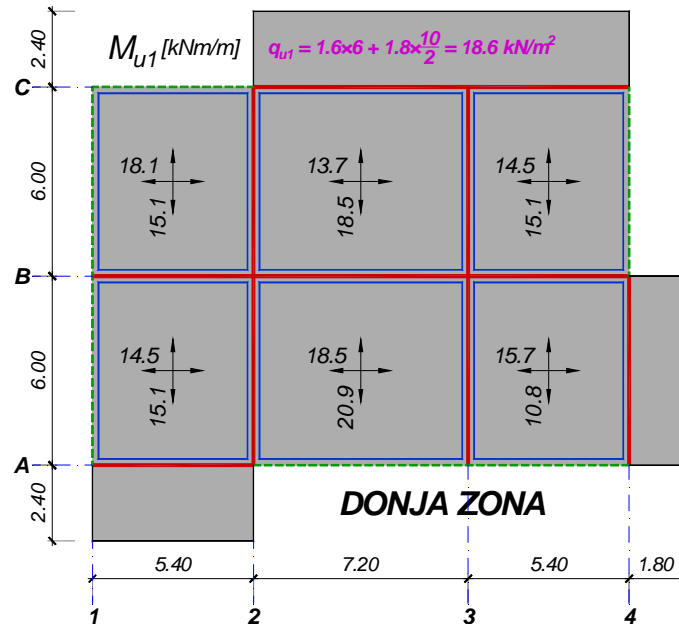
$$M_{u1,Y}^C = \frac{18.6}{27.6} \times 22.4 = 15.1 \frac{\text{kNm}}{\text{m}}$$

...

$$M_{u1,Y}^G = \frac{18.6}{27.6} \times 27.4 = 18.5 \frac{\text{kNm}}{\text{m}}$$

**Donja zona,  $q_{u1} = 1.6 \times G + 1.8 \times P/2$**

5



**Donja zona, ploče C,E,F:  $q_{u2} = \pm 1.8 \times P/2$**

6

$$\frac{L_y}{L_x} = \frac{6.0}{5.4} \approx 1.1$$

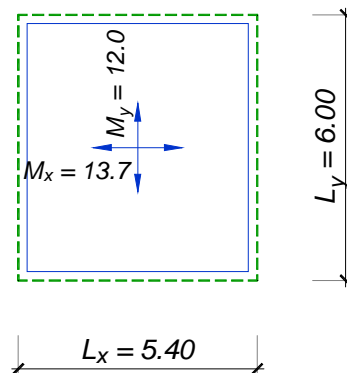
$$M_{xu} = 0.047 \times q_{u2} \times L_x \times L_y$$

$$M_{xu} = 0.047 \times 9.0 \times 5.4 \times 6.0 = 13.7 \frac{\text{kNm}}{\text{m}}$$

$$M_{yu} = 0.041 \times q_{u2} \times L_x \times L_y$$

$$M_{yu} = 0.041 \times 9.0 \times 5.4 \times 6.0 = 12.0 \frac{\text{kNm}}{\text{m}}$$

$l_x$	$l_y$	$l_y/l_x$	1,0	1,1
$M_x$	0,044	0,047		
$M_y$	0,044	0,041		



**Donja zona, ploče D,G:  $q_{u2} = \pm 1.8 \times P/2$**

$$\frac{L_y}{L_x} = \frac{7.2}{6.0} = 1.2$$

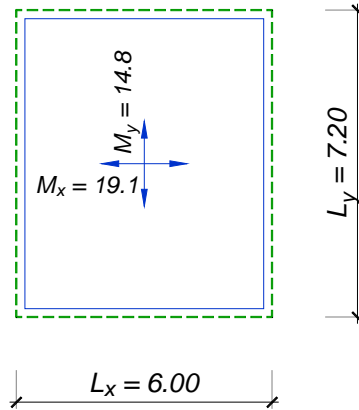
$l_y : l_x$	1,0	1,1	1,2
$M_x$	0,044	0,047	0,049
$M_y$	0,044	0,041	0,038

$$M_{xu} = 0.049 \times q_{u2} \times L_x \times L_y$$

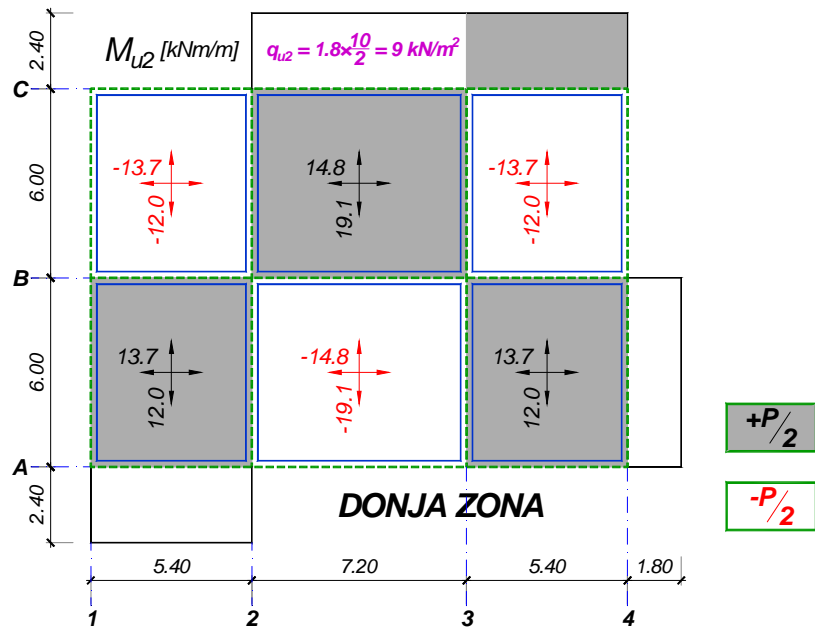
$$M_{xu} = 0.049 \times 9.0 \times 6.0 \times 7.2 = 19.1 \frac{\text{kNm}}{\text{m}}$$

$$M_{yu} = 0.038 \times q_{u2} \times L_x \times L_y$$

$$M_{yu} = 0.038 \times 9.0 \times 6.0 \times 7.2 = 14.8 \frac{\text{kNm}}{\text{m}}$$

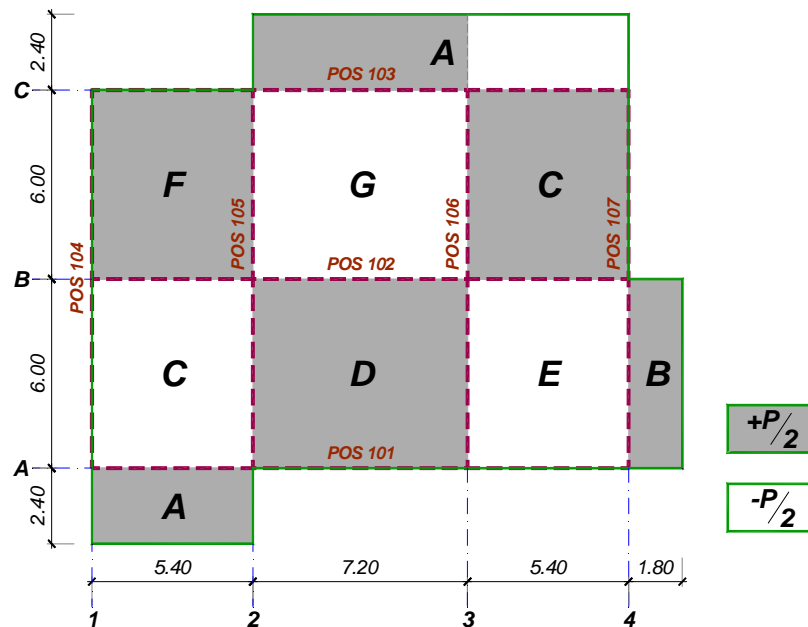


**Donja zona,  $q_{u2} = \pm 1.8 \times P/2$**



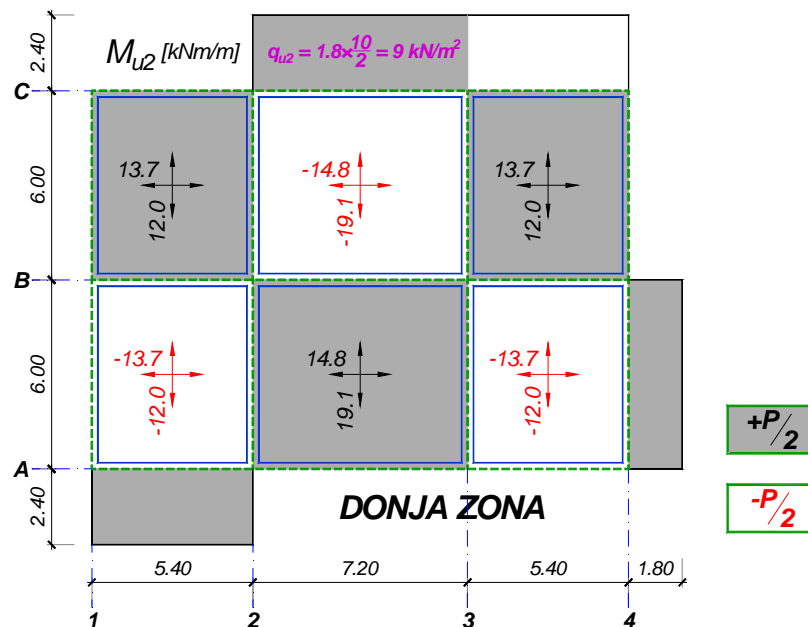
## Šema opterećenja za polja (položaj opt. 2)

9



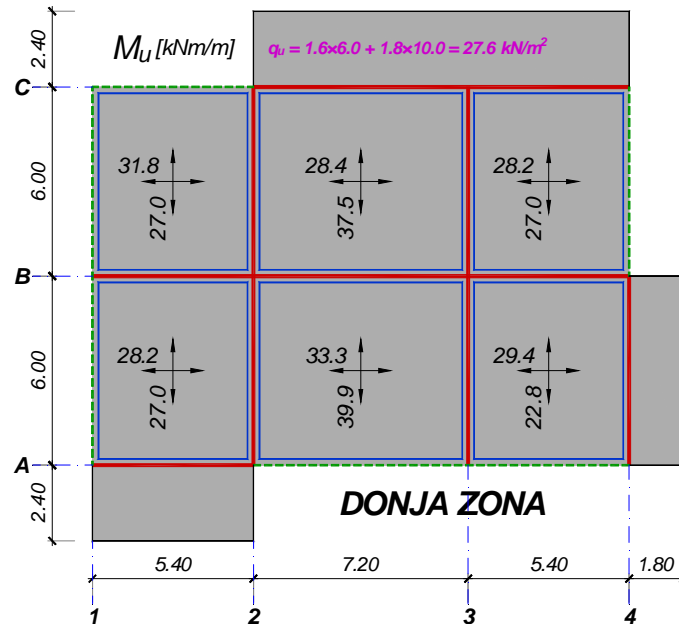
## Donja zona, $\pm 1.8 \times P/2$

10



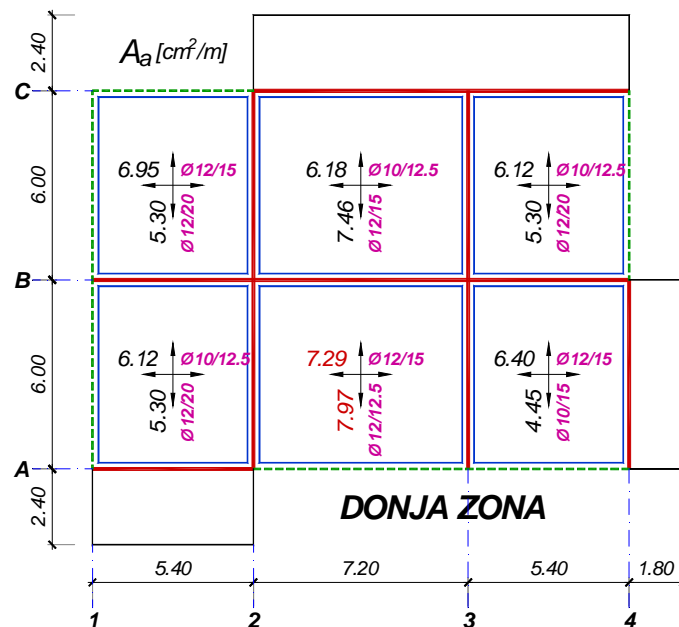
## Donja zona, $q_{u1}+q_{u2}$ (ekstremni uticaji)

11



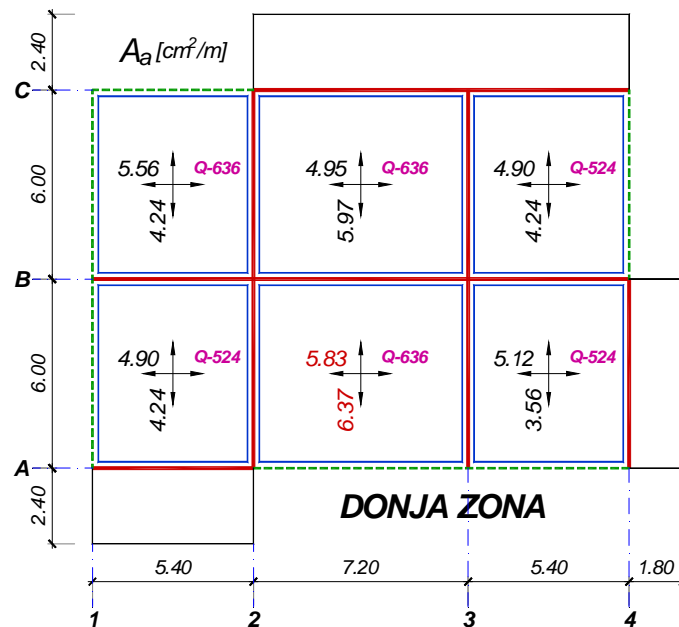
## Potrebna armatura – donja zona (RA 400/500)

12



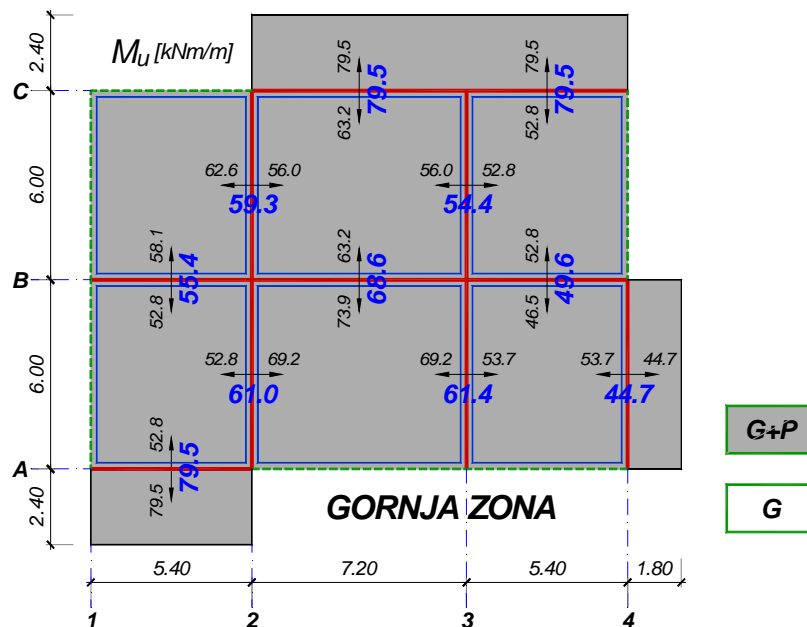
## Potrebna armatura – donja zona (MA 500/560)

13

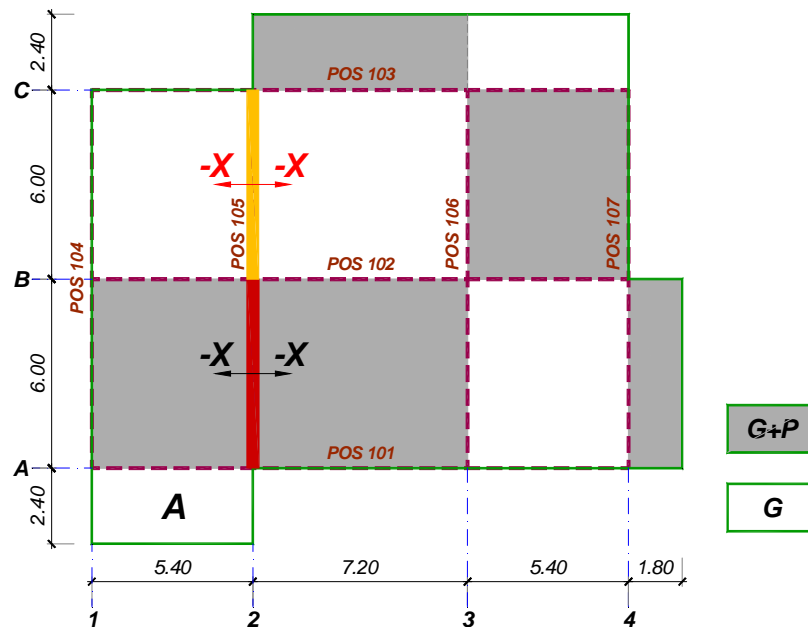


## Gornja zona, $q_u = 1.6 \times G + 1.8 \times P$ (totalno opt.)

14



## Šema opterećenja za oslonac u osi 2 (deo A-B) 15



$$q_u = 1.6 \times 6.0 + 1.8 \times 10.0 = 27.6 \frac{\text{kN}}{\text{m}^2}$$

$$q_{u1} = 1.6 \times 6.0 + 1.8 \times \frac{10.0}{2} = 18.6 \frac{\text{kN}}{\text{m}^2}$$

$$q_{u2} = \pm 1.8 \times \frac{10.0}{2} = \pm 9.0 \frac{\text{kN}}{\text{m}^2}$$

$$-X_{u1}^{2/A-B} = \frac{18.6}{27.6} \times 61.0 = 41.1 \frac{\text{kNm}}{\text{m}}$$

...

$$-X_{u1}^{3/B-C} = \frac{18.6}{27.6} \times 54.4 = 36.7 \frac{\text{kNm}}{\text{m}}$$

$$-Y_{u1}^{B/1-2} = \frac{18.6}{27.6} \times 55.4 = 37.4 \frac{\text{kNm}}{\text{m}}$$

...

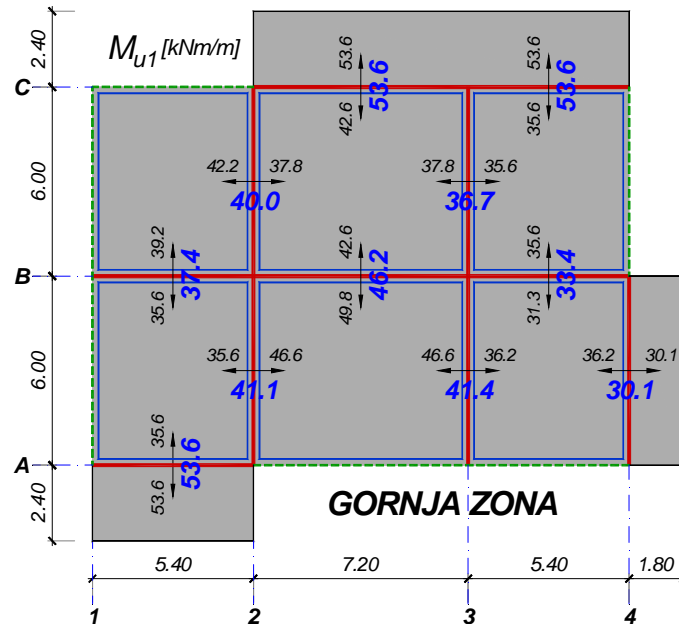
$$-Y_{u1}^{B/3-4} = \frac{18.6}{27.6} \times 49.6 = 33.4 \frac{\text{kNm}}{\text{m}}$$

16



**Gornja zona,  $q_{u1} = 1.6 \times G + 1.8 \times P/2$**

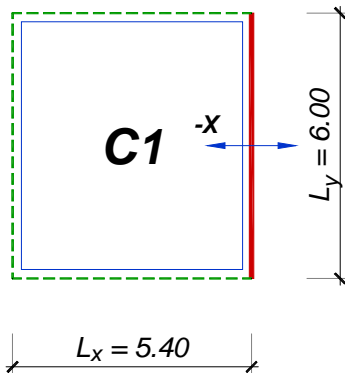
17



**Gornja zona, X pravac, ploča C1:  $q_{u2} = \pm 1.8 \times P/2$**

18

$$\frac{L_y}{L_x} = \frac{6.0}{5.4} \approx 1.1$$



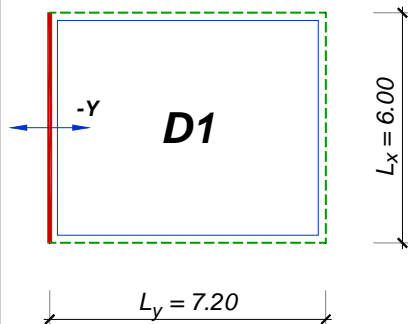
	$l_y = l_x$	1,0	1,1	1,2
$M_x$		0,044	0,047	0,049
$M_y$		0,044	0,041	0,038
$M_x$		0,037	0,037	0,038
$M_y$		0,031	0,027	0,023
-X		0,084	0,084	0,082

$$-X_{u2} = 0.084 \times q_{u2} \times L_x \times L_y$$

$$-X_{u2} = 0.084 \times 9.0 \times 5.4 \times 6.0 = 24.5 \frac{\text{kNm}}{\text{m}}$$

### Gornja zona, X pravac, ploča D1: $q_{u2} = \pm 1.8 \times P/2$

$$\frac{L_y}{L_x} = \frac{7.2}{6.0} = 1.2$$

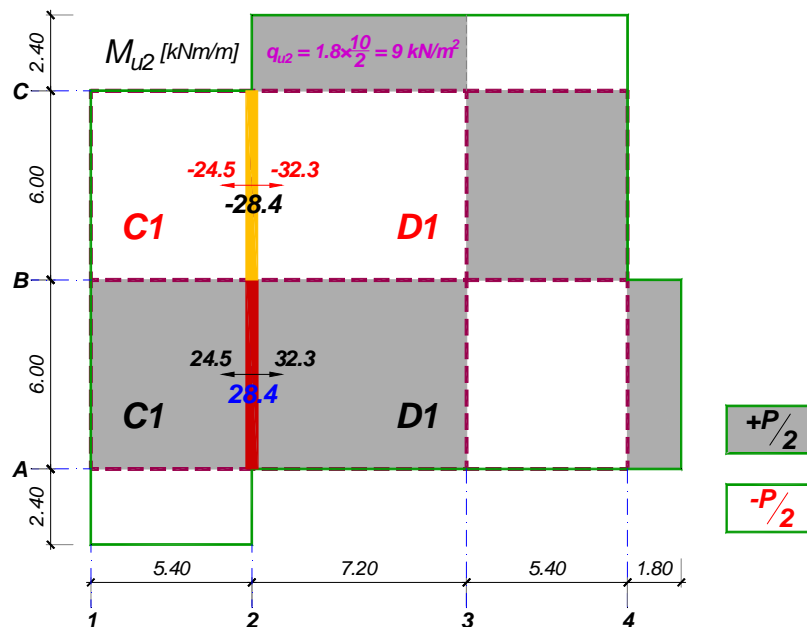


$l_y = l_x$	1,0	1,1	1,2
	Mx 0,044	0,047	0,049
	My 0,044	0,041	0,038
	Mx 0,031	0,035	0,038
	My 0,037	0,036	0,034
	-Y 0,084	0,084	0,083

$$-Y_{u2} = 0.083 \times q_{u2} \times L_x \times L_y$$

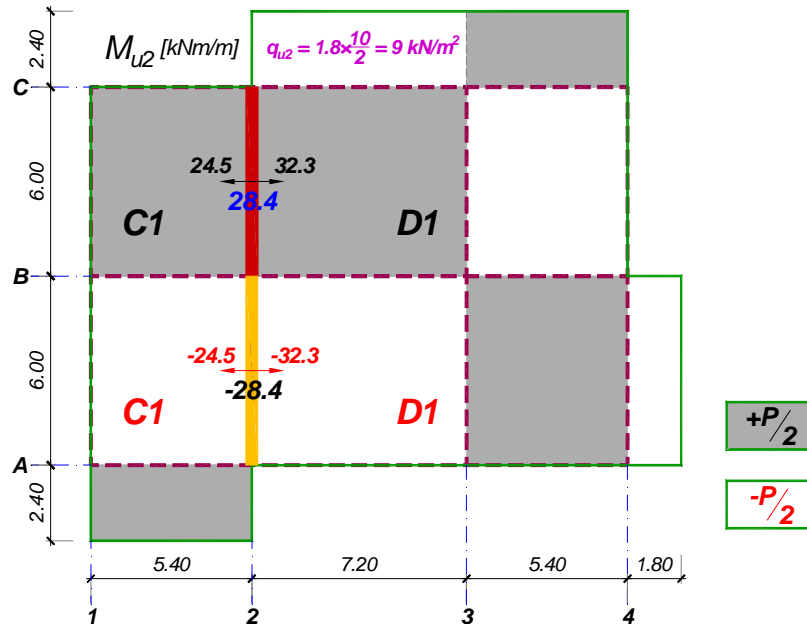
$$-Y_{u2} = 0.083 \times 9.0 \times 6.0 \times 7.2 = 32.3 \frac{\text{kNm}}{\text{m}}$$

### Oslonac u osi 2 (deo A-B), $q_{u2} = \pm 1.8 \times P/2$



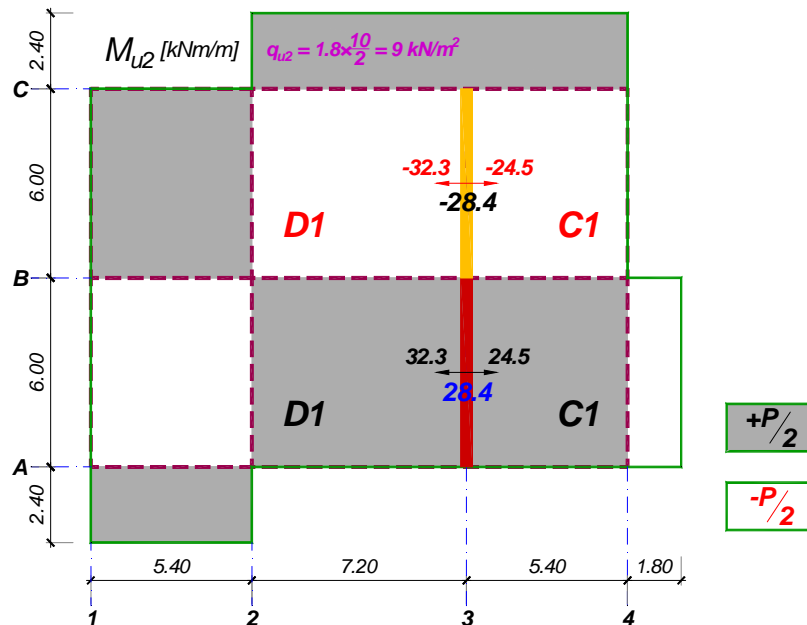
**Oslonac u osi 2 (deo B-C),  $q_{u2} = \pm 1.8 \times P/2$**

21



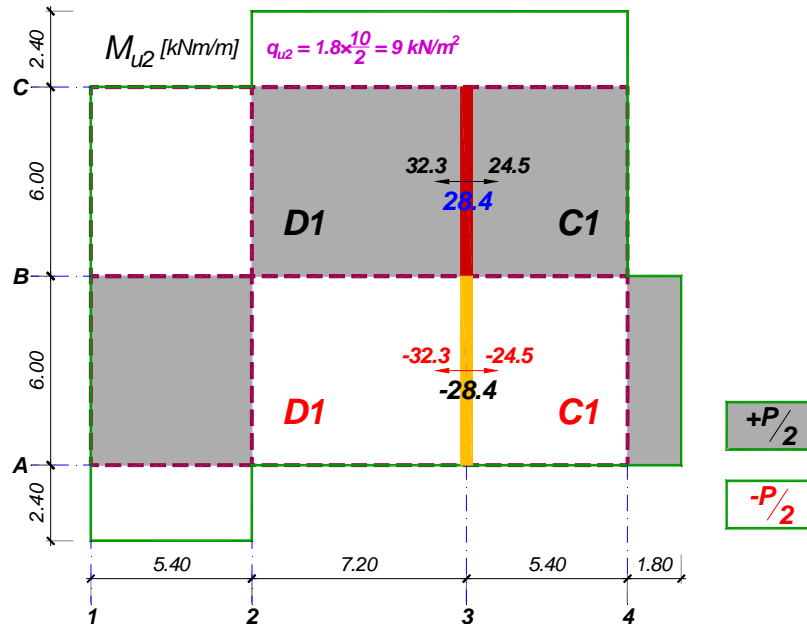
**Oslonac u osi 3 (deo A-B),  $q_{u2} = \pm 1.8 \times P/2$**

22



### Oslonac u osi 3 (deo B-C), $q_{u2} = \pm 1.8 \times P/2$

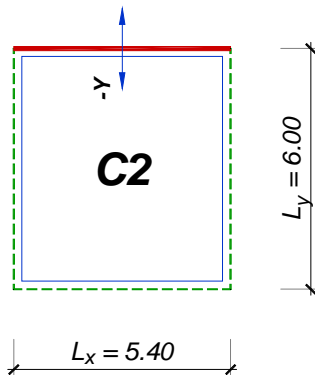
23



### Gornja zona, Y pravac, ploča C2: $q_{u2} = \pm 1.8 \times P/2$

24

$$\frac{L_y}{L_x} = \frac{6.0}{5.4} \approx 1.1$$



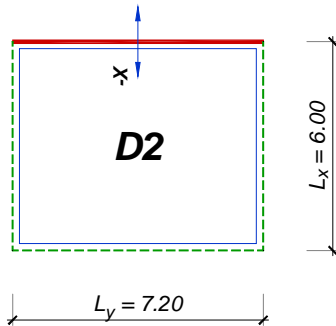
$l_y = l_x$	1,0	1,1	1,2
Mx	0,044	0,047	0,049
My	0,044	0,041	0,038
Mx	0,031	0,035	0,038
My	0,037	0,036	0,034
-Y	0,084	0,084	0,083

$$-Y_{u2} = 0.084 \times q_{u2} \times L_x \times L_y$$

$$-Y_{u2} = 0.084 \times 9.0 \times 5.4 \times 6.0 = 24.5 \frac{\text{kNm}}{\text{m}}$$

## Gornja zona, Y pravac, ploča D2: $q_{u2} = \pm 1.8 \times P/2$

$$\frac{L_y}{L_x} = \frac{7.2}{6.0} = 1.2$$

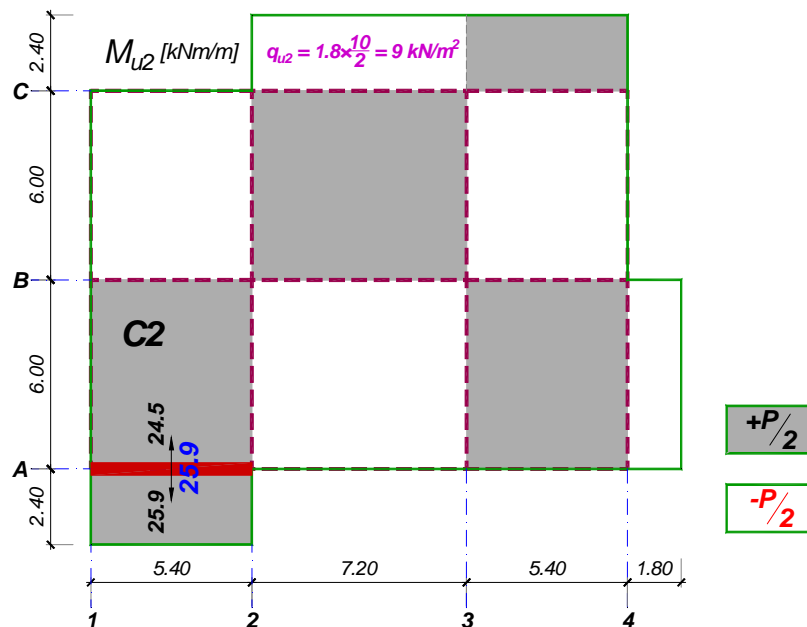


$l_y : l_x$	1,0	1,1	1,2
Mx	0,044	0,047	0,049
My	0,044	0,041	0,038
-X	0,037	0,037	0,038
My	0,031	0,027	0,023
-X	0,084	0,084	0,082

$$-Y_{u2} = 0.082 \times q_{u2} \times L_x \times L_y$$

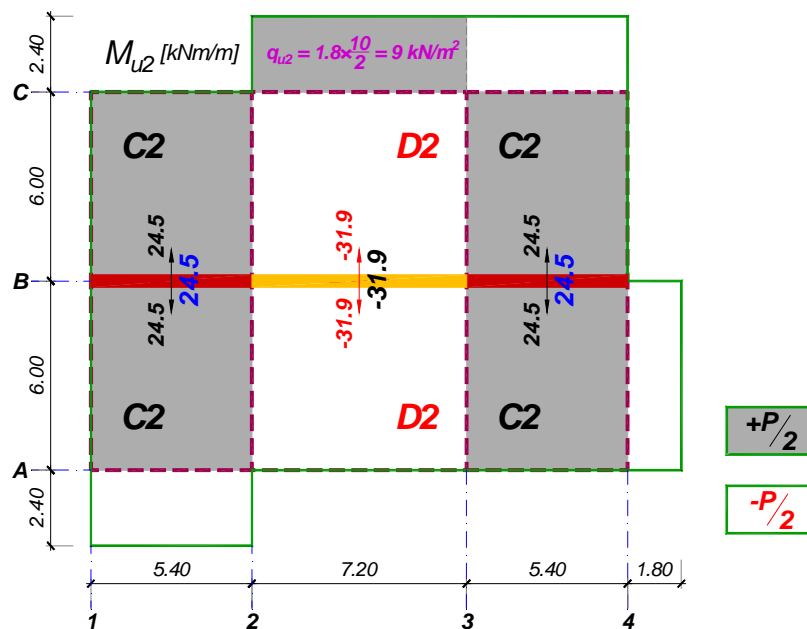
$$-Y_{u2} = 0.082 \times 9.0 \times 6.0 \times 7.2 = 31.9 \frac{\text{kNm}}{\text{m}}$$

## Oslonac u osi A (deo 1-2), $q_{u2} = \pm 1.8 \times P/2$



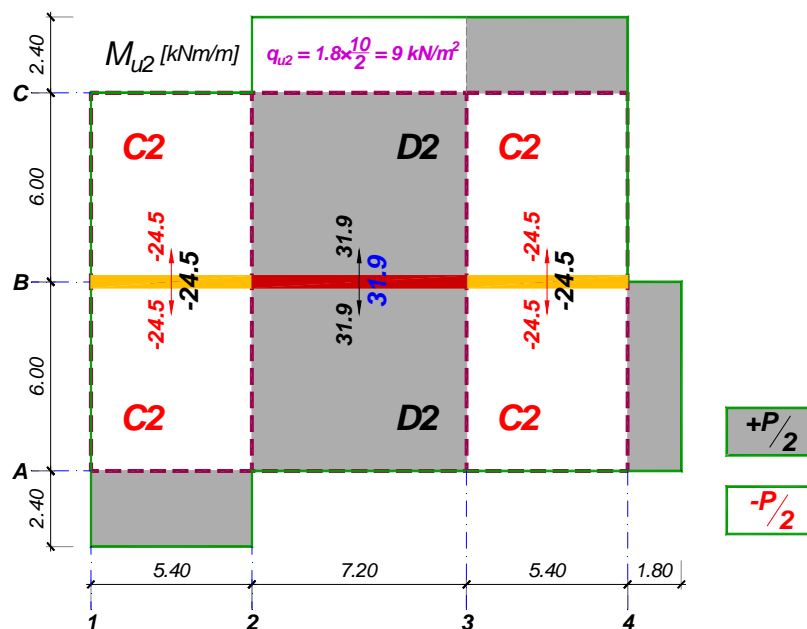
**Oslonac u osi B (deo 1-2, 3-4),  $q_{u2} = \pm 1.8 \times P/2$**

27



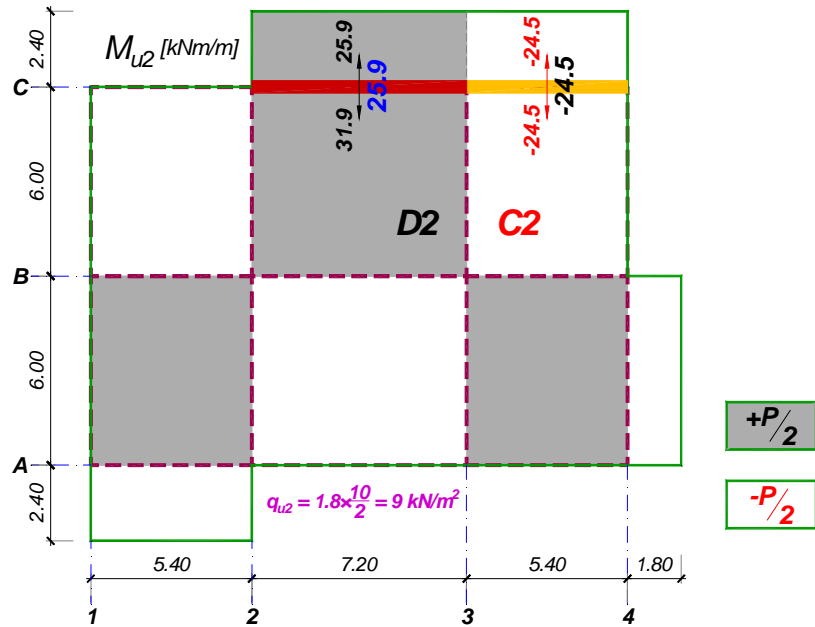
**Oslonac u osi B (deo 2-3),  $q_{u2} = \pm 1.8 \times P/2$**

28



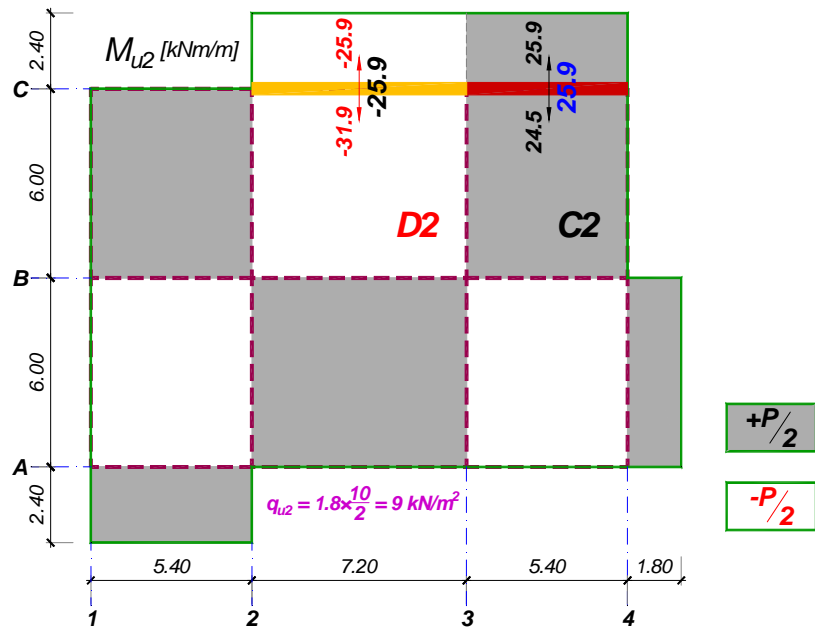
Oslonac u osi C (deo 2-3),  $q_{u2} = \pm 1.8 \times P/2$

29



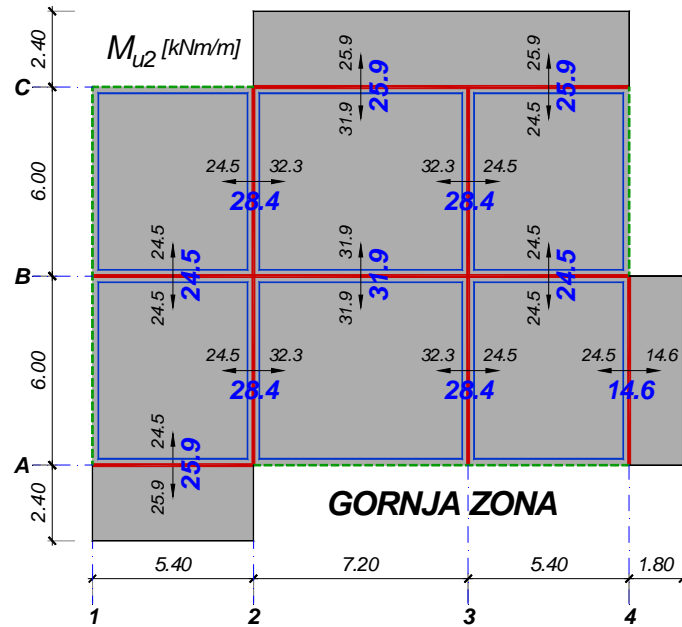
Oslonac u osi C (deo 3-4),  $q_{u2} = \pm 1.8 \times P/2$

30



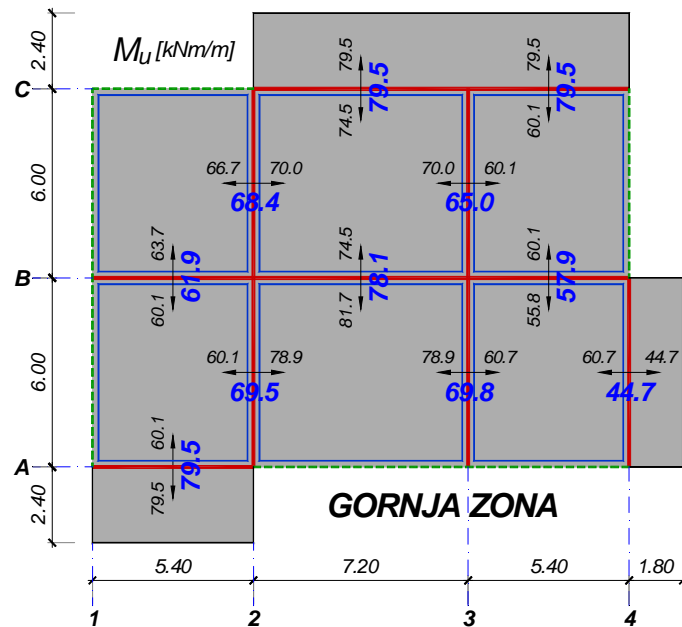
Gornja zona,  $q_{u2} = \pm 1.8 \times P/2$

31



Gornja zona,  $q_{u1} + q_{u2}$  (ekstremni uticaji)

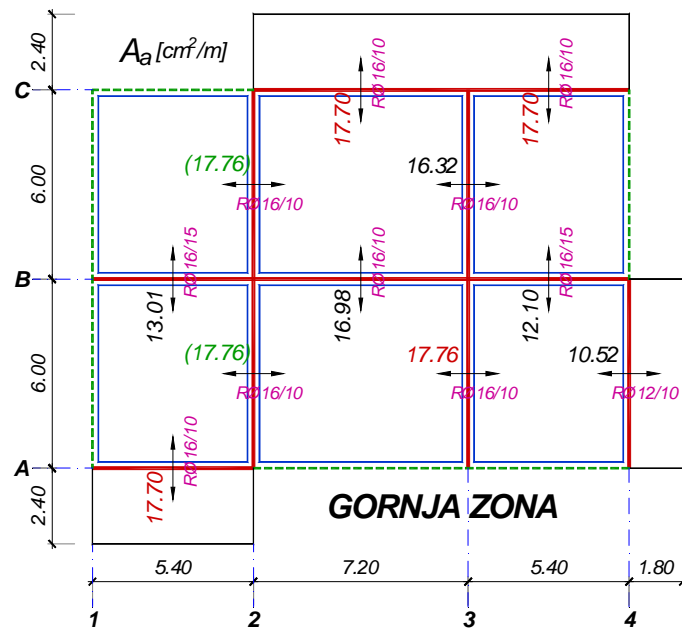
32





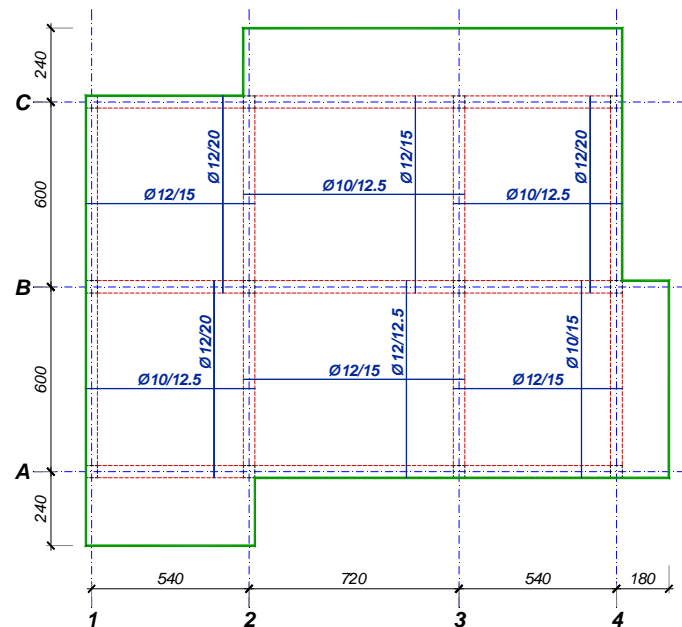
## Potrebna armatura – gornja zona

33



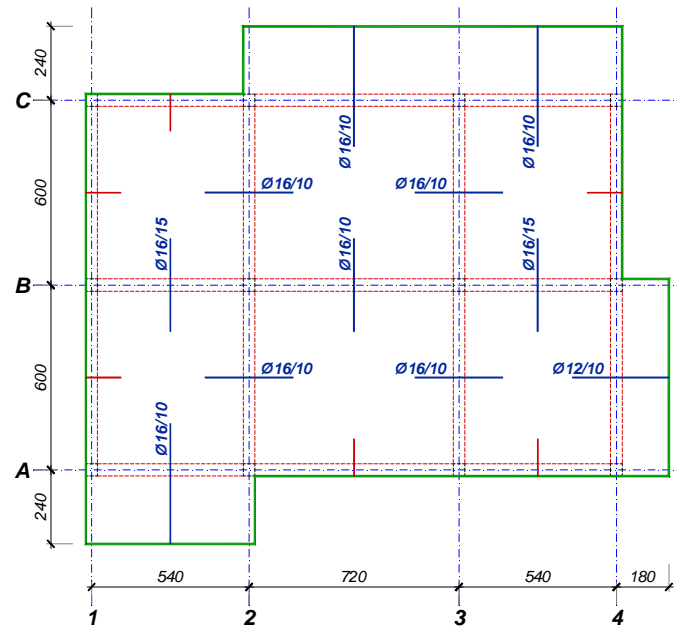
## Šema armiranja – donja zona

34



## Šema armiranja – gornja zona

35



## Šema armiranja – gornja zona

36

