

[illegible]

Technical drawing of a rectangular floor slab with overall dimensions of 2.90 m by 3.40 m. The drawing shows a grid of reinforcement bars with the following details:

- Top Reinforcement:**
  - Bar 1:  $\phi 12/15$  L=5.15m (top horizontal bar, 2.80m from left edge)
  - Bar 2:  $\phi 12/15$  L=4.65m (bottom horizontal bar, 2.80m from left edge)
- Bottom Reinforcement:**
  - Bar 3:  $\phi 12/15$  L=5.55m (left vertical bar, 3.30m from bottom edge)
  - Bar 4:  $\phi 12/15$  L=5.15m (right vertical bar, 3.30m from bottom edge)
- Dimensions and Spacing:**
  - Overall width: 2.90 m
  - Overall height: 3.40 m
  - Horizontal spacing between bars: 91 mm
  - Vertical spacing between bars: 92 mm
  - Clearance from edges: 10 mm

The drawing shows a rectangular building plan with the following dimensions and details:

- Overall Dimensions:**
  - Width: 3.40m (3.28m + 0.20m + 0.20m)
  - Length: 4.00m (3.78m + 0.20m + 0.20m)
- Structural Details:**
  - Columns:**
    - 8 columns of type  $\phi 10/15$  PC 52, L=3.90m, located along the long walls.
    - 9 columns of type  $\phi 10/15$  PC 52, L=4.00m int, located along the short walls.
  - Beams:**
    - 6 beams of type  $\phi 10/15$  PC 52, L=3.40m, located along the long walls.
    - 7 beams of type  $\phi 10/15$  PC 52, L=3.50m, located along the short walls.
- Other Dimensions:**
  - Internal width: 3.00m
  - Internal length: 3.78m
  - Wall thickness: 0.20m
  - Room dimensions: 2.50m x 2.73m

- Zona superioara a caminului se va betona pana la cota 0.00(cota finita drum), daca partea carosabila nu este din asfalt.
- Prezenta planşa se va citi împreună cu planşele de instalaţii hidraulice
- Capacul va fi carosabil cu rama patrată, clasa D 400.
- Dimensiunile parţiale ale armaturilor sunt cotate la interior.

The drawing shows a rectangular building footprint with overall dimensions of 2.80m by 2.90m. The internal dimensions are 2.50m by 2.75m. The walls are 0.25m thick. The floor level is at ±0.00, and the ground level is at -0.04. The foundation is at -2.54m. The drawing includes reinforcement details for the walls and columns.

**Reinforcement Details:**

- Columns:** ①  $\phi 12/15$  PC 52; L=5.15m (at corners), ②  $\phi 12/15$  PC 52; L=4.65m (along long wall), ③  $\phi 12/15$  (internal column).
- Walls:** ④  $\phi 6/m^2$  PC 37; L=0.30m (top edge), ⑤  $\phi 10/15$  PC 52; L=2.35m (vertical walls), ⑥  $\phi 10/15$  PC 52; L=2.35m (horizontal walls).
- Floor Slab:** ⑦  $\phi 10/15$  PC 52; L=2.35m (bottom edge), ⑧  $\phi 10/15$  (internal slab reinforcement).
- Foundation:** ⑨  $\phi 10/15$  PC 52; L=2.35m (vertical walls), ⑩  $\phi 10/15$  PC 52; L=2.35m (horizontal walls).

**Dimensions:**

- Overall width: 2.80m
- Overall depth: 2.90m
- Internal width: 2.50m
- Internal depth: 2.75m
- Wall thickness: 0.25m
- Foundation depth: -2.54m
- Ground level: -0.04m
- Floor level: ±0.00m

**Notes:**

- cota finita drum (finished floor level)
- distanțier (spacing diagram) showing the distribution of reinforcement bars.

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Plan view details:

- Top reinforcement: 17)  $\phi 10/15$  L=192m
- Bottom reinforcement: 16)  $\phi 10/15$  L=2.70m
- Vertical spacing: 182, 162, 142, 122
- Horizontal spacing: 1.70, 2.90
- Reinforcement labels: 18)  $\phi 18$ , 19) 1+ $\phi 18$
- Section view: 20) 4x  $\phi 20$  sus si jos
- Reinforcement label: 21) 2 $\phi 18$  sus 4 $\phi 18$  jos
- Reinforcement label: 32) 4 $\phi 10/m^2$  PC 52 L=0.90m

Section view details:

- Reinforcement label: 30) 2 $\phi 12$  sus si jos
- Reinforcement label: 31) 2 $\phi 18$  sus 4 $\phi 18$  jos
- Reinforcement label: 33) 5 $\phi 16$  L=4.20m
- Reinforcement label: 34) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 35) 2x $\phi 18$  L=1.90m
- Reinforcement label: 36) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 37) 2x $\phi 18$  L=1.90m
- Reinforcement label: 38) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 39) 2x $\phi 18$  L=1.90m
- Reinforcement label: 40) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 41) 2x $\phi 18$  L=1.90m
- Reinforcement label: 42) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 43) 2x $\phi 18$  L=1.90m
- Reinforcement label: 44) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 45) 2x $\phi 18$  L=1.90m
- Reinforcement label: 46) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 47) 2x $\phi 18$  L=1.90m
- Reinforcement label: 48) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 49) 2x $\phi 18$  L=1.90m
- Reinforcement label: 50) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 51) 2x $\phi 18$  L=1.90m
- Reinforcement label: 52) 2x3 $\phi 18$  L=2.70m
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- Reinforcement label: 54) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 55) 2x $\phi 18$  L=1.90m
- Reinforcement label: 56) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 57) 2x $\phi 18$  L=1.90m
- Reinforcement label: 58) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 59) 2x $\phi 18$  L=1.90m
- Reinforcement label: 60) 2x3 $\phi 18$  L=2.70m
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- Reinforcement label: 64) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 65) 2x $\phi 18$  L=1.90m
- Reinforcement label: 66) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 67) 2x $\phi 18$  L=1.90m
- Reinforcement label: 68) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 69) 2x $\phi 18$  L=1.90m
- Reinforcement label: 70) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 71) 2x $\phi 18$  L=1.90m
- Reinforcement label: 72) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 73) 2x $\phi 18$  L=1.90m
- Reinforcement label: 74) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 75) 2x $\phi 18$  L=1.90m
- Reinforcement label: 76) 2x3 $\phi 18$  L=2.70m
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- Reinforcement label: 81) 2x $\phi 18$  L=1.90m
- Reinforcement label: 82) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 83) 2x $\phi 18$  L=1.90m
- Reinforcement label: 84) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 85) 2x $\phi 18$  L=1.90m
- Reinforcement label: 86) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 87) 2x $\phi 18$  L=1.90m
- Reinforcement label: 88) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 89) 2x $\phi 18$  L=1.90m
- Reinforcement label: 90) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 91) 2x $\phi 18$  L=1.90m
- Reinforcement label: 92) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 93) 2x $\phi 18$  L=1.90m
- Reinforcement label: 94) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 95) 2x $\phi 18$  L=1.90m
- Reinforcement label: 96) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 97) 2x $\phi 18$  L=1.90m
- Reinforcement label: 98) 2x3 $\phi 18$  L=2.70m
- Reinforcement label: 99) 2x $\phi 18$  L=1.90m
- Reinforcement label: 100) 2x3 $\phi 18$  L=2.70m

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1.70

2.5

$\varnothing 10/10$  (15)

$\varnothing 12/10$  (14)

$5 \varnothing 16$  (33)

32  $\varnothing 8/15$  OB 37  
L=1.10m

32  $\varnothing 8/15$  OB 37  
L=1.10m

32  $\varnothing 8/15$  OB 37  
L=1.10m

Technical drawing of a reinforced concrete slab (SCARA 1:20) showing a plan view and a cross-section (Sectiunea 4-4).

**Plan View (SCARA 1:20):**

- Overall dimensions: 30, 80, 60.
- Reinforcement details:
  - Top bars: 15) 3 $\phi$ 10, 20) 2 $\phi$ 20, 18) 1 $\phi$ 18, 14)  $\phi$ 12/10, 15)  $\phi$ 10/10, 16) 5 $\phi$ 16.
  - Bottom bars: 20) 2 $\phi$ 20, 30) 2 $\phi$ 12, 20) 2 $\phi$ 20.
- Detail A: A circular detail showing reinforcement bars 15)  $\phi$ 10/10 and 14)  $\phi$ 12/10.
- Level:  $\pm 0.00$ .

**Cross-section (Sectiunea 4-4):**

- Overall dimensions: 30, 80, 180.
- Reinforcement details:
  - Top bars: 17) 4 $\phi$ 10, 21) 1 $\phi$ 18, 19) 1 $\phi$ 18, 17)  $\phi$ 10.
  - Bottom bars: 21) 2 $\phi$ 18, 30) 2 $\phi$ 12, 21) 2 $\phi$ 18, 16)  $\phi$ 10/15.
- Level:  $\pm 0.00$ .
- Dimensions: 1.70, 1.95, 4.3.

**Reinforcement Details:**

- 27)  $\phi$ 8/15 OB 37, L=0.75m
- 26)  $\phi$ 10/15 OB 37, Lm=1.00m
- 22)  $\phi$ 10/15 PC 52, L=1.40m
- 23)  $\phi$ 8/10 OB 37, L=1.05m
- 29)  $\phi$ 10/15 PC 52 L=1.00m
- 31) 10  $\phi$ 12 OB 37, L=1.20m
- 25)  $\phi$ 10/10 PC 52 Lm=2.08m
- 24)  $\phi$ 12/10 PC 52 Lm=2.50m
- 28)  $\phi$ 8/10 PC 52, L=0.65m
- 29)  $\phi$ 10/10 PC 52 L=1.00m

SCARA 1:20

30 80 1.80

±0.00

17 4φ10 21 1φ18 19 1φ18 20 2φ12 30 21 2φ18 25 φ10/10 PC 52 Lm=2.08m 1.70+1.95 26 φ10/10 OB 37 Lm=1.00m 24 φ12/10 PC 52 Lm=2.50m 1.70+1.95 28 φ8/10 PC 52 L=0.65m 29 φ10/10 PC 52 L=1.00m

Marca	ø	Buc	Lungime	OB 37		PC52							
				ø 6	ø 10	ø 8	ø 10	ø 12	ø 16	ø 18	ø 20		
1	12	24	5.15					123.60					
2	12	24	4.65					111.60					
3	12	21	5.55					116.55					
4	12	21	5.15					108.15					
5	10	164	2.35				385.40						
6	10	32	3.40				108.80						
7	10	32	3.50				112.00						
8	10	32	3.90				124.80						
9	10	32	4.00				128.00						
10	10	30	0.85				25.50						
11	6	116	0.30	34.8									
12	6	90	0.60	54									
13	20	8	2.00					67.20				16.00	
14	12	16	4.20										
15	10	25	3.10				77.50						
16	10	14	2.70				37.80						
17	10	57	1.92				109.44						
18	18	2	3.10							6.20			
19	18	2	1.90							3.80			
20	20	8	3.30								26.40		
21	18	6	2.70							16.20			
22	10	7	1.40				9.80						
23	8	20	1.05			21							
24	12	10	2.50					25.00					
25	10	10	2.08				20.80						
26	10	18	1.00				18.00						
27	8	8	0.75			6							
28	8	10	0.65			6.5							
29	10	18	0.80				14.40						
30	12	2	3.60					7.20					
31	10	8	1.20		9.6								
32	10	16	0.90				14.40						
33	16	15	4.20						63.00				
34	8	40	1.10			44							
35	12	8	1.60					12.80					
36	12	2	1.10					2.20					
37	12	48	1.85					88.80					
38	12	6	2.00					12.00					
		m/l ø		88.80	9.60	77.50	1186.64	675.10	63.00	26.20	42.40		
		kg/ml		0.222	0.617	0.395	0.617	0.89	1.58	1.998	2.466		
		kg/ø		19.7136	5.9232	30.61	732.16	599.49	99.41	52.35	104.56		
TOTAL		kg/buc		26				1619					

Detaliu armare goluri piese de trecere

SCARA 1:20

Armare curenta

Gol piesa de trecere  
(b) 1 + 1 Ø12

(a) 4 + 4 Ø12

(a) 4 + 4 Ø12

Armare curenta

(b) 2 Ø12

Lungimea si marile barelor a si b

DN mm	Bara marca a		Bara marca b	
100	35	1.60	36	1.10
400	37	1.85	38	2.00

DN	Bara marca a		Bara marca b	
mm				
100	35	1.60	36	1.10
400	37	1.85	38	2.00

Rev	Nume	Ver	Aprb	Data	Descriere

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Proiect: **MODERNIZAREA INFRASTRUCTURII DE  
APA SI APA UZATA IN JUDETUL  
CARAS SEVERIN - AGLOMERAREA RESITA**

Plansa:

Retele apa  
Camin tip 20-Plan Armare

Desenat:	Ing. B. Paraschiv	Data:	Aprilie 2011
Verificat:	Ing. M. Serbanoiu	Data:	Aprilie 2011
Aprobat:	Ing. D. Spiridon		Data: Aprilie 2011

Plansa nr.	Revizia
CS-RE-PT/DA-A-R-20.2	0

Scara plansa: 1 :50 1:20 1:10