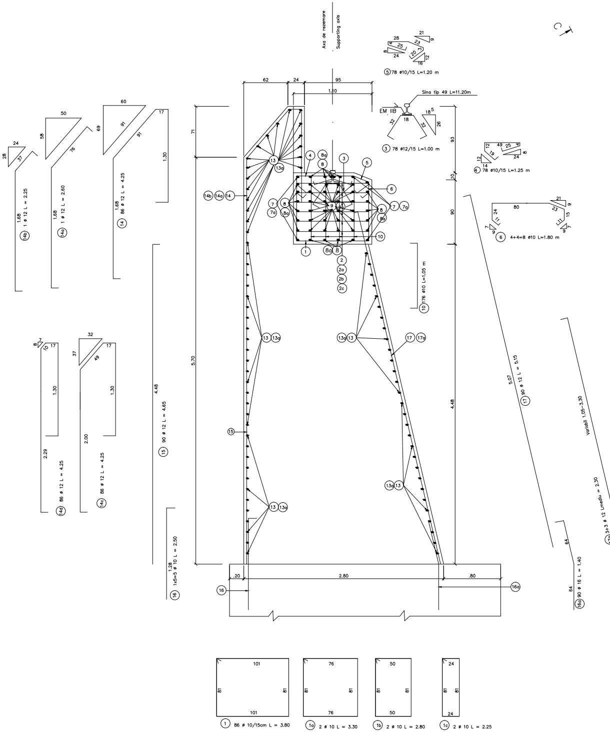
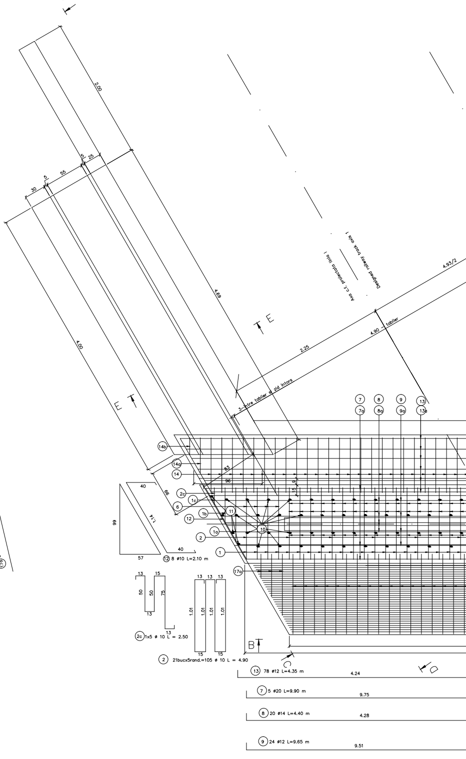
SECTIUNEA A–A
A–A SECTION

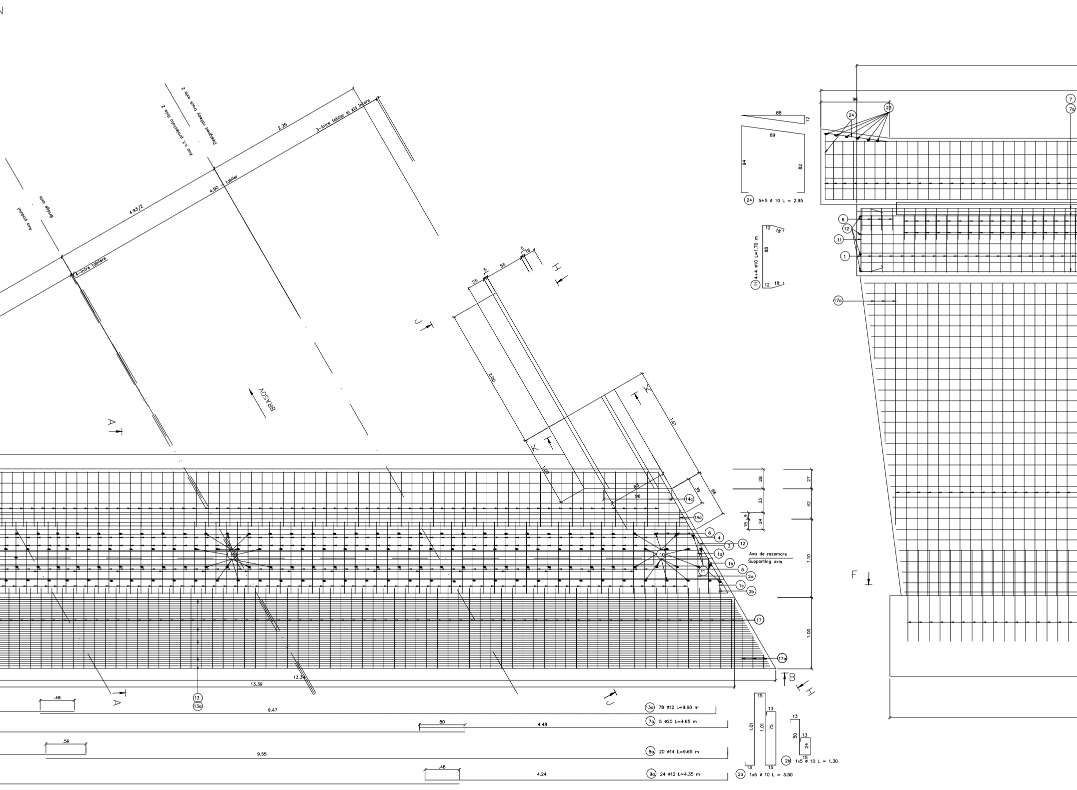


Axa de rezemare
Supporting axis
⑤ 78 ø10/15 L=1.20 m
Sina tip 49 L=11.20m
EM IIB
③ 78 ø12/15 L=1.00 m
④ 78 ø10/15 L=1.25 m
⑥ 4+4=8 ø10 L=1.80 m
⑩ 176 ø10 L=1.05 m
⑭b 1 ø 12 L = 2.25
⑭a 1 ø 12 L = 2.60
⑭ 86 ø 12 L = 4.25
⑭d 86 ø 12 L = 4.25
⑭c 86 ø 12 L = 4.25
⑮ 90 ø 12 L = 4.65
⑯ 1x5=5 ø 10 L = 2.50
⑰ 90 ø 12 L = 5.15
⑰a 3+3 ø 12 Lmediu = 2.30
Variabil 1.05–3.30
⑯a 90 ø 16 L = 1.40
62
24
95
1.10
71
93
90
5.70
4.48
.20
2.80
.80
① 86 ø 10/15cm L = 3.80
①a 2 ø 10 L = 3.30
①b 2 ø 10 L = 2.80
①c 2 ø 10 L = 2.25
101
76
50
24
81

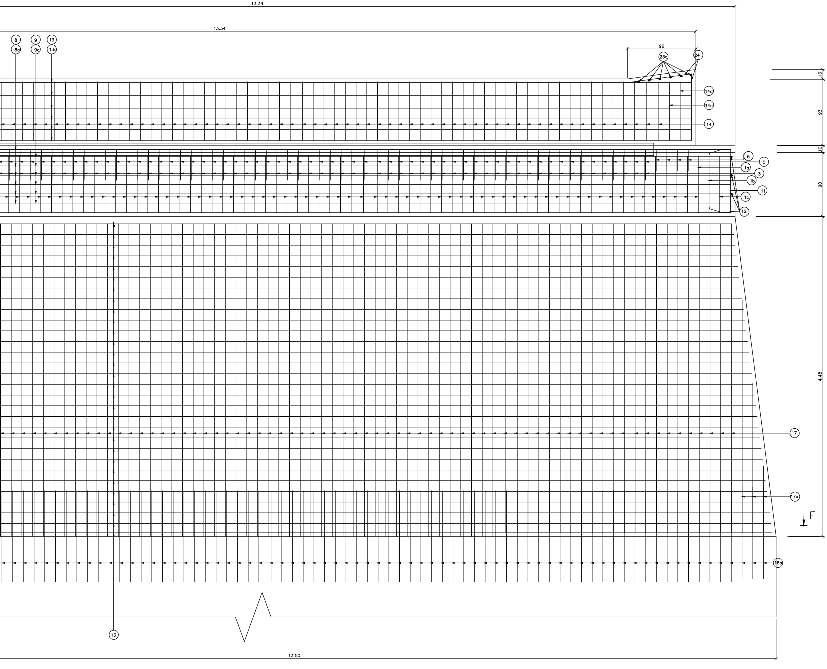
VEDERE IN PLAN
PLAN VIEW

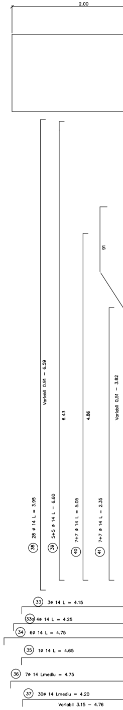


D
C
E
B
2.00
4.69
4.00
2.25
4.90 tablier
4.93/2
3–între tablier și zid întors
Axa c.f. proiectata linia I
Designed railway track axis I
⑫ 8 ø10 L=2.10 m
⑵c 1x5 ø 10 L = 2.50
② 21bucx5rand.=105 ø 10 L = 4.90
⑬ 78 ø12 L=4.35 m
4.24
⑦ 5 ø20 L=9.90 m
9.75
⑧ 20 ø14 L=4.40 m
4.28
⑨ 24 ø12 L=9.65 m
9.51

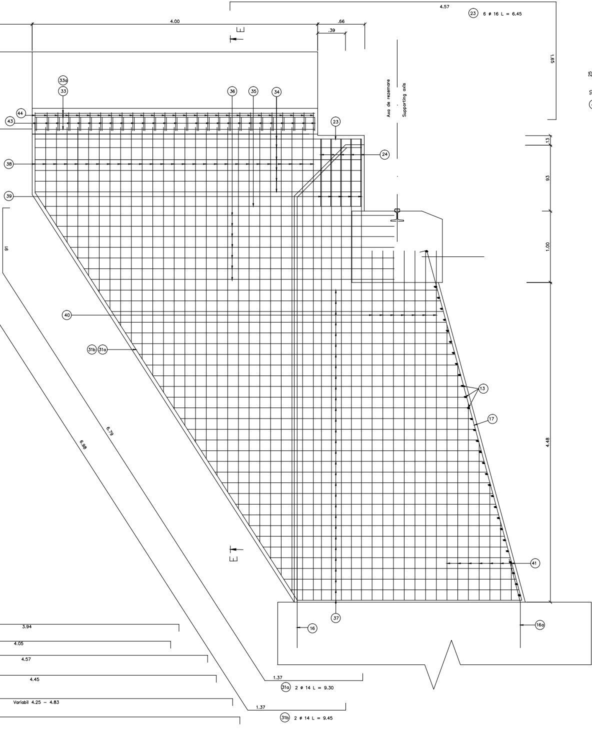

N
Axa podului
Bridge axis
Axa c.f. proiectata linia 2
Designed railway track axis 2
4.93/2
2.25
4.90 - tablier
3-intre tablier si zid intors
4-intre tabliere
BRASOV
A
J
H
K
2.00
1.61
1.00
25
5
55
5
16
85
96
39
66
14c
14d
6
4
3
12
1a
1b
5
2a
1c
2b
11
10
17
17a
13
13a
13.39
13.34
Axa de rezemare
Supporting axis
28
33
9
15
24
27
42
1.10
1.00
B
F
.48
9.47
80
4.48
.56
9.55
.48
4.24
(13a) 78 ø12 L=9.60 m
(7a) 5 ø20 L=4.65 m
(8a) 20 ø14 L=9.65 m
(9a) 24 ø12 L=4.35 m
15
13
1.01
1.01
75
13
15
(2a) 1x5 ø 10 L = 3.50
13
50
13
24
15
(2b) 1x5 ø 10 L = 1.30
88
12
89
94
82
(24) 5+5 ø 10 L = 2.95
12
18
88
12
18
(11) 4+4 ø10 L=1.70 m
96
24
23
7
7a
6
12
11
1
17a

VEDERE B–B
B–B VIEW

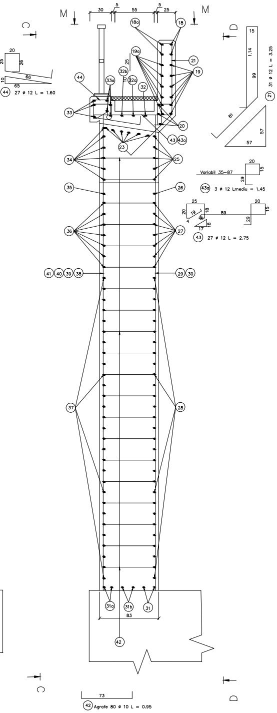

13.39
13.34
8
8a
9
9a
13
13a
96
23a
24
14d
14c
14
6
5
1a
3
1b
11
1c
12
13
93
10
90
4.48
17
17a
F
16a
13
13.50

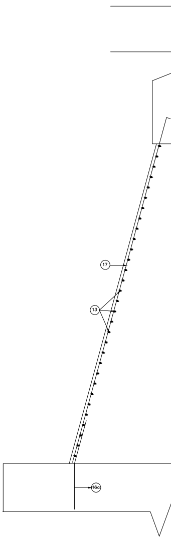

2.00
91
Variabil 0.91 – 6.59
6.43
4.86
Variabil 0,51 – 3.82
38 28 ø 14 L = 3.95
39 5+5 ø 14 L = 6.60
40 7+7 ø 14 L = 5.05
41 7+7 ø 14 L = 2.35
33 3ø 14 L = 4.15
33a 4ø 14 L = 4.25
34 6ø 14 L = 4.75
35 1ø 14 L = 4.65
36 7ø 14 Lmediu = 4.75
37 30ø 14 Lmediu = 4.20
Variabil 3.15 – 4.76

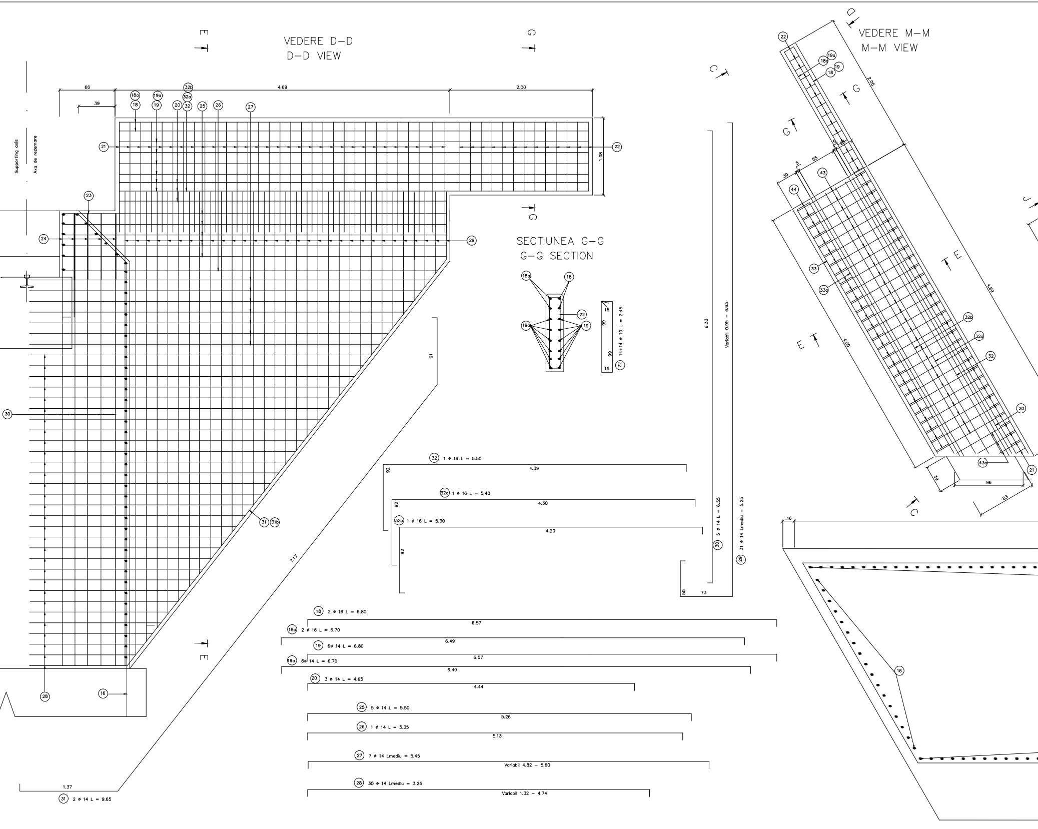
VEDERE C–C
C–C VIEW


4.57
(23) 6 ø 16 L = 6.45
4.00
.66
.39
E
1.65
(33a)
(33)
(36)
(35)
(34)
Axa de rezemare
Supporting axis
(44)
(43)
(23)
(24)
(38)
(39)
.13
93
1.00
91
(40)
(31b) (31a)
(13)
(17)
6.79
6.98
4.48
E
(41)
(16)
(37)
(16a)
3.94
4.05
4.57
4.45
Variabil 4.25 – 4.83
1.37
(31a) 2 ø 14 L = 9.30
1.37
(31b) 2 ø 14 L = 9.45

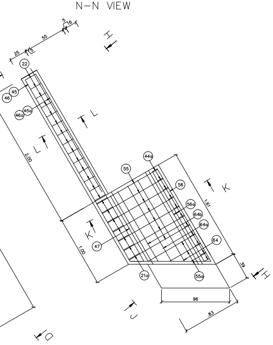
SECTIUNEA E–E
E–E SEECTION


M
M
30
5
55
5
25
C
D
(18a)
(18)
20
25
26
66
10
65
(44) 27 ø 12 L = 1.60
(19a)
(21)
(19)
(44)
(32b)
25
10
(32a)
(32)
(33a)
(33)
(20)
(43) (43a)
(23)
15
1.14
99
31 ø 12 L = 3.25
(21)
81
57
57
(34)
(25)
Variabil 35–87
20
15
29
(43a) 3 ø 12 Lmediu = 1.45
(35)
(26)
25
20
19
18
4
16
17
18
89
20
15
29
(43) 27 ø 12 L = 2.75
(36)
(27)
(41) (40) (39) (38)
(29) (30)
(37)
(28)
(31a)
(31b)
(31)
83
(42)
C
D
73
(42) Agrafe 80 ø 10 L = 0.95



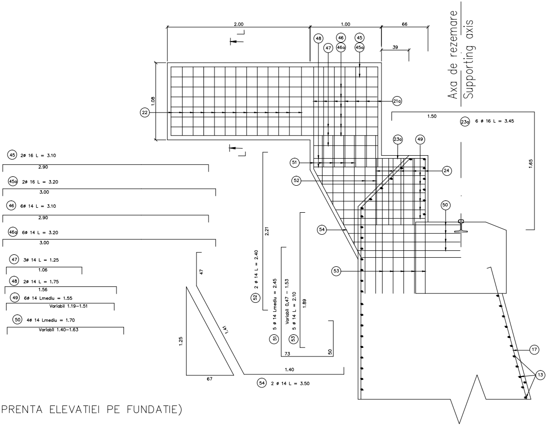

VEDERE D-D
D-D VIEW
SECTIUNEA G-G
G-G SECTION
VEDERE M-M
M-M VIEW
Supporting axis
Axa de rezemare
66
39
4.69
2.00
1.08
7.17
91
1.37
(18a) (18)
(19a) (19)
(32b) (32a) (32)
(20)
(25)
(26)
(27)
(21)
(22)
(23)
(24)
(29)
(30)
(28)
(16)
(31) (31b)
E
G
C
J
(22) 14+14 ø 10 L = 2.45
15
99
99
15
6.33
Variabil 0.95 - 6.63
(30) 5 ø 14 L = 6.55
(29) 31 ø 14 Lmediu = 5.25
50
73
(32) 1 ø 16 L = 5.50
92
4.39
(32a) 1 ø 16 L = 5.40
92
4.30
(32b) 1 ø 16 L = 5.30
92
4.20
(18) 2 ø 16 L = 6.80
6.57
(18a) 2 ø 16 L = 6.70
6.49
(19) 6ø 14 L = 6.80
6.57
(19a) 6ø 14 L = 6.70
6.49
(20) 3 ø 14 L = 4.65
4.44
(25) 5 ø 14 L = 5.50
5.26
(26) 1 ø 14 L = 5.35
5.13
(27) 7 ø 14 Lmediu = 5.45
Variabil 4.82 - 5.60
(28) 30 ø 14 Lmediu = 3.25
Variabil 1.32 - 4.74
(31) 2 ø 14 L = 9.65
(43)
(44)
(33)
(33a)
(43a)
2.00
4.69
4.00
30
5
55
10
20
39
96
83
.16

VEDERE N-N
N-N VIEW



5
16
55
25
5
22
45
46
45a
46a
H
L
2.00
L
44a
55
56
56a
64b
64a
64
K
K
47
1.00
1.61
21a
55a
39
H
96
.83
J
D

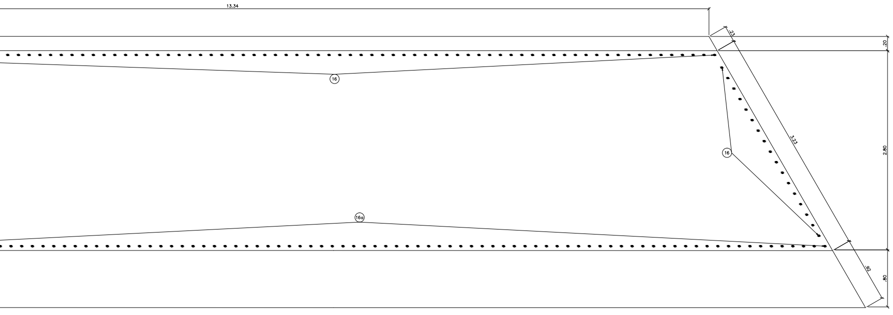
VEDERE J-J
J-J VIEW



2.00
1.00
66
39
L
48
47
46
46a
45
45a
Axa de rezemare
Supporting axis
1.08
22
21a
1.50
23a 6 ø 16 L = 3.45
L
23a
49
51
24
52
1.65
50
54
53
17
13
45 2ø 16 L = 3.10
2.90
45a 2ø 16 L = 3.20
3.00
46 6ø 14 L = 3.10
2.90
46a 6ø 14 L = 3.20
3.00
47 3ø 14 L = 1.25
1.06
48 2ø 14 L = 1.75
1.56
49 6ø 14 Lmediu = 1.55
Variabil 1.19–1.51
50 4ø 14 Lmediu = 1.70
Variabil 1.40–1.63
47
1.41
1.25
67
1.40
54 2 ø 14 L = 3.50
2.21
52 2 ø 14 L = 2.40
51 5 ø 14 Lmediu = 2.45
Variabil 0,47 – 1.53
53 5 ø 14 L = 2.10
1.89
73
50

N
15
99
1.14
21a 7 ø 12 L = 3.30
42
59
42
SEC
L–
22 13+9 ø 10 L = 2.45
15
99
99
15

SECTIUNEA F-F (AMPRENTA ELEVATIEI PE FUNDATIE)
F-F SECTION

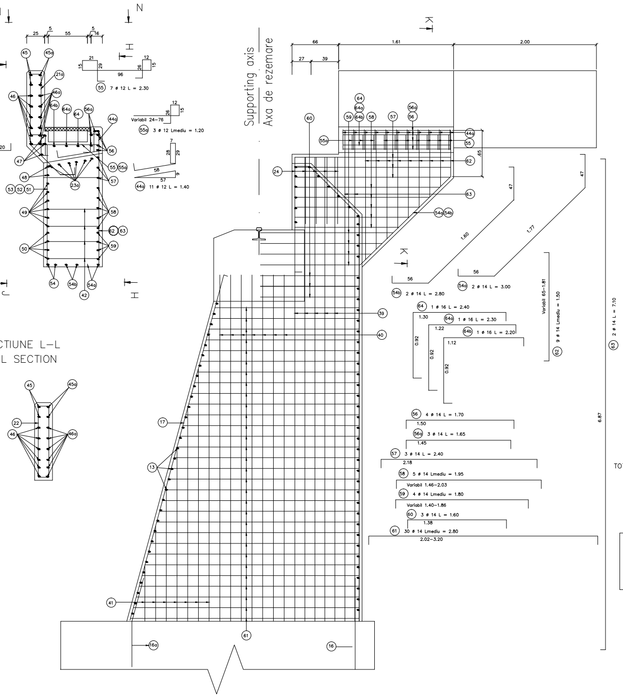


13.34
.23
.20
16
16
3.23
2.80
16a
.92
.80

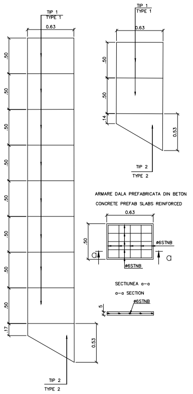
SECTIUNE K–K
K–K SECTION

CTIUNE L–L
L SECTION

VEDERE H–H
H–H VIEW


N
25
5
55
5
16
45
45a
21a
46
46a
64b
64a
64
56a
44a
47
48
53
52
51
49
50
23a
56
55
55a
57
58
62
63
59
54
54b
54a
42
21
15
29
96
26
12
15
55 7 ø 12 L = 2.30
Variabil 24–76
55a 3 ø 12 Lmediu = 1.20
7
28
29
58
57
9
44a 11 ø 12 L = 1.40
20
45
45a
22
46
46a
Supporting axis
Axa de rezemare
K
66
1.61
2.00
27
39
60
64
64a
59
64b
58
57
56a
56
55a
44a
55
65
62
24
63
47
47
54a
54b
1.60
1.77
56
56
54b 2 ø 14 L = 2.80
54a 2 ø 14 L = 3.00
64 1 ø 16 L = 2.40
1.30
64a 1 ø 16 L = 2.30
1.22
64b 1 ø 16 L = 2.20
1.12
0.92
0.92
0.92
Variabil 65–1.81
9 ø 14 Lmediu = 1.50
62
39
40
63 2 ø 14 L = 7.10
6.87
56 4 ø 14 L = 1.70
1.50
56a 3 ø 14 L = 1.65
1.45
57 3 ø 14 L = 2.40
2.18
58 5 ø 14 Lmediu = 1.95
Variabil 1.46–2.03
59 4 ø 14 Lmediu = 1.80
Variabil 1.40–1.86
60 3 ø 14 L = 1.60
1.38
61 30 ø 14 Lmediu = 2.80
2.02–3.20
17
13
41
61
16a
16
H

DALE PREFABRICATE DIN BETON
CONCRETE PREFAB SLABS


TIP 1
TYPE 1
0.63
.50
.50
.50
.50
.50
.50
.50
.50
.17
0.53
TIP 2
TYPE 2
TIP 1
TYPE 1
0.63
.50
.50
.14
0.53
TIP 2
TYPE 2
ARMARE DALA PREFABRICATA DIN BETON
CONCRETE PREFAB SLABS REINFORCED
0.63
.50
ø6STNB
ø6STNB
a
a
SECTIUNEA a–a
a–a SECTION
ø6STNB
.5

EXTRAS DE ARMATURA STNB

REIFORCEMENT TABLE STNB

TIP/TYPE	TIP ARMATURA TYEPE REINFOCEMENT	Nr. BUC. No. PIECE	kg/m	m/buc. m/piece	kg
TIP 1	STNB 6 G.Q.283	10	0.222	6.15	13.65
TIP2	STNB 6 G.Q.283	2	0.222	4.30	1.90
				TOTAL	15.55 kg

TOTAl pentru 2 culei (2 abutments): 2 x 15.55kg=31.10kg

Beton armat/Reinforced concrete:	– C35/45 bancheta, zid de garda/ bench,wall guard – C25/30 elevatie, ziduri intoarse/ elevation, reverted walls
Armatura / reinforcement:	–S355 (PC 52; ø10–ø14) –S345 (PC 52; ø16)
Strat de acoperire/concrete cover	– min. 4cm expunere in aer/air exposed

NOTA/NOTE

Pentru mentinerea pozitiei corecte in timpul betonarii, se vor monta distantieri minim 4buc./m². Distantierii trebuie legati cu sarma de carcasa de armatura.

In order to maintain the correct position during concreting, minimum 4pcs./m² distance pieces shall be mounted. The distance pieces shall be connected to the reinforcing framework, using wire.

EXTRAS DE ARMARE

REINFORCEMENT TABLE

Marca	Diametrul	Numar bucati asemenea	Lungimea/ bucata	Lungimi/diametre PC52				
				S355			S345	
				ø10mm	ø12mm	ø14mm	ø16mm	ø20mm
1	10	86	3.80	326.80				
1a	10	2	3.30	6.60				
1b	10	2	2.80	5.60				
1c	10	2	2.25	4.50				
2	10	105	4.90	514.50				
2a	10	5	3.50	17.50				
2b	10	5	1.30	6.50				
2c	10	5	2.50	12.50				
3	12	78	1.00		78			
4	10	78	1.25	97.50				
5	10	78	1.20	93.6				
6	10	8	1.80	14.40				
7	20	5	9.90					49.50
7a	20	5	4.65					23.25
8	14	20	4.40			88		
8a	14	20	9.65			193		
9	12	24	9.65		231.6			
9a	12	24	4.35		104.4			
10	10	176	1.05	184.80				
11	10	8	1.70	13.60				
12	10	8	2.10	16.80				
13	12	78	4.35		339.30			
13a	12	78	9.60		748.8			
14	12	86	4.25		365.5			
14a	12	1	2.60		2.60			
14b	12	1	2.25					
14c	12	1	4.15		4.15			
14d	12	1	4.05		4.05			
15	12	90	4.65		418.50			
16	16	124	1.40				173.60	
16a	16	90	1.40				126	
17	12	90	5.15		463.50			
17a	12	6	2.30		13.8			
18	16	2	6.80		2.25		13.60	
18a	16	2	8.70				17.4	
19	14	6	6.80			40.80		
19a	14	6	6.70			40.2		
20	14	3	4.65			13.95		
21	12	31	3.25		100.75			
21a	12	7	3.30		23.1			
22	10	28	2.45	68.60				
23	16	6	6.45				38.70	
23a	16	6	3.45				20.7	
24	10	10	2.95	29.50				
25	14	5	5.50			27.50		
26	14	1	5.35			5.35		
27	14	7	5.45			38.15		
28	14	30	3.25			97.50		
29	14	31	5.25			162.75		
30	14	5	6.55			32.75		
31	14	2	9.65			19.3		
31a	14	2	9.30			18.60		
31b	14	2	9.45			18.90		
32	16	1	5.50				5.50	
32a	16	1	5.40				5.40	
32b	16	1	5.30				5.30	
33	14	3	4.15				12.45	
33a	14	4	4.25			17		
34	14	6	4.75				28.5	
35	14	1	4.65			4.65		
36	14	7	4.75			33.25		
37	14	30	4.20			126		
38	14	28	3.95			110.60		
39	14	10	6.60			66		
40	14	14	5.05			70.7		
41	14	14	2.35			32.90		
42	10	80	0.95	76				
43	12	27	2.75		74.25			
43a	12	3	1.45		4.35			
44	12	27	1.60		43.20			
44a	12	11	1.40		15.40			
45	16	2	3.10				3.10	
45a	16	2	3.20				3.20	
46	14	6	3.10			18.6		
46a	14	6	3.20			19.2		
47	14	3	1.25			3.75		
48	14	2	1.75			3.50		
49	14	6	1.55			9.30		
50	14	4	1.70			6.80		
51	14	5	2.45			12.25		
52	14	2	2.40			4.80		
53	14	5	2.10			10.50		
54	14	2	3.50			7		
54a	14	2	3			6		
54b	14	2	2.80			5.6		
55	12	7	2.30		16.1			
55a	12	3	1.2		3.6			
56	14	4	1.70			6.8		
56a	14	3	1.65			4.95		
57	14	3	2.40			7.20		
58	14	5	1.95			9.75		
59	14	4	1.80			7.2		
60	14	3	1.60			4.8		
61	14	30	2.80			84		
62	14	9	1.50			13.50		
63	14	2	7.10			14.20		
64	16	1	2.40				2.40	
64a	16	1	2.30				2.30	
64b	10	1	2.20				2.20	
Lungimea / diametre (m)				1484.7	3057.2	1649.95	425.95	72.75
Greutatea/m (kg/m)				0.617	0.888	1.208	1.578	2.466
Greutatea/diametre (kg)				916.06	2714.79	1993.14	672.15	179.4
Greutatea totala (kg)				6475.54				
Greutatea rotunjita (kg)				6480				

Greutatea rotunjita pentru 2 culei (kg) = 12960

NOTA

Culeea Sighisoara liniile 3 si 4 este asemanatoare cu aceasta culee

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Indice Index	Data Date	Modificare Modification/Revision	Proiectant Designer	Aprobat Consultant Approved Consultant	Aprobat CFR Approved CFR
D					
C					
B					
A					

GUVERNUL ROMANIEI
ROMANIAN GOVERNMENT

PROIECT FINANŢAT DE UNIUNEA EURO
EUROPEAN UNION FINANCED PR

CLIENT / CLIENT

C.N.C.F. "C.F.R." - S.A.

GRUPPO FERROVIE DELLO STATO
Joint Venture leader

CONSULTANT / CONSULTANT

			Data Date	Semnăturĭ Signature
Aprobat Approved	Şef proiect Project manager	R. Liuzza		
Aprobat Approved	Coordonator Secţiune 1 Section 1 Coordinator	C. Gambelli		
Verificat Checked	Expert Cheie Checking Expert	V. Kallidromitis		VK

SUBCONTRACTANT / SUBCONTRACTOR

Aprobat Approved	Responsabil Subconsultant Subconsultant Responsible	A.Stanciu - Dinulescu	02.2012	
Întocmit Elaborated	Proiectant Designer	Constantin Miculete	02.2012	

Reabilitarea liniei de cale ferata Braşov - Simeria, parte componentă a coridorului IV Pan European, pentru circulaţia trenurilor cu viteza maximă de 160 km/h,
Tronsonul : Braşov - Sighişoara
Rehabilitation of the railway line Braşov - Simeria, component Part of the IV Pan-European Corridor, for the trains circulation with maximum speed of 160 km/h,
Section : Braşov - Sighişoara

Proiect/Project
2004/RO/16/P/PA/003

Faza / Phase:
D.E. / E.D.

Denumire desen / Drawing Title :

POD/BRIDGE Km.223+203,050 L=18.00m

PLAN ARMARE CULEEA BRASOV LINIILE 1 SI 2 (pod cale dubla)
BRASOV ABUTMENTS REINFORCEMENT railway track 1and 2

Codificare / Codification System	Scara / Scale 1:20	LOT / LOT	Nr. / No 01 / 01

E A 5 1 | 0 1 | E | 1 1 | B C | P V | 0 2 | 3 | 2 | 0 0 9 | 0

594 X 5283