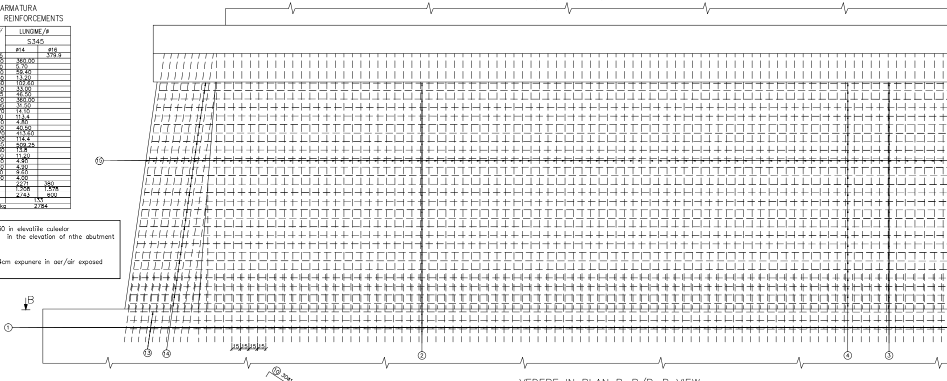
ARMAREA ELEVATIEI/REINFORCEMENT ELEVATION
VEDERE DIN FATA A–A CULEEA BRASOV (SIGHISOARA)
BRASOV (SIGHISOARA) ABUTMENT A–A VIEW

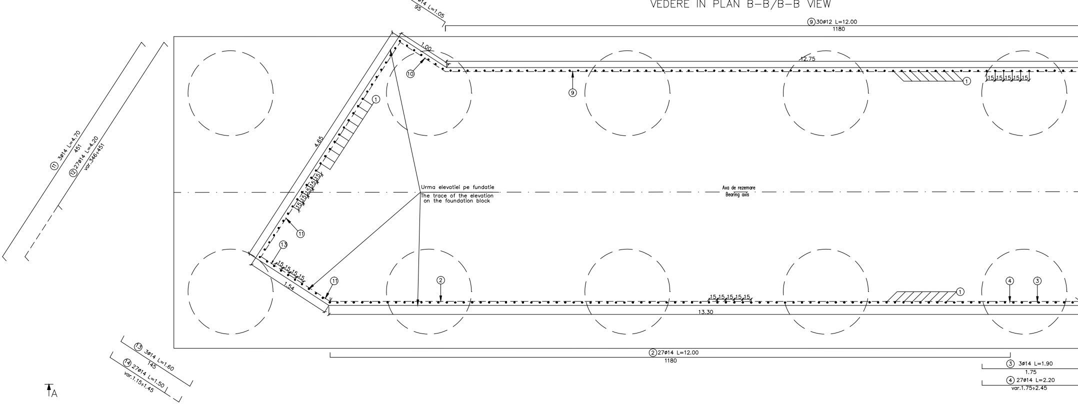
EXTRAS DE ARMATURA
MEASURING OF THE REINFORCEMENTS

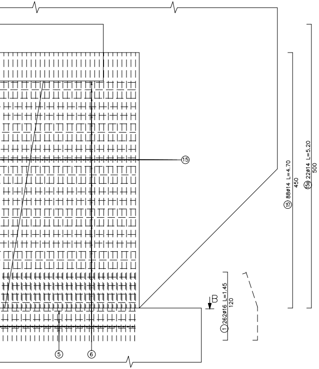
Element	Marca	ø	Nr. Buc.	Lung/buc.	LUNGIME/ø	
					S345	
					ø14	ø16
Elevatie Elevation	1	16	262	1.45		379.9
	2	14	30	12.00	360.00	
	3	14	3	1.90	5.70	
	4	14	27	2.20	59.40	
	5	14	3	4.40	13.20	
	6	14	27	3.80	102.60	
	7	14	30	1.10	33.00	
	8	14	30	1.55	46.50	
	9	14	30	12.00	360.00	
	10	14	30	1.05	31.50	
	11	14	3	4.70	14.10	
	12	14	27	4.20	113.4	
	13	14	3	1.60	4.80	
	14	14	27	1.50	40.50	
	15	14	88	4.70	413.60	
	15a	14	22	5.20	114.4	
	16	14	105	4.85	509.25	
	17	14	6	2.30	13.8	
	18	14	7	1.60	11.20	
	19	14	1	4.90	4.90	
	20	14	1	4.90	4.90	
	21	14	4	2.40	9.60	
	22	14	2	2.00	4.00	
	Lungimi/ø				2271	380
	Greutati/ml				1.208	1.578
	Greutati/ø				2743	600
	Pierderi 5%				133	
	TOTAL GENERAL			kg	2784	

Beton: Concrete:	– C25/30 in elevatiile culeelor in the elevation of nthe abutment
Armatura: Reinforcement:	– S355;
Strat de acoperire: Concrete cover	– min. 4cm expunere in aer/air exposed

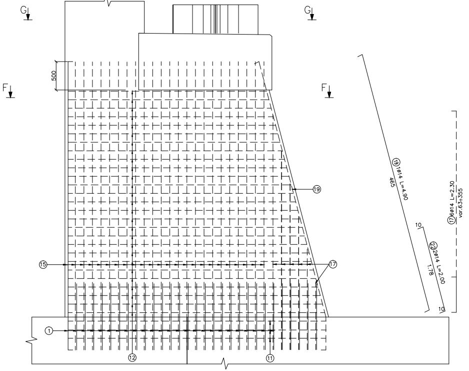

B
⑮
①
⑬
⑭
15 15 15 15
②
④
③

VEDERE IN PLAN B–B/B–B VIEW

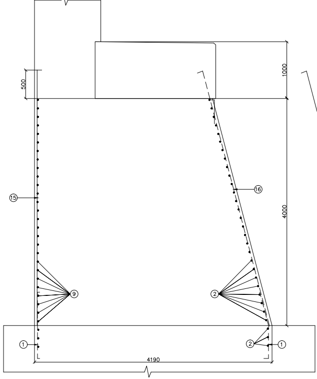

⑩ 30ø14 L=1.05
95
⑨ 30ø12 L=12.00
1180
1.00
12.75
⑩
⑨
①
15 15 15 15 15
4.65
①
15 15 15 15
⑪ 3ø14 L=4.70
451
⑫ 27ø14 L=4.20
var.346÷451
Urma elevatiei pe fundatie
The trace of the elevation
on the foundation block
Axa de rezemare
Bearing axis
⑪
⑬
15 15 15 15
1.54
⑪
②
15 15 15 15 15
①
④
③
13.30
② 27ø14 L=12.00
1180
③ 3ø14 L=1.90
1.75
④ 27ø14 L=2.20
var.1.75÷2.45
⑬ 3ø14 L=1.60
145
⑭ 27ø14 L=1.50
var.1.15÷1.45
A

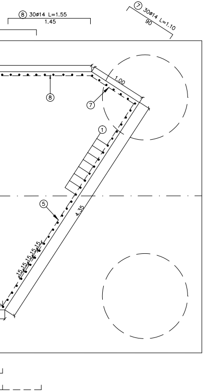

⑮
⑮ 88ø14 L=4.70
450
⑮a 22ø14 L=5.20
500
① 26ø16 L=1.45
120
B
⑤
⑥

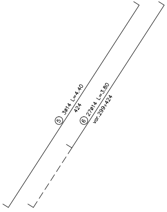
VEDERE C–C CULEEA BRASOV (SIGHISOARA)–ELEVATIE
BRASOV (SIGHISOARA) ABUTMENT C–C VIEW–ELEVATION


G
G
F
F
500
⑲
⑲ 1ø14 L=4.90
465
⑰ 6ø14 L=2.30
var.63÷355
10
㉒ 2ø14 L=2.00
1.78
10
⑮
⑰
①
⑫
⑪

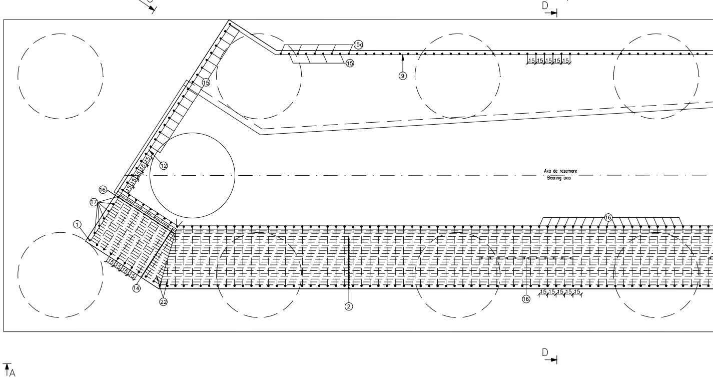
SECTIUNE D–D
SECTION D–D


500
1000
4000
⑮
⑯
⑨
②
②
①
①
4190


⑧ 30ø14 L=1.55
1.45
⑦ 30ø14 L=1.10
90
1.00
⑧
⑦
①
⑤
4.35
15 15 15 15 15


⑤ 3ø14 L=4.40
424
⑥ 27ø14 L=3.80
var.299÷424

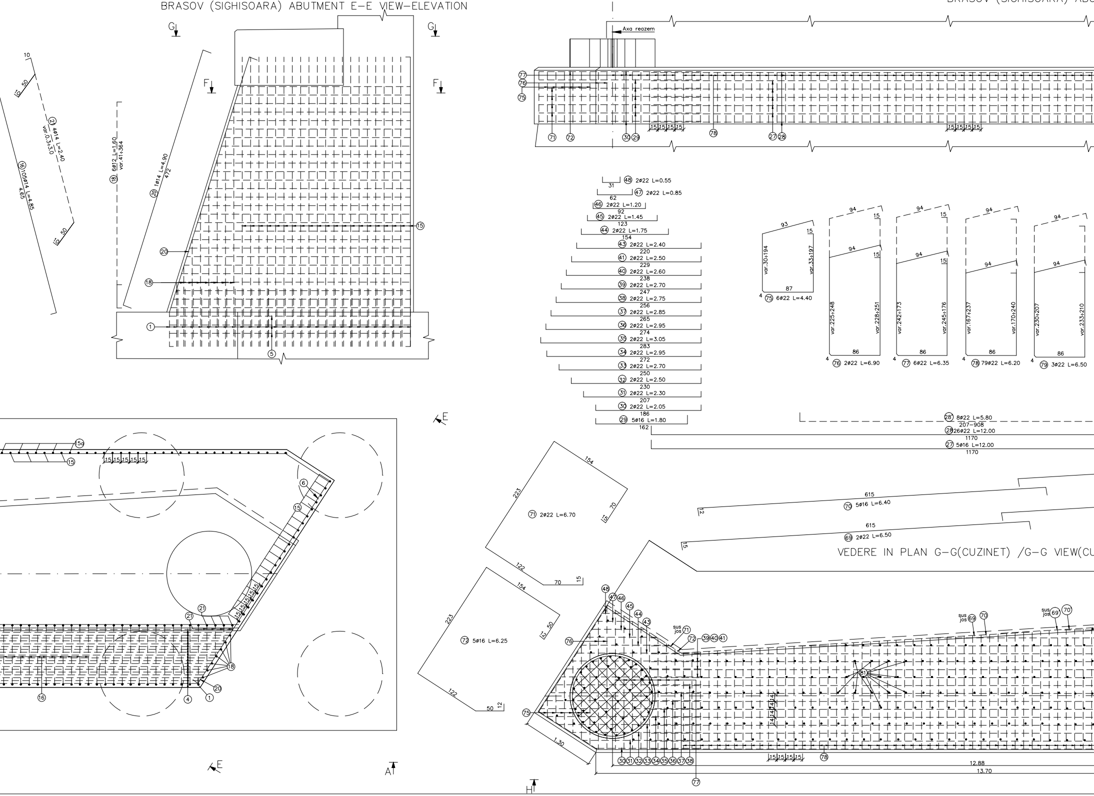
VEDERE IN PLAN F–F/F–F VIEW


C
D
⑮a
⑮
⑮
⑨
15 15 15 15 15
⑫
Axa de rezemare
Bearing axis
⑯
⑰
①
15 15 15 15
⑯
15 15 15 15
⑭
㉒
②
⑯
15 15 15 15 15
C
D
A
A

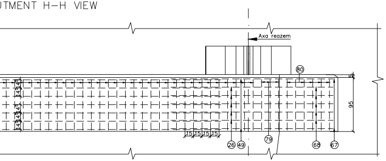
VEDERE E–E CULEEA BRASOV (SIGHISOARA)–ELEVATIE
BRASOV (SIGHISOARA) ABUTMENT E–E VIEW–ELEVATION

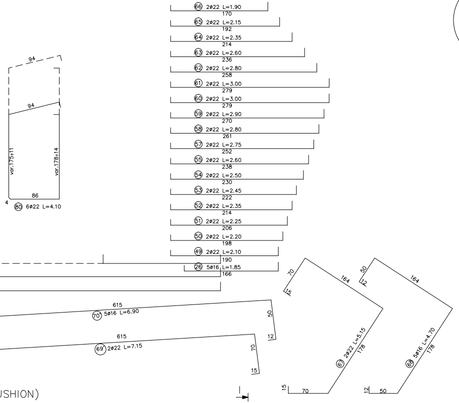
ARMAREA CUZINETILOR SI A BANCHETEI CU
VEDERE DIN FATA H–H CULEEA
BRASOV (SIGHISOARA) ABU

VEDERE IN PLAN G–G(CUZINET) /G–G VIEW(CU

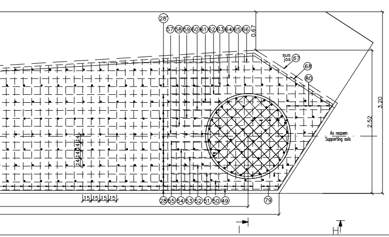

G
F
E
A
H
Axa reazem
⑯ 105ø14 L=4.85
4.65
㉑ 4ø14 L=2.40
var.0.3÷3.0
⑱ 6ø12 L=1.60
var.41÷364
⑳ 1ø14 L=4.90
472
10
50
15
15|15|15|15
⑮a
④⑤⑥
①
⑱
⑳
㉑
㊽ 2ø22 L=0.55
31
㊼ 2ø22 L=0.85
62
㊻ 2ø22 L=1.20
92
㊺ 2ø22 L=1.45
123
㊹ 2ø22 L=1.75
154
㊸ 2ø22 L=2.40
220
㊶ 2ø22 L=2.50
229
㊵ 2ø22 L=2.60
238
㊴ 2ø22 L=2.70
247
㊳ 2ø22 L=2.75
256
㊲ 2ø22 L=2.85
265
㊱ 2ø22 L=2.95
274
㉟ 2ø22 L=3.05
283
㉞ 2ø22 L=2.95
272
㉝ 2ø22 L=2.70
250
㉜ 2ø22 L=2.50
230
㉛ 2ø22 L=2.30
207
㉚ 2ø22 L=2.05
186
㉙ 5ø16 L=1.80
162
93
var.30÷194
var.33÷197
87
(75) 6ø22 L=4.40
94
var.225÷248
var.228÷251
86
(76) 2ø22 L=6.90
var.242÷173
var.245÷176
(77) 6ø22 L=6.35
var.167÷237
var.170÷240
(78) 79ø22 L=6.20
var.230÷207
var.233÷210
(79) 3ø22 L=6.50
㉘ 8ø22 L=5.80
207–908
㉘ 26ø22 L=12.00
1170
㉗ 5ø16 L=12.00
1170
154
223
70
(71) 2ø22 L=6.70
122
(72) 5ø16 L=6.25
12
50
615
(70) 5ø16 L=6.40
(69) 2ø22 L=6.50
sus jos (69) (70)
sus jos (71)
(72) ㊴㊵㊶
(81)
14|14|14|14
1.30
12.88
13.70
㉚㉛㉜㉝㉞㉟㊱㊲㊳
(78)
(77)
(75)
(76)
(71) (72) ㉚ ㉙ (78) ㉗ ㉘

UZINETILOR/ CUSHION REINFORCEMENT
BRAȘOV (SIGHIȘOARA)
UTMENT H-H VIEW

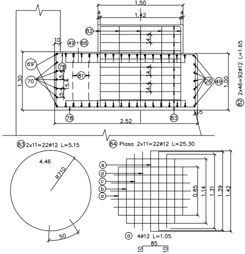

Axa reazem
80
95
15 15 15 15
26 49
79
68 67


66 2ø22 L=1.90
170
65 2ø22 L=2.15
192
64 2ø22 L=2.35
214
63 2ø22 L=2.60
236
62 2ø22 L=2.80
258
61 2ø22 L=3.00
279
60 2ø22 L=3.00
279
59 2ø22 L=2.90
270
58 2ø22 L=2.80
261
57 2ø22 L=2.75
252
55 2ø22 L=2.60
238
54 2ø22 L=2.50
230
53 2ø22 L=2.45
222
52 2ø22 L=2.35
214
51 2ø22 L=2.25
206
50 2ø22 L=2.20
198
49 2ø22 L=2.10
190
26 5ø16 L=1.85
166
94
94
var.175÷11
var.178÷14
86
4
80 6ø22 L=4.10
615
70' 5ø16 L=6.90
50
12
615
69' 2ø22 L=7.15
70
15
70
15
164
70
67 2ø22 L=5.15
178
50
12
164
50
68 5ø16 L=4.70
178

USHION)


I
28
57 58 59 60 61 62 63 64 65 66
0.67
sus
jos 67
68
80
3.20
2.52
Ax reazem
Supporting axis
14 14 14 14
15 15 15 15
28 55 54 53 52 51 50 49
79
I
H

SECTIUNE I–I
SECTION I–I


1.50
4
1.42
4
82
10
49÷66
69'
70'
78
81
26 49
14.4
15.4
1.30
1.00
2x46=92ø12 L=1.65
142
306ø12 L=1.15
95
78
2.52
83
83 2x11=22ø12 L=5.15
4.46
R710
50
84 Plasa 2x11=22ø12 L=25.30
e
d
c
b
a
0.85
1.14
1.31
1.39
1.42
a 4ø12 L=1.05
85
10
10

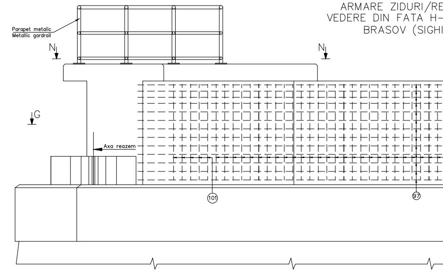
EXTRAS DE ARMATURA
PENTRU O PLASA

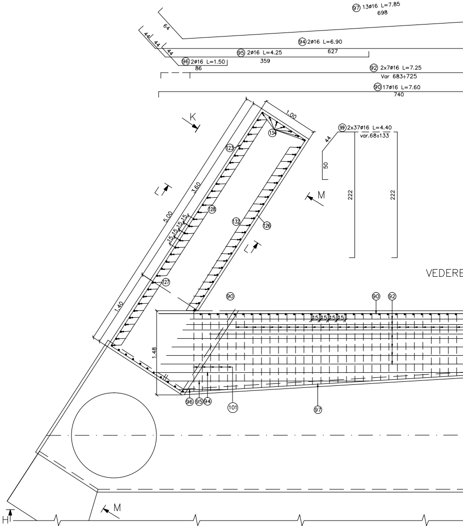
MARCA	DIAMETRU	BUC. ASEMENEA	LUNGIME PE BUCATA	LUNGIME/ø S355 ø12
a	12	4	1.05	4.20
b	12	4	1.35	5.4
c	12	4	1.50	6.00
d	12	4	1.60	6.40
e	12	2	1.65	3.30
LUNGIMI PE DIAMETRU (m)				25.3

EXTRAS DE ARMATURA
MEASURING OF THE REINFORCEMENTS

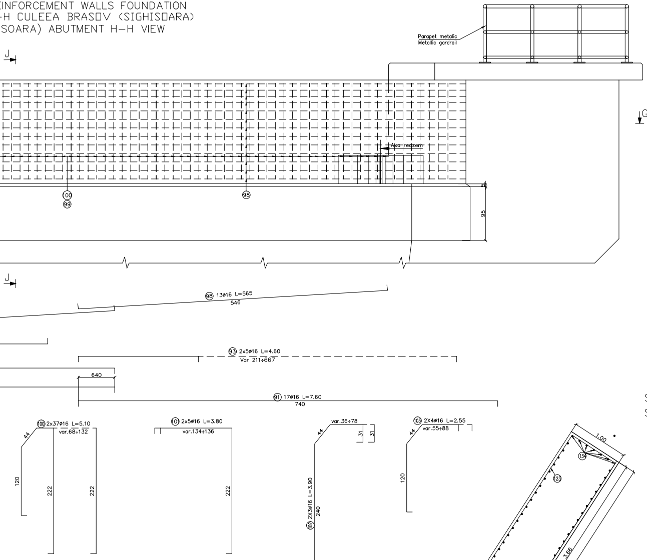
Element	Marca	ø	Nr. Buc.	Lung/buc.	LUNGIME/ø PC 52(S355,S365) ø12	ø16	ø22
Cuzinet/Cushion	26	16	5	1.85		9.25	
	27	16	5	12.00		60.00	
	28	22	26	12.00			312.00
	28'	22	8	5.80			46.40
	29	16	5	1.80		9.00	
	30	22	2	2.05			4.10
	31	22	2	2.30			4.60
	32	22	2	2.50			5.00
	33	22	2	2.70			5.40
	34	22	2	2.95			5.90
	35	22	2	3.05			6.10
	36	22	2	2.95			5.90
	37	22	2	2.85			5.70
	38	22	2	2.75			5.50
	39	22	2	2.70			5.40
	40	22	2	2.60			5.20
	41	22	2	2.50			5.00
	43	22	2	2.40			4.80
	44	22	2	1.75			3.50
	45	22	2	1.45			2.90
	46	22	2	1.20			2.40
	47	22	2	0.85			1.70
	48	22	2	0.55			1.10
	49	22	2	2.10			4.20
	50	22	2	2.20			4.40
	51	22	2	2.25			4.50
	52	22	2	2.35			4.70
	53	22	2	2.45			4.90
	54	22	2	2.50			5.00
	55	22	2	2.60			5.20
	57	22	2	2.75			5.50
	58	22	2	2.80			5.60
	59	22	2	2.90			5.80
	60	22	2	3.00			6.00
	61	22	2	3.00			6.00
	62	22	2	2.80			5.60
	63	22	2	2.60			5.20
	64	22	2	2.35			4.70
	65	22	2	2.15			4.30
	66	16	2	1.90			3.80
	67	22	2	5.15			10.30
	68	16	5	4.70		23.5	
	69	22	2	6.50			13.00
	69'	22	2	7.15			14.30
	70	16	5	6.40		32.00	
	70'	16	5	7.15		35.75	
	71	22	2	6.70			13.40
	72	16	5	6.25		31.25	
	75	22	6	4.40			26.40
	76	22	2	6.90			13.80
	77	22	8	6.35			50.80
	78	22	79	6.20			489.80
	79	22	3	6.50			19.50
	80	22	6	4.10			24.60
	81	12	306	1.15	351.90		
	82	12	92	1.65	151.80		
	83	12	22	5.15	113.3		
	84	12	22	25.30	556.60		
	Lungimi/ø				1173.6	200.75	1199.9
	Greutati/ml				0.888	1.578	2.984
	Greutati/ø				1043	317	3581
	TOTAL kg				4941		
	Pierderi 5%				247		
	TOTAL GENERAL kg				5188		

ARMARE ZIDURI/RE
VEDERE DIN FATA H-
BRASOV (SIGHI

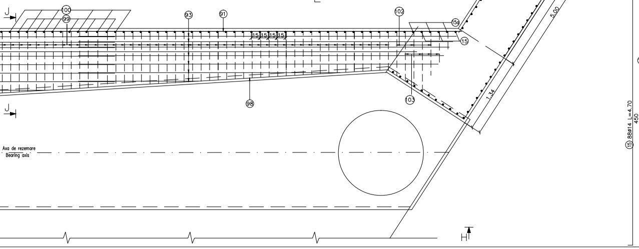

Parapet metalic
Metallic gardrail
N
N
G
Axa reazem
101
97


97 13ø16 L=7.85
698
64
44
44
44
94 2ø16 L=6.90
627
95 2ø16 L=4.25
359
96 2ø16 L=1.50
86
92 2x7ø16 L=7.25
Var 683÷725
90 17ø16 L=7.60
740
K
1.00
134
99 2x37ø16 L=4.40
var.68÷133
44
50
222
222
123
3.60
5.00
M
128
132
126
15 15 15 15
127
1.40
VEDERE
90
90 92
15 15 15 15
1.48
96 95 94
101
97
K
M
H

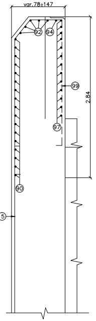
EINFORCEMENT WALLS FOUNDATION
-H CULEEA BRASOV (SIGHISOARA)
SOARA) ABUTMENT H-H VIEW


Parapet metalic
Metallic gardrail
J
Axa rezem
G
95
5
100
99
98
J
98 13ø16 L=565
546
93 2x5ø16 L=4.60
Var 211÷667
640
91 17ø16 L=7.60
740
100 2x37ø16 L=5.10
var.68÷132
44
120
222
222
101 2x5ø16 L=3.80
var.134÷136
222
var.36÷78
44
31
31
102 2X3ø16 L=3.90
240
103 2X4ø16 L=2.55
var.55÷88
44
120

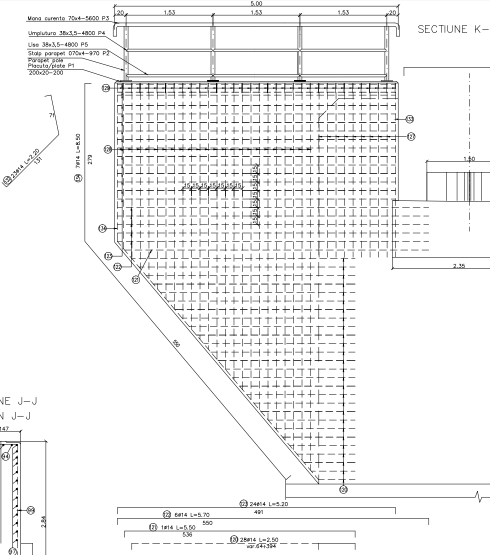
E IN PLAN G-G(ZIDURI) /G-G VIEW(WALLS)

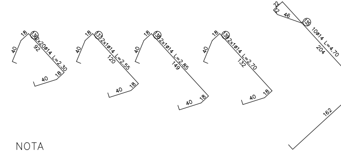

J
100
99
93
91
102
15a
15
15 15 15 15
98
103
J
1.00
134
123
3.66
5.00
1.34
Axa de rezemare
Bearing axis
H
15 88ø14 L=4.70
450

SECTIUNE J-J
SECTION J-J


var.78÷147
92
94
99
2.84
97
90
15

SECTIUNE K-


5.00
20
1.53
1.53
1.53
20
Mana curenta 70x4-5600 P3
Umplutura 38x3,5-4800 P4
Lisa 38x3,5-4800 P5
Stalp parapet ø70x4-970 P2
Parapet pole
Placuta/plate P1
200x20-200
129
133
127
128
71
132 23ø14 L=2.20
131
134 7ø14 L=8.50
279
15 15 15 15 15 15 15
15 15 15 15 15 15
134
123
122
121
550
1.50
2.35
120
123 24ø14 L=5.20
491
122 6ø14 L=5.70
550
121 1ø14 L=5.50
536
120 28ø14 L=2.50
var.64÷394


18
40
136 92x20ø14 L=2.30
92
40
18
18
40
137 2x1ø14 L=2.55
120
40
18
18
40
138 2x1ø14 L=2.85
149
40
18
18
40
139 2x1ø14 L=2.70
132
40
18
22
12
46
135 10ø14 L=4.70
204
162

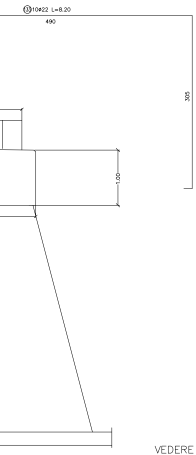
NOTA

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

NOTA

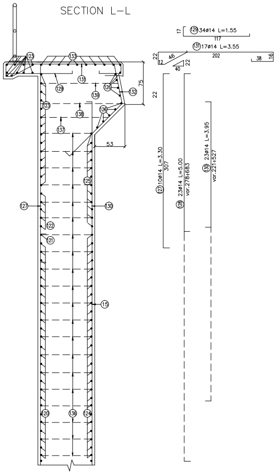
In order to maintain the correct position during concreting, minimum 4pcs./m^2 distance pieces shall be mounted.
The distance pieces shall be connected to the reinforcing framework, using wire.

K/SECTION K-K



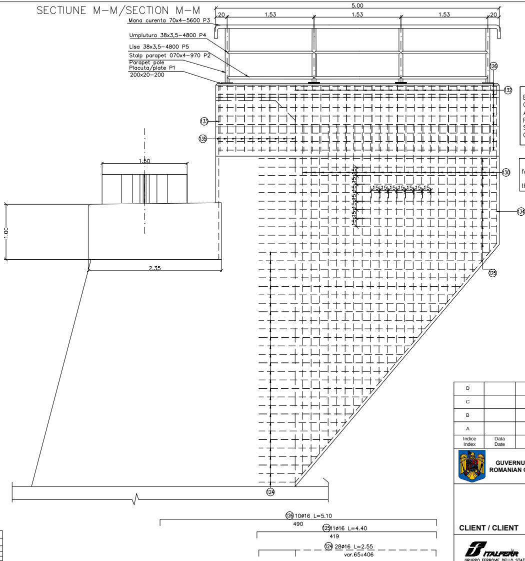
133 10ø22 L=8.20
490
305
1.00

SECTIUNE L-L
SECTION L-L



123
133
131
139
129
126
132
75
138
126
137
53
125
127
130
122
121
15
120
136
124
22
129 34ø14 L=1.55
17
117
131 17ø14 L=3.55
22
12
46
40
22
202
38
16
22
127 10ø14 L=3.30
307
128 23ø14 L=5.00
var.278÷683
130 23ø14 L=3.95
var.221÷527

SECTIUNE M-M/SECTION M-M



5.00
20
1.53
1.53
1.53
20
Mana curenta 70x4-5600 P3
Umplutura 38x3,5-4800 P4
Lisa 38x3,5-4800 P5
Stalp parapet 070x4-970 P2
Parapet pole
Placuta/plate P1
200x20-200
126
132
133
135
1.50
130
15 15 15 15 15 15 15
15 15 15 15 15 15 15
134
1.00
2.35
125
124
126 10ø16 L=5.10
490
125 11ø16 L=4.40
419
124 28ø16 L=2.55
var.65÷406

Beton: – C35/45 in cuzineti si in bancheta cuzinetilor
Concrete: in the cushionsh and cushions bench
Armatura: – S355;S345
Reinforcement:
Strat de acoperire: – min. 4cm expunere in aer/air exposed
Concrete cover

Beton: – C25/30 in elevatiile culeelor
Concrete: in the elevation of nthe abutment
Armatura: – S355 (PC 52; ø12–ø14)
Reinforcement: – S345 (PC 52; ø16–ø22)
Strat de acoperire: – min. 4cm expunere in aer/air exposed
Concrete cover

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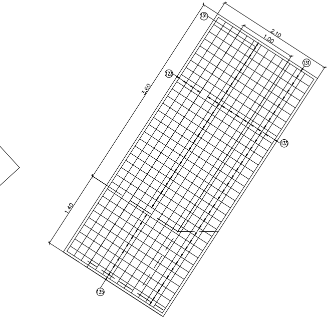
VEDERE IN PLAN N-N/N-N VIEW



131
2.10
1.00
3.60
123
131
133
1.40
135

EXTRAS DE ARMATURA
MEASURING OF THE REINFORCEMENTS

Element	Marca	ø	Nr. Buc.	Lung/buc.	LUNGIME/ø PC 52(S355, S345) ø12	ø14	ø16	ø22
Zid de garda	90	16	17	7.60			129.2	
	91	16	17	7.60			129.2	
	92	16	14	7.25			101.5	
	93	16	14	4.60			64.4	
	94	16	2	6.90			13.8	
	95	16	2	4.25			8.5	
	96	16	2	1.50			3.00	
	97	16	13	7.85			102.05	
	98	16	13	5.65			73.45	
	99	16	72	4.40			316.80	
	100	16	72	5.10			367.2	
	101	16	10	3.80			38.00	
	102	16	3	3.90			11.70	
	103	16	4	2.55			10.20	
	Lungimi/ø						1369.00	
	Greutati/ml				0.888	1.208	1.578	2.984
	Greutati/ø						2161	
	TOTAL						2161	
	Pierderi 5%						108	
	TOTAL GENERAL kg						2269	

Element	Marca	ø	Nr. Buc.	Lung/buc.	ø12	ø14	ø16	ø22
Ziduri intoarse	120	14	27	2.50		67.50		
	121	14	1	5.50		5.50		
	122	14	6	5.70		34.20		
	123	14	24	5.20		148.80		
	124	16	28	2.55			71.4	
	125	16	11	4.40			48.40	
	126	16	10	5.10			51.00	
	127	14	10	3.30		33.00		
	128	14	23	5.00		115.0		
	129	14	34	1.65		56.10		
	130	14	23	3.95		90.85		
	131	14	17	1.55		26.35		
	132	14	23	2.20		50.60		
	133	22	10	8.20				82.00
	134	14	7	8.30		58.10		
	135	14	10	4.70		47.00		
	136	14	40	2.30		92.00		
	137	14	2	2.55		5.10		
	138	14	2	2.85		5.70		
	139	14	2	2.70		5.40		
	Lungimi/ø					841.2	170.8	82.00
	Greutati/ml				0.888	1.208	1.578	2.984
	Greutati/ø					1017	270	245
	TOTAL						1532	
	Pierderi 5%						77	
	TOTAL – un zid kg							1609
	TOTAL GENERAL – DOUA ZIDURI INTOARSE kg							3218

TOTAL ARMATURA – O CULEE/ ONE ABUTMENT REINFORCEMENTS

ELEVATIE / ELEVATION [KG]	2784
CUZINETI,BANCEHTA CUZINETILOR / CUSHION [KG]	5188
ZIDURI INTOARSE+ZID DE GARDA / WALLS [KG]	2269+3218=5487
TOTAL [KG]	13459

MATERIAL METALIC PENTRU CONFECTIONAREA PARAPETULUI PENTRU O CULEE
THE METALLIC MATERIAL TO BUILD PARAPET OF ONE ABUTMENT

Poz. Piece	Denumirea materialului The denomination of the material OL EN 10025 – S235 JR	Buc.	Sectiune Section	Lung. Long. (mm)	Sectiune/Section kg/ml	kg/buc	kg
P1	Stalp parapet EN 10297 – E275 Parapet pole	8	70x4	970	6.51	6.32	50.56
P2	Placuta prindere Clamping plate	8	200x20	200	31.40	6.28	50.24
P3	Mana curenta EN 10297 – E275 Handrail	2	70x4	5000	6.51	32.55	65.10
P4	Umplutura EN 10058 Filling	6	38x3,5	1530	2.98	4.56	27.35
P5	Lisa EN 10058 Ledge	6	38x3,5	1530	2.98	4.56	27.35
	Total partial Partially total						230.95
	Sudura 2% Welding 2%						4.62
	TOTAL kg						236

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 FINANTAT 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	SemnŁturŁ Signature
Aprobat Approved	ķef proiect Project manager	R. Liuzza	02.2012	
Aprobat Approved	Coordonator SecȘune 1 Section 1 Coordinator	C. Gambelli	02.2012	
Verificat Checked	Expert Cheie Checking Expert	V.Kallidromitis	02.2012	VK

SUBCONTRACTANT / SUBCONTRACTOR

Aprobat Approved	Responsabil Subconsultant Subconsultant Responsible	A. Dinulescu Stanciu	02.2012	
Ȫtocmit Elaborated	Proiectant Designer	Olar Mihai	02.2012	

Reabilitarea liniei de cale ferata Brakov - Simeria, parte componentŁ a coridorului IV Pan European, pentru circulaȘa trenurilor cu viteza maximŁ 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:
P.Th. / T.D.

Denumire desen / Drawing Title : Interval Statia Albesti
POD km 265+233.972 -G.Z.C.J.C.B. D=35.00m
ARMARE CULEEA BRASOV(SIGHISOARA)
BRIDGE km 265+233.972 - D=35.00m
REINFORCEMENT BRASOV(SIGHISOARA) ABUTMENT

Codificare / Codification System
Scara / Scale 1:25
LOT / LOT
Nr. / No 01 / 01

E A 5 1 0 1 E 1 6 B C P V 0 3 8 2 0 0 5 0