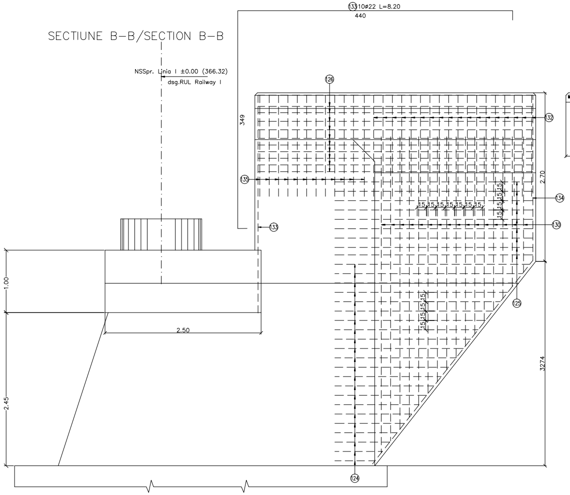
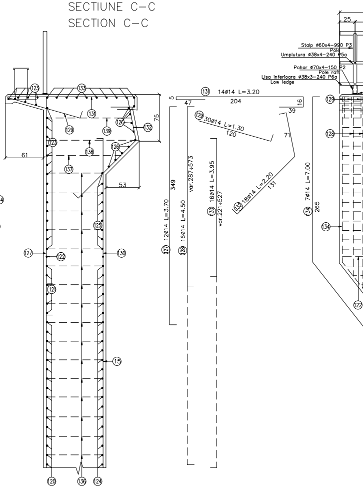
SECTIUNE B-B/SECTION B-B



133 10ø22 L=8.20
440
NSSpr. Linia I ±0.00 (366.32)
dsg.RUL Railway I
126
349
132
135
2.70
134
130
133
15 15 15 15 15 15 15 15
15 15 15 15
1.00
125
2.50
2.45
3274
124

SECTIUNE C-C
SECTION C-C



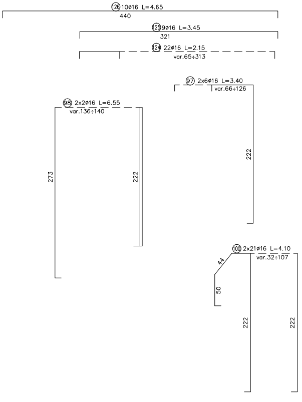
123
133
131
129
139
126
132
75
61
138
137
53
125
127
122
121
130
15
120
136
124
131 14ø14 L=3.20
5
47
204
16
39
129 30ø14 L=1.30
120
71
132 18ø14 L=2.20
131
127 12ø14 L=3.70
349
128 16ø14 L=4.50
var.287÷573
130 16ø14 L=3.95
var.221÷527
134 7ø14 L=7.00
265
25
Stalp ø60x4-990 P3
Pole
Umplutura ø38x4-240 P5a
Pahar ø70x4-150 P2
Pole raft
Lisa inferioara ø38x3-240 P6a
Low ledge
129
128
134
122

NOTA

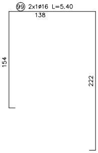
Pentru mentinerea pozitiei corecte in timpul betonarii, se vor monta distantieri minim 4buc./m^2. Distantierii trebuie legati cu sarma de carcasa de armatura.

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.



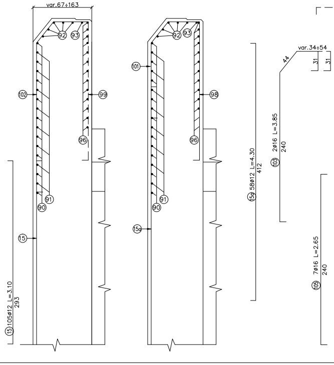
126 10ø16 L=4.65
440
125 9ø16 L=3.45
321
124 22ø16 L=2.15
var.65÷313
97 2x6ø16 L=3.40
var.66÷126
222
98 2x2ø16 L=6.55
var.136÷140
273
222
100 2x21ø16 L=4.10
var.32÷107
44
50
222
222



99 2x1ø16 L=5.40
138
154
222

SECTIUNE D-D
SECTION D-D

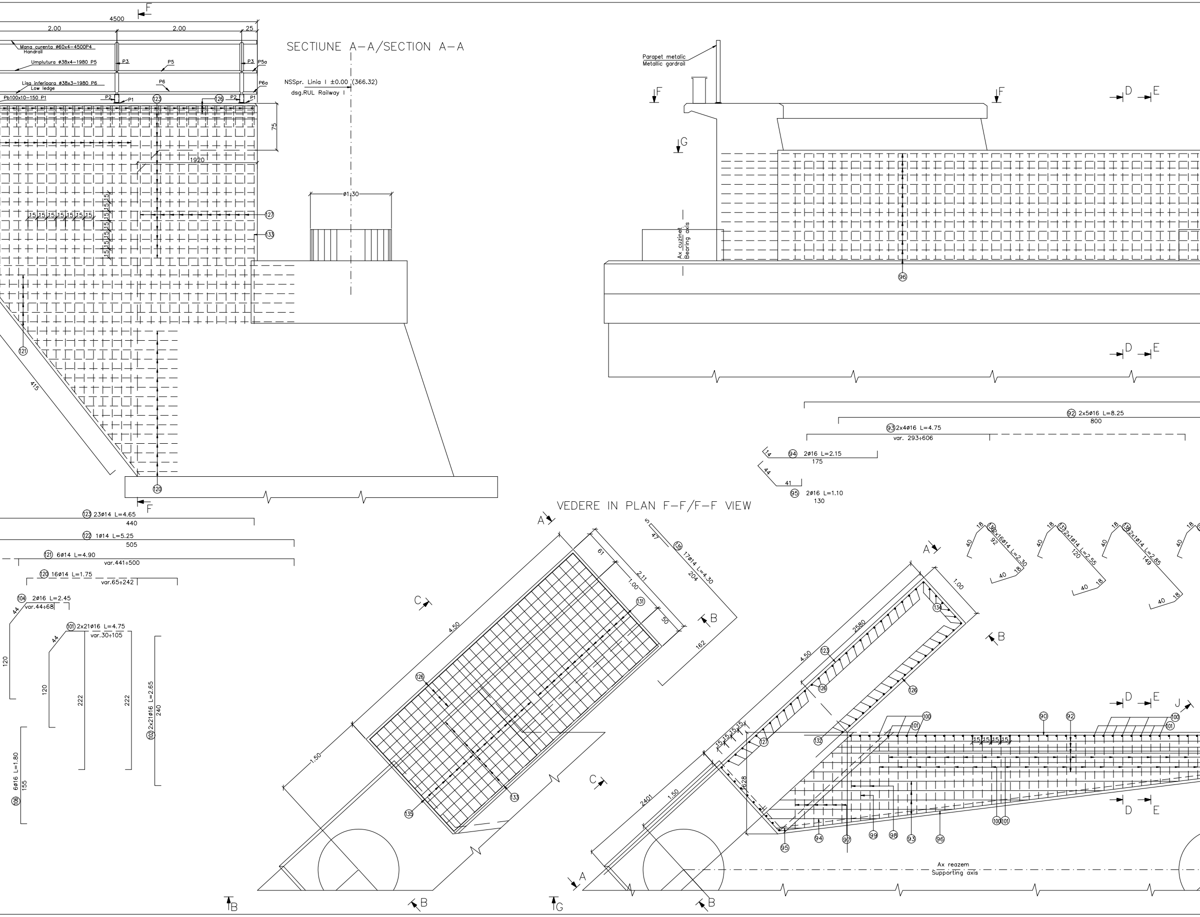
SECTIUNE E-E
SECTION E-E



var.67÷163
92
93
102
99
96
91
90
15
15 105ø12 L=3.10
293
92
93
101
98
96
91
90
15a
15a 58ø12 L=4.30
412
var.34÷54
44
31
31
103 2ø16 L=3.85
240
105 7ø16 L=2.65
240

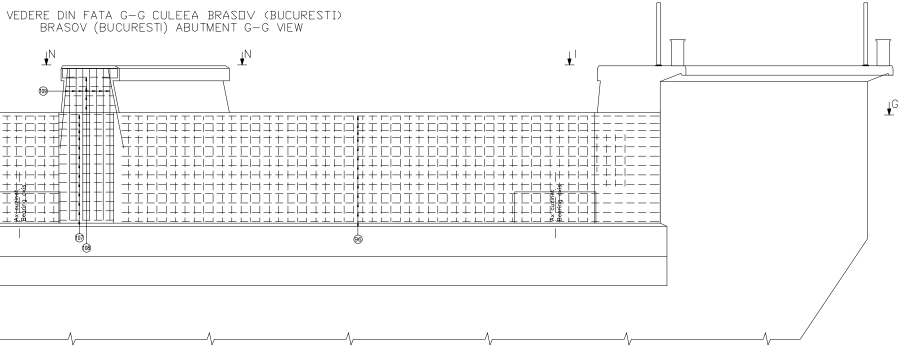
SECTIUNE A-A/SECTION A-A

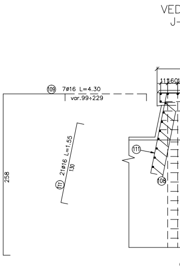
VEDERE IN PLAN F-F/F-F VIEW

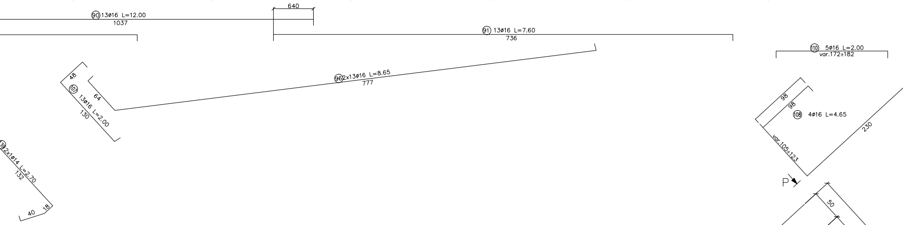


4500
2.00
2.00
25
Mana curenta ø60x4-4500P4
Handrail
Umplutura ø38x4-1980 P5
Lisa inferioara ø38x3-1980 P6
Low ledge
Pb100x10-150 P1
P1
P2
P3
P5
P5a
P6
P6a
75
1920
15 15 15 15 15 15 15
ø1.30
NSSpr. Linia I ±0.00 (366.32)
dsg.RUL Railway I
415
F
G
D
E
Parapet metalic
Metallic gardrail
Ax cuzinet
Bearing axis
(123) 23ø14 L=4.65
440
(122) 1ø14 L=5.25
505
(121) 6ø14 L=4.90
var.441÷500
(120) 16ø14 L=1.75
var.65÷242
(104) 2ø16 L=2.45
var.44÷68
44
120
(101) 2x21ø16 L=4.75
var.30÷105
222
(102) 2x21ø16 L=2.65
240
(106) 6ø16 L=1.80
155
(92) 2x5ø16 L=8.25
800
(93) 2x4ø16 L=4.75
var. 293÷606
(94) 2ø16 L=2.15
175
14
41
(95) 2ø16 L=1.10
130
(135) 17ø14 L=4.30
204
47
(130) 2x16ø14 L=2.30
92
(137) 2x1ø14 L=2.55
120
(138) 2x1ø14 L=2.85
149
40
18
4.50
61
2.11
1.00
50
162
1.50
2580
2401
1628
A
B
C
J
Ax reazem
Supporting axis
(90) (96) (97) (98) (99) (100) (101) (120) (121) (123) (126) (127) (131) (132) (133) (134) (135)

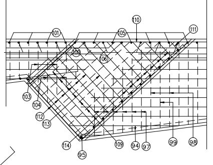
VEDERE DIN FATA G-G CULEEA BRASOV (BUCURESTI)
BRASOV (BUCURESTI) ABUTMENT G-G VIEW


N
N
I
I
G
109
Ax cuzinet
Bearing axis
Ax cuzinet
Bearing axis
107
108
96

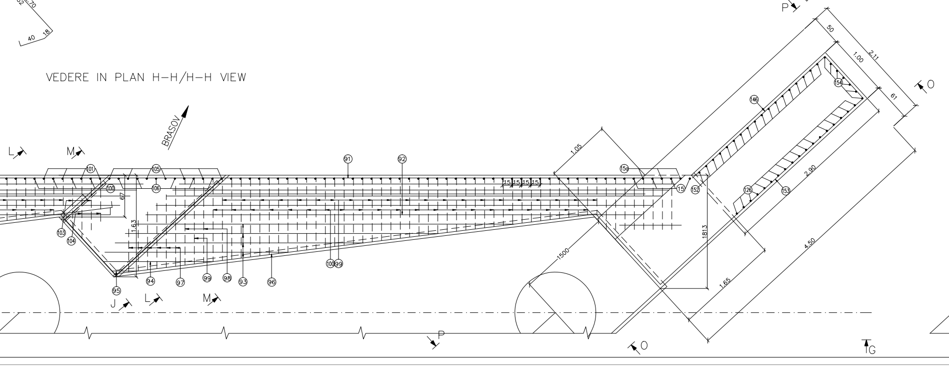

VED
J-
109 7ø16 L=4.30
var.99÷229
258
111 21ø16 L=1.55
130
111
108


90 13ø16 L=12.00
1037
640
91 13ø16 L=7.60
736
96 2x13ø16 L=8.65
777
48
107 13ø16 L=2.00
64
130
2x1ø14 L=2.70
132
40
18
110 5ø16 L=2.00
var.172÷182
98
98
108 4ø16 L=4.65
var.105÷123
230

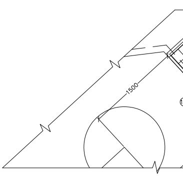
VEDERE IN PLAN N-N/N-N VIEW


110
101
105
111
100
106
103
104
112
113
114
95
109
94
97
99
98

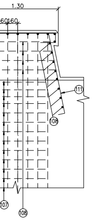
VEDERE IN PLAN H-H/H-H VIEW


P
BRASOV
L
M
101
105
91
92
15a
100
106
15
15
15
15
15
152
154
146
126
153
50
1.00
2.11
61
2.90
4.50
1.65
1813
1.05
1500
67
1.63
103
104
95
94
97
99
98
93
96
100
99
J
L
M
P
O
O
G

VEDERE IN

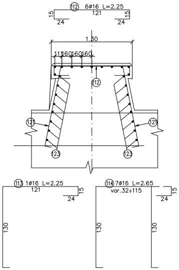


DERE J-J
-J VIEW



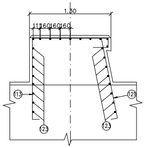
1.30
160160
111
108
107
108

SECTIUNE L-L
L-L SECTION



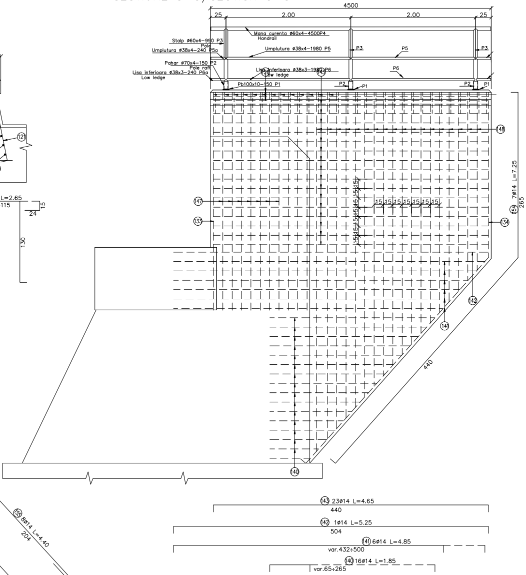
112 6ø16 L=2.25
121
15
24
24
1.30
111160160160
112
121
123
123
121
113 1ø16 L=2.25
121
15
24
130
114 7ø16 L=2.65
var.32÷115
15
24
130
130

SECTIUNE M-M
M-M SECTION



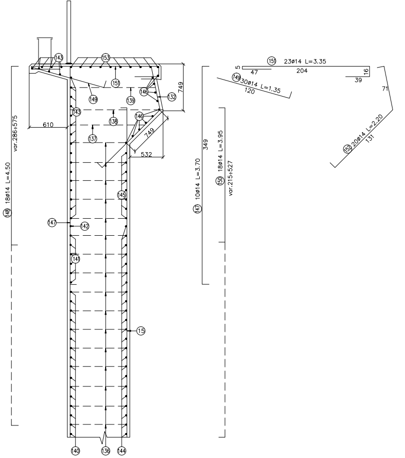
1.30
111160160160
113
123
123
121

SECTIUNE O-O/SECTION O-O



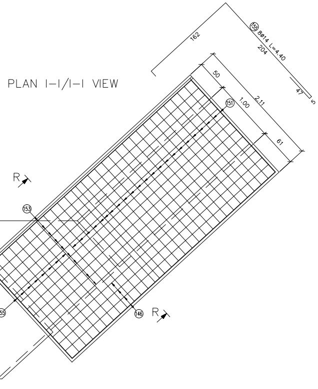
4500
25
2.00
2.00
25
Mana curenta ø60x4-4500P4
Handrail
Stalp ø60x4-990 P3
Pole
Umplutura ø38x4-240 P5a
Umplutura ø38x4-1980 P5
P3
P5
P3
Pahar ø70x4-150 P2
Pole raft
Lisa inferioara ø38x3-240 P6a
Low ledge
Lisa inferioara ø38x3-1980 P6
Low ledge
P6
Pb100x10-150 P1
P2
P1
P2
P1
120
143
148
147
133
15 15 15 15 15 15 15 15
15 15 15 15 15 15 15
154 7ø14 L=7.25
265
134
142
141
440
140
143 23ø14 L=4.65
440
142 1ø14 L=5.25
504
141 6ø14 L=4.85
var.432÷500
140 16ø14 L=1.85
var.65÷265

SECTIUNE R-R/SECTION R-R



143
153
155
149
139
146
132
749
143
138
146
749
610
137
532
var.286÷575
148 18ø14 L=4.50
145
147
142
141
15
140
136
144
151 23ø14 L=3.35
5
47
204
16
39
149 30ø14 L=1.35
120
71
152 20ø14 L=2.20
131
349
147 10ø14 L=3.70
150 18ø14 L=3.95
var.215÷527

PLAN I-I/I-I VIEW



162
155 8ø14 L=4.40
204
47
5
50
151
1.00
2.11
61
R
153
155
146
R

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	13	12.00			156.00	
	91	16	13	7.60			98.80	
	92	16	10	8.25			82.50	
	93	16	8	4.75			38.00	
	94	16	2	2.15			4.30	
	95	16	2	1.10			2.20	
	96	16	26	8.65			224.90	
	97	16	12	4.30			51.60	
	98	16	4	6.65			26.00	
	99	16	2	5.40			10.80	
	100	16	42	4.10			172.20	
	101	16	42	4.75			199.50	
	102	16	42	2.65			111.30	
	103	16	2	3.85			7.70	
	104	16	2	2.45			4.90	
	105	16	7	2.65			18.55	
	106	16	6	1.80			10.80	
	107	16	13	2.00			26.00	
	108	16	4	4.65			18.60	
	109	16	7	4.30			30.10	
	110	16	5	2.00			10.00	
	111	16	21	1.55			32.55	
	112	16	6	2.25			13.50	
	113	16	1	2.25			2.25	
	114	16	7	2.65			18.55	
Ziduri intoarse	120	14	16	1.75		28.00		
	121	14	6	4.90		27.00		
	122	14	1	5.25		5.25		
	123	14	23	4.65		106.95		
	124	16	22	2.15			47.30	
	125	16	9	3.45			31.05	
	126	16	10	4.65			46.50	
	127	14	12	3.70		44.40		
	128	14	16	4.50		72.00		
	129	14	30	1.30		39.00		
	130	14	16	3.95		63.20		
	131	14	14	3.20		44.80		
	132	14	18	2.20		39.60		
	133	22	10	8.20				82.00
	134	14	7	7.00		49.00		
	135	14	17	4.30		73.10		
	136	14	32	2.30		73.60		
	137	14	2	2.55		5.10		
	138	14	2	2.85		5.70		
	139	14	2	2.70		5.40		
	140	14	16	1.85		29.60		
	141	14	6	4.85		29.10		
	142	14	1	5.25		5.25		
	143	14	23	4.65		106.95		
	144	16	22	2.30			50.60	
	145	16	9	3.75			33.75	
	146	16	10	4.65			46.50	
	147	14	10	1.70		17.00		
	148	14	18	4.50		81.00		
	149	14	30	1.35		40.50		
	150	14	18	3.95		71.10		
	151	14	23	3.35		77.05		
	152	14	20	2.20		44.00		
	153	22	10	8.20				82.00
	154	14	7	7.25		50.75		
	155	14	8	4.40		35.20		
	156	12	18	0.85	15.30			
	Lungimi/ø					1269.60	1627.30	164.00
	Greutati/ml				0.888	1.208	1.578	2.984
	Greutati/ø				14	1534	2568	490
	TOTAL						4610	
	Pierderi 5%						230	
	TOTAL GENERAL kg						4840	

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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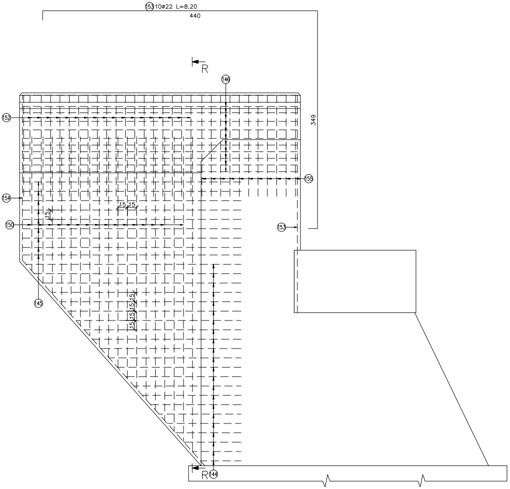
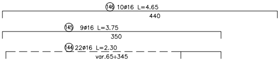
MASURATOAREA MATERIALULUI METALIC NECESAR PEN
MEASURING THE METALLIC MATERIAL FOR PARAPET

Poz.	Denumirea materialului Piece denomination	Buc. Pcs.	Sectiune Section
P1	Placuta prindere pahar – Polate plate	6	100x10
P2	Pahar stalp parapet – Pole raft	6	70x4
P3	Stalp parapet – Pole	6	60x4
P4	Mana curenta – Handrail	2	60x4
P5	Umplutura	2	38x4
P5a	Umplutura	2	38x4
P6	Lisa inferioara – Low ledge	2	38x4
P6a	Lisa inferioara – Low ledge	2	38x4

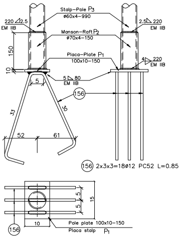
SECTIUNE P-P/SECTION P-P


(153) 10ø22 L=8.20
440
R
(146)
349
(152)
(155)
(154)
15 15
15
(150)
(153)
(145)
15 15 15 15
R
(144)


(146) 10ø16 L=4.65
440
(145) 9ø16 L=3.75
350
(144) 22ø16 L=2.30
var.65÷345

DETALIU DE PRINDERE A PARAPETULUI
DETAIL ASSEMBLING OF THE PARAPET

Scara 1:5
Scale 1:5


Stalp-Pole P3
ø60x4-990
220 2.5
EM IIB
2.5 220
EM IIB
Manson-Raft P2
ø70x4-150
150
10
Placa-Plate P1
100x10-150
4 220
EM IIB
5 80
EM IIB
5
(156)
33
30
52
61
5
5
15
10
Pole plate 100x10-150
Placa stalp P1
(156)

(156) 2x3x3=18ø12 PC52 L=0.85

ITRU PARAPETUL UNEI CULEI
OF ONE ABUTMENT

Lung. Length. (mm)	Greutati - Weight		
	kg/ml	kg/buc	kg
150	7.85	1.18	8
150	6.51	0.98	6
990	5.52	5.45	33
4500	5.52	24.84	50
1980	3.35	6.64	14
240	3.35	0.81	2
1980	3.35	6.64	14
240	3.35	0.81	2
	Total partial Partial total		129
	Sudura 2% Welding 2%		3
	TOTAL (kg)		132

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.

ITALFERR
GRUPPO FERROVIE DELLO STATO
Joint Venture leader

Scott Wilson

OBERMEYER
PLANEN + BERATEN GmbH

TECNIC
Consulting Engineers

CONSULTANT / CONSULTANT

			Data Date	Semnătură Signature
Aprobat Approved	Şef proiect Project manager	R. Lluzza	02.2012	
Aprobat Approved	Coordonator Secţiune 1 Section 1 Coordinator	C. Gambelli	02.2012	
Verificat Checked	Expert Cheie Checking Expert	V.Kallidromitis	02.2012	

SUBCONTRACTANT / SUBCONTRACTOR

Aprobat Approved	Responsabil Subconsultant Subconsultant Responsible	A. Dinulescu Stanciu	02.2012	
Întocmit Elaborated	Proiectant Designer	Maria Campan	02.2012	

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

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

Faza / Phase:
P.Th. / T.D.

Denumire desen / Drawing Title : Interval Statia Albesti
POD km 277+798.279 -G.Z.C.J.C.B. D=38.00m
ARMARE CULEEA BRASOV-ZID DE GARDA SI ZIDURI INTOARSE
BRIDGE km 277+798.279 - D=38.00m
REINFORCEMENT BRASOV ABUTMENT-THE GUARD WALL AND THE REVERTED WALLS

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

E A 5 1 | 0 1 | E | 1 9 | B C | P V | 0 4 | 4 | 2 | 0 1 0 | 0

594x3250