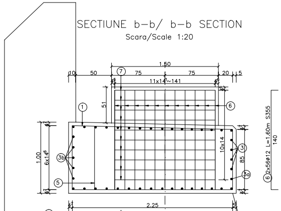
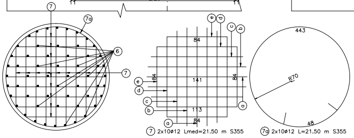
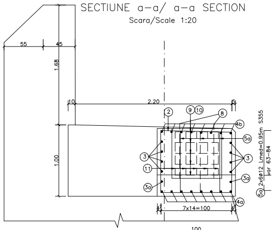
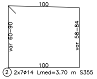
SECTIUNE b-b/ b-b SECTION
Scara/Scale 1:20


1.50
10
50
75
75
20
5
11x14~141
51
1.00
6x14⁶
10x14
85
2.25
⑥ 2x56ø12 L=1.60m S355
140
①
③
③b
③a
⑤
⑥
⑦


⑦
⑦a
⑥
84
141
113
84
443
870
48
⑦ 2x10ø12 Lmed=21.50 m S355
⑦a 2x10ø12 L=21.50 m S355

SECTIUNE a-a/ a-a SECTION
Scara/Scale 1:20

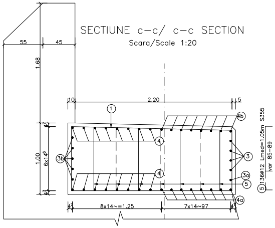

55
45
1.68
10
2.20
5
1.00
7x14=100
②
⑨
⑩
⑧
④b
⑤a
③
⑪
③a
④a
⑤a 2x6ø12 Lmed=0.95m S355
var 63-84

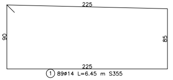

100
var 60-90
var 58-84
100
② 2x7ø14 Lmed=3.70 m S355

EXTRAS DE ARMATURA PENTRU O PLASA

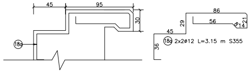
MARCA	DIAMETRU	BUC. ASEMENEA	LUNGIME PE BUCATA	LUNGIME/ø S355 ø12
a	12	2	1.41	2.82
b	12	4	1.38	5.52
c	12	4	1.29	5.16
d	12	4	1.13	4.52
e	12	4	0.85	3.28
LUNGIMI PE DIAMETRU (m)				21.50

SECTIUNE c-c/ c-c SECTION
Scara/Scale 1:20

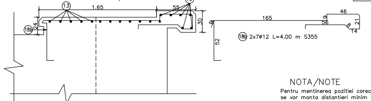

55
45
1.68
10
2.20
5
1.00
6x14⁶
8x14~=1.25
7x14~97
①
④
④b
③b
③
③a
⑤
④a
⑤ 136ø12 Lmed=1.05m S355
var 85-89


225
90
85
225
① 89ø14 L=6.45 m S355

SECTIUNE d-d/ d-d SECTION
Scara/Scale 1:20


45
95
30
⑱a
86
56
21
14
29
45
36
⑱a 2x2ø12 L=3.15 m S355

SECTIUNE e-e/ e-e SECTION
Scara/Scale 1:20


⑬
1.65
55
⑲
24
⑱b
30
165
46
56
21
14
52
⑱b 2x7ø12 L=4.00 m S355

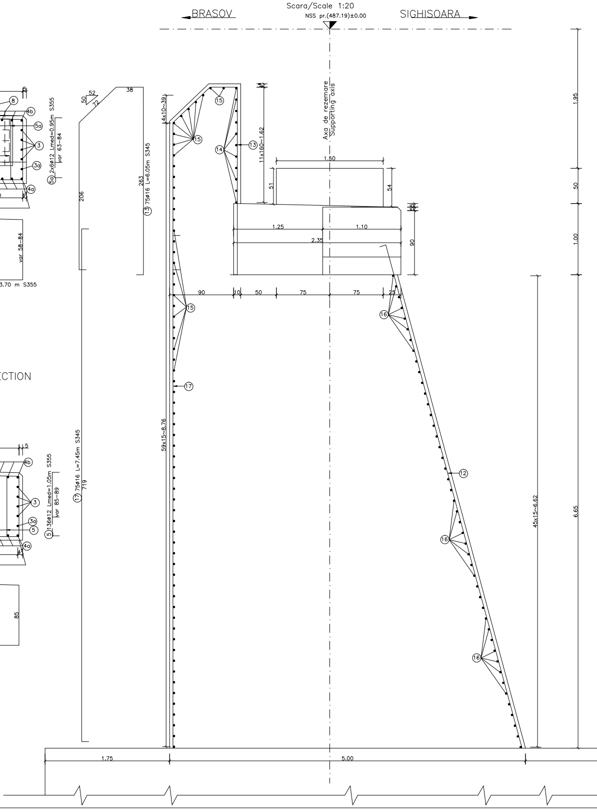
NOTA/NOTE

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.

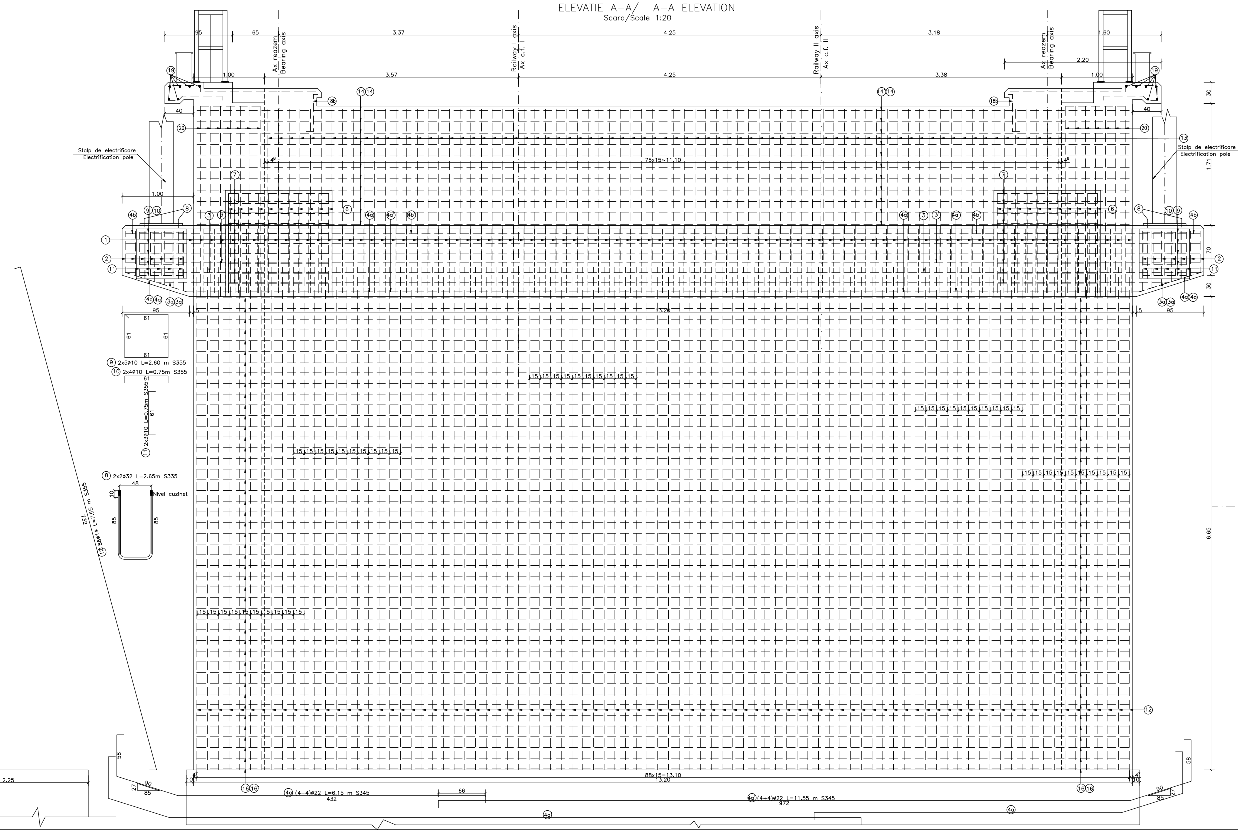
Se interzice copierea, difuzarea, imprumutarea sau utilizarea in alte scopuri, fara permisiunea AREX Lider Company ca proprietar al desenului.
This drawing is forbidden to be copied, lent or used in other purposes than those previously approved by AREX Lider Company as its owner.

SECTIUNE TRANSVERSALA B-B
B-B SECTION CROSS SECTION
Scara/Scale 1:20


BRASOV
NSS pr.(487.19)±0.00
SIGHISOARA
Axa de rezemare
Supporting axis
52
50
72
38
206
263
⑬ 75ø16 L=6.05m S345
⑰ 75ø16 L=7.45m S345
719
4x10~39
⑮
⑭
⑬
11x160~1.62
1.50
51
54
1.25
1.10
2.35
90
90
10
50
75
75
25
⑯
⑰
⑫
59x15~8.76
45x15~6.62
1.95
50
1.00
6.65
1.75
5.00

ELEVATIE A–A/ A–A ELEVATION

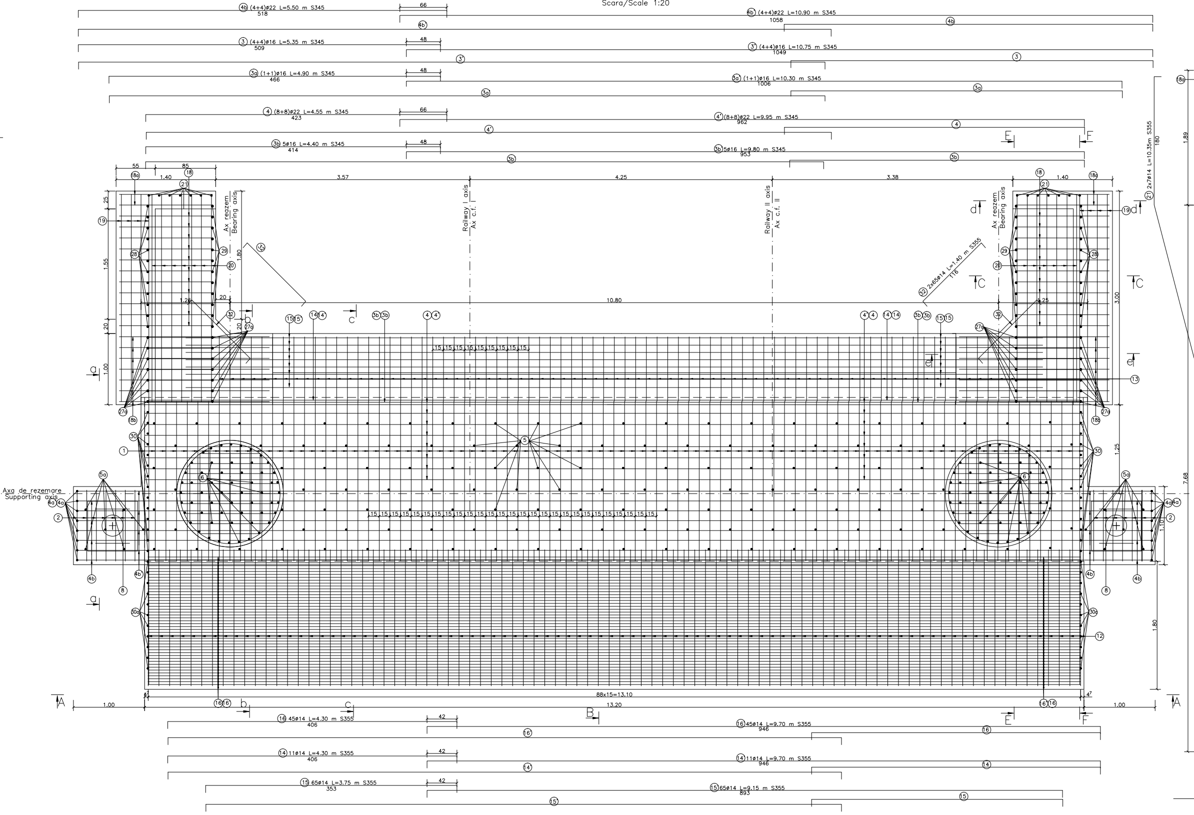
Scara/Scale 1:20



95
65
3,37
4,25
3,18
1,60
1,00
3,57
4,25
3,38
2,20
1,00
Ax reazem
Bearing axis
Railway I axis
Ax c.f. I
Railway II axis
Ax c.f. II
Ax reazem
Bearing axis
19
19
14
14'
14
14'
18b
18b
20
20
13
40
40
Stalp de electrificare
Electrification pole
Stalp de electrificare
Electrification pole
75x15=11,10
4⁸
4⁸
7
7
1,00
4b
9
10
8
3
3'
6
4a
4a'
4b
4a
3
3'
4a
4b
6
8
10
9
4b
1
2
11
2
11
4a
4a'
3a
3a'
3a
3a'
4a
4a'
30
70
30
1,71
95
5
13,20
5
95
61
61
61
61
9 2x5ø10 L=2.60 m S355
10 2x4ø10 L=0.75m S355
61
11 2x3ø10 L=0.75m S355
61
8 2x2ø32 L=2.65m S335
48
10
Nivel cuzinet
85
85
12 88ø14 L=7.55 m S355
732
15 15 15 15 15 15 15 15 15 15
6,65
12
58
58
2,25
27
90
85
90
85
27
88x15=13,10
13,20
10
4
10
4
16
16'
16
16'
4a (4+4)ø22 L=6.15 m S345
432
66
4a' (4+4)ø22 L=11.55 m S345
972
4a
4a

VEDERE IN PLAN / PLAN VIEW

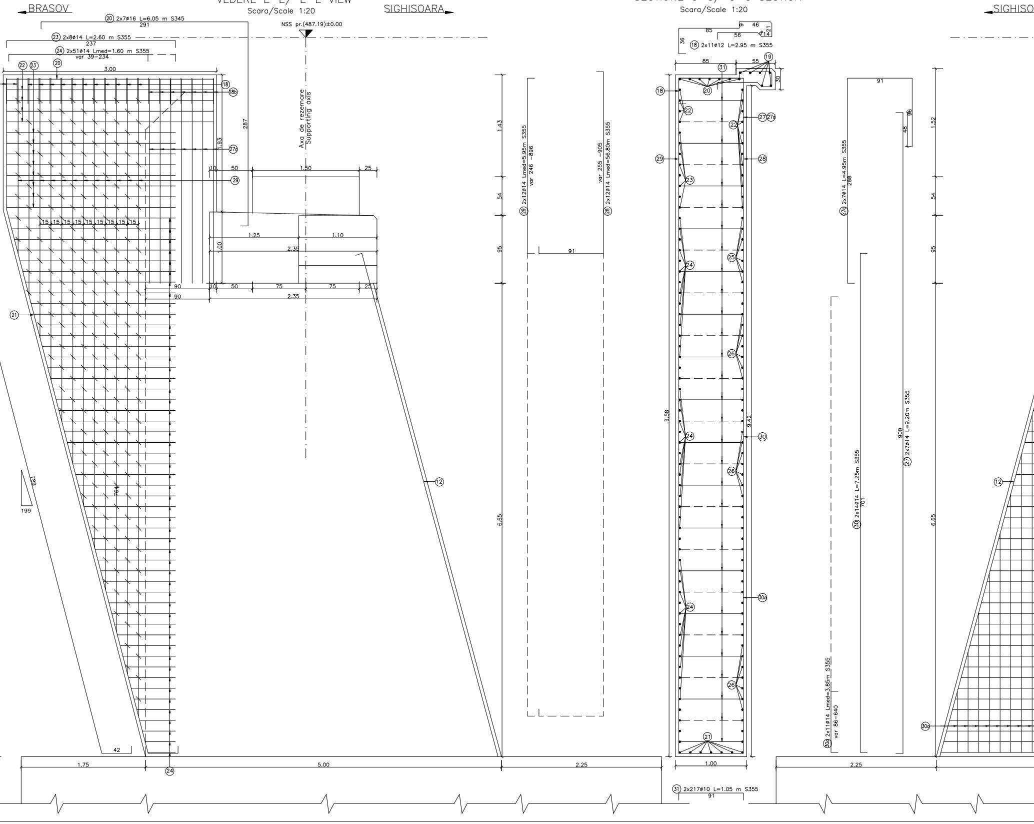
Scara/Scale 1:20



(4b) (4+4)ø22 L=5.50 m S345
518
66
(4b') (4+4)ø22 L=10.90 m S345
1058
(3) (4+4)ø16 L=5.35 m S345
509
48
(3') (4+4)ø16 L=10.75 m S345
1049
(3a) (1+1)ø16 L=4.90 m S345
466
(3a) (1+1)ø16 L=10.30 m S345
1006
(4) (8+8)ø22 L=4.55 m S345
423
(4') (8+8)ø22 L=9.95 m S345
962
(3b) 5ø16 L=4.40 m S345
414
(3b) 5ø16 L=9.80 m S345
953
55
85
1.40
3.57
4.25
3.38
Ax reazem
Bearing axis
Railway I axis
Ax c.f. I
Railway II axis
Ax c.f. II
(21) 2x7ø14 L=10.35m S355
180
1.89
(52) 2x65ø14 L=1.40 m S355
116
10.80
1.80
1.55
1.00
3.00
1.25
7.68
1.10
1.80
15 15 15 15 15 15 15 15 15
Axa de rezemare
Supporting axis
88x15=13.10
13.20
1.00
1.00
47
(16) 45ø14 L=4.30 m S355
406
42
(16) 45ø14 L=9.70 m S355
946
(14) 11ø14 L=4.30 m S355
406
(14) 11ø14 L=9.70 m S355
946
(15) 65ø14 L=3.75 m S355
353
(15) 65ø14 L=9.15 m S355
893
A
B
C
E
F
a
b
c
d
e

VEDERE E–E/ E–E VIEW
Scara/Scale 1:20

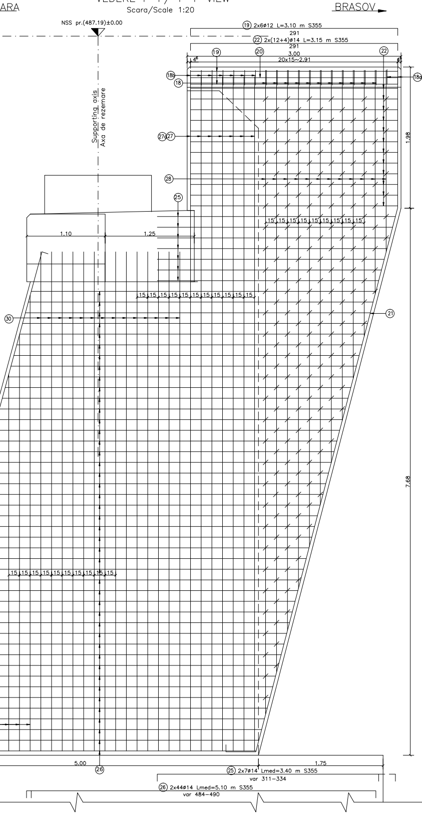
SECTIUNE C–C/ C–C SECTION
Scara/Scale 1:20



BRASOV
SIGHISOARA
SIGHISO
NSS pr.(487.19)±0.00
Axa de rezemare
Supporting axis
⑳ 2x7ø16 L=6.05 m S345
291
㉓ 2x8ø14 L=2.60 m S355
237
㉔ 2x51ø14 Lmed=1.60 m S355
var 39–234
3.00
287
1.93
1.50
1.25
1.10
2.35
1.00
90
10
50
75
25
15
764
789
199
42
1.75
5.00
2.25
1.43
54
95
6.65
1.52
㉙ 2x12ø14 Lmed=5.95m S355
var 246 –896
㉘ 2x12ø14 Lmed=56.80m S355
var 255 –905
91
⑱ 2x11ø12 L=2.95 m S355
85
46
56
36
21
14
55
30
9.58
9.42
1.00
㉛ 2x217ø10 L=1.05 m S355
91
27d 2x7ø14 L=4.95m S355
288
96
48
㉗ 2x7ø14 L=9.20m S355
900
㉚ 2x14ø14 L=7.25m S355
701
30a 2x11ø14 Lmed=3.85m S355
var 86–640
18b
27a
27b
⑫
⑱
⑲
⑳
㉑
㉒
㉓
㉔
㉕
㉖
㉗
㉘
㉙
㉚
30a
㉛

VEDERE F–F/ F–F VIEW

Scara/Scale 1:20


ARA
BRASOV
NSS pr.(487.19)±0.00
Supporting axis
Axa de rezemare
⑲ 2x6ø12 L=3.10 m S355
291
㉒ 2x(12+4)ø14 L=3.15 m S355
291
⑲
⑳
㉒
3.00
4⁶
20x15~2.91
4⁶
18b
⑱
18a
27a
㉗
㉘
㉕
1.98
15 15 15 15 15 15 15 15 15 15
1.10
1.25
15 15 15 15 15 15 15 15 15 15 15
㉚
㉑
7.68
15 15 15 15 15 15 15 15 15 15 15
5.00
㉖
1.75
㉕ 2x7ø14 Lmed=3.40 m S355
var 311–334
㉖ 2x44ø14 Lmed=5.10 m S355
var 484–490

EXTRAS DE ARMATURA PENTRU CULEI BRASOV
REINFORCEMENT FOR ABUTMENTS BRASOV

Marca	Diametru	Lung./buc.[m]	Nr.buc.	S355			S345		S335
				Φ10	Φ12	Φ14	Φ16	Φ22	Φ32
1	14	6.45	89			574.05			
2	14	3.70	14			51.80			
3	16	5.35	8				42.80		
3'	16	10.75	8				86.00		
3a	16	4.90	2				9.80		
3a'	16	10.30	2				20.60		
3b	16	4.40	5				22.00		
3b'	16	9.80	5				49.00		
4	22	4.55	16					72.80	
4'	22	9.95	16					159.20	
4a	22	6.15	8					49.20	
4a'	22	11.55	8					92.40	
4b	22	5.50	8					44.00	
4b'	22	10.90	8					87.20	
5	12	1.05	136		142.80				
5a	12	0.95	12		11.40				
6	12	1.60	112		179.20				
7	12	21.50	20		430.00				
7a	12	5.10	20		102.00				
8	32	2.65	4						10.60
9	10	2.60	10	26.00					
10	10	0.75	8	6.00					
11	10	0.75	6	4.50					
12	14	7.55	88			664.40			
13	16	6.05	75				453.75		
14	14	4.30	11			47.30			
14'	14	9.70	11			106.70			
15	14	3.75	65			243.75			
15'	14	9.15	65						
16	14	4.30	45			193.50			
16'	14	9.70	45			436.50			
17	16	7.45	75				558.75		
18	12	2.95	22		64.90				
18a	12	3.15	4		12.60				
18b	12	4.00	14		56.00				
19	12	3.10	12		37.20				
20	16	6.05	14				84.70		
21	14	10.35	14			144.90			
22	14	3.15	32			100.80			
23	14	2.60	16			41.60			
24	14	1.60	102			163.20			
25	10	3.40	14	47.60					
26	14	5.10	88			448.80			
27	14	9.20	14			128.80			
27a	14	4.95	14			69.30			
28	14	6.80	24			163.20			
29	14	5.95	24			142.80			
30	14	7.25	28			203.00			
30a	14	3.85	22			84.70			
31	10	1.05	434	455.70					
32	14	1.40	130			182.00			
Lungimi totale pe diametre				539.80	1036.10	4191.10	1327.40	504.80	10.60
Masa pe metru liniar				0.617	0.888	1.208	1.578	2.984	6.313
Masa pe diametre				332.81	919.87	5064.58	2095.08	1506.35	66.92
Masa pe tip otel				6317.26			3601.43		66.92
Masa totala culee				9985.61					
Pierderi 5%				499.28					
Masa totala o culee				10500.00					

TOTAL POD (2 CULEI): 2 x 10500.00kg=21000.00kg
TOTAL BRIDGE (2 ABUTMENTS): 2 x 10500.00kg=21000.00kg

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

GUVERNUL ROMANIEI
ROMANIAN GOVERNMENT

PROIECT FINANȚAT 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. Liuzza		
Aprobat Approved	Coordonator Secţiune 1 Section 1 Coordinator	C. Gambelli		
Verificat Checked	Expert Cheie Checking Expert	V. Kallidromitis		

SUBCONTRACTANT / SUBCONTRACTOR

AREX COMPANY

Aprobat Approved	Responsabil Subconsultant Subconsultant Responsible	A.Stanciu - Dinulescu	03.2012	
Întocmit Elaborated	Proiectant Designer	Dinu Andreea	03.2012	

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 : **INTERVAL / SECTION FELDIOARA - APATA**

POD / BRIDGE km 201+335.43 –G.Z.C.J.C.B. D=45.00m

PLAN ARMARE CULEI /ABUTMENTS REINFORCEMENT PLAN

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

EA51 01 E 08 BC PV 01 4 2 005 0