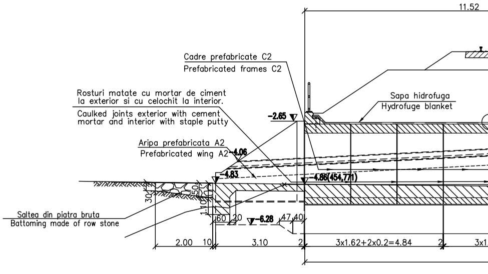
NOTA
Numar de elemente prefabricate
- Cadre C2 : 17buc
- Aripi prefabricate A2. 4buc.
- Timpane prefabricate T2 2buc

NOTE
Number of precast section
- Prefabricated frames C2 17pcs.
- Prefabricated wings A2 4pcs.
- Head-wall T2 2pcs.

DATE HIDRAULICE:
- Inaltimea de apa: h=0,86m
- Perimetrul udat: P=3,72m
- Aria udata: A=1,72m²
- Viteza de curgere a apei V=2,91m/s

HIDRAULIC DATA:
- Hydraulic height: h=0,86m
- Perimeter: P=3,72m
- surface: A=1,72m²
- Water flow speed: V=2,91m/s


11.52
Cadre prefabricate C2
Prefabricated frames C2
Rosturi matate cu mortar de ciment la exterior si cu celochit la interior.
Caulked joints exterior with cement mortar and interior with staple putty
Sapa hidrofuga
Hydrofuge blanket
-2.65
Aripa prefabricata A2
Prefabricated wing A2
-4.06
-4.83
-4.86(454,771)
Saltea din piatra bruta
Battoming made of row stone
30
50
10
1.10
60
20
-6.28
47
40
2.00
10
3.10
2
3x1.62+2x0.2=4.84
2
3x1

451.00m datum

Nivelul platformei pr. Subgrade								458.777		
Nivelul terenului existent Ground	453.250	453.798	453.942	454.761	454.761	454.761	454.761		454.761	454.761
Distanta Distance	22.017	20.686	19.180	17.225	15.210	14.446	14.023	12.894	10.927	10.650

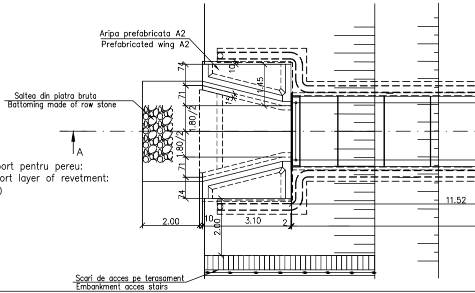
LEGENDA BETOANELOR
CONCRETE LIST

▨ -Beton în elemente prefabricate în general (cadre, aripi, timpane,):
-Concrete for prefabricated elements generally (frames,wings, tympana,
C 35/45 - CEM II/A - S 32,5 - (XC4+XF3+XA1) - A/C = 0,50 - Dmax22 - Cl 0,20

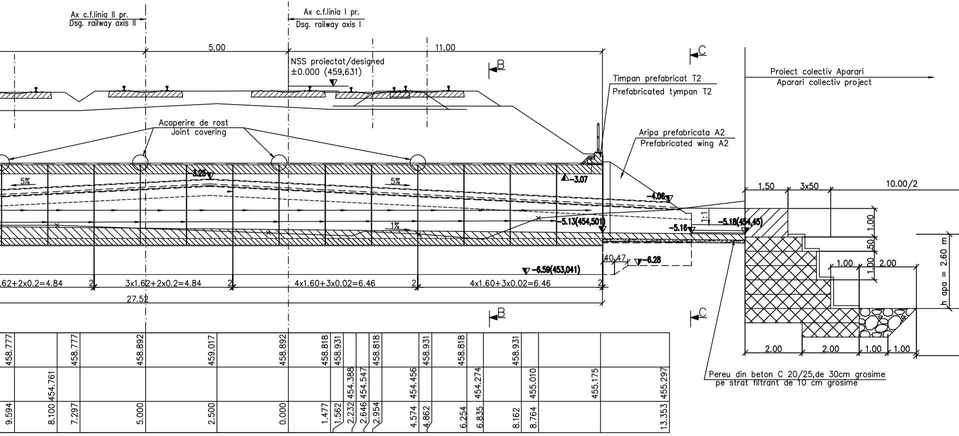
▨ Beton in fundatia podetelor, a elementelor de racordare (aripi, pinteni), in pereu
Concrete for the foundations of culverts, of connecting elements
(wings, breakwaters), in pitching
C25/30-CEM II/A-S 32,5-(XF1)-A/C=0,50-Dmax32-Cl0.20

▨ -Beton în rigola drenurilor, fundatiile sferturilor de con si pentru realizarea stratului suport pentru pereu:
-Concrete for the drain gutters, for the foundations of cone quarters and for the support layer of revetment:
C 25/30 - CEM II/A - S 32,5 - (XC4+XF3+XA1) - A/C = 0,50 - Dmax32 - Cl 0,20

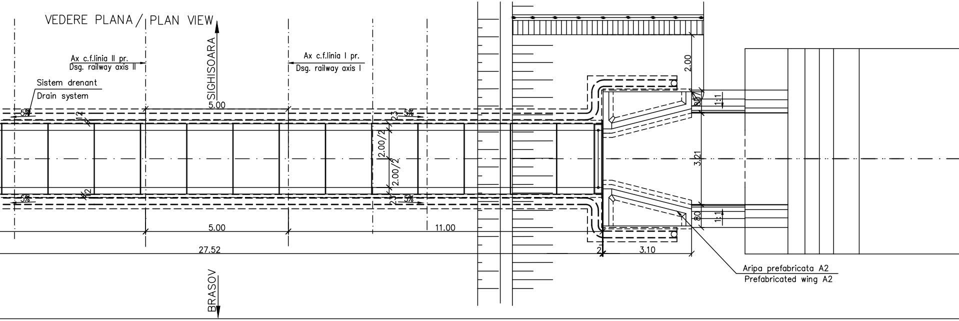
▦ -Beton în stratul de protectie a hidroizolatiei:
-Concrete for the waterproofing protection layer:
C 25/30 - CEM II/A - S 32,5 - (XC4+XF3) - A/C = 0,50 - Dmax16 - Cl 0,20

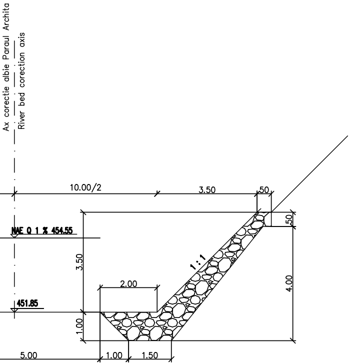

Aripa prefabricata A2
Prefabricated wing A2
Saltea din piatra bruta
Battoming made of row stone
A
74
71
1.80/2
1.80/2
71
74
10
1.45
15
2.00
10
2.00
3.10
2
11.52
Scari de acces pe terasament
Embankment acces stairs

SECTIUNE LONGITUDINALA A–A/ LONGITUDINAL SECTION A–A

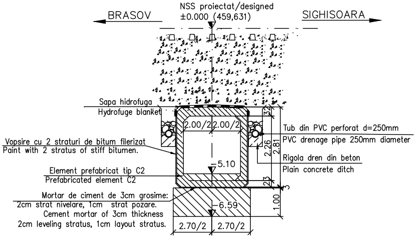

Ax c.f.linia II pr.
Dsg. railway axis II
Ax c.f.linia I pr.
Dsg. railway axis I
5.00
11.00
NSS proiectat/designed
±0.000 (459,631)
B
C
Timpan prefabricat T2
Prefabricated tympan T2
Proiect colectiv Aparari
Aparari collective project
Acoperire de rost
Joint covering
Aripa prefabricata A2
Prefabricated wing A2
3.25
5%
5%
1%
-3.07
-4.06
1:1
-5.13(454,501)
-5.16
-5.18(454,45)
1.50
3x50
10.00/2
1.00
50
1.00
1.00
2.00
h apa = 2.60 m
40
47
-6.28
-6.59(453,041)
.62+2x0.2=4.84
2
3x1.62+2x0.2=4.84
2
4x1.60+3x0.02=6.46
2
4x1.60+3x0.02=6.46
2
27.52
2.00
2.00
1.00
1.00
Pereu din beton C 20/25,de 30cm grosime
pe strat filtrant de 10 cm grosime
458.777
458.777
458.892
459.017
458.892
458.818
458.931
458.818
458.931
458.818
458.931
454.761
454.388
454.547
454.456
454.274
455.010
455.175
455.297
9.594
8.100
7.297
5.000
2.500
0.000
1.477
1.562
2.232
2.646
2.954
4.574
4.862
6.254
6.835
8.162
8.764
13.353

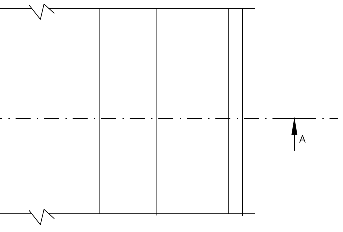
VEDERE PLANA / PLAN VIEW


SIGHISOARA
BRASOV
Ax c.f.linia II pr.
Dsg. railway axis II
Ax c.f.linia I pr.
Dsg. railway axis I
Sistem drenant
Drain system
5.00
5%
12
23
5%
2.00/2
2.00/2
12
5%
23
5%
5.00
11.00
27.52
2.00
80
1:1
3.21
80
1:1
2
3.10
Aripa prefabricata A2
Prefabricated wing A2

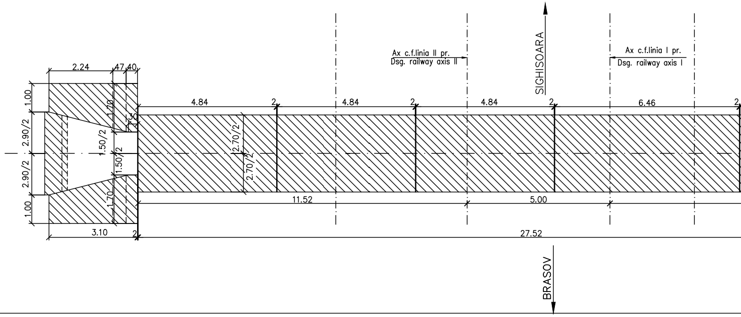

Ax corectie albie Paraul Archita
River bed corection axis
10.00/2
3.50
50
50
NAE Q 1 % 454.55
3.50
4.00
1:1
2.00
451.85
1.00
5.00
1.00
1.50

SECTIUNE B–B
B–B SECTION

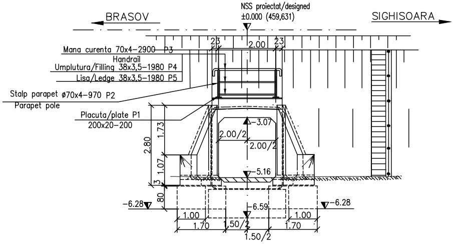

BRASOV
SIGHISOARA
NSS proiectat/designed
±0.000 (459,631)
Sapa hidrofuga
Hydrofuge blanket
Vopsire cu 2 straturi de bitum filerizat
Paint with 2 stratus of stiff bitumen.
Element prefabricat tip C2
Prefabricated element C2
Mortar de ciment de 3cm grosime:
2cm strat nivelare, 1cm strat pozare.
Cement mortar of 3cm thickness
2cm leveling stratus, 1cm layout stratus.
Tub din PVC perforat d=250mm
PVC drenage pipe 250mm diameter
Rigola dren din beton
Plain concrete ditch
2.00/2
2.00/2
-5.10
-6.59
2.70/2
2.70/2
32
2.26
2.81
23
3
1.00



FUNDATION PLAN
PLANUL FUNDATIILOR


SIGHISOARA
BRASOV
Ax c.f.linia II pr.
Dsg. railway axis II
Ax c.f.linia I pr.
Dsg. railway axis I
2.24
47
40
1.00
2.90/2
2.90/2
1.00
1.70
30
1.50/2
1.50/2
1.70
2.70/2
2.70/2
4.84
2
4.84
2
4.84
2
6.46
2
11.52
5.00
3.10
2
27.52

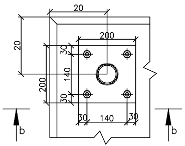
SECTIUNE TRANSVERSALA C–C
C–C CROSS SECTION


BRASOV
NSS proiectat/designed
±0.000 (459,631)
SIGHISOARA
Mana curenta 70x4–2900 P3
Handrail
Umplutura/Filling 38x3,5–1980 P4
Lisa/Ledge 38x3,5–1980 P5
Stalp parapet ø70x4–970 P2
Parapet pole
Placuta/plate P1
200x20–200
23
2.00
23
–3.07
2.00/2
2.00/2
2.80
1.73
1.07
3
80
–5.16
–6.28
–6.59
–6.28
1.00
1.70
1.50/2
1.00
1.70
1.50/2

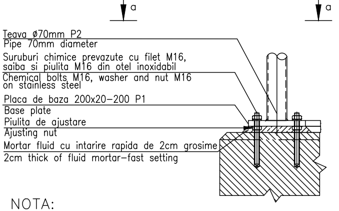
DETALIU PENTRU PRINDEREA PLACUTELOR P1 DE TIMPAN
DETAIL TO JOIN THE SLABS P1 AT THE TYMPANUM

Scara 1:5

VEDERE IN PLAN a–a
a–a PLAN VIEW


20
20
200
30
140
30
200
30
140
30
b
b

SECTUINE b–b
b–b SECTION


a
a
Teava ø70mm P2
Pipe 70mm diameter
Suruburi chimice prevazute cu filet M16,
saiba si piulita M16 din otel inoxidabil
Chemical bolts M16, washer and nut M16
on stainless steel
Placa de baza 200x20–200 P1
Base plate
Piulita de ajustare
Ajusting nut
Mortar fluid cu intarire rapida de 2cm grosime
2cm thick of fluid mortar–fast setting

NOTA:

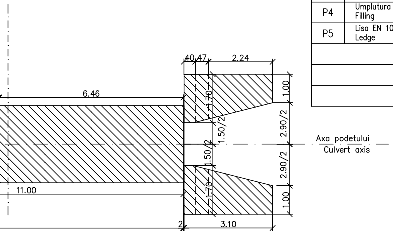
1. Prezentul plan s–a intocmit pe baza urmatoarelor date:
–plan de situatie
–profil in lung
–profil transversal
–fisa podului
–calcul hidraulic
–date culese pe teren
2. Podetul corespunde la convoaiele de calcul UIC (LM71 si SW/2)
3. La executie se vor respecta cu strictete prevederile din "Normativ pentru producerea betonului si executarea lucrarilor din beton, beton armat si beton precomprimat. Partea 1: Producerea betonului", indicativ NE 012/1–2007 si "Normativ pentru producerea betonului si executarea lucrarilor din beton, beton armat si beton precomprimat. Partea 2: Executarea lucrarilor din beton", indicativ NE 012/2–2010, iar verificarea calitatii lucrarilor si receptionarea lor se va face conform normativului C56–1985.
4. Daca la executie se vor constata neconcordante intre situatia existenta pe teren si cea din proiect se va anunta proiectantul.
5. Constructia se incadreaza in categoria de importanta B (constructii de importanta deosebita), modelul 1 de asigurare a calitatii si clasa de importanta B, conform HG 766/1997.
6. Proiectul va fi verificat la exigentele A4.2; B2.2; D2.2.
7. Se atrage in mod deosebit atentia asupra obligativitatii rezemarii elevatiilor prefabricate pe blocul de fundatie prin intermediul unui strat de mortar de ciment pentru a se realiza un contact perfect pe toata suprafata intre talpa prefabricatului si fundatie. Se interzice rezemarea directa fara strat de moratar de ciment.

NOTE:

1. This plan has been drawn up based on the following data:
–Lay–out Plan
–Longitudinal Profile
–Cross–section Profile
–Bridge's File
–Hydraulic determination
–Field Data
2. The culvert corresponds to the UIC determination convoys (LM71 and SW/2).
3. The execution will strictly comply with the provisions of "Practice code for the concrete production and works execution, reinforced and pre–stressed concrete – Part 1: Practice code for concrete production" NE 012/1–2007 and "Practice code for the concrete production and works execution, reinforced and pre–stressed concrete – Part 2: The execution of concrete works." NE 012/2–2010, and the quality and the reception of the works shall be made accordingly to Norm C 56–1985.
4. If during the execution, discrepancies are found between the existing situation on site and the situation stated in the project, the designer will be noticed.
5. The construction has been classified in B category of importance (high important constructions), model 1–ensuring the quality and class of importance B according to G.O. 766/97.
6. The project will be checked in order to comply with the A4.2; B2.2; D2.2 requirements.
7. Particular attention is drawn on binding prefabricated elevations settlement on block foundation through a layer of cement mortar to achieve a perfect contact over the entire surface between precast and foundation base.Propping is prohibited without direct layer of cement mortar.

MATERIAL METALIC PENTRU CONFECTIONAREA PARAPETULUI PODETULUI
THE METALLIC MATERIAL TO BUILD PARAPET OF CULVERT

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	Placuta prindere Clamping plate	4	200x20	200	31.40	6.28	25.12
P2	Stalp parapet EN 10297 – E275 Parapet pole	4	70x4	970	6.51	6.32	25.26
P3	Mana curenta EN 10297 – E275 Handrail	2	70x4	2900	6.51	18.88	37.76
P4	Umplutura EN 10058 Filling	2	38x3,5	1980	2.98	5.90	11.80
P5	Lisa EN 10058 Ledge	2	38x3,5	1980	2.98	5.90	11.80
Total partial Partially total							111.74
Sudura 2% Welding 2%							2.24
TOTAL kg							115


40
47
2.24
6.46
1.70
1.00
2.90/2
1.50/2
Axa podetului
Culvert axis
1.50/2
2.90/2
1.70
1.00
11.00
2
3.10

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D					
C					
B					
A	12.2011	Revizia 1	Elena Radu		
Indice Index	Data Date	Modificare Modification/Revision	Proiectant Designer	Aprobat Consultant Approved Consultant	Aprobat CFR Approved CFR

GUVERNUL ROMANIEI
ROMANIAN GOVERNMENT

PROIECT FINANŢAT DE UNIUNEA EURO
EUROPEAN UNION FINANCED PR

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

CLIENT / CLIENT

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. Dinulescu Stanciu	11.2011	
Întocmit Elaborated	Proiectant Designer	Elena Radu	11.2011	

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:
P.Th. / T.D.

Denumire desen / Drawing Title :

STATIA / STATION: ATCHITA
PODET - KM 257+893,550 / KM 257+893,550 - CULVERT
DISPOZITIE GENERALA / GENERAL DISPOSITION

Codificare / Codification System	Scara / Scale 1:100; 1:5	LOT / LOT	Nr. / No 01 / 01

E A 5 1 | 0 1 | C | 1 5 | P A | P O | 0 7 | 0 | 1 | 0 0 2 | 1