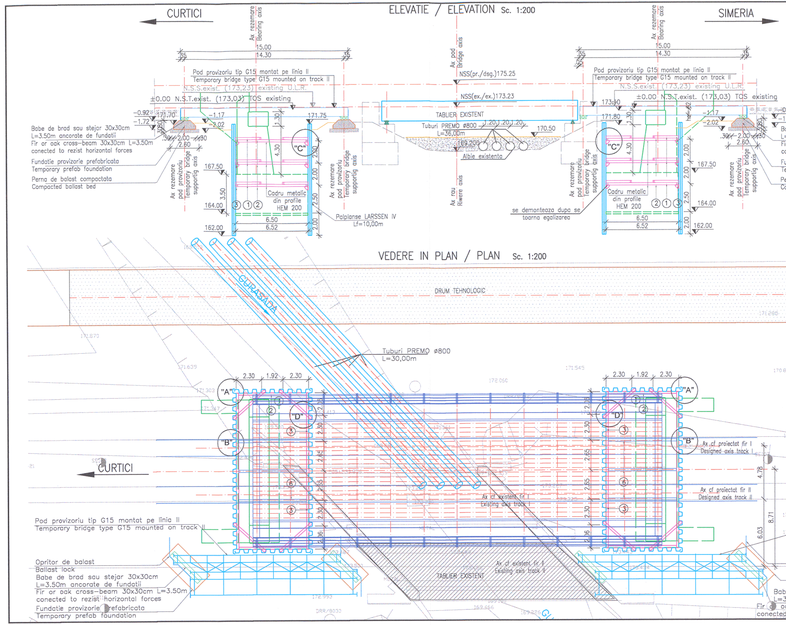

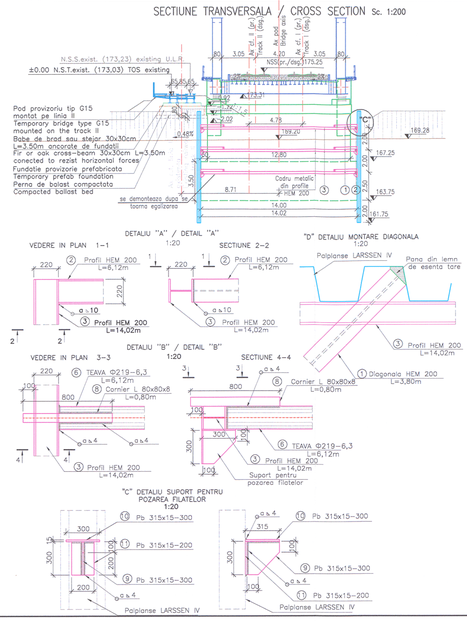

TECHNOLOGICAL PROCESS

Stage I Line I – traffic with normal speed.
Line II – traffic with normal speed.
1. Carrying-out the site organization.
2. Identifying, pegging-out and securing the SCB, TTR cables in the works' area.
3. Making the access road, the working platform at level 170,50 and the temporary culvert made of PREMO tubes.

Stage II Line I – traffic with speed limit of 50km/h
Line II – traffic closed
1. Marking-out and pegging-out the infrastructure works at the new bridge.

Works on Line II.
2. Cutting-off the voltage and ensuring the electric protection.
3. Sectioning and demounting the railway superstructure at the ends of the bridge on a length of 20,0 m.
4. Making the excavations for introducing the temporary bridges and platforms for driving the sheet piles.
5. Driving sheet piles type Larsen IV at the end walls and approx. 2,5m compared to line I from the side ones in the area of the existing bridge on track II.
6. Demolishing the guard wall at abutment Simeria.
7. Placing the bearing blocks for the temporary bridges.
8. Placing in the track the temporary bridges G15 bottom road at abutment Simeria in order to mount the sleepers overlapped at the bridge ends and with the track at the middle to abutment Curtici.
9. Mounting the railway superstructure and connecting it to the ends; no joints at a distance smaller than 3,00m compared to the bearings are allowed.
10. Making the electric protection.
11. Restoring the voltage on track II.
12. Reopening the traffic in speed steps with traffic limits of 30Km/h.

Stage III Line I – traffic closed
Track II – traffic with speed limits of 30 km/h

Works on Line I
1. Cutting-off the voltage and ensuring the electric protection.
2. Sectioning and cutting-off the voltage of the railway superstructure.
3. Demounting the railway superstructure from the bridge and embankment at the bridges' ends on a length of 20,0m.
4. Demounting the bridge's superstructure on track I and transporting it to the depot.
5. Demolishing the elevations of the existing bridge from the track I and the foundation of abutment Curtici.
6. Executing the premises from the metallic sheet-piles type Larsen IV
7. Executing the excavations of premise in the same time with the mounting of the metallic frames in order to consolidate the sheet-piles walls.
8. Executing the bridge infrastructure, inclusively the fillings, drains and connection with the embankment.
9. Executing the bridge superstructure without the footpath on the left side.
10. Demounting the railway superstructure from the bridge and at the bridges' ends and making the connection at the ends.
11. Restoring the voltage on the track I.
12. Reopening the traffic with speed steps of 30Km/h.

Stage IV Line I – traffic with speed limits of 50 km/h
Line II – traffic closed
1. Cutting-off the voltage of track II and ensuring the electric protection.
2. Demounting the railway superstructure from the existing bridge on line II and the temporary bridges.
3. Removing temporary bridges from the track and storing them and the bearing blocks and decks existent on Line II.
4. Demolishing the elevations of the existing bridge infrastructure on Line II up to 0,5m compared to the works provided in the riverbed.
5. Making the completions to the embankment at the bridge ends.
6. Restoring the voltage on track II on the designed variant.
7. Reopening the traffic with steps on both lines in normal speed.

Stage V Line I – traffic with normal speed
Line II – traffic with normal speed
1. Executing works for riverbed shaping and consolidation.
2. Removing the site organization.

NOTE:
1. The stages for the execution and reopening of traffic on the new bridge will be correlated with the line works.
2. Any incongruity between the design and the site will be communicated to the designer in order to set the imposing technical solutions.

PROCES TEHNOLOGIC

Faza I Linia I circulatia cu viteza normala.
Linia II circulatia cu viteza normala.
1. Se realizeaza organizarea de santier.
2. Se identifica, se picheteaza si se pun in siguranta cablurile SCB, TTR din zona lucrarilor.
3. Se executa drumul de access platforma de lucru la cota 170,50 si podetul provizoriu din tuburi PREMO.

Faza II Linia I circulatia cu RV 50km/h.
Linia II circulatia Inchisa.
1. Se trasseaza si picheteaza lucrarile de infrastructura la podul nou.

Lucrari pe Linia II :
2. Se scoate de sub tensiune si se asigura protectia electrica
3. Se sectioneaza si se demonteaza suprastructura c.f. la capetele podului pe 20,0m.
4. Se executa sapaturile pentru introducerea podurilor provizorii si platformele pentru baterea paplanselor.
5. Se bat paplanselle tip Larsen IV la peretii de capat si cca. 2,5m fata de linia I din cel lalta parte din zona podului existent de pe firul II.
6. Se demoleaza zidul de garda la culeea Simeria.
7. Se introduc blocurile de reazem pentru podurile provizorii.
8. Se introduc in cale podurile provizorii G15 cu caleo sus la culea Simeria pentru a se putea monta in eventul traversele la capetele podului si cu caleo la mijloc la culea Curtici.
9. Se montezza suprastructura c.f. si se racordeaza la capete, nu se admit joante la distanta mai mica de 3,00m fata de reazeme.
10. Se executa protectia electrica
11. Se pune sub tensiune firul II
12. Se redeschide circulatia in trepte de viteza cu RV de 30 km/h

Faza III Linia I circulatia Inchisa
Linia II circulatia cu RV de 30 km/h

Lucrari pe Linia I :
1. Se scoate de sub tensiune si se asigura protectia electrica
2. Se sectioneaza si se deteriioneaza suprastructura c.f.
3. Se demonteaza suprastructura c.f. de pe pod si pe terasament la capetele podului pe o lungime de 20,0m.
4. Se demonteaza suprastructura podului pe firul I si se duce 'in depozit.
5.Se demoleaza elevatiile podului existent de pe firul I si fundatia de la culeea Curtici.
6. Se executa incintele din paplanse metalice tip Larsen IV. 7. Se executa sapaturile de incinta odata cu montarea cadrelor metalice de consolidare a peretilor de paplanse.
8. Se executa infrastructurile podului inclusiv umpluturile, drenurile si racordarea cu terasamentul
9. Se executa suprastructura podului fara trotuarul de pe partea stanga.
10. Se montezza suprastructura c.f. pe pod si la capetele podului si se face racordarea la capete.
11. Se repune sub tensiune firul I.
12. Se redeschide circulatia 'in trepte de viteza cu 30 km/h

Faza IV Linia I circulatia cu RV de 50 km/h
Linia II circulatia Inchisa

1. Se scoate de sub tensiune firul II si se asigura protectia electrica.
2. Se demonteaza suprastructura c.f. de pe podul existent pe linia II si podurile provizorii.
3. Se scot din cale si se duc 'in depozit podurile provizorii, blocurile de reazem si tablierul existent pe linia II.
4. Se demoleaza elevatiile infrastructurii podului existent pe linia II pana la 0,5m fata de lucrarile prevazute in albie.
5. Se fac completarile la terasament la capetele podului.
6. Se pune sub tensiune firul II pe varianta proiectata.
7. Se redeschide circulatia 'in trepte de viteza pe ambele linii.

Faza V Linia I circulatia cu viteza normala
Linia II circulatia cu viteza normala
1. Se executa lucrari de profilare si consolidare a albiei .
2. Se desfiinteaza organizarea de santier.

NOTA:
1. Fazele de executie si de redeschidere a circulatiei pe noul pod se vor corela cu lucrarile de linii.
2. Orice neconcordanta dintre proiect si teren se va comunica proiectantului pentru stabilirea solutiilor tehnice ce se impun.

EXTRAS DE PROFILE METALICE HEM 200 PENTRU SPRIJININDI					
Marca/ Mark	DENUMIREA PIESEI	SECTIUNE	Lungime bara/ Bars length (m)	Numar bare/ Bars number (buc / pcs.)	Lungime total/ Total length (m)
1	DIAGONALA	HEM 200	3,80	20	76,00
2	GRINZI	HEM 200	6,12	12	73,44
3	PLANSA	HEM 200	14,02	10	140,20
Lungimi pe tip profil / Lengths per type profile (m)					289,64
Masa pe metru liniar pt profil / Mass per meter (kg/m)					121
Masa pe tip de profil / Weight per type profile (kg)					34941,12
TOTAL (kg)					34941

EXTRAS DE PROFILE METALICE TEAVA Φ 219-6,3 PENTRU SPRIJININDI				
Marca/ Mark	DENUMIREA A PIESEI	SECTIUNE	Lungime bara/ Bars length (m)	Numar bare/ Bars number (buc / pcs.)	Lungime total/ Total length (m)
6	GRINZI	TEAVA Φ 219-6,3	6,12	12	73,44
7	PLI		0,09	16	1,44
8	PLI		0,09	16	1,44
9	PLI		0,09	16	1,44
10	PLI		0,09	16	1,44
11	PLI		0,09	16	1,44
Lungimi pe tip profil / Lengths per type profile (m)					79,44
Masa pe metru liniar pt profil / Mass per meter (kg/m)					33,3
Masa pe tip de profil / Weight per type profile (kg)					2646,18
TOTAL (kg)					2646

EXTRAS DE MATERIAL METALIC PENTRU SUPORTI FILATE					
Marca/ Mark	DENUMIREA A PIESEI	SECTIUNE	Lungime bara/ Bars length (mm)	Numar bare/ Bars number (buc / pcs.)	Lungime total/ Total length (m)
12	PL	200 x 10	200,00	12	2,40
13	PL	200x10	200,00	12	2,40
14	PL	200x10	200,00	12	2,40
15	PL	200x10	200,00	12	2,40
Lungimi pe tip profil / Lengths per type profile (m)					14,67
Masa pe metru liniar pt profil / Mass per meter (kg/m)					33,75
Masa pe tip de profil / Weight per type profile (kg)					495,11
TOTAL (kg)					500

RĂCANEL I. IONUȚ RADU
ROMÂNIA
Nr. 07230
VERIFICATOR DE PROIECTE

Prezentul plan anuleaza si inlocuieste versiunea anterioara
This plan cancels and replaces previous version

Verificator / Expert Checker / Expert	Cerinta Requirement	Semnatura Signature	Referat / Expertiza Report / Expertise

European Investment Bank

MINISTERUL TRANSPORTURILOR

BENEFICIAR / BENEFICIARY :

COMPANIA NAȚIONALĂ DE CĂI FERATE "CFR" SA

PROIECTANT / DESIGNER: PÖYRY			Data Date	Semnatura Signature
Aprobat Approved	Sef de echipa Team leader	C. Teodorescu	01.2013	
Verificat Checked	Expert Cheie Key Expert	R. Tudorascu	01.2013	

Subcontractant / Subcontractor: VIOTOP

Aprobat Approved	Adjunct Sef de echipa Deputy Team leader	A.M. Baicu	01.2013	
Proiectat Designed	Inginer Engineer	F. Ioanidi	01.2013	

"Reabilitarea liniei c.f. Frontier à - Curtici - Simeria , parte componentă a Coridorului IV Pan - European pentru circulația trenurilor cu viteză maximă de 160 km/h"
Tronsonul 3: Gurasada - Simeria

"Rehabilitation of the Railway Line Border - Curtici - Simeria , component Part of the IV Pan - European Corridor for the Trains Circulation with maximum speed of 160 km/h"
Section 3: Gurasada - Simeria

Project 9i 35311.1

Faza / Phase: PTH+CS / TD+TS

Denumire desen / Drawing name:

TEHNOLOGIE DE EXECUTIE / EXECUTION TECHNOLOGY
POD / BRIDGE KM pr. 508+447.23 (KM ex. 509+515)

Scara / Scale	Revizia / Revision	Cod desen / Drawing Code	Nr / No
1:200	1 / 04.2013	PT.03.02.21.PO.05.04	04