TEHNOLOGIE DE EXECUTIE

FAZA I – LUCRARI PREGATITOARE:
1. Se amenajează drumul de acces, utilizarea tehnologică şi organizarea de santier.
2. Se amenajează platforma pentru aparatele de ridicat.
3. Se realizează lucrări de protecţie, de protecţie a/sau devieri instalaţii aeriene şi subterane.
4. Se realizează lucrări pentru asigurarea consumatorilor şi se realizează facilităţile.
5. Se execută săpătura pentru realizarea fundaţiilor pentru piloţi.
6. Se realizează fundaţiile pentru piloţi.
7. Se betonează pilon, bolard 4850 cu diguri impermeabile în cuiele.
8. Se realizează o platforma de lucru din beton la cota +27,00.

FAZA II – MONTAREA PODULUI PROVIZORIU PE TIR II:
Tiral I – circulaţie inchisa
1. Se circulă cu viteza de 30 Km/h.
2. Se scoate de sub banduse tiral I si se asigura protectia electrica.
3. Se demonteaza si se scoate cales pe 5 m, se cheama inspectia de distanta.
4. Se demonteaza si se scoate cales pe zona afectata de santier.
5. Se executa lucrarile de protectia a instalatiilor existente in zona si reinstalate.
6. Se executa asigurarile de tansoament si se pozeaza recorerea provizorie si podurile provizorii pe parte de tiral inchis complet.
7. Se scoate din zona taliscurilor existent pe tir I si se transporta in depozit.
8. Se demonteaza stalpii de gratie si stalpii intermediari ai cuelei existenta pe tir I.
9. Se demonteaza in ansele pentru identificarea cablurilor functilitor existente.
10. Se bat palplanse LARSSEN IV pentru asiguirea excavatiilor pana la cota -3,00.
11. Se executa peretii pentru asiguirea excavatiilor pe tir I.
12. Se sapigura betonierelelor si se introduc in cele peretii prevazuti cu ancoraje pentru asigurarea stabilitatii. Se executa ancorajele pentru asigurarea stabilitatii excavatiilor conform celor de 3,00+3 m cu diametrul tirul de control.
13. Se executa sapaturile pentru fundatiile de sprijin provizorii si cele definitive conform proiectului si se incadreaza in cuiele de tansoament.
14. Se executa asigurarile circulatiei de cale, se verifica electrocontactele sinelor si se asigura protectia electrica a podurilor provizorii.
15. Se pune sub tensiune si se deschide circuitilo in treptele de viteza pana la Vmax=30km/h conform normelor in vigoare.

FAZA III – MONTAREA PODULUI PROVIZORIU PE TIR II:
Tiral I – circulatie cu 30 km/h
Tiral II – circulatie inchisa
1. Se circula cu viteza de 30 km/h pe tiral I si se asigura protectia electrica.
2. Se demonteaza si se iau sinele de pe tir II, se cheama inspectia de distanta.
3. Se demonteaza si se scoate cales pe zona afectata de santier.
4. Se executa lucrarile de protectia a instalatiilor existente in cale si reinstalate.
5. Se executa asigurarile de tansoament si se pozeaza recorerea provizorie si podurii provizorii pe parte de tiralul sine compatibile.
6. Se executa de cale tiralului existent pe tir II si se transporta in depozit.
7. Se demonteaza stalpii de gratie si stalpii intermediari ai cuelei existenta pe tir II.
8. Se executa lucrarile de protectia a instalatiilor conform celor existente.
9. Se bat palplanse LARSSEN IV pentru asiguirea excavatiilor pe tir I. Se sapigura betonierelelor si se introduc in cele peretii prevazuti cu ancoraje pentru asigurarea stabilitatii. Se executa la cota -3,00+3 m cu diametrul tirul de control.
10. Se executa sapaturile pentru fundatiile de sprijin provizorii si cele definitive conform proiectului si se incadreaza in cuiele de tansoament.
11. Se executa asigurarile circulatiei de cale, se verifica electrocontactele sinelor si se asigura protectia electrica a podurilor provizorii.
12. Se pune sub tensiune si se deschide circuitilo in treptele de viteza pana la Vmax=30km/h conform normelor in vigoare.

EXECUTION TECHNOLOGY

STAGE I – PRELIMINARY WORKS:
1. Arranging the access road, the technological platform and the site organization.
2. Arranging the water branch on the bridge area.
3. Making works for pegging-out, protection or/and/or defecting the signalling and telecommunications installations on the works' area.
4. Making works for piping out-of or remains of closed-down installations and connections to new ones.
5. Making the excavation for executing the foundations for bents.
6. Concreting the foundations for bents and piers.
7. Introducing four tubes Ø820 with watertight dykes all the ends.
8. Making a bolted work platform at level 127,00.

STAGE II – DISMANTLING THE TEMPORARY BRIDGE ON TRACK I:
Track I – traffic closed
Track II – traffic with 30 km/h.
1. Cutting off the voltage of track I and ensuring the electric protection.
2. Removing the voltage and cutting the rails on track I, making the expansion joints.
3. Dismantling and removing the track on the ones affected by works.
4. Making the works for protecting the installations from the track and the viaduct.
5. Removing the embankment excavations and laying-down the precast beamings of the temporary bridges on west-connected bollard pillows.
6. Removing from the track the existing deck on track I and transporting it to the depot.
7. Dismantling the guard walls and the wing walls of existing abutments on track I.
8. Executing the excavations to identify the outline of existing foundations.
9. Driving the wheel-cities LARSSEN IV for propping the excavations up to 2,00m from the zack of track I.
10. Executing the embankment and introducing in the track the temporary bridges type Ø18,0 on an alignment of 35,00m by connecting at the ends to the existing state according to the speed of 30km/h, and by executing the contact line.
12. Mounting the railway superstructure on the temporary bridges at level NGS+131,10 and connecting at the ends on the existing.
13. Ensuring the continuity of track circuits, checking the rails' electric insulation and ensuring the electric protection of the temporary bridges.
14. Restoring the voltage and opening the traffic in speed levels up to V/max=30km/h according to the norms in force.

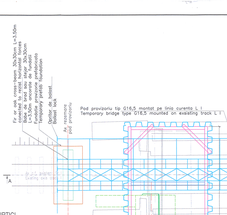
STAGE III – MOUNTING THE TEMPORARY BRIDGE ON TRACK II:
Track I – traffic with 30 km/h.
Track II – traffic closed
1. Cutting off the voltage of track II and ensuring the electric protection.
2. Removing the voltage and cutting the rails on track II, making the expansion joints.
3. Dismantling and removing the track on the ones affected by works.
4. Making the works for protecting the installations from the track and the viaduct.
5. Removing the embankment excavations and laying-down the precast beamings of the temporary bridge on west-composted bollard pillows.
6. Removing from the track the existing deck on track II and transporting it to the depot.
7. Dismantling the guard walls and the wing walls of existing abutments on track II.
8. Executing the excavations to identify the outline of existing foundations.
9. Driving the wheel-cities LARSSEN IV for propping the excavations on track II.
10. Executing the embankment and introducing in the track the temporary bridges type Ø18,0 on an alignment of 35,00m by connecting at the ends to the existing state according to the speed of 30km/h, and by executing the contact line.
12. Mounting the railway superstructure on the temporary bridges at level NGS+131,10 and connecting at the ends on the existing.
13. Ensuring the continuity of track circuits, checking the rails' electric insulation and ensuring the electric protection of the temporary bridges.
14. Restoring the voltage and opening the traffic in speed levels up to V/max=30km/h according to the norms in force.

STAGE IV – DISMANTLING THE INFRASTRUCTURES OF THE EXISTING BRIDGE AND MAKING THE INFRASTRUCTURES OF THE NEW BRIDGE UNDER THE PROTECTION OF THE TEMPORARY BRIDGES:
Traffic with speed limit: V/max=30km/h on both temporary bridges, the protection of temporary bridges type Ø18,0
1. Clearing the remaining embankment around the bridge, the technological platform and the site infrastructures and the connections to new embankment, including their foundations.
2. Making the excavations for executing the propping-ups for making the foundations.
3. Concreting the foundations and elevations for the cap to level 128,00.

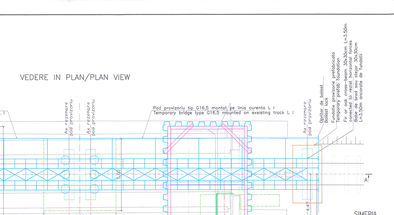
STAGE V – DISMANTLING OF THE TEMPORARY BRIDGES AND MOUNTING THE NEW BRIDGE ON TRACK I:
Track I – traffic closed
Track II – traffic with 30 km/h.
1. Cutting off the voltage of track II and ensuring the electric protection.
2. Dismantling and removing the track on the ones affected by works, of the temporary bridges.
3. Dismantling and removing from the track the temporary bridges type Ø18,0 and transporting them to the temporary depot.
4. Removing the sheet-piles LARSSEN IV.
5. Executing the embankment and introducing the guard walls and the wing walls with vertical sliding joint at 20,00m from the bench abp.
6. Driving the sheet-piles LARSSEN IV for propping the excavations up to 2,00m from the zack of track II.
7. Executing the embankment and introducing in the track the temporary bridges type Ø18,0 on an alignment of 35,00m by connecting at the ends to the existing state according to the speed of 30km/h, and by executing the contact line.
12. Mounting the railway superstructure on the temporary bridges at level NGS+131,10 and connecting at the ends on the existing.
13. Ensuring the continuity of track circuits, checking the rails' electric insulation and ensuring the electric protection of the temporary bridges.
14. Restoring the voltage and opening the traffic in speed levels up to V/max=30km/h according to the norms in force.

STAGE VI – OTHER TYPES OF WORKS:
1. Executing the waterproofing protection membrane.
2. Executing the protection of the bridge cones, the cone quarters and the embankments on the existing works in the upstream area.
3. Executing the protection cone of the bridge ends.
4. Executing the riverbed upstream and downstream from the culvert according to the project.
5. Grading-down the site organization and the work platform.

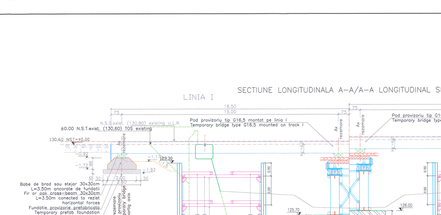
VEDERE IN PLAN/PLAN VIEW



SECTIUNE LONGITUDINALA A–A/A–A LONGITUDINAL SECTION



SECTIUNE TRANSVERSALA / CROSS SCTION Sc. 1:100



NOTA:
1. Copiile de executie le pot ne vor curata cu cele de la 1KL.
2. Se va executa conform cu cele de la 1KL si cu cele de executie.
3. Orice neconformitate va produce la executie se va sesiza la cuvinte proiectantului pentru a lua o valori solutie.

NOTE:
1. The bridge execution stages will be correlated with those from lines.
2. The execution technology can be modified only with the supervisor's approval.
3. Any incompatibility of execution with the design will be notified to the designer in order to find a solution.

CONDITII DE EXECUTIE Viteza = 30km/h

1. Constructia se executeaza in conformitate cu documentatia tehnica nr. 1KL/2007/1997.
2. Proiectul nu fi verificat la exigentele Ind. SU. 02.

CONDITII DE EXECUTIE Viteza = 30km/h

1. This structure belongs to category A of importance Gazeti and is designed according to the norms NP 082-04, NP 112-04.
2. The project will be verified at Ind. SU. 02 requirements.

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

Verificator / Expert Checker / Expert	Cerinta Requirement	Semnatura Signature	Data / Ştampila Date / Stamp

MINISTERUL TRANSPORTURILOR

European Investment Bank

BENEFICIAR / BENEFICIARY:

COMPANIA NAŢIONALĂ DE CĂI FERATE "CFR" SA

PROIECTANT / DESIGNER:			Data Date	Semnatura Signature
Aprobat Approved	Sef de echipa Team leader	C. Teodorescu	01.2013	
Verificat Checked	Cheie Key Expert	R. Tudorascu	01.2013	
Subcontractor / Subcontractor				
Aprobat Approved	Adjunct Sef de echipa	A.M. Balcu	01.2013	
Proiectat Designed	Inginer Engineer	V. Aldescu	01.2013	

"Reabilitarea liniei c.f. Frontiera - Curtici - Simeria, parte componenta a coridorului IV Pan - European pentru circulatia de trenuri/tur cu viteza maxima de 160 km/h"
Transcend 2.4. - km 814 - cap Y Bârzava
"Rehabilitation of the Railway Line Border - Curtici - Simeria , component Part of the IV Pan - European Corridor for the circulation of trains/tour with maximum speed of 160 km/h"
Section 2.4. - km 814 - end Y Bârzava

Denumire desen / Drawing name:			
TEHNOLOGIE DE EXECUTIE / EXECUTION TECHNOLOGY POD / BRIDGE KM 42+ 500+480 (KM 42+980)			
Scara / Scale 1:100	Revizia / Revision 1 / 04.2013	Cod desen / Drawing Code PT.02.02.07.PO.09.04	Nr / No 04

Faza / Phase: PTH+CS / TD+TS

Project 9l 35311.1