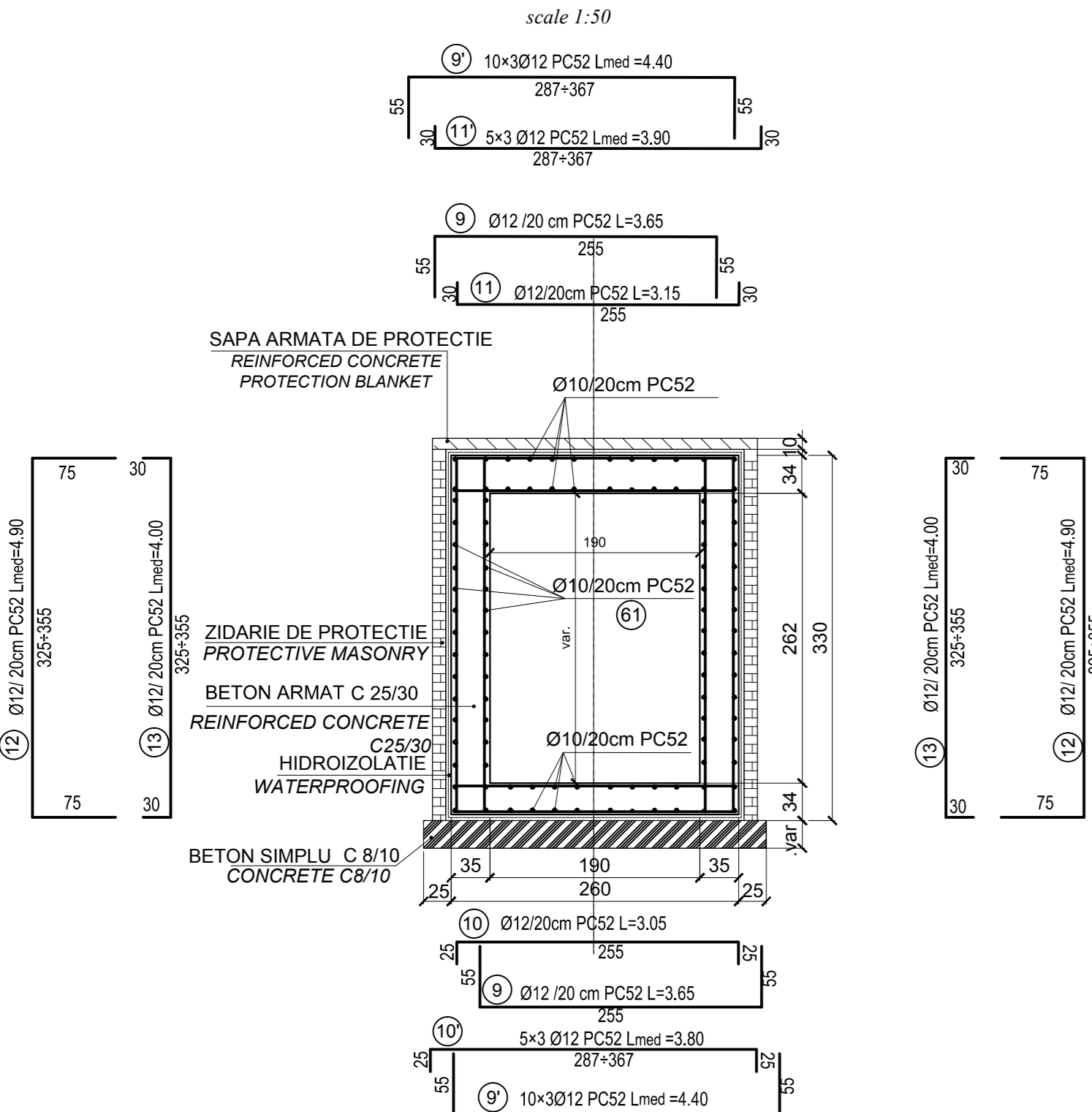


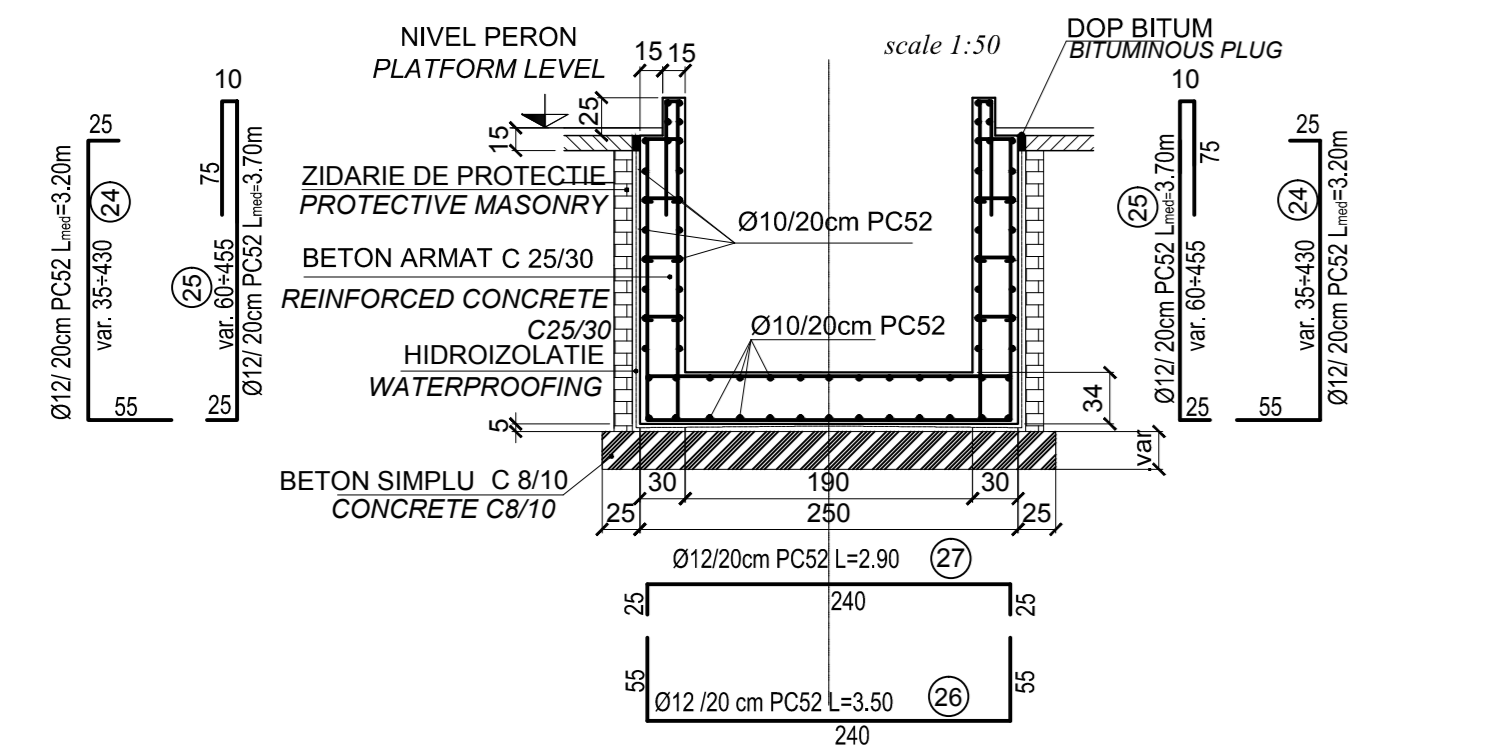
SECTIUNE : F-F  
SECTION : F-F

scara 1:50  
scale 1:50



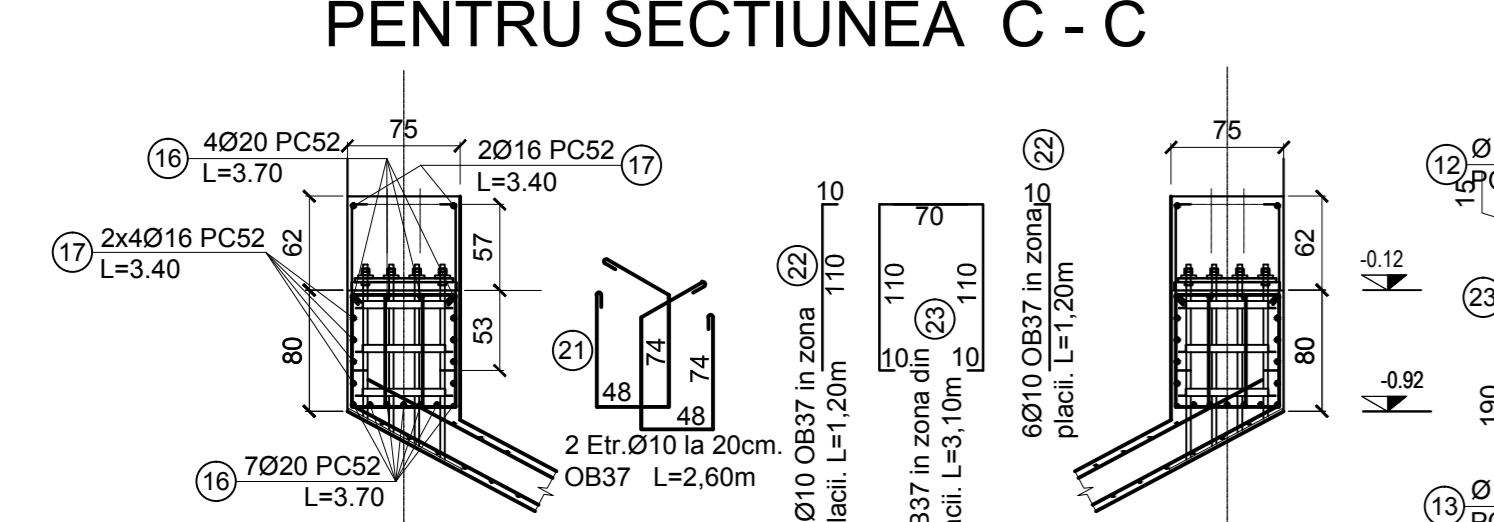
SECTIUNE : G-G  
SECTION : G-G

scara 1:50  
scale 1:50

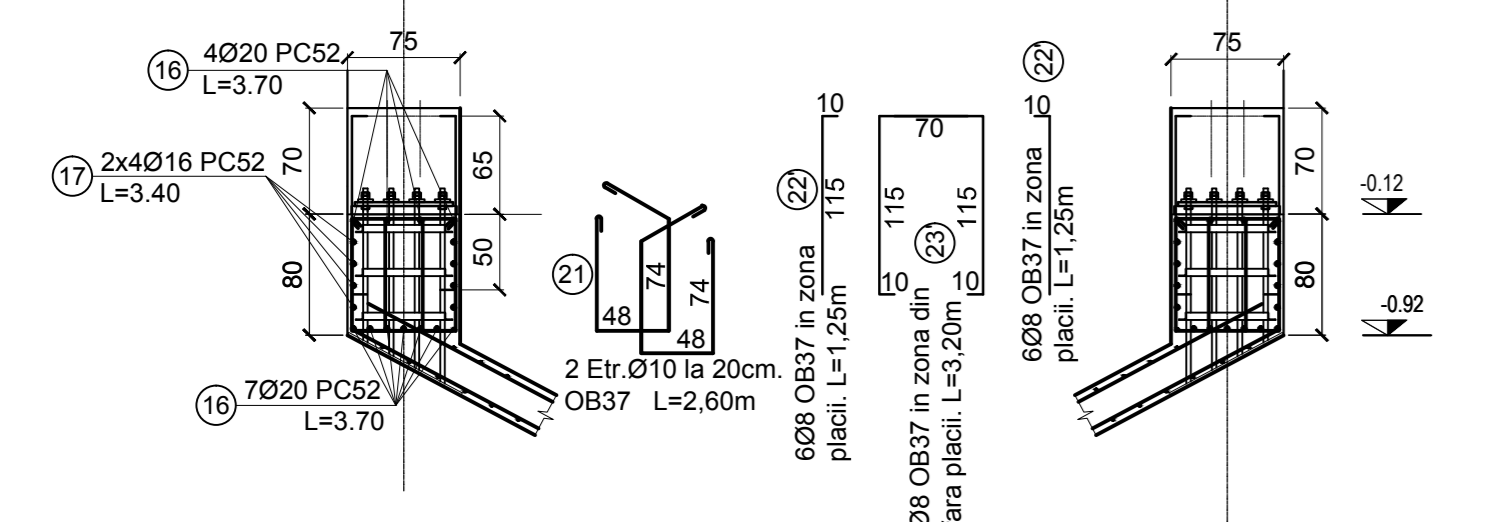


DETALII ARMARE GRINDA PE TUNEL

scara 1:50  
scale 1:50

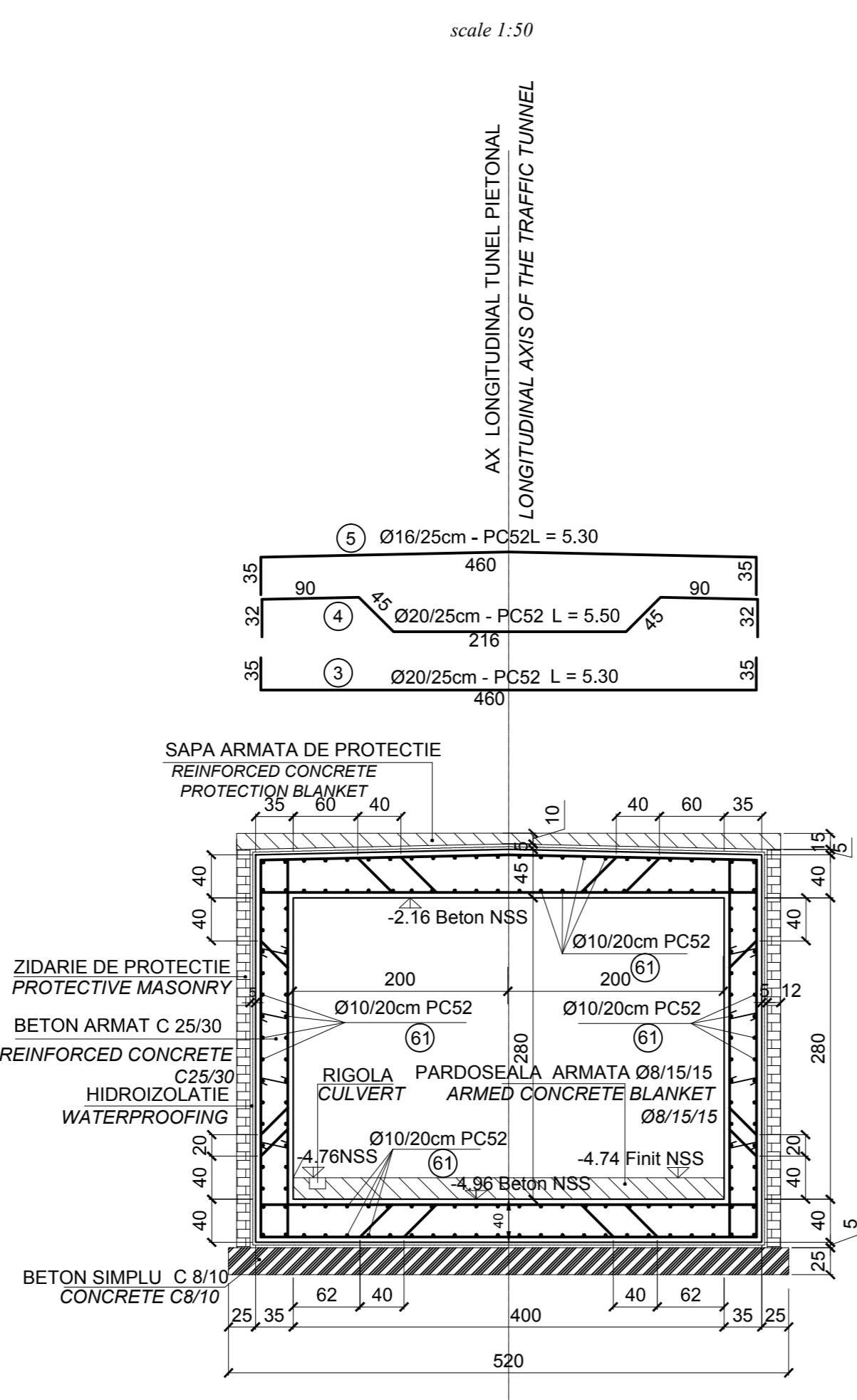


PENTRU SECTIUNEA B - B



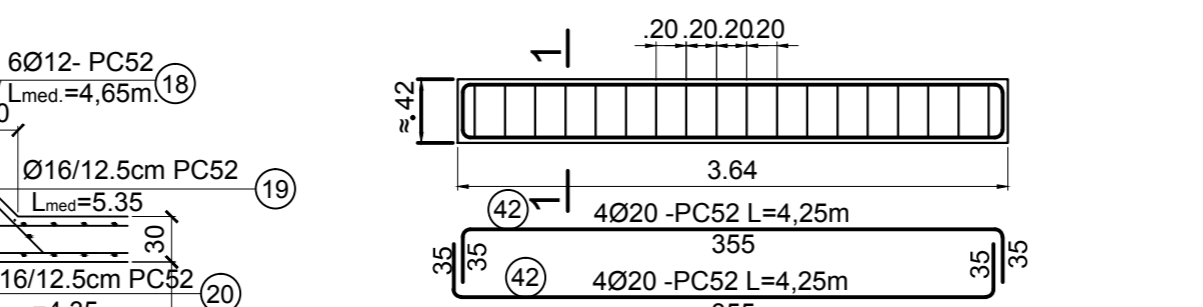
SECTIUNE : E-E  
SECTION : E-E

scara 1:50  
scale 1:50



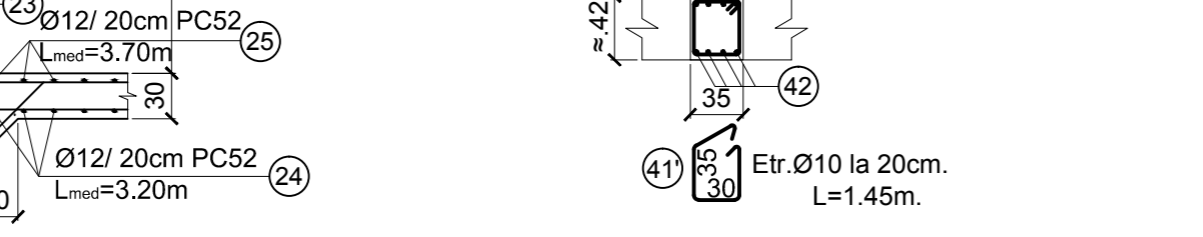
ARMARE GRINDA G1 - 35x42 - 3buc. ARMARE GRINDA G2 - 35x42 - 2buc.

SCARA 1:50  
SCARA 1:50



SECTIUNEA 1 - 1

SCARA 1:50



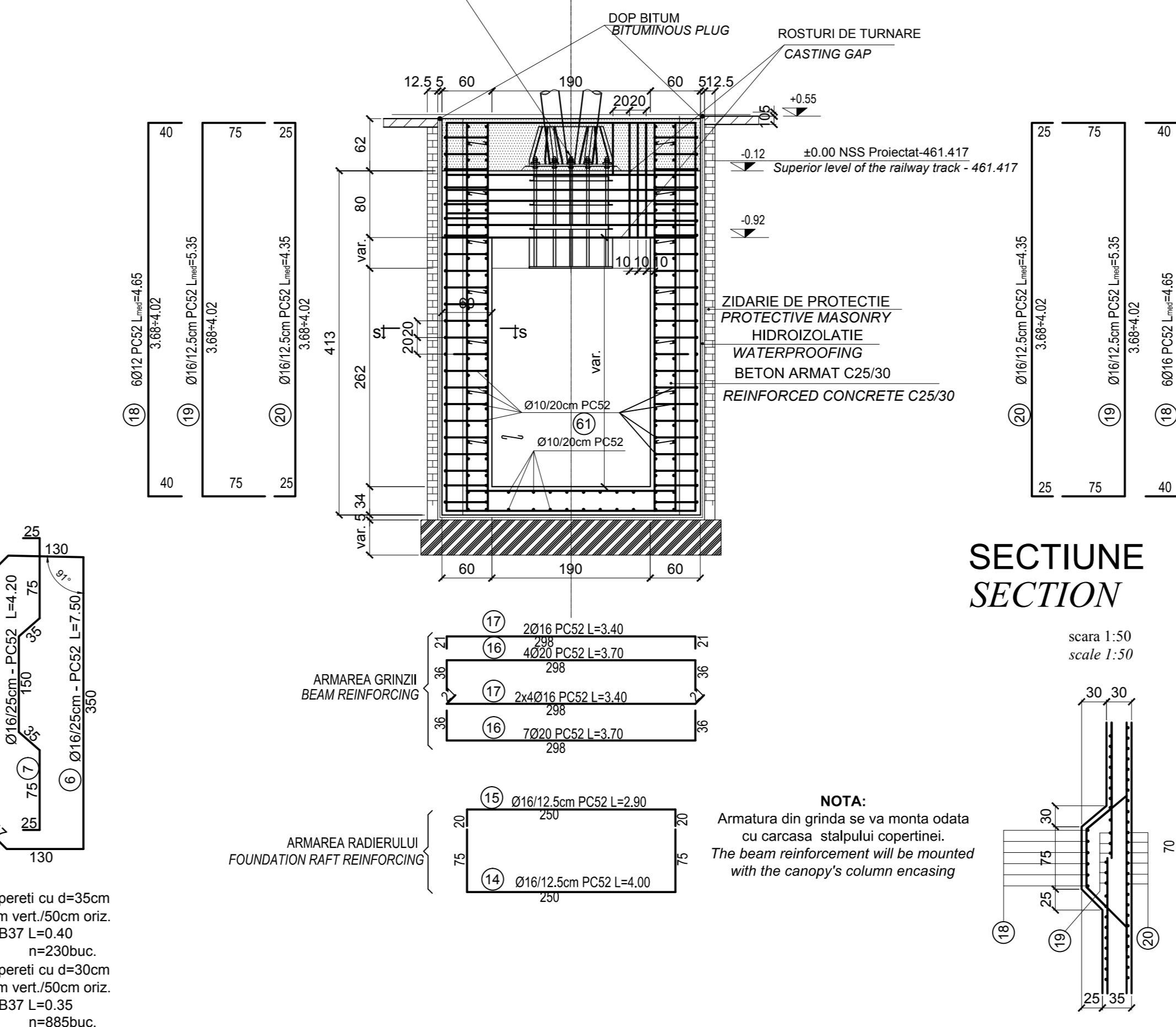
NOTE:  
Este absolut necesara confirmarea caracteristicilor terenului de fundare (de catre proiectantul geotehnician), dupa executarea sapaturilor/impunaturilor (dupa caz).  
La executarea sapaturii / impunuturii, se va realiza un foraj suplimentar, de verificare, in amplasamentul tunelului pentru a se verifica daca informatiile din forajele pentru proiectare sunt corecte. In cazul in care exista eventuale diferente, lucrarile proiectate se vor adapta conform rezultatului acestor studii geotehnice de verificare.

NOTE:  
It is absolutely necessary that the geotechnician confirms characteristics of the foundation ground after carrying out the excavations / fillings (depending on the case).  
During the excavation / filling works, one supplementary checking borehole will be made in the tunnels location to see if the information from the borehole for the design stage are correct.

SECTIUNE : F'-F'  
SECTION : F'-F'

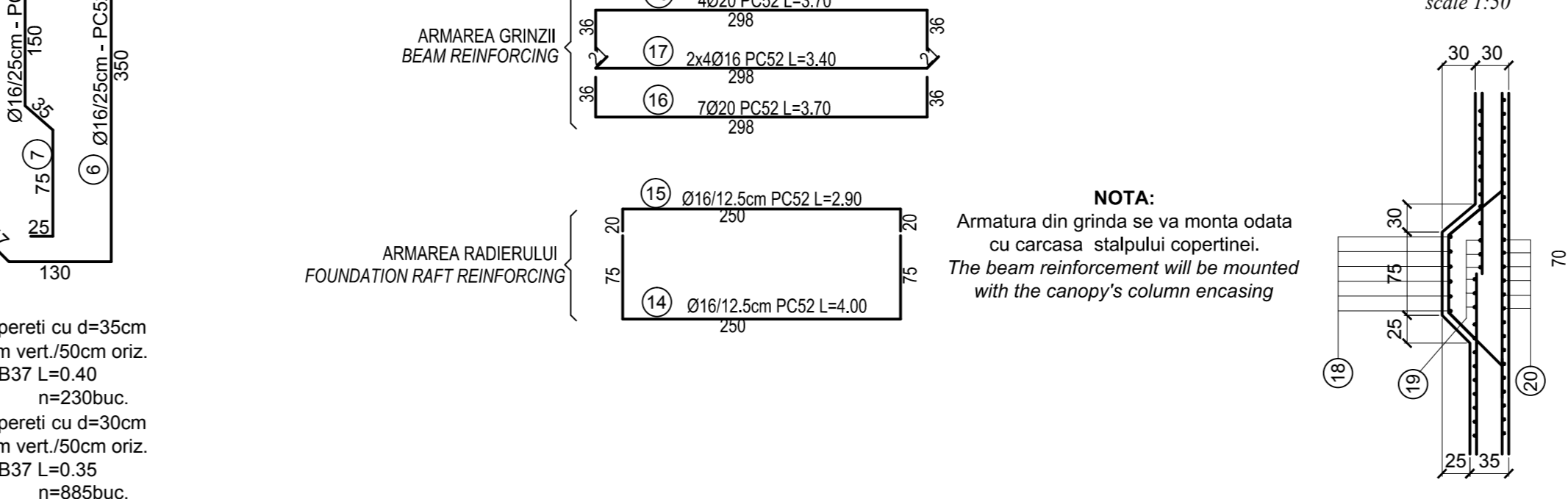
scara 1:50  
scale 1:50

ATENŢIE LA POZIȚIA PE GRINDA (vezi nota)  
ATTENTION TO THE PLACEMENT ON THE BEAM (see the note)

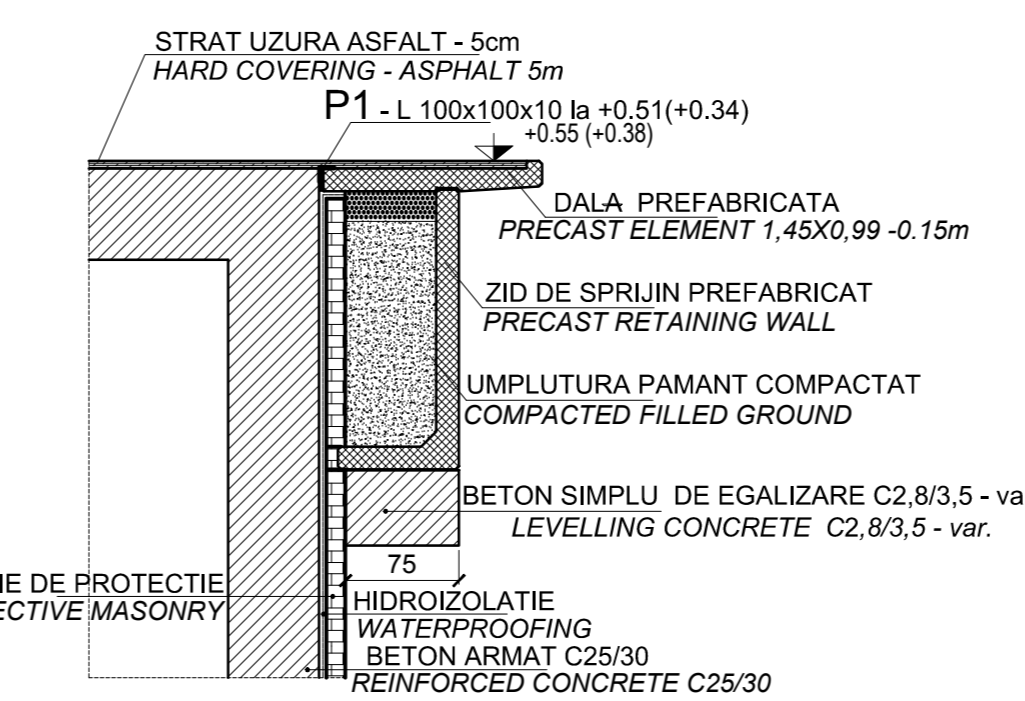


SECTIUNE : S-S  
SECTION : S-S

scara 1:50  
scale 1:50



DETALII MONTARE DALA PREFABRICATA IN ZONA GRINDA FUNDATIE COPERTINA  
MOUNTING DETAIL FOR PRECAST ELEMENT AT BEAM FOUNDATION OF THE CANOPY



RECOMANDARI TEHNOLOGICE SPECIFICE PENTRU FUNDATII STALPI COPERTINE PE TUNEL

Pentru pozitionarea carcasei cu buleoane de ancoraj in grinda tunelului se vor realiza urmatoarele:

**In plan orizontal:**  
Se materializeaza axa copertinei (din dreapta grinzii), pe cofraj.  
Se introduce carcasa in cofraj si se asigura verticalitatea bulelor pe cele doua directii rectangulare.  
Se aliniaza axa carcasei cu axa copertinei, prin deplasarea carcasei in lungul grinzii.

**In plan vertical:**  
Cota superioara a grinzii tunelului (C.S.G.) trebuie sa fie la -0,12 m fata de N.S.S. proiectat (din dreapta grinzii); vezi: Sectiuni longitudinale prin scari acces tunel.  
OBSERVATIE 2: In statiile in care niveleta este orizontala, C.S.G.stanga este identica cu C.S.G.dreapta. In statiile in care niveleta are panta ascendenta sau descendenta (dupa caz), C.S.G.stanga difera de C.S.G.dreapta, dar sunt intotdeauna la -0,12 m fata de N.S.S. proiectat (conf. punctului 2 - recomandari tehnologice generale) **Armare, betonare:**  
Se armeaza grinda.  
Partea superioara a carcasei bulelor de ancoraj se va asigura obligatoriu intr-un tip pentru a se evita deplasari accidentale la turnarea betonului.  
Se betoneaza grinda.

SPECIFIED TECHNOLOGICAL RECOMMENDATIONS FOR CANOPY FOUNDATION ABOVE TUNNEL

To place the the anchoring bolts case in the tunnel beam, the following will be carried out:

**Horizontal alignment:**  
The axis of the canopy (nearby the beam) will be marked on the shuttering.  
The case will be introduced into the shuttering and the verticality of bolts will be provided on the two rectangular directions following the axis will be lined up with the canopy axis, by moving the case along the beam.

**Vertical level alignment:**  
The tunnel beam upper level (C.S.G.) shall be placed at -0,12 m from the designed rail upper level, R.U.L. (nearby the beam); see Longitudinal sections through the tunnel access stairs.  
REMARK 2: In the stations where the level is horizontal, C.S.G.left is identical to C.S.G.right. In the stations where the level follows the upward / downward slope (depending on the case), C.S.G.left is different from C.S.G.right, but they are always placed at -0,12 m from the designed rail upper level, R.U.L. (conf. conditions mentioning at point 2 - general technological recommendations).

**Reinforcing, concreting:**  
The beam will be reinforced (according to the Tunnel beams reinforcing details)  
The upper part of the anchoring bolt case will be compulsorily secured with a frame to avoid accidental shifting during concrete casting.  
The beam will be concreted.

PENTRU EXTRASUL DE ARMATURA VEZI PLAN TUNEL FOR THE REINFORCEMENT TABLE SEE THE TUNNEL PLAN

Beton simplu Plain concrete	- C8/10 - P4 - T3 - IIA - I32.5 (R)
Beton armat Reinforcing concrete	- C25/30 - P4 - T3 - IIA - I42.8 (R)
Armaturi Reinforcements	- PC 52
Armaturi Reinforcements	- OB 37

D					
C					
B					
A					

Index	Date	Modify	Projectant	Approved	Consultant	Approved
1		Modificari	Designing	Approved	Consultant	Approved

GUVERNUL ROMANIEI ROMANIAN GOVERNMENT

PROIECT FINANŢAT DE UNIUNEA EUROPEANĂ EUROPEAN UNION FINANCED PROJECT

C.F.R.

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

CLIENT / CLIENT

SCOP: GRUPUL TALEP SCOP: GRUPUL TALEP

CONSULTANT / CONSULTANT

Approved	Project manager	R. Lăzăreanu	12.2011	
Approved	Coordinator Section 1	C. Gambelli	12.2011	
Checked	Verificator	Giuseppe Fioravanti	12.2011	

SUBCONTRACTANT / SUBCONTRACTOR

Approved	Responsabil Subcontractant	A. Stancu - Dinulescu	12.2011	
Incomplet	Projectant	Catalin Alexandrescu	12.2011	

Reabilitarea liniei de cale ferata Brasov - Sibiu, parte componenta a coridorului IV Pan European, pentru circulatia trenurilor cu viteza maxima de 160 km/h.

Transonul - Brasov - Sighisoara

Rehabilitation of the railway line Brasov - Sibiu, component Part of the IV Pan-European Corridor, for the trans circulation with maximum speed of 160 km/h.

Sectiune : Brasov - Sighisoara

Project/Project 2004/RO/16/PA/003

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

Denumire desen / Drawing Title : STATIA CATA - TUNEL PIETONAL SECTIUNI TRANSVERSALA E-E; F-F; F'-F'; G-G; DETALII ARMARE GRINZI PE TUNEL

Gr. Pozitie	Gr. Totala
(kg/buc)	(kg)
58.875	58.875
1.766	1.766
0.236	0.236
61	61

Codificare / Codification System	Scara / Scale	LOT / LOT	No. / No. 01 / 01
E   A   5   1   0   1   E	1:50	1   3   W   B   C   C   0   0   6   4	0   1   2   0

81(641+694)+0,50m

EXTRAS LAMINATE								
Positia	Denumirea	Grosime	Latime	Lungime	Greutate/ml	Tip Otel	Nr. Buc.	
elementului	elementului	(mm)	(mm)	(mm)	(kg/ml)			
P1	Tabla groasa	10	100	750	7.85	OL52	10	
TOTAL GREUTATE SUBANSAMBLE NETIPIZATE (kg)								58.875
GREUTATE ELECTROZI DE SUDURA 3% (kg)								1.766
GREUTATE grund 0.4% (kg)								0.236
TOTAL GENERAL (kg)								61