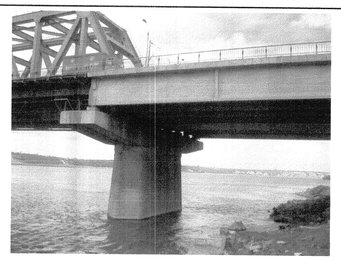
INTERVENTION WORK: E5- RIVER BANK IMPROVEMENT

The item covers the following activities:
- procurement, transport,storage and handling of necessary materials and equipment;
- landclearing of bushes and shrubs;
- soil excavation and levelling;
- loading and transport of the discard materials to the approved storage yards;
- laying of stones filling and river gabion mattresses made of hexagonal double twisted wire mesh filled with stones.

The woven steel wire used to manufacture the mattress is heavily zinc-coated soft temper steel;
- finishing works, check after execution in accordance to the design.

DETERIORATION:

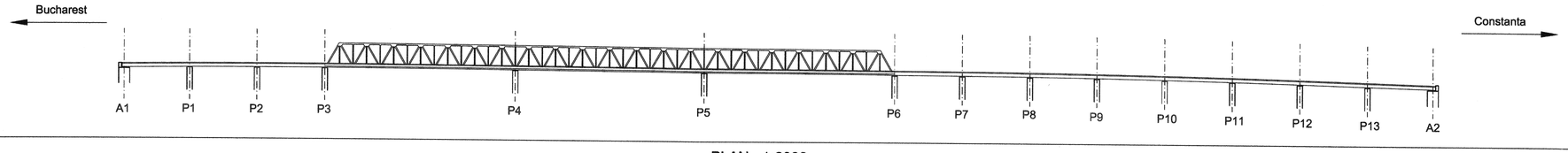


Severe erosion on river embankment on Constanta side

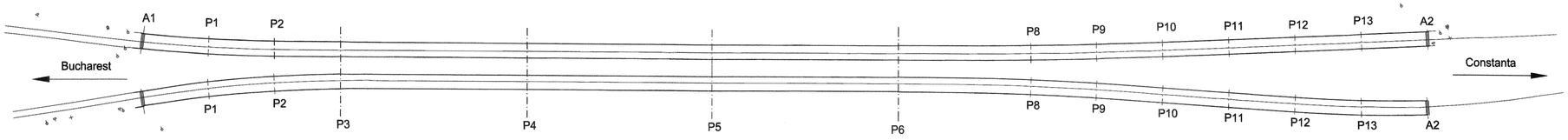
IVANESCU T. TOMA ROMANIA MEMBRU OCCP NR. 445 INGINER VERIFICATOR PROIECTE

GENERAL VIEWS

LONGITUDINAL SECTION - 1:2000



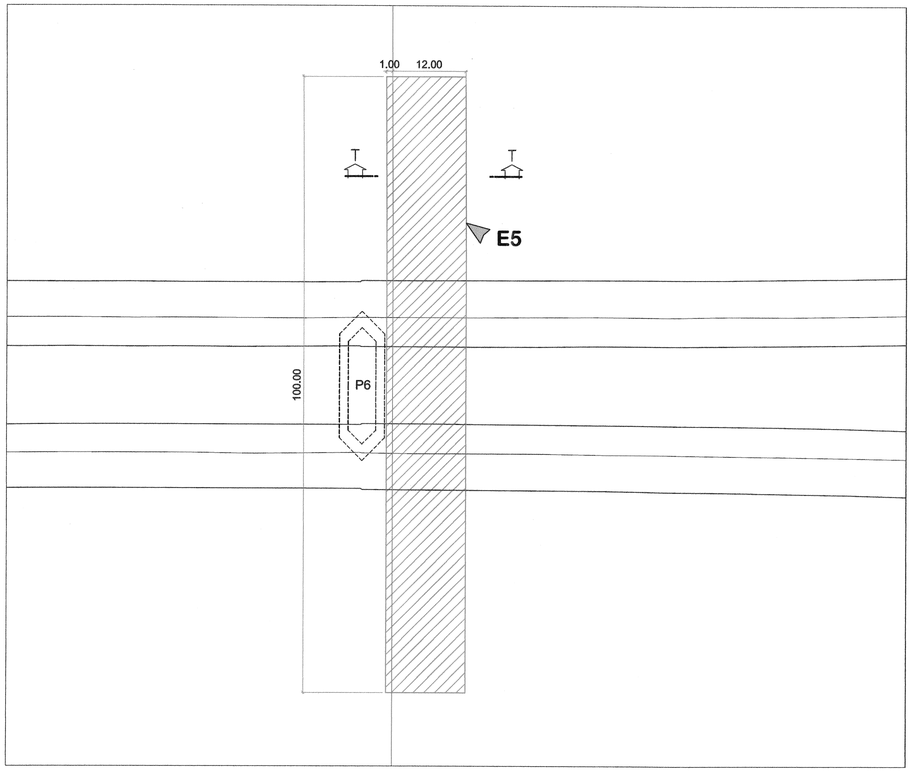
PLAN - 1:2000



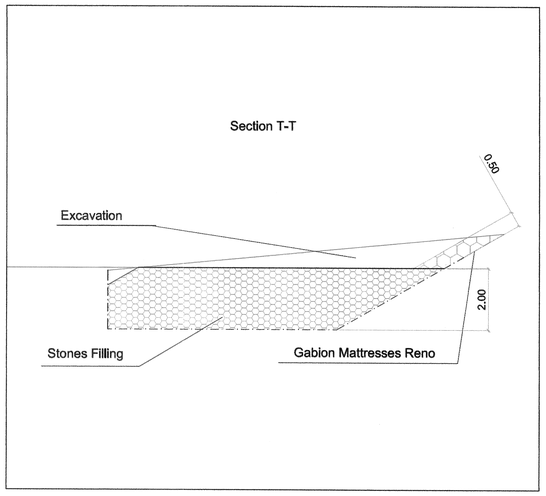
WORKING CODE LIST

CODE	MAINTENANCE AND REHABILITATION WORKS	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
	ROAD FINISHES AND EQUIPMENT										
A1	Painting of pedestrian parapet										
A2	Replacement of pedestrian parapet										
A3	Guard rail replacement										
A4	Electrical equipment replacement										
A5	Walkway slab substitution										
	PAVEMENTS										
B1	Roadway pavement and waterproofing replacement										
B2	Roadway superficial drainage rehabilitation										
B3	Walkway pavement replacement										
B4	Expansion joints replacement										
B5	Bearings replacement										
	CONCRETE REPAIR										
C1	Deck slab repair										
C2	Prestressed concrete beams repair										
C3	Pier caps concrete repair										
C4	Piers concrete repair										
C5	Tower leg concrete repair										
C6	Structural strengthening										
C7	Superstructure replacement										
	STEEL WORKS										
D1	Painting of steel structures										
D2	Stay cables maintenance										
D3	Strengthen of anchor bolts										
D4	Rehabilitation of inspection gantry and rails										
	EARTHWORKS										
E1	Ashlar stoneworks repair										
E2	Repair of strutture connection with embankment										
E3	Cone quarters rehabilitation										
E4	Rehabilitation of storm water collecting system										
E5	River bank improvement								■		

INTERVENTION DETAILS



INTERVENTION ON RIGHT RIVER BANK - 1:500



TRANSVERSAL SECTION TEMPLATE DETAILS - 1:100

INVESTOR/INVESTITOR

ROMANIAN NATIONAL COMPANY OF MOTORWAYS AND NATIONAL ROADS
COMPANIA NATIONALA DE AUTOSTRAZI SI DRUMURI NATIONALE DIN ROMANIA

DESIGNER/PROIECTANT

LOUIS BERGER GROUP inc.

CONSULTING SERVICES FOR DESIGN AND WORKS SUPERVISION OF 10 BRIDGES IN DOBROGEA AREA

TECHNICAL DESIGN

B08-BRIDGE A2 BORCEA

TD - B08 - 16

DESIGN TEAM LEADER
Vittorio Ascoli Marchetti

EARTHWORKS

CONSULTANTS
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E5
RIVER BANK IMPROVEMENT

scale	various	file name TD - B08 - 16				
data / date	rev.	revision title	des	ver/chk	CP / PC	APPR. AUTHORITY
08 aug 2008	0	issue	SOLIDUS	ASCOLI		