

ESTIMATED BILL OF QUANTITIES FOR THE BRIDGE OVER THE MUSINA RIVER AT UNCATEGORIZED ROAD					
Item no.	DESCRIPTION OF WORKS	UoM	Quantity	Unit Price	TOTAL RSD
1	PRELIMINARY WORKS				
1.1.	<p>The construction site must be established and equipped so as to allow the smooth and safe execution of all works. All roads leading to the place of work shall be developed by the Contractor.</p> <p>The construction site shall be environmentally protected and marked with warning signs of construction works underway. Restrict the passage and stopping in the zone of the work, and, when necessary, regulate traffic during the works.</p> <p>The price covers providing electricity and water supply during the construction.</p> <p>Once the works are executed, the adjacent terrain shall be developed so that surfaces are at designed levels after soil settlement. Carry out fine planning of the terrain.</p>		1		
1.2.	Surveying works - establishment of permanent leveling points		1		
1.3.	Removal of the existing bridge structure.		1		
TOTAL :					
2	EARTHWORKS				
2.1.	Excavation, transport and disposal of soil at 10 km of distance for the abutments. Bulk excavation in the area of concrete abutments placement.	m ³	245		
2.2.	Supply, delivery and installation of stone aggregate 0-30 mm for covering slopes and stabilization of belts according to the study of the hydrological and hydro-engineering analysis.	m ³	34.42		
2.3.	b) delivery and backfilling of gravel and crushed stone after foundation footings is placed, as well as the execution of abutment	m ³	200		
2.4.	Supply, delivery and installation of stone for covering the riverbed according to the study of the hydrological and hydro-engineering analysis.	m ³	120		
TOTAL :					

3	SCAFFOLDING AND FORMWORKS				
	Scaffolding shall not be paid separately. The values of scaffolding and formwork are covered by the relevant items of concrete works and include their transport, assembly and disassembly. Additional charges will not be allowed.				
TOTAL :					
4	CONCRETE WORKS - PLAIN CONCRETE				
4.1.	Grouting (epoxy-based grouts) - formwork, preparation, transport and pouring of epoxy grouting, according to drawing, dim.0.02*0.5*0.6, and provided technical requirements for grouting.	kg	120		
TOTAL :					
5	CONCRETE WORKS - REINFORCED CONCRETE				
5.1.	Execution of reinforced concrete base for installation of stone in the riverbed and stabilization of belts, brand C15/20, according to the study of the hydrologic and hydro-engineering analysis. Concrete shall be poured according to regulations. The price includes mixing, transport, pouring of concrete, formwork and scaffolding erection.				
		m ³	173.6		
	Execution of reinforced concrete footing for abutments and construction of abutments, concrete C25/30 For construction only use concrete, which based on previous testing meets the necessary quality requirements. Concrete is only mechanically poured. The Contractor may start with concreting when the Supervision confirms the condition of the base, formwork (borehole bars) in writing. Concrete shall be poured according to regulations. The price includes preparation, transport, pouring of concrete, formwork and scaffolding erection. (3,0*3,5*1+0,7*3*4,05)*2				
5.2.	Construction of reinforced-concrete head and ties beam with column, concrete C25/30 head beams POS NG: (0,1*0,15+0,1*0,7+1*0,5+0,15*1)*2	m ³	39.5		

5.3.	<p>Construction of reinforced concrete slabs, bridge deck, the average thickness 12 cm, concrete C30/37 and interim thickness 20 cm, concrete C25/30.</p> <p>Fabrication of formwork and reinforcement of slabs according to the design, details, structural analysis, and Technical standards for this type of works.</p> <p>For construction only use concrete, which based on previous testing meets the necessary quality requirements. Concrete is only mechanically poured.</p> <p>The Contractor may start with concreting when the Supervision confirms the condition of formwork and reinforcement in writing.</p> <p>Concrete shall be poured and cured in line with regulations.</p> <p>The price includes preparation, transport, pouring of concrete, as well as all necessary formwork and bridge deck POS P d=12cm $3.5 \times 14 \times 0.12 = 5,88$ crossing slab POS Pp d=20 cm $2 \times 3,5 \times 3,5 \times 0,2 = 4,9$</p>	m ³	10.87		
5.4.	<p>Construction of RC covers POS m (prefabricated element) on pedestrian paths, concrete C30/37</p> <p>Construction of moulds as per design, details, and Technical standards for this type of work.</p> <p>For construction only use concrete, which based on previous testing meets the necessary quality requirements. Concrete is only mechanically poured.</p> <p>Covers to be transported and installed in accordance with regulations.</p> <p>The price includes construction, transport, and installation of covers.</p> $0.06 \times 0.65 \times 0.35$	m'	32		
5.5.	<p>Construction of RC beams of fences and edge beams on the pedestrian paths, concrete C25/30</p> <p>Formwork shall be fabricated according to the design, details, and Technical standards for this type of work.</p> <p>For construction only use concrete, which based on previous testing meets the necessary quality requirements. Concrete is only mechanically poured.</p> <p>Concrete shall be poured and cured in line with regulations.</p> <p>The price includes construction, transport, installation, as well as all necessary formwork.</p> <p>fence beams outside the bridge:</p> <p>bridge fence beams, edge beams:</p> $(0.08 \times 0,07) \times 32 \quad 0,2$	m3	0.2		
TOTAL :					

8	TENSIONING WORKS				
8.1.	Supply, transport, storage and installation of prestressing tendons, including all anchors, sub-plates and protective pipes for tendons. Delivery, storage and installation according to the technical norms for this kind of work.				
	<ul style="list-style-type: none"> - Supply and delivery of prestressing tendons Ø15.7 mm, of appropriate quality, mark Y1860S7, in accordance with pr EN10138-3, protective pipes for tendons 3Ø15.7mm, in an amount of 60 m (Ø50/55 mm), 8 sets of anchors type S3/16, (set includes: base plate, a conical funnel, spiral, anchor line and a corresponding number of pins depending on the type of anchor). - Assembly of base plates with funnels and spirals, casings, anchors and tendons during the construction of prefabricated girders. -Tensioning and grouting 4 k 3 Ø 15.7 mm, by own manpower and equipment, including development of documentation of work carried out. The price includes supply, transport and installation, as well as all control testing of tendons, samples of grouting emulsion both for preliminary trial and after grouting. 	kg	500.00		
TOTAL :					
9	METAL WORKS				
9.1.	Fabrication, transport, installation and painting of pedestrian fence made of steel sections and flat steel bars.				
	Fence made of steel S235 and fitted at the Investor's choice. Joints and welds shall be perfectly made, cleaned and sanded. Before installation, the fence shall be cleaned from rust and dust. Apply impregnation, primer and then install the fence. After installation, primer shall be fixed, fence shall be re-sealed and sanded. Painting in two primer and two finish coatings at the Investor's choice.	m'	36.00		
TOTAL :					

10	ASPHALT WORKS				
10.1.	Construction of surfacing, thickness 6-7cm made of asphaltic concrete AB 11 4 cm and AB 8 3cm.	m ²	60,8		
	Asphalt mix shall be installed and compacted by hot procedure with mineral material and bitumen in two layers (basecourse and wearing course), according to the elevations and dimensions and in terms of flatness, longitudinal and transverse slopes. The price includes supply of materials, preparation, transport and spreading. bridge asphaltting: 19*3,2 60,8				
10.2.	Making of a permanently elastic expansion joint at the Investor's request. The works carried out fully in accordance with the details of the Design and the manufacturer's instructions for this type of product. The price includes supply, transport and installation. 2*3,5 7	m'	7		
10.3.	Joints between asphalt and curbs shall be sealed permanently by elastic bitumenous putty The works shall be carried out as per Design details (longitudinal and cross section), as well as technical requirements for this kind of work.	m'	30		
	sealing on bridge:				
	15*2 30				
TOTAL :					
11	WATERPROOFING WORKS				
11.1.	Waterproofing made of polymer bitumen prefabricated tapes. Before application, concrete surfaces shall be prepared in accordance with the descriptions given in the technical requirements, which includes inspection of concrete surfaces, removal of any scaled and unstable parts, sanding, repairing damaged parts by cement mortar and waiting until it sets and loses moisture. The surface must be clean and dry. The price includes supply, fabrication, transport and installation of waterproofing. bridge deck: 3.5*15 52,5	m ²	52.5		
TOTAL :					

No.	DESCRIPTION OF WORKS				Total
1	PRELIMINARY WORKS				
3	EARTHWORKS				
3	SCAFFOLDING AND FORMWORKS				
4	CONCRETE WORKS - PLAIN CONCRETE				
5	CONCRETE WORKS - REINFORCED CONCRETE				
6	CONCRETE WORKS - PRE-STRESSED CONCRETE				
7	REINFORCING WORKS				
8	TENSIONING WORKS				
9	METAL WORKS				
10	ASPHALT WORKS				
11	WATERPROOFING WORKS				
12	OTHER WORKS				

TOTAL BRIDGE:

DINARS