



BOSNIA AND HERZEGOVINA

THE FEDERATION OF BOSNIA AND HERZEGOVINA

JP AUTOCESTE FBiH d.o.o. MOSTAR

**PROJECT:**

**MOTORWAY ON CORRIDOR V<sub>c</sub> IN THE FEDERATION OF BOSNIA  
AND HERZEGOVINA  
CONSTRUCTION OF SECTION NEMILA – DONJA GRAČANICA  
SUBSECTION VRANDUK - PONIRAK**

**PROGRESS REPORT NO. 1  
Agreements No. 12665P and 12663 PB  
As of 30<sup>th</sup> September, 2019**

**Mostar, October 2019**

## **C O N T E N T S**

<b>C O N T E N T S</b> .....	<b>2</b>
<b>1. INTRODUCTION</b> .....	<b>3</b>
<b>2. LOAN AGREEMENT</b> .....	<b>5</b>
<b>3. TECHNICAL DESCRIPTION OF SUBSECTION VRANDUK – PONIRAK</b> .....	<b>5</b>
<b>4. PROCUREMENT PLAN</b> .....	<b>8</b>
<b>5. MAIN DESIGN</b> .....	<b>9</b>
<b>6. LAND EXPROPRIATION</b> .....	<b>9</b>
<b>7. CONSTRUCTION PERMITS</b> .....	<b>10</b>
<b>8. CONSTRUCTION ACTIVITIES OF SUBSECTION VRANDUK – PONIRAK</b> .....	<b>10</b>
<b>9. CONSTRUCTION PROJECT</b> .....	<b>11</b>

## 1. INTRODUCTION

At conferences held in Crete and Helsinki in year 1994 and 1997, ten Trans-European corridors were identified as routes in Central and Eastern Europe which require priority investments. Corridor V (five) which is linking Kiev in the Ukraine to the Adriatic Sea via Lvov and Budapest (Hungary) is one of them. Consisting of three branches, the Vc branch follows European route E73 from Budapest to Ploče (Croatia) via Osijek (Croatia) and Sarajevo (Bosnia and Herzegovina). Bosnia and Herzegovina contain the longest section of the Vc branch. With a total length of approximately 323 km the driving force to construct Corridor Vc motorways is to improve connectivity of BH with its neighbouring countries and to enhance its potential for economic development. The project is strongly supported by the government and is expected to enable BH to integrate better with the European economic and social structure.

Corridor Vc motorway in BH includes four main sections (known in Government documents as Lots), as follows:

- **Lot 1:** Svilaj on The Sava River (connection to Corridor X) - Doboj South;
- **Lot 2:** Doboj South - Sarajevo South (Tarčin);
- **Lot 3:** Sarajevo South (Tarčin) - Mostar North;
- **Lot 4:** Mostar North – Bijača on the southern border with Croatia.

By now 92 km of motorway have been constructed and have been put in use. The constructed parts refer to subsections: Zenica South - Sarajevo North, Sarajevo North – Sarajevo West, section of Sarajevo West - Tarčin as well as section Zvirovići - Bijača (from Medjugorje interchange to the crossing border Bijača.)

The above-mentioned sections have been financed by the loan funds of the EIB and the EBRD as well as with own funds of JP Autoceste FBH.

The section Nemila - Donja Gračanica, subsection Vranduk – Ponirak has been financed by the loan funds of the OFID - OPEC Fund for International Development.

By Decision No. 01-1002-2/19 of JP Autoceste FBH dated March 15<sup>th</sup> 2019, Project Implementation Unit for the construction of motorway on Corridor Vc, section Nemila - Donja Gračanica, subsection Vranduk – Ponirak was appointed within JP Autoceste FBH consisting of competent employees. The Project Implementation Unit is obliged to fully follow and respect of all provisions of the Loan Agreements No.12665P and No.12663PB between Bosnia and Herzegovina and OFID - OPEC Fund for International Development as well as all other procedures applied by the OFID, during the construction of Vranduk – Ponirak motorway subsection.



Map of motorways and expressways in Bosnia and Herzegovina

## 2. LOAN AGREEMENT

According to the Law on Roads of FBiH, financing of maintenance, protection, reconstruction and construction is secured from the following funds:

- Public revenues;
- Loans;
- Grants.

Public revenues which are directed to the JP Autoceste FBiH are:

- Revenues from the fuel levy;
- Tolls;
- Revenues from the motorway land use.

For motorway sections on Corridor Vc whose construction is in progress or in preparation, Bosnia and Herzegovina concludes loan agreements with international financial institutions. The loan agreements were signed with OFID - OPEC Fund for International Development on 30<sup>th</sup> August 2018 – Loan no. 12665P (Package A) in amount 2,150,000 dollars and Loan no 12663 PB (Package B) in amount 24,300,300 euros for financing the Civil works and Supervision of the subsection Vranduk - Ponirak. The contracts are still in the process of ratification due to process of government constituting after the elections. The effectiveness date is extended by the Fund until January 31<sup>st</sup> 2020.

## 3. TECHNICAL DESCRIPTION OF SUBSECTION VRANDUK - PONIRAK

Subsection starts near settlement called “Stara Stanica” and runs along the slopes of the “Stranate Vlasače” hill towards the Canyon of Bosna River. Approximately 1300m after the beginning of the subsection, highway route approaches slope of canyon northern of the mediaeval fortification “Vranduk”. On respective location highway crosses Bosna River twice with the help of two bridges. The first of them is approx. 385 meters long and was named “Vranduk 1”. After only 150 meters of the route, bridge “Vranduk 2” takes highway over the river for the second time. This structure is approx. 360 meters long over which surface cross distance between left and right axes of the highway goes to 25 as required before the entrance to tunnel “Vranduk”. The tunnel “Vranduk” has length of 390 meters and takes highway through the hill called “Suvodolska Kosa”. After the highway has exit the tunnel, cross distance between left and right axes of the highway gradually goes back to the original value of 11,50 meters. Next 800 meters of the highway consist mostly of shallow cut on the left side of the highway, and combination of the embankment and retaining walls on the right side. Highway than enters the area of the settlement “Koprivna”, and using tree viaducts runs over and by houses. The first viaduct was named “Crni Potok” (length 81 meters), second one “Koprivna 1” (90 meters) and the last one was “Koprivna 2” (length 112meters). The rest of the section is placed across the significantly steep slopes of the hill. The first 500 meters of the route consists of the deep cut on the left side of the highway, and high retaining walls on the right side. Last 300 meters become ever steeper and the highway slightly moves away from the hill and

almost hangs in the air. Along 250 meters of the troublesome part of the subsection a retaining wall made of reinforced soil was designed in order to avoid construction of the low but very long viaduct.

Length of alignment on the left side is 5307 m', while the length of the structures on the left side (viaducts and tunnels) is 1409 m' or 27%. Length of the alignment on the right side is 5311 m', while the length of the structures on the right side (viaducts and tunnels) is 1291 m' or 24%. Maximum used longitudinal slope of the alignment is 3,89%, while the minimum one has value of 0,80%.

List of significant structures present:

A. Motorway alignment

Motorway alignment has been designed with design elements that bind to the design speed 120 km/h on open alignment and 100 km/h in tunnels. In cross section profile on the motorway alignment, driving and overtaking lane 2x 3,75 m have been designed as well as emergency lane width of 2.5 m. Marginal strip along the central reserve is 0.5 m, and on the side of emergency lane 0.25 m and enters the width of the emergency lane. The width of the shoulders is 1.5 m. The width of the central reserve is a minimum of 4 m.

B. Tunnel "Vranduk":

Length of the left tunnel tube is 390 m, and of the right tunnel tube is 275 m. Axles of the tunnel tubes are designed at a distance of 25m. Profile of two traffic lanes 2x3,5m and two marginal strips 2x0,35m, a total of 7.7 m of the pavement plus two inspection lanes and space for installation 2x0,85 m, delevelled above the pavement to 0.15m.

C. Bridge "Vranduk 1":

Bridge named "Vranduk 1" is designed above Bosna River northern of the medieval settlement of Vranduk in the length of 390m on the right, and 380m on the left side of the highway. The maximum height of the level line over riverbank is 54 meters. It is designed on four spans: left bridge  $60 + 2 \times 120 + 80 = 380\text{m}$  and right bridge  $80 + 2 \times 120 + 70 = 380\text{m}$ . Due to terrain configuration, left and right structures are moved for approximately 30m. In cross section profile of the total width of 12m driving and overtaking lane 2x3,75m are located, as well as emergency lane of 2.5 m and two marginal strips 2x0,5m and protective lanes 2x0,5m. Fences are RC safety fence type "New Jersey" height of 0.80m.

D. Bridge "Vranduk 2":

Similar to above mentioned bridge, next bridge on the section is named "Vranduk 2". It will also be situated above Bosna River northern of the medieval settlement of Vranduk in the length of 370m on the right, and 350m on the left side of the highway. The maximum height of the level line over riverbank is 48 meters. It is designed on five spans: left bridge  $40 + 80 + 120 + 70 + 40 = 350\text{m}$  and right bridge  $45 + 80 + 120 + 80 + 45 = 370\text{m}$ . Due to terrain configuration, left and right structures are moved for approximately 30m longitudinally and also 27 meters crosswise due to widening of the highway before the entrance to the tunnel

“Vranduk”. The width of the cross section of the bridge “Vranduk 2” is 12m. Driving and overtaking lane are 2x3,75m wide, and the emergency lane has width of 2.5 m. There are also two marginal strips 2x0,5m wide and protective lanes of 2x0.5m. Fences are RC safety fence type “New Jersey” height of 0.80m.

E. Viaduct “Crni Potok”

Viaduct “Crni Potok” is designed over natural gully and stream called “Crni Potok” in length of 81 meters. It has 3 spans,  $25 + 31 + 25 = 81\text{m}$  and the total width of the cross section of 12m. It consists of driving and overtaking lane (2x3,75m), emergency lane (2,5m), two marginal strips (2x0,5m) and two protective lanes (2x0.5m). “New Jersey” type of the fence is planned at the both edges of the cross section for safety reasons.

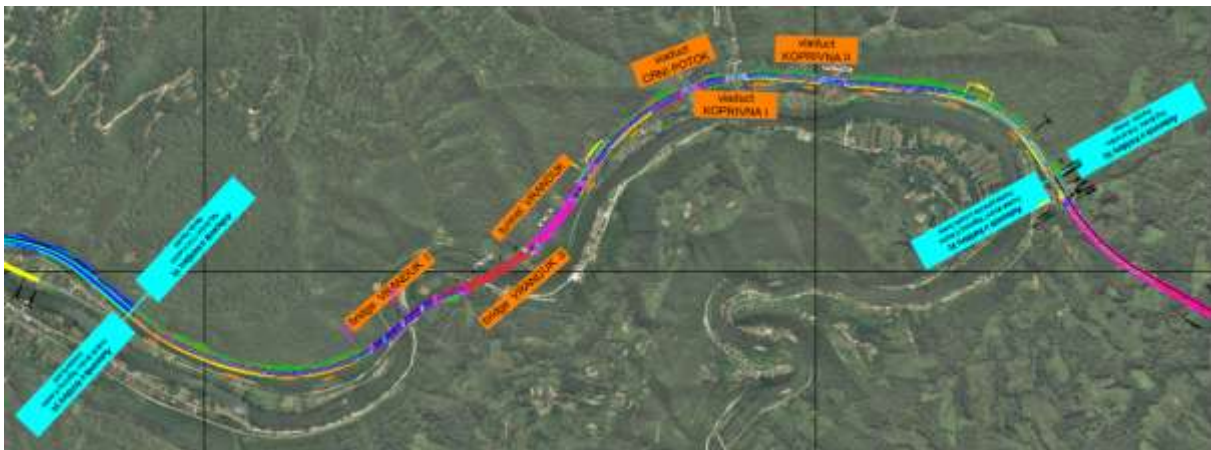
F. Viaduct “Koprivna 1”

Viaduct “Koprivna 1” is designed over natural gorge and northern part of the Koprivna settlement in length of 90 meters. It has 3 spans,  $28 + 34 + 28 = 90\text{m}$  and the total width of the cross section of 12m. It consists of driving and overtaking lane (2x3,75m), emergency lane (2,5m), two marginal strips (2x0,5m) and two protective lanes (2x0.5m). “New Jersey” type of the fence is planned at the both edges of the cross section for safety reasons.

G. Viaduct “Koprivna 2”

Viaduct “Koprivna 2” is designed over natural valley and southern part of the Koprivna settlement in length of 112 meters. It has 4 spans,  $25 + 2x31 + 25 = 112\text{m}$  and the total width of the cross section of 12m. It consists of driving and overtaking lane (2x3,75m), one emergency lane (2,5m), two marginal strips (2x0,5m) and two protective lanes (2x0.5m). “New Jersey” type of the fence is planned at the both edges of the cross section for safety reasons.

The specified design solutions are given in the detailed design of structures.



#### 4. PROCUREMENT PLAN

JP Autoceste FBiH has prepared a procurement plan. The estimated values are planned, but real values will be determined after completion of the main project and tender procedures.

*Values are given in 000 EUR*

No.	Description	Estimated	Financed by	Financed by others	Contract	Contract	Procurement	Tender	Contract	Contract
		Contract Value	OFID	Investor	Amount including VAT	Type	Method	Invitation month/year	Award month/year	Completion month/year
1.	MOTORWAY CONSTRUCTION									
a)	Vranduk - Ponirak	48.000	OFID		76.593	Construction works	Open	July-17	May-19	April-21
2.	SUPERVISION									
a)	Vranduk - Ponirak	2.500	OFID		2.435	Supervision	Competitive	July-17	May-19	April-21
3.	<b>EXPROPRIATION</b>	<b>2.614</b>		<b>JPAFBiH</b>						
4.	<b>VAT 17%</b>	<b>8.585</b>		<b>JPAFBiH</b>						
5.	<b>TOTAL</b>	<b>11.199</b>		<b>JPAFBiH</b>						
6.	<b>TOTAL</b>	<b>50.500</b>	<b>OFID</b>							

Table 1. Procurement plan

**Notice:** VAT charged on the amount of the budget (does not include land expropriation).

**Legend:** JPAFBiH - JP Autoceste FBiH d.o.o. Mostar (PC Motorways of FBH ltd. Mostar).



## 5. MAIN DESIGN

Brief information on the main design for the section: The northern border of the municipality of Zenica (Nemila) - Zenica North (D. Gračanica), subsection Vranduk - Ponirak, is represented as follows:

No.	Section	Investor	Status	Comments
1.	The northern border of the municipality of Zenica (Nemila) - Zenica North (D. Gračanica)	MCTBH JPAC	Main project completed	For subsection Vranduk - Ponirak building permits are obtained. Construction permit is acquired. Environmental permit for the entire LOT 2 Dobož South – Sarajevo North has been renewed in September 2019.

**Table 2.** Progress of main design

Legend: **MCTBH:** Ministry of Transport and Communications BiH  
**JPAC:** JP Autoceste FBH

## 6. LAND EXPROPRIATION

The following **Table 3** presents the expropriation activities and their progress up to 30<sup>th</sup> September 2019 on the section The northern border of the municipality of Zenica (Nemila) - Zenica North (D. Gračanica), subsection Vranduk - Ponirak. The local self-government unit responsible for the expropriation process is the city of Zenica. 152 out of 153 cadastral units was expropriated which makes 98,69% of completion.

No.	Section	Municipality	Submitted request to start land acquisition	Started work on the field	Land plots included in Elaborate of land acquisition	Issued decisions of land acquisition	Number of agreements	Completed (%)
1.	Vranduk - Ponirak	Zenica	04 <sup>st</sup> April 2017	27 <sup>th</sup> April 2017	153	153	152	98,69

**Table 3.** Progress of land expropriation activities

## 7. CONSTRUCTION PERMITS

In accordance with Law on land planning and land use in the Federation of BiH, there is a defined procedure of issuing Urban permit and Building permit. In order to issue Urban permit it is necessary to collect five approvals, whereas the issuance of Building permit requires a Urban permit, completed land expropriation activities and completed and revised Main Design.

Accordingly, Main Design for subsection Vranduk – Ponirak is completed, land expropriation activities are done, Urban and Building permits obtained, Environmental permit renewed.

The condition of approvals required for obtaining Urban planning and Building permits for section Vranduk – Ponirak is given in the **Table 4**.

No.	Institutions	Submitted	Status:	Previous Policies
1.	Agency for Water Area of the river Sava (Previous water consent)	---	Obtained	---
2.	Railways of The Federation BH	---	Obtained	---
3.	BH Gas	---	Obtained	---
4.	EP BH Elektrodistribucija Zenica	---	Obtained	---
5.	Elektroprijenos BH operative area Sarajevo	---	Obtained	---

**Table 4.** Construction permits

## 8. CONSTRUCTION ACTIVITIES OF SUBSECTION VRANDUK – PONIRAK

Subsection "Vranduk-Ponirak" has the beginning at southeast of the Stara Stanica settlement. Passing by the Stara Stanica settlement, the motorway route extends in the direction of south towards the Vranduk area. On this stretch, from the beginning of Subsection II (km 0+000.00) up to the Vranduk area km 1+225.00 (including the last approx. 800 m of Subsection I) the left and right motorway pavements are separated in plan view and vertically. Then, the motorway route passes through Suvodolska Kosa hillsides by the Vranduk tunnel, further in the direction of southeast between the slopes of Stranate Vlasače and Suvodolska Kosa hillsides, the motorway route with two bridges "Vranduk 1" and "Vranduk 2". The motorway route further runs with three smaller viaducts east of the Koprivna settlement over the slope of the Osoja hillside. Passing by the Koprivna settlement, the motorway route further extends southwards towards the Ponirak settlement. The end of Subsection II Vranduk-Ponirak is southeast of the Ponirak settlement at chainage 5+309.30 km (on the central motorway axis).

Work officially started on 19<sup>th</sup> August 2019., and the Contractor took site possession on 21<sup>st</sup> August, 2019. Currently are in progress preparatory works.

## 9. CONSTRUCTION PROJECT

### Section Vranduk - Ponirak

- Contractor: Consortium AZVIRT L.L.C.i HERING d.d.
- Number of construction Contract: JPAC 848-B82-17;
- Construction contract signed on May 15<sup>th</sup>, 2019;
- The value of the Contract amounts to 76.592.799,03 EUR including VAT;
- The construction period is 24 months.

### Supervision

- Consultant: Consortium DRI Upravljanje investicij d.o.o. i DIVEL d.o.o.;
- Number of Contract for Consultancy Services: JPAC 849-E440-17, signed on May 8<sup>th</sup>, 2019.
- The value of the Contract amounts to 2.435.823 EUR including VAT;
- The construction period is 24 months.