

**ENVIRONMENTAL AND SOCIAL  
MANAGEMENT PLAN FOR THE  
PROJECT OF THE REHABILITATION  
OF THE BRIDGE OVER THE SANA  
RIVER**

September, 2017

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### LIST OF ABBREVIATIONS

<i>BH</i>	- <i>Bosnia and Herzegovina</i>
<i>CFD</i>	- <i>Central Feedback Desk</i>
<i>CSOP</i>	- <i>Construction Site Organization Plan</i>
<i>EIB</i>	- <i>European Investment Bank</i>
<i>EIA</i>	- <i>Environmental Impact Assessment</i>
<i>EMP</i>	- <i>Environmental Monitoring Program</i>
<i>ESMF</i>	- <i>Environmental Social Management Framework</i>
<i>ESMP</i>	- <i>Environmental and Social Management Plan</i>
<i>EP</i>	- <i>Environmental Permit</i>
<i>FBH</i>	- <i>Federation of Bosnia and Herzegovina</i>
<i>FMoET</i>	- <i>Federal Ministry of Environment and Tourism</i>
<i>USC</i>	- <i>Una Sana Canton</i>
<i>IFI</i>	- <i>International Financial Institutions</i>
<i>MP</i>	- <i>Main project</i>
<i>MPCA</i>	- <i>Management Plan in Case of Accidents</i>
<i>OP</i>	- <i>Operational Policy of the World Bank</i>
<i>PAP</i>	- <i>Project Affected Person</i>
<i>PPE</i>	- <i>Personal Protective Equipment</i>
<i>PCRoadsFBH</i>	- <i>Public Company Roads of the Federation of Bosnia and Herzegovina</i>
<i>RAP</i>	- <i>Resettlement Action Plan</i>
<i>RPF</i>	- <i>Resettlement Policy Framework</i>
<i>TD</i>	- <i>Tendering Documentation</i>
<i>TMP</i>	- <i>Traffic Management Plan</i>
<i>WB</i>	- <i>World Bank</i>
<i>WMP</i>	- <i>Waste Management Plan</i>
<b>AEHS</b>	- <b>Annual Environmental Health and Safety</b>

## **EXECUTIVE SUMMARY**

### **INTRODUCTION AND OBJECTIVES OF THE ESMP**

*This Project of the Rehabilitation of the Bridge over the Sana River (the Project)* for which this ESMP is developed, is one of the sub-projects under the FBH Road Sector Modernization Project co-financed by the WB and EIB. *Rehabilitation of the Bridge Over the Sana River, on the road M-5, section Gornje Bravsko – Ključ*, is screened as a category B project according to the triggered Operational Policies OP 4.01 on Environmental Assessment of the WB as well as the screening procedure outlined in the project-specific ESMF. As such, this activity needs to have an ESMP developed, whereas pursuant to the local legislation this project does not require a water permit, an environmental assessment or an environmental permit - whether federal or cantonal. PC Roads FBH will ensure all required local permits for this Project are obtained.

### **LOCATION AND TRAFFIC DESCRIPTION**

The bridge over the Sana River is situated on the main traffic direction of Ključ municipality, on the major road M-5, section Gornje Bravsko - Ključ. This bridge is used by the local population, and it is used as a transit since it lies on the most important direction to the capital city of Sarajevo from the direction of the Una – Sana Canton. The nearest relevant traffic count device on main road M5 is located in Ključ approximately 3 km South-West from the project bridge. This data shows that, in 2015, 4063 vehicles were passing daily

### **PROJECT DESCRIPTION**

The main design of the reconstruction of the bridge over river Sana was created by INK CONSTRUCTOR Ltd. Banja Luka in 2017. The bridge is located on main road M5 on the entrance to the town Ključ and was built in 1974. The bridge is made of reinforced concrete frame structure with three openings. The cross section of the span structure is a solid slab of varying heights. The total length of the bridge, along with its parallel hanging and massive wings, is approximately 83.85m. The carriageway width of the bridge is 600cm, and the double footpaths are 102cm and 105cm wide, giving the overall useful width of the bridge ~ 807cm. The total width of the bridge ~ 867cm. The footpaths are lifted from the carriageway. The junctions are concrete monolithic and the bridge fence is mounted on the bridge wings. The objectives of the project are to provide the necessary expansion of traffic lanes, to improve pedestrian safety over the bridge, to harmonize the system static load capacity of the bridge structure to the current Ordinance on technical standards, to install a new closed drainage system which implies water purification before the discharge into the recipient.

### **BASELINE OF PARTICULAR INTEREST**

The terrain of the Project is mostly flat with an attitude in the range from 200 to 300 meters above sea level. Meteorological station in Ključ, closest to the site of reconstruction,

reports following data: the average multi-annual temperature is 10.2 °C, the warmest month is July, with an average perennial air temperature of 19.4 °C and the coldest month is January when the average perennial temperature is 0.0 °C. The average rainfall measured at the same meteorological station, during multi-year period is 1080 mm per year. There are no data on air quality on this particular location, but based on geographical features and the fact that there are no significant polluters, and the only polluter is the road traffic in the wider area it can be considered that the air quality is good.

The bridge stretches over the Sana River, which is the largest confluent to the Una River. We can notice an April and December maximum of water level and flow, and minimum values for the period of August and September. In close proximity to the Project area, we can find mostly facilities for residential purposes (houses) and business purposes (stores), which are exposed to the traffic noise and according to the Law on Noise Protection, they fall under the fifth zone, where allowed noise levels are 65 dBA during day and 60 dBA at night. In the vicinity of the Project the dominant land use is for agricultural purposes and residential facilities of individual housing. Individual housing facilities mostly represent buildings which are mainly ground floor, one-story and two-story houses. The location of the Project is not located within a protected area. There are also no recorded archeological findings in the observed area. The municipality of Ključ has the population of 22.121 people who live in 7038 households. The population density is 54 ppl/km<sup>2</sup> which makes this municipality sparsely populated in accordance with the average population density in FBH which equals 89 ppl/km<sup>2</sup>. For the inhabitants of the north- east part of the municipality the bridge represents the only entrance point to the town Ključ, the health care and education center, while for the inhabitants of the town Ključ and the rest of the municipality the bridge represents the only passage to Sanski Most the nearest secondary health care center. The importance of the project lies also in transit traffic because the bridge lies on the main road M5, one of the most important transit roads in FBH which connects the north-west with the south-east of the country.

## **IMPACTS DURING PRECONSTRUCTION**

**Socio economic impacts:** no land acquisition or resettlement is expected on this project because no change in the project footprint will occur.

## **IMPACTS DURING CONSTRUCTION**

The main impacts associated with the construction works include: emissions from the machinery used on site, dust generation from works, potential increases in noise and vibration levels, impact on soil and surface water from accidental leaks and spills and safety impacts. The contractor is bound by the provisions of this ESMP to conduct a baseline of the biological and natural resources specific to the site, and to adapt the measures of the ESMP and their work performance based on such findings.

**Impact on traffic safety and traffic flow:** During construction, one way traffic regime will be in place thus resulting in traffic congestion and obstructions on road section - increased traffic flow, leading to congestion and obstruction.

**Socio-economic impacts:** At this time, it is not expected that it will be necessary to temporarily occupy any privately owned land plots for lodging machines and disposal of materials. Machines and materials will be disposed on land owned by the Investor. However, if additional temporary occupation of private land is needed during construction activities, this will be agreed upon with respective land owners and compensation will be paid in accordance with provisions determined in the RPF before the land is accessed. Difficult access to the national monument Old town in Ključ, national monuments on the provision list the Orthodox Church in Ključ and the „Parish church Ključ“ and monuments of local importance necropolises of stećak tombstones Dubočani, Velečevo, Ključ, and the Roman site in Ključ is expected during construction. Adverse impacts on living conditions of local community, such as: Noise increase, Construction waste disposal, Short-term disruptions of utilities are expected. Furthermore, local businesses can be affected in means of late delivery of goods and products. New business opportunities are expected to be created for local businesses such as transporters, suppliers and other service providers. This impact is considered to be short-term and small

**Land screening:** On 2nd of September, 2017 land screening and a walkover survey have been conducted. It has been noted that public land owned by the investor and required for project activities, such as lodging material and machinery are not being used in any way, neither formal nor informal, and do not require clearance.

## **POSITIVE IMPACTS**

Project implementation will contribute to better conditions and will have positive impacts on the quality of transport on road M5.

## **MITIGATION MEASURES**

The mitigation measures focus on the major identified impacts during works, such as emissions from the machinery used on site, dust generation from works, potential increases in noise and vibration levels, impact on soil from accidental leaks and spills and safety impacts, waste management, impacts on living conditions, temporary occupation and restrictions on land use, impacts on local traffic.

## **ENVIRONMENTAL MONITORING PROGRAM**

The monitoring measures focus on the major identified impacts during works, such as emissions from the machinery used on site, dust generation from works, potential increases in noise and vibration levels, impact on soil and surface dwater from accidental leaks and

spills and safety impacts, waste management, impacts on living conditions, temporary occupation and restrictions on land use, impacts on local traffic.

### **IMPLEMENTATION AND REPORTING**

PC Roads FBH is the implementer of the project and will be responsible for the implementation and compliance of the project in line with ESMP. The Contractor will be responsible for the implementation of the environmental mitigation measures during construction.

### **PUBLIC DISCUSSION AND INFORMATION DISCLOSURE**

Public consultation of the subject ESMP was organized in Ključ after the WB and PC Roads FBH approved the draft of the ESMP.

The record on public discussion, that is, grievances presented at the public discussion shall be recorded in the Grievance Register, and opinions and suggestions of the public shall be integrated into the final ESMP.

The ESMP has been disclosed on PC Roads FBH webpage on 21.02.2018. and public consultations were held on 13.03.2018. in Ključ.

**Grievance Mechanism-** Besides the institutionally available ordinary and extraordinary legal remedy, and existing institutional channels, PC Roads FBH will ensure and form a special Grievance Redress Mechanism in collaboration and direct involvement of those municipalities under whose administrative authority the project is carried out, in this case with the Ključ municipality.

### **Requirements for start of works**

The Contractor shall establish all required baseline data before the commencement of works. The Baseline – Monitoring data shall include air quality data, surface water quality data, soil quality data, survey of the site for any endangered and endemic species and other environmental issues in zone of corridors of direct and indirect impacts.

The Contractor shall develop:

- 1.) A Construction Site Organization Plan (CSOP) that is made up of:
  - a. Implementation Plan of this ESMP,
  - b. a detailed Waste Management Plan (WMP)]
  - c. Study on Safety (includes Elaborate on Safety at Work and Elaborate on Protection From Fire and Explosions),
  - d. Traffic Management Plan (TMP) must be developed, which will be created by the Contractor prior to the beginning of construction works.

## INTRODUCTION

Based on the guidance for the Environmental and Social Management Framework (ESMF) has been disclosed and available to the public in local language on the website of PC Roads FBH in March 2016., [http://www.ipcfbih.ba/ba/aktivnosti/program\\_modernizacije.shtml](http://www.ipcfbih.ba/ba/aktivnosti/program_modernizacije.shtml)), this site-specific Environmental and Social Management plan (ESMP) has been prepared.

The Public Company Roads of Federation of Bosnia and Herzegovina (further in the document PC Roads FBH) has initiated an overarching program for the project “Modernization of Major roads in the Territory of the Federation of Bosnia and Herzegovina” (The Program) to ensure appropriate road infrastructure by 2020. For this purpose, it has been requested from the Government of the FBH to ensure credit funds from international finance institutions (IFI).

In the framework of the abovementioned umbrella Program, the Public Company “Roads of FBH” (PC Roads FBH), a limited liability company wholly owned by the Government of FBH, has initiated the FBH Road Sector Modernization Project. FBH filed an application for a credit/loan from the European Investment Bank (EIB) and from the World Bank (WB) in total amount of 103,38 million EUR for funding abovementioned Project.

FBH Road Sector Modernization Project comprises several small and mid-sized investment schemes including:

1. This component includes, reconstruction of roads:
  - Construction works for completion of the construction of major road M17.3 Neum–Stolac (in total 32,9 km);
  - Construction of third lanes for slow vehicles (in total 40 km on 8 sections of major roads);
  - Reconstruction of roadway, correction of axes (in total 18 km on 5 sections of major roads, where a correction of axes is to be done on one section only in the length of 1 km),
  - Reconstruction of 3 tunnels (with a total length of 1,86 km);
  - Reconstruction of 7 bridges (with a total length of 0,55 km).
2. Interventions on improving road safety: The reconstruction of intersections, which are classified as "black spots" on major roads, in total 9;
3. Institutional reforms: Road Management in the FBH with a particular focus on sustainability of investments and road safety;
4. Project Implementation Support: Construction supervision and capacity building of the PC Roads FBH.

*This Project of the Rehabilitation of the Bridge over the Sana River (the Project)* for which this ESMP is developed, is one of the sub-projects included in the group of sub-projects co-financed by the WB and EIB.

## 1. METHODOLOGY AND OBJECTIVES OF ESMP

*Rehabilitation of the Bridge Over the Sana River, on the road M-5, section Gornje Bravsko – Ključ*, is characterized as a category B project according to the triggered Operational Policies OP 4.01 on Environmental Assessment of the WB as well as the screening procedure outlined in the project-specific ESMF. As such, this activity needs to have an ESMP developed, whereas pursuant to the local legislation this project does not require a water permit, an environmental assessment or an environmental permit - whether federal or cantonal<sup>1</sup>. PC Roads FBH will ensure all required local permits for this Project are obtained.

This ESMP aims at identifying all of the potential environmental and social impacts associated with this project activity. As such, the ESMP includes mitigation measures for all identified potential impacts that are to be undertaken throughout the different phases of the project including preparation, implementation and operation of the facilities. The measures set forth in this ESMP are meant to avoid, neutralize or diminish adverse environmental and social impacts if not completely then to a satisfying level.

ESMP identifies feasible and cost-effective measures which can reduce potentially negative impacts on the environment and society to an acceptable level. If mitigation measures are not possible, profitable or sufficient, compensation should be included as the last measure.

In order to ensure the mitigation measures have been implemented, fully or partially, the ESMP sets forth a monitoring plan to be implemented during the specific stages of project preparation/designing and implementation. Monitoring during project preparation and implementation provides information on the key environmental and social aspects of the project, particularly on the environmental and social aspects of the project and efficiency of mitigation measures. Prior to commencement of works, in accordance with requirements of the ESMP, and a minimum of monitoring requirements, described in table below, without limitation to these requirements, the Contractor shall prepare detailed list of mitigation measures and parameters to be monitored.

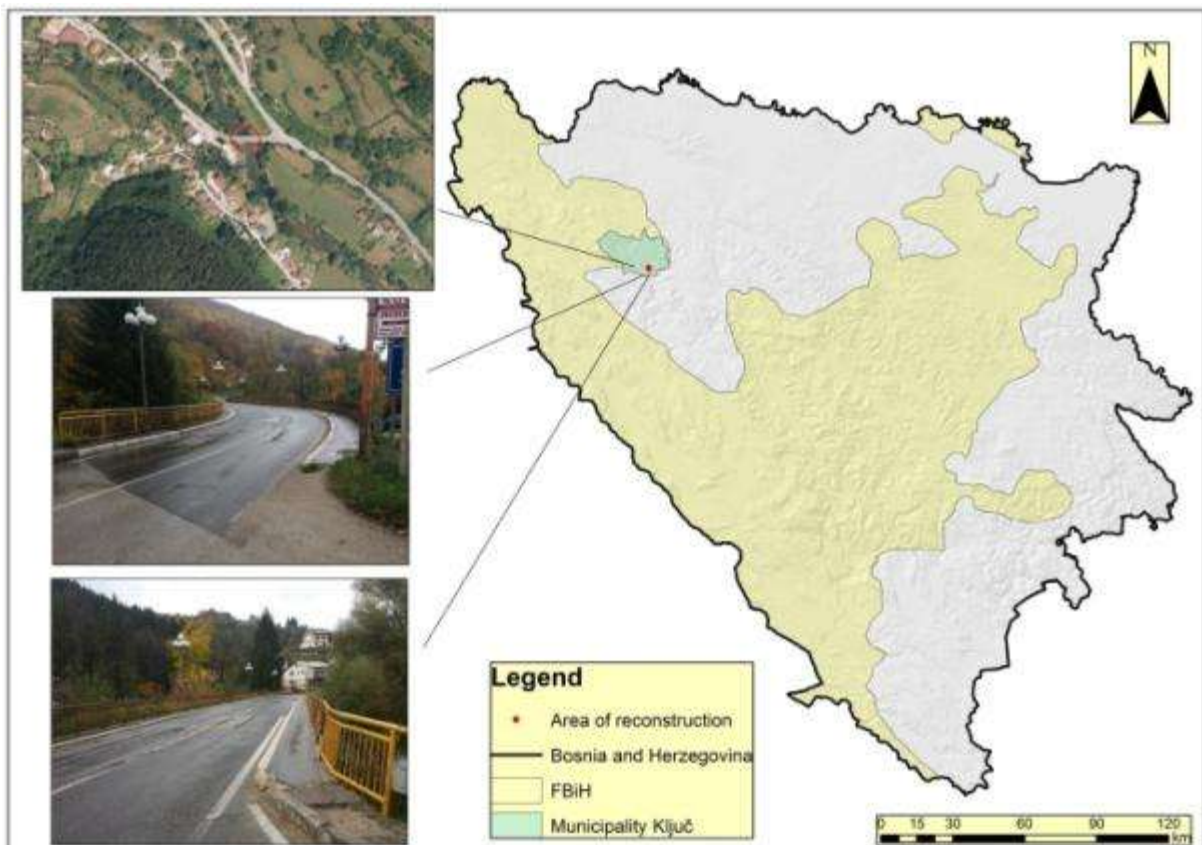
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<sup>1</sup> *In FBH investments requiring EIA are identified by the Regulation on Plants and Facilities Subject to Obligatory Environmental Impact Assessment, and Facilities Which May be Constructed and Commissioned Only if Granted Environmental Permit (Official Gazette of FBH No. 19/04). In Una-Sana Canton investments requiring an EP are regulated by Regulation on Activities, Plants and Facilities Which May be Constructed only if Granted Environmental Permit (Official Gazette of USC No. 18/07).*

## 2. LOCAL DESCRIPTION

The bridge over the Sana River is situated on the main traffic direction of Ključ municipality, on the major road M-5, section Gornje Bravsko - Ključ. The major road M-5 connects the international border crossing Izačić near Bihać in the northwest of the country and Višegrad in the east of BH. In addition, the major road M-5 is part of the international E-road network E761 that connects Bihać in Bosnia and Herzegovina and Zaječar in Serbia.

Figure 1: The geographical location of the project

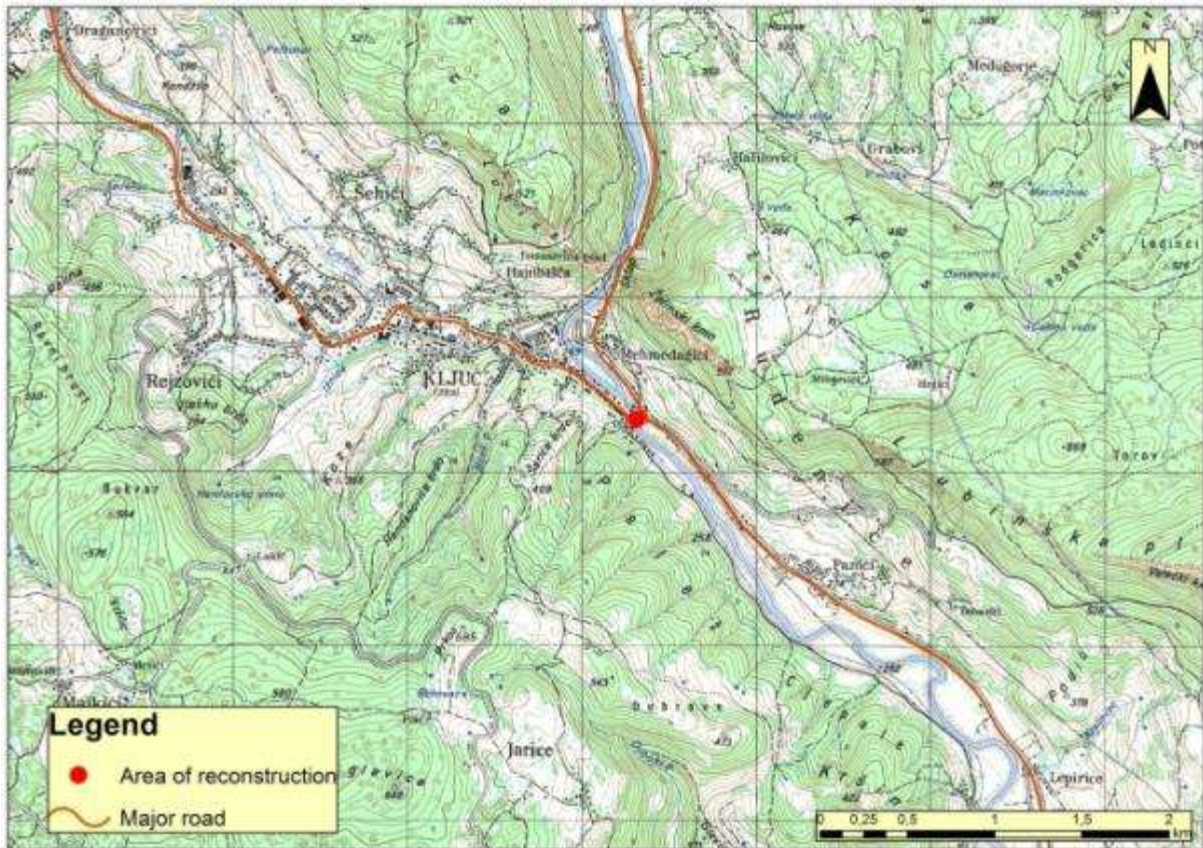


Source: PC Roads Federation of BH (Pictures: October 2016.)

The area of reconstruction is located within the urban area of Ključ, and the facilities situated near the project site are mostly private and business oriented. Residential buildings, in the neighboring residential zones, mostly represent private houses, which are mainly ground floor, one-story and two-story houses. Majority of the facilities are located along the major road M-5. Public buildings are not located in the vicinity of the Project.

This bridge is used by the local population, and it is used as a transit since it lies on the most important direction to the capital city of Sarajevo from the direction of the Una – Sana Canton.

Figure 2: Lookup Map of Wider Area with the Project Location



Source: PC Roads Federation of BH

## 2.1. TRAFFIC DATA

PC Roads FBH has installed automatic traffic counting devices along the main traffic network throughout FBH. Automatic traffic counting is done since 2005 and, last the report<sup>2</sup> was published in 2016 with data for the previous year. The nearest relevant traffic count device on main road M5 is located in Ključ approximately 3 km South-West from the project bridge. This data shows that, in 2015, 4063 vehicles were passing daily (Figure 3).

<sup>2</sup> "Traffic count on major roads in Federation of BiH in 2015", PC Roads Federation BiH, Sarajevo 2016

Figure 2: AADT in 2015



Source: PC Roads FBH, 2016

By the request of PC Roads FBH, traffic prognosis for the traffic network was developed by IPSA Institute Sarajevo in 2014<sup>3</sup> for the period 2013 to 2040. Analyze of the traffic flow was made for every year by applying “equilibrium” procedure. For this particular section, the amount of predicted annual average daily number of vehicles is shown in the *Table 1* below.

Table 1: Traffic prognosis for M5, section Ključ Center- Ključ East

Major road	Section name	AADT									
		2016	2018	2020	2022	2023	2025	2030	2035	2037	2040
M 5	Ključ Center- Ključ East	5893	6198	6507	6919	7121	7636	8757	9942	10380	11063

Source: PC Roads FBH, 2014

The table above shows an increase in the number of vehicles gradually through the years which shows the importance of this project for the local community and the transit traffic in the upcoming years as well the importance of this project for establishing greater traffic connection with the European Union and Western Europe.

<sup>3</sup> „Justification studstudy for modernization of major roads in FBiH programme“,IPSA Institute Sarajevo, 2014

### 3. PROJECT DESCRIPTION

#### 3.1. Existing bridge characteristics

The main design of the reconstruction of the bridge over river Sana was created by INK CONSTRUCTOR Ltd. Banja Luka in 2017. The bridge is located on main road M5 on the entrance to the town Ključ and was built in 1974.

The bridge is made of reinforced concrete frame structure with three openings. The cross section of the span structure is a solid slab of varying heights.

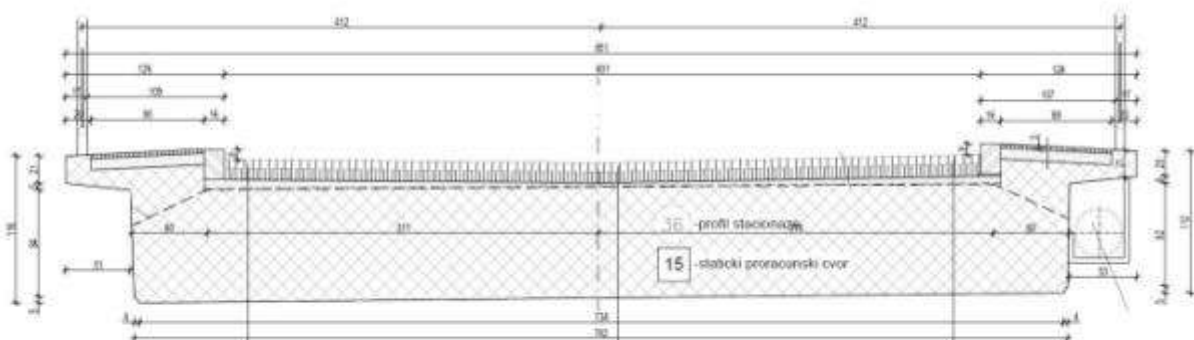
The bridge is slanted in an S curve under the angle  $\sim 70^\circ$  to the Sana River. The roadway is in a vertical curve of 1.0%. The transverse inclination of the roadway is variable and the slope ranges from 2% to right to left to 2% from left to right.

The total length of the bridge, along with its parallel hanging and massive wings, is approximately 83.85m. The carriageway width of the bridge is 600cm, and the double footpaths are 102cm and 105cm wide, giving the overall useful width of the bridge  $\sim 807$ cm. The total width of the bridge  $\sim 867$ cm. The footpaths are lifted from the carriageway. The junctions are concrete monolithic and the bridge fence is mounted on the bridge wings.

Along the right side of the span structure a water pipe of the diameter of 400 mm has been placed together with the insulation. Below both consoles wiring cables for the lighting of the bridge are visible.

There are no visible deformations of global span structure.

Figure 4: The existing bridge design



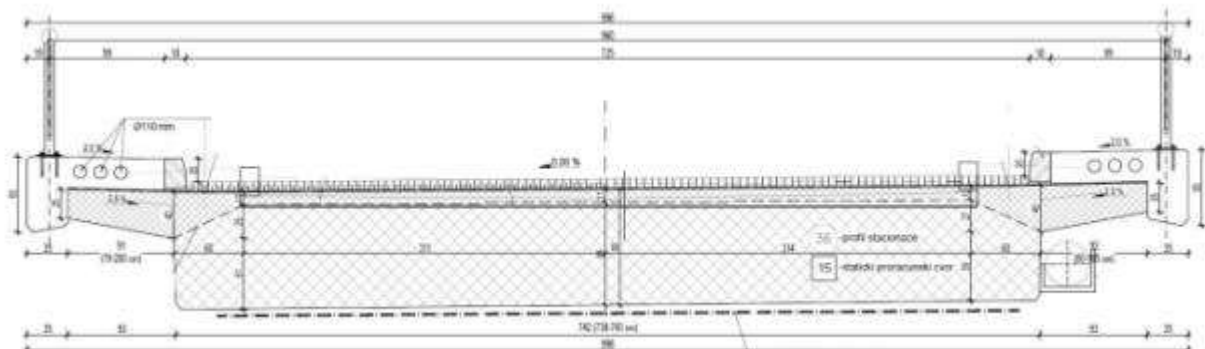
Source: Main design, Ink Constructor, 2017

### 3.2. NEW DESIGN

The objectives of the project are:

- Provide the necessary expansion of traffic lanes and to improve the conditions and safety of traffic on the bridge in the S curve,
- Improve pedestrian safety over the bridge by widening the footways to 110 cm and lifting those 20 cm from the carriageway.
- Increase the total width of the bridge to 998 cm (the road is of sufficient width in line with standards and will not be widened)
- harmonize the system static load capacity of the bridge structure to the current Ordinance on technical standards
- Installation of a new closed drainage system which implies water purification (oil-grease separator) before the discharge into the recipient.

Figure 5: The new bridge design



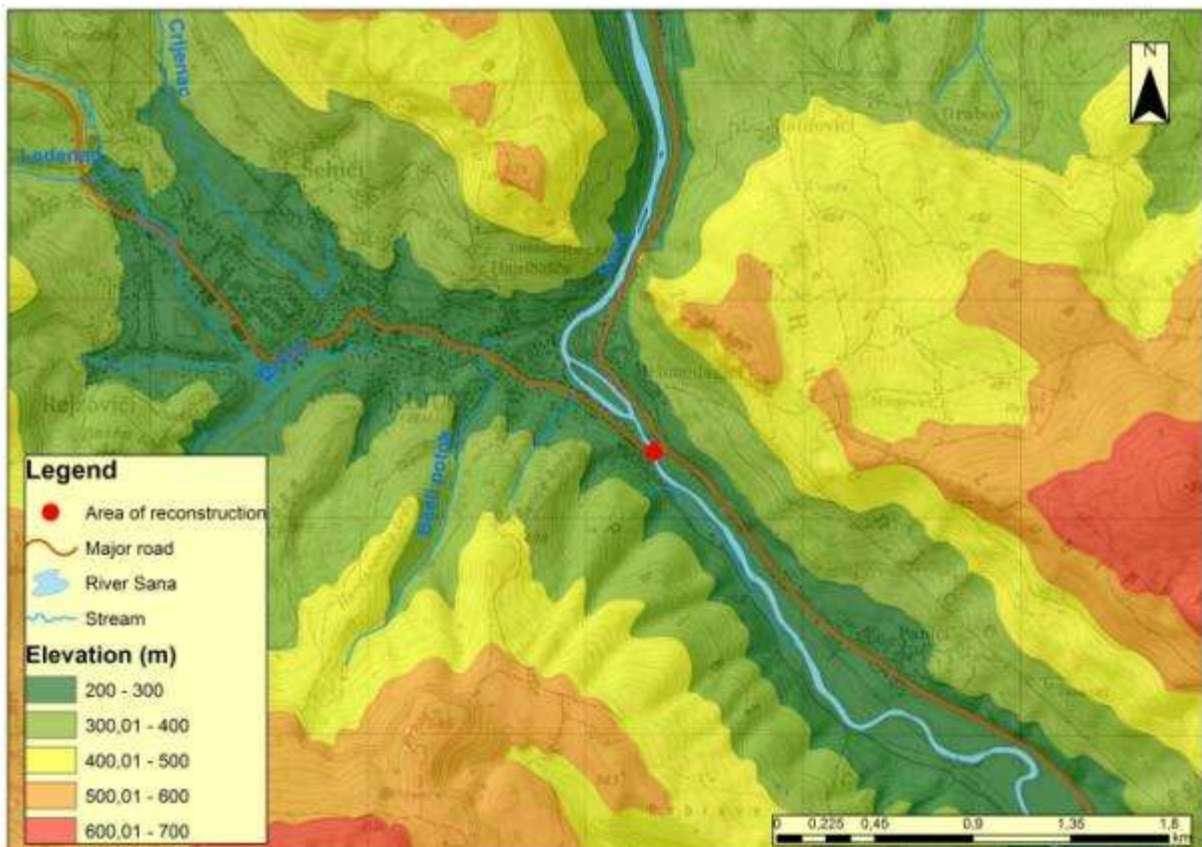
Source: Main design, Ink Constructor, 2017

## 4. BASELINE OF PARTICULAR INTEREST

### 4.1. GEOGRAPHIC CONDITIONS

The terrain of the Project is mostly flat with an attitude in the range from 200 to 300 meters above sea level. In the wider area the altitude goes up to 700 meters above sea level, as indicated in Figure 6. From stratigraphic – petrographical point of view this area is composed from stable and waterproof rocks, and from structural geomorphological point of view this type of relief belongs to the fluvial – denudational type of morphostructure. Hydrogeological complexes are mostly without aquifers.

Figure 6: Geographical Map of Wider Area with the Project Location



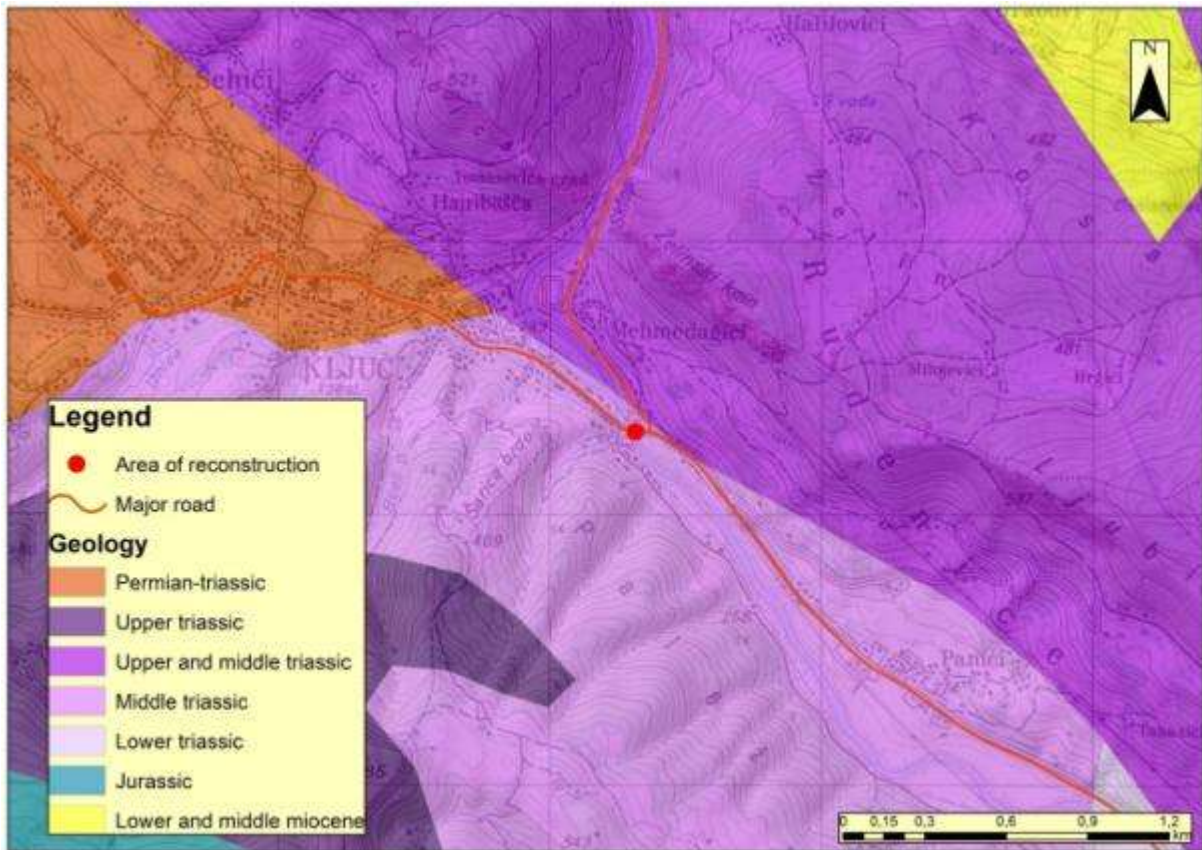
Source: PC Roads Federation of BH

The geological structure of the area of reconstruction is characterized by quaternary alluvial sediments represented by gravel, sand and sandy muddy horizon.

Permotrias deposits that are located in the wider area are mainly represented through porous limestones and red sandstone reservoirs with gypsum - anhydrite.

Upper Triassic sediments are represented by dark gray and black plate and layered limestones, marl, tuff, shale, and light gray and gray striped dolomite. Lower Triassic sediments are represented by red, purple and yellowish quartz-mica sandstones.

Figure 7: Geologic Map of the wider area of the Project



Source: Spatial plan of Una – Sana Canton 2012.-2032.

## 4.2. CLIMATE FEATURES

Climatic features of subject area are determined by the thermal and pluviometric regime, and therefore it is necessary to define its basic parameters, using climatological monitoring and a detailed analysis of the same. It can be said that the entire area is under the influence of the moderate continental climate or moderately warm and humid climate type (Cfb climate according to Köppen climate classification) which can be concluded from the analysis of thermal and pluviometric regime.

Meteorological station in Ključ, closest to the site of reconstruction, reports following data: the average multi-annual temperature is 10.2 °C, the warmest month is July, with an average perennial air temperature of 19.4 °C and the coldest month is January when the average perennial temperature is 0.0 °C.

*Table 2. Average temperature and precipitation for the multi-year period (1961.-1990.)*

Month	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Average
Temperature (°C)	0	2,3	5,8	10,2	14,4	17,5	19,4	18,9	15,6	10,9	6,1	1,7	10,2
Precipitation (mm)	69	69	79	100	100	116	97	87	93	83	99	90	1080

Source: Spatial plan of Una – Sana Canton 2012.-2032.

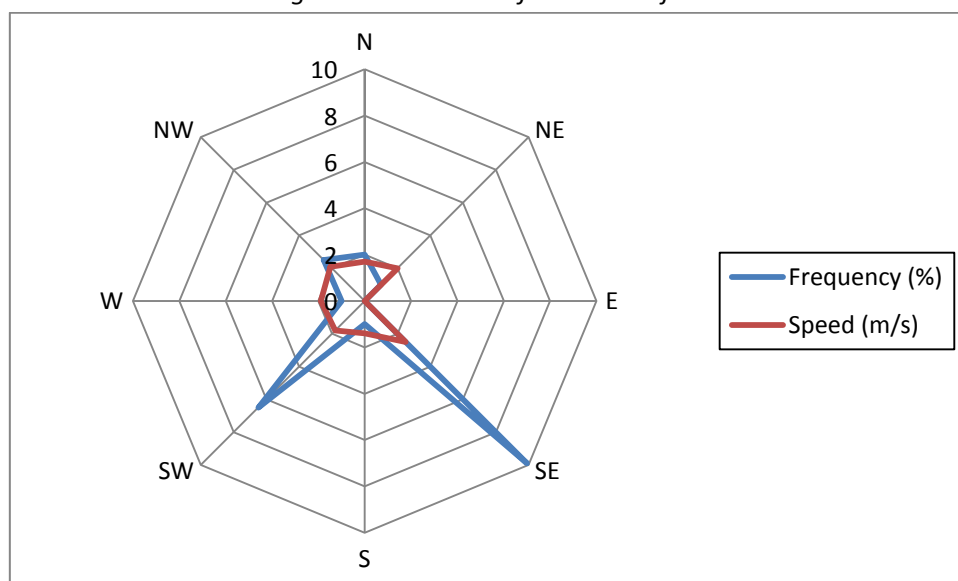
The average rainfall measured at the same meteorological station, during multi-year period is 1080 mm per year. The rainiest month is June, when the average precipitation is 116 mm. The least precipitation occurs in January and February, only 69 mm on average. The annual rain regime of this area belongs to the continental pluviometric regime.

*Table 3. Average wind speeds and frequency for the multi-year period (1961.-1990.)*

Direction	C	N	NE	E	SE	S	SW	W	NW
Frequency (%)	76	2,0	1,0	0	9,9	1,0	6,5	1,0	2,5
Speed (m/s)	-	1,7	2,0	0	2,5	1,4	1,8	1,9	2,1

Source: Spatial plan of Una – Sana Canton 2012.-2032.

Wind roses depend on geomorphology, mountain ridges and the direction of the rivers. The dominant winds come from the southeast and southwest, but most of the time calms are present.

*Figure 8. Wind roses from MS "Ključ"*

Source: Spatial plan of Una – Sana Canton 2012.-2032.

### **4.3. AIR QUALITY**

No particular monitoring of air quality for this location was performed, neither for the area of Ključ. Judging by the location of the Project, it can be concluded that the highest air pollution refers to the traffic of the major road. Also, during the winter time, the air is loaded with the pollution that comes from individual furnaces and boiler units, from facilities that are located nearby the Project, while there are no other major air polluters such as industrial facilities near the site.

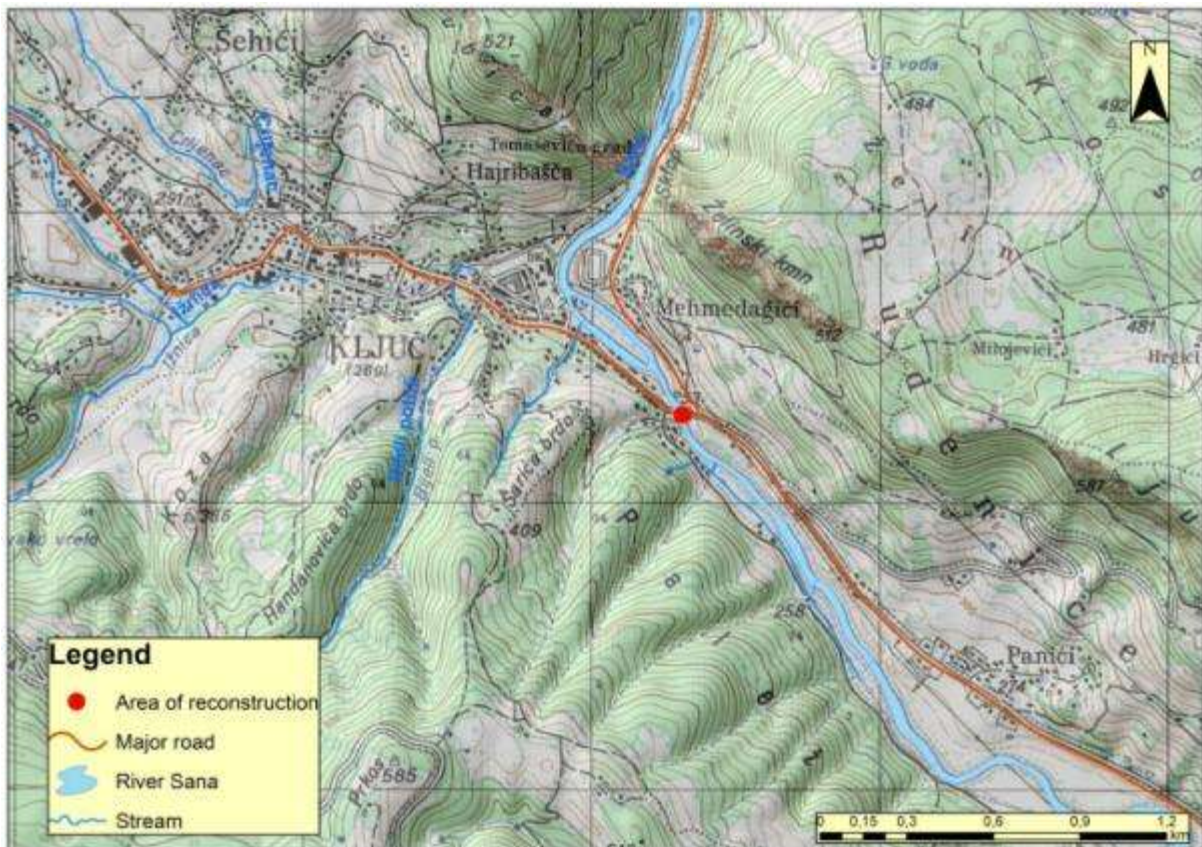
Based on geographical features and the fact that there are no significant polluters, it considers that the air quality is good. The Contractor shall conduct a baseline measurement for air quality monitoring prior to the start of works.

### **4.4. WATER AND WATER QUALITY**

The bridge, as already mentioned, stretches over the Sana River, which is the largest confluent to the Una River. The Sana river springs at the foot of the mountain Lisna (bottom level m.a.s.l 420.34), from Čajdarev, Palolić and Suvi springs, flowing north to the mouth of the river Gomjenica, and then turns west. After 139 km of flow Sana flows into the Una River near Bosanski Novi (bottom level m.a.s.l 114.80). The above shows that the average channel slope of the river Sana is 2.20%.

In the addition of the above mentioned, significant tributaries of Sana are Ribnik, Kijevska river, Kozica, Sanica (the largest tributary of the Sana river), Dabra, Bliha, Zdena, Sasina, Majdanuša, which extends within the central and eastern part of Sanski Most. Especially significant for the Sana River is the Bliha River, where we can find the largest waterfall of the Una river basin, 72m high. The average temperature of the Sana River is 16.8 °C, while the average flow of the Sana River in Sanski Most is 44.2 m<sup>3</sup>/s. Sana River has a pluvio - nival water regime. The terrain in the Basin of Sana River is built of limestone and dolomite rocks, and has numerous karst forms.

Figure 9: Hydrographic Map of the wider area of the Project



Source: PC Roads Federation of BH

Table 4. Comparison of average monthly data for the period 1975 - 1985.: 1. Temperature (°C), 2. Precipitation (mm), 3. Water level (cm), 4. Flow (m<sup>3</sup>/s) on Sana river

Sanski Most	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	God.
1.	-0,8	1,2	5,3	10,5	14,8	18,3	19,9	19,2	15,6	10,7	5,8	1,5	10,2
2.	72	71	79	94	105	113	101	90	79	87	98	93	1083
3.	175,4	185,5	186,2	209,7	182,9	167,4	155,7	141,9	146,7	165,2	164,1	182,3	171,9
4.	52	58,1	54,9	71,2	54,6	35,9	29,7	19,3	21,9	36,4	39,2	57,6	44,2

Source: Federal Hydrometeorological Institute, Sarajevo

We can notice an April and December maximum, and minimum values for the period of August and September.

The Sana River is threatened by human activities such as transport, agriculture, non-sanitary waste disposal and discharging untreated wastewaters from the housing facilities in the vicinity.

According to the Vulnerability study of the Una – Sana canton, river Sana is classified into Class II according to its quality. Class II includes waters that can be used for drinking after a certain purification treatment, and in a natural state for swimming, water sports, and for the growth and development of certain fish species. The Contractor shall conduct a baseline measurement for water quality monitoring prior to the start of works.

#### **4.5. NOISE LEVELS**

There was no monitoring of noise levels near the Project area; therefore there is no available baseline data of the impact of the noise on the environment. The largest source of noise, in general, is traffic.

In close proximity to the Project area, we can find mostly facilities for residential purposes (houses) and business purposes (stores), which are exposed to the traffic noise and according to the Law on Noise Protection, they fall under the fifth zone, where allowed noise levels are 65 dBA during day and 60 dBA at night. So we can say that there are no sensitive receptors (hospitals, health resorts etc.) around the area that could be impacted by an increased noise level.

#### **4.6. LAND AND LAND USE**

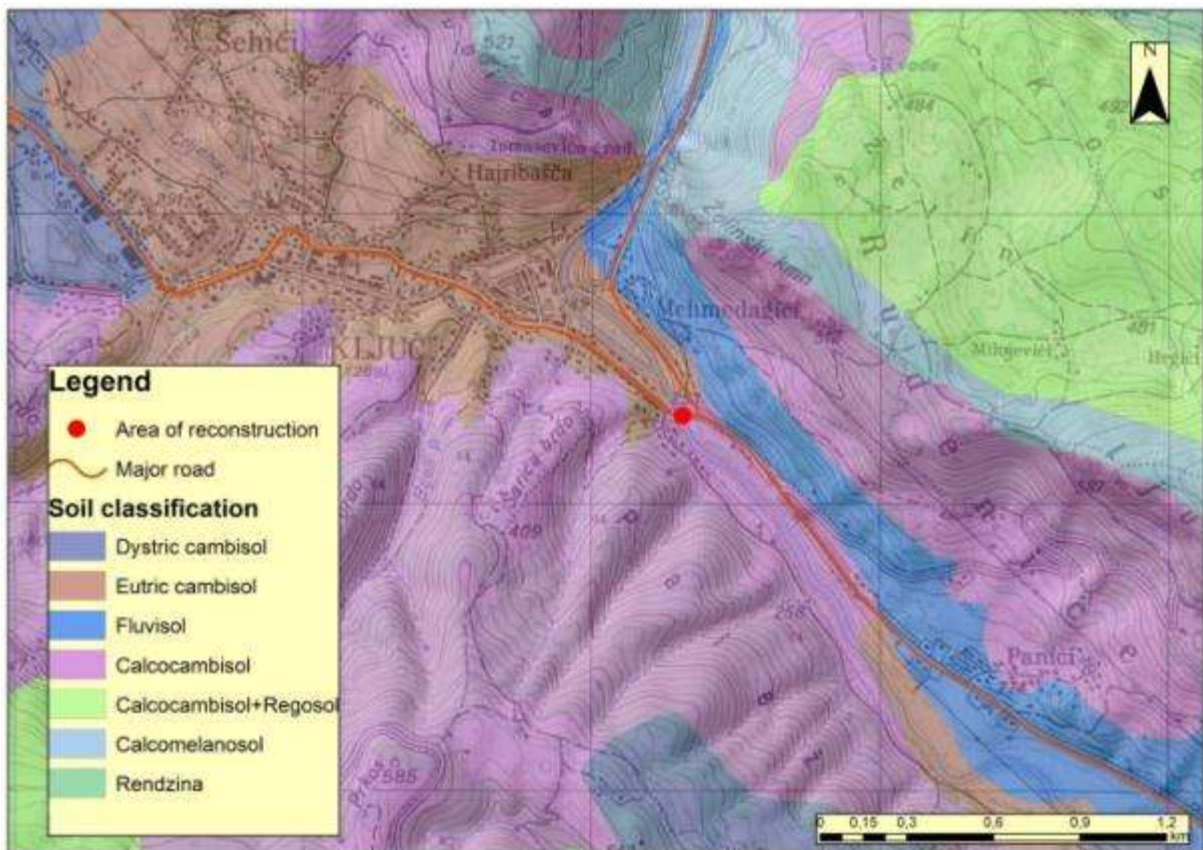
The soil around the planned project represents automorphic soil in the form of calcocambisol. Besides them, in the wider area we can find other automorphic soils such as rendzinas, regosols and distric cambisols but also fluvial soils like fluvisols. In the vicinity of the bridge there are three private and 7 public land plots as depicted in figure 10.

Figure 10: ownership of the land in the vicinity of the project bridge



Source: PC Roads FBH

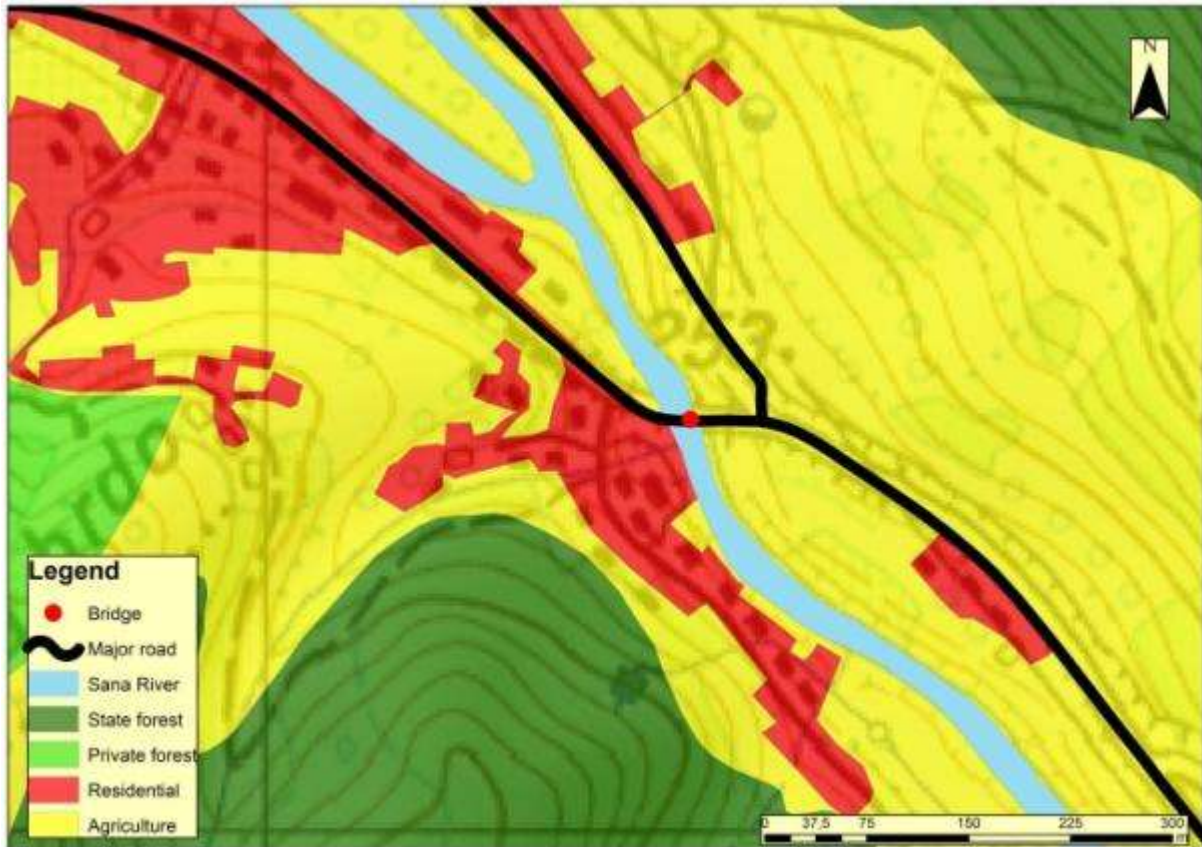
Figure 11: Soil map of the wider area of the project



Source: Spatial plan of Una – Sana Canton 2012.-2032.

In the vicinity of the Project the dominant land use is for agricultural purposes and residential facilities of individual housing. Individual housing facilities mostly represent buildings which are mainly ground floor, one-story and two-story houses. In the wider area we can also find agricultural land of the first category, which includes high level soil quality (I and IV category of soil quality). Public buildings are not located in the vicinity of the Project.

Figure 12: Land use in the wider area of the project



Source: Spatial plan of Una – Sana Canton 2012.-2032.

#### 4.7. FLORA AND FAUNA

According to the Development Strategy of the municipality Ključ, main representatives of flora in the area of the Municipality are various types of grasslands, artificially cultivated grass and clover-grass mixtures, herbs, artificially cultivated crops and vegetables plants, artificially grown fruits, trees, bushes and shrubs, herbs that provide useful berries and various kinds of edible and poisonous mushrooms. The forest has the following forest tree species: fir, beech, spruce, hornbeam, maple, ash, oak, pine, larch and linden tree acacia and willow in smaller quantities.

According to the Development Strategy of the municipality Ključ, 12 species of fish have been identified in waters in Ključ.

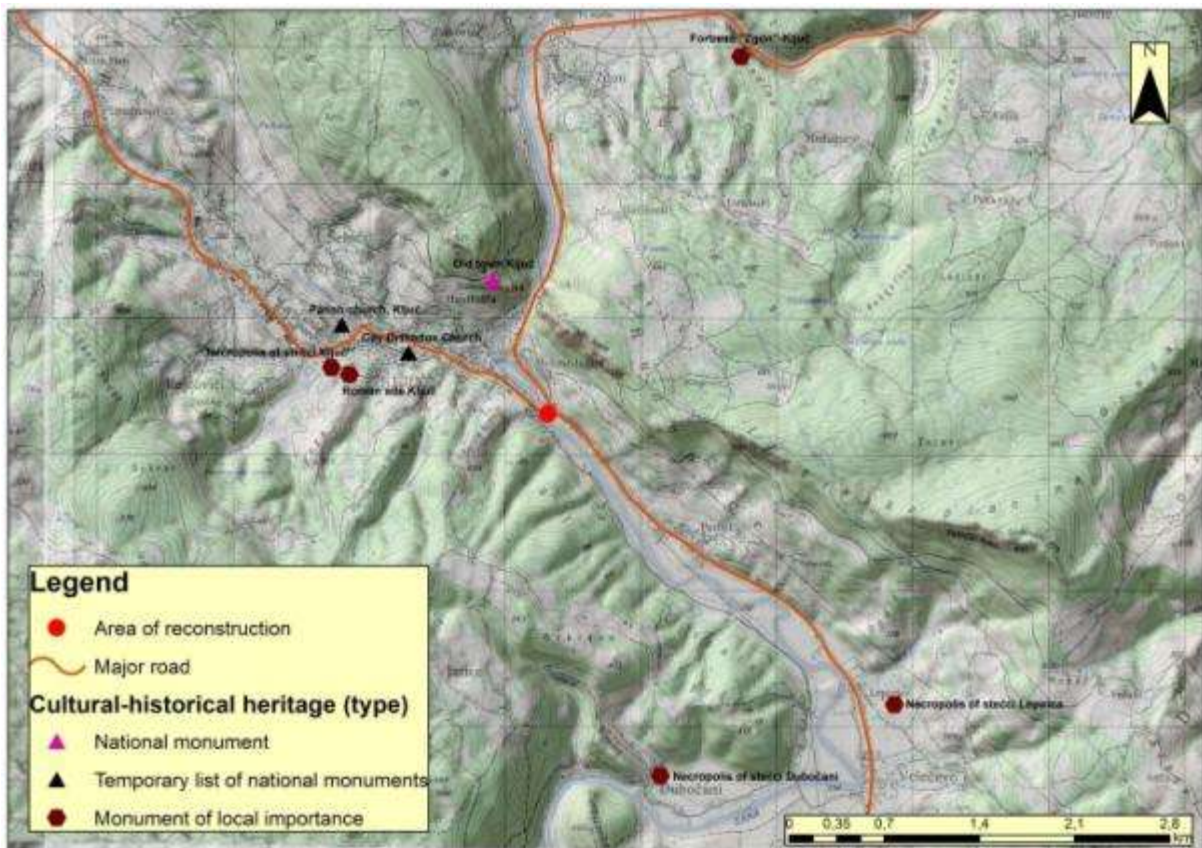
There is no exact data on the flora and fauna for the particular location of the Project, but based on the fact that this is an existing bridge, and that almost all activities will be carried out within the existing footprint, the risk to the flora and fauna is minimal. However, considering that the works will be done within the watercourse, the Contractor shall hire a biologist to conduct a review of the site for the baseline that needs to be prepared for monitoring prior to the start of works.

#### 4.8. PROTECTED AREAS

The location of the Project is not located within a protected area according to Spatial plan of FBH and Spatial plan of Una – Sana Canton. There are also no recorded archeological findings in the observed area. Nearby there are several cultural – historical monuments. The nearest to the project site is a national monument Old town in Ključ located about one kilometer from the project site, and the Orthodox Church in Ključ which is on the provisional list of national monuments, located about 1.100 meters from the Project.

Besides them, in the vicinity there is a „Parish church Ključ“ which is a national monument on the provisional list. The monuments of local importance in the vicinity include the necropolises of stećak tombstones Dubočani, Velečevo, Ključ, and the Roman site in Ključ.

Figure 13: Cultural – historical heritage in the wider area of the Project



Source: Spatial plan of Una – Sana Canton 2012.-2032.

#### **4.9. POPULATION AND SETTLEMENTS**

According to the Development Strategy of the Municipality Ključ, the municipality has the population of 22.121 people who live in 7038 households (52% of that are male and 48% are female). The population density is 54 ppl/km<sup>2</sup> which makes this municipality sparsely populated in accordance with the average population density in FBH which equals 89 ppl/km<sup>2</sup>.

The GDP of the municipality equaled 3.288 in 2011 which makes Ključ an undeveloped municipality compared to the municipalities in FBH. In accordance to the internal Census from 2003, the number of inhabitants of Ključ who work abroad is 9.414, from which female 4.686.

The municipality of Ključ has three primary schools and one high school. The nearest university lies in Banja Luka (cca 70 km away) and Bihać (cca 90km away). The health care system in the municipality is within the average of Federation BH with 810 people per one doctor. Primary and secondary health care as well as a public pharmacy and several private practices are present in the city. Only primary health care as well as one public pharmacy and two private dental practices are present in the city. The nearest secondary and tertiary health care centers are in Sanski Most (cca 30km away) and Bihać (cca 90 km away).

The project bridge lies on the entrance to the town and center of municipality Ključ from the direction of the border with the Entity Republika Srpska and thus has major importance for the local community. For the inhabitants of the north- east part of the municipality the bridge represents the only entrance point to the town Ključ, the health care and education center, while for the inhabitants of the town Ključ and the rest of the municipality the bridge represents the only passage to Sanski Most the nearest secondary health care center. The importance of the project lies also in transit traffic because the bridge lies on the main road M5, one of the most important transit roads in FBH which connects the north-west with the south-east of the country.

Figure 14: Distance of the project bridge to the nearest residence area



Source: Roads of FBH

## 5. DESCRIPTION OF POSSIBLE IMPACTS DURING Pre-construction, CONSTRUCTION, OPERATION AND MAINTENANCE

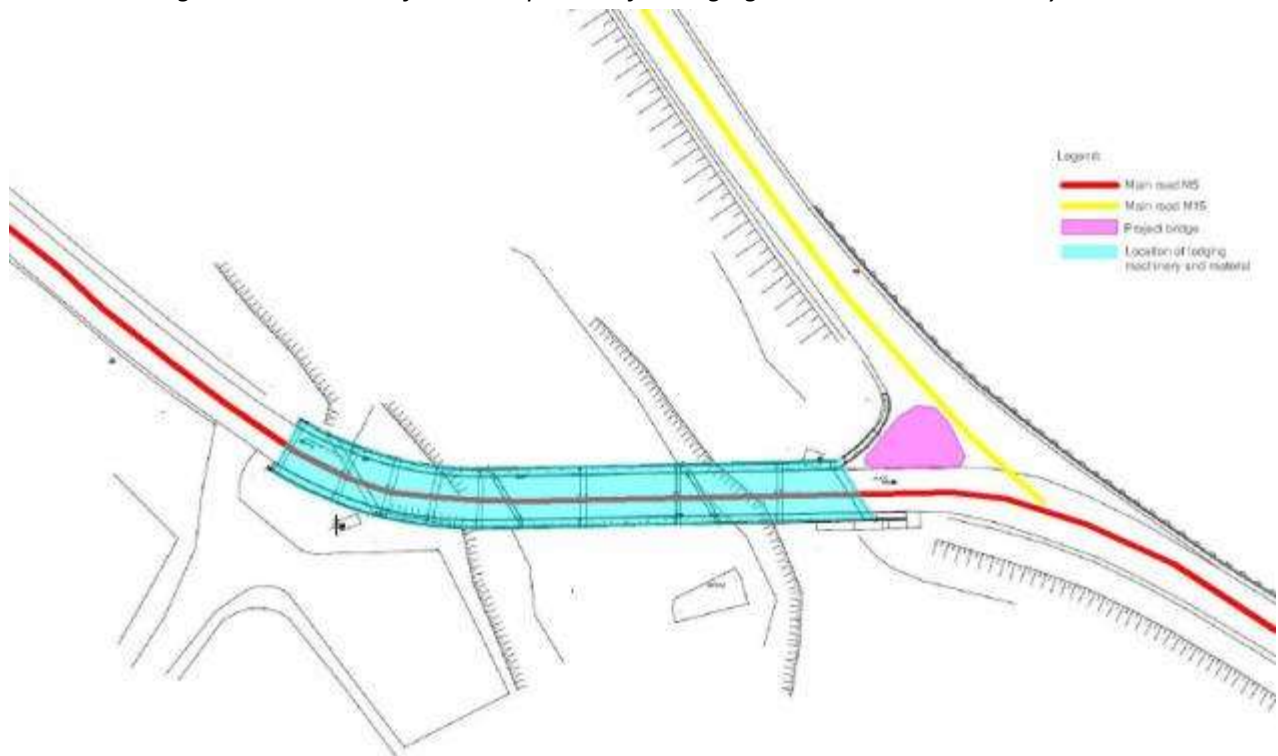
### 5.1. Impacts during pre-construction

#### Socio-economic impacts

**Land acquisition and resettlement:** Since the project envisages the reconstruction of a bridge without expansion beyond the current footprint which is clearly defined, there is no risk of additional land take. Although the width of the bridge is being expanded from 8,67 m to 9,98 m, no additional land is required to align the new bridge width with the existing road because the existing road is already aligned with standards and is of sufficient width. Thus, no land acquisition or resettlement is expected in this project.

Temporary land occupation of private land for lodging machinery and material is not expected since land owned by the investor in close vicinity to the project bridge that is depicted on figure 15 will be used for such purpose. Furthermore, since one lane traffic regime is planned during construction a part of the lane under construction at the entrance/exit of the bridge can also be used for lodging machinery and materials.

Figure 15: Location of the area planned for lodging materials and machinery



Source: Roads of FBH

## 5.2. IMPACTS DURING CONSTRUCTION

### Impact on Air Quality

**Exhaust gases** - The machinery which is used during the construction and delays, i.e. traffic standstills on the road due to works on reconstruction of bridge will lead to an increased emission of such gasses as SO<sub>2</sub>, CO<sub>2</sub>, CO, NO<sub>x</sub> and Pb.

**Dust generation**- where the most important polluters are solid particles (PM10 and PM2,5). Possible sources of dust generation include demolition works, site preparation activities, handling of building materials such as gravel, sand, asphalt, cement and the construction itself.

### Impact on Noise Level and Vibrations

Noise emission is likely to appear during site preparation. Possible sources of noise are: ground preparation activities, use of tools and equipment, assembly of building materials on site; offloading of building materials such as gravel, sand, asphalt etc. and the work of construction machines in general.

### Impact on Surface Water Quality

**Possible contamination of water**– Possible sources of water pollution are: demolition works and malpractice, handling with hazardous substances (i.e. concrete, asphalt, chemicals and paint), inadequate waste handling, liquid and solid equipment damage which may lead to leakage of lubricants and fuel (increased blurring, input of fats and oils), painting of the fences, paving of the bridge etc. Negative impacts may occur due to accidental or careless deposition of toxic substances from the asphalt or toxic paints into watercourses.

#### Impact on Biological and Natural Resources

- Work of heavy machinery during construction phase may lead to plants being covered with dust (e.g. blockage and damage to stomata, shading, abrasion of leaf surface or cuticle), which will affect plants growth and feeding base for animals;
- Pollution of water and soil with hazardous substances (fuel and oils in case of spills) can harm fish, amphibians, as well as animals living in the surrounding area.
- If not carried out carefully earth works in the riverbed may alter the flow of the river.

#### Impact on the Protected Areas

The observed project is not situated in either an existing or planned protected area.

#### Impact on Fish Habitat and Water Quality

Negative impacts on fish habitat may occur during the execution of the following activities: demolition works, works in the immediate vicinity of watercourses or in them, dumping toxic concrete, asphalt or concrete and asphalt, paint and other chemicals leaching into watercourse, disposal of fine particles in watercourses.

Works on the foundations of the bridge may cause changes in the flow of the river if not planned and executed properly.

#### Impact on Landscape Values

Partial alternation of landscape and visual aspects can be expected with organization of construction sites, presence of personnel and machinery on site. These impacts are temporary and negligible.

#### Impact on Traffic Safety and Traffic Flow

Traffic congestion and obstructions on the bridge - increased traffic load, leading to congestion and obstruction is likely to be experienced on local roads and on major roads (M-5). This is especially expected during delivery of construction material to site and collection of waste from site. During the reconstruction of the lanes, one of the traffic lane will be closed for traffic therefore there will be decrease in traffic flow and possible standstills on the bridge and surrounding area. Furthermore, such conditions decrease traffic safety.

**Impacts on local and transit traffic:** traffic will be increased (including heavy machinery and trucks) and only one lane will be in function, causing delays and restricted access.

Population Safety Impact As a result of the limited scope of civil works (i.e., reconstruction and widening of existing road), the impact of workers' presence on local community is minor. All workers will commute daily to the construction site.

#### Socio-Economic Impacts

**Temporary land acquisition and damage to private property:** At this time, it is not expected that it will be necessary to temporarily occupy any privately owned land plots for lodging machines and disposal of materials. Machines and materials will be disposed on land owned by the Investor located on the east entrance to bridge as depicted on Figure 15. Furthermore the walkover survey showed that this land has no other usage whether formal nor informal.

If additional temporary occupation of private land is needed during construction activities, this will be agreed upon with respective land owners and compensation will be paid in accordance with provisions determined in the RPF before the land is accessed.

**Impact on cultural-historical heritage:** difficult access to the national monument Old town in Ključ, national monuments on the provision list the Orthodox Church in Ključ and the „Parish church Ključ“ and monuments of local importance necropolises of stećak tombstones Dubočani, Velečevo, Ključ, and the Roman site in Ključ is expected during construction.

**New workplaces and impacts on local businesses (positive):** New business opportunities are expected to be created for local businesses such as transporters, suppliers and other service providers. The Project is expected to have positive impacts on the local employment opportunities with opening new workplaces during road construction. This impact is considered to be short-term and small

#### **Impact on living conditions of local communities**

Following adverse impacts during construction are expected:

- Noise increase,
- Construction waste disposal,
- Short-term disruptions to water and electricity supply, telephone and Internet connections, waste collection, regular public transport, delivery of mail.
- Local businesses can be affected in means of late delivery of goods and products. The impact is short termed and low due to the fact that there will be no full stoppage of traffic during the construction

**Land screening:** On 2nd of September, 2017 social specialists of the Project Implementation Team (PIT) conducted a walkover survey on the location of the Project Bridge (Bridge across the river Pliva). It has been noted that public land plots required for project activities such as lodging machines and materials are not being used in any way, neither formal nor informal, and do not require clearance.

*Figure 16 (a-d): Photographs made during the walkover survey on the 2<sup>nd</sup> of September, 2017*



*a) Land in the vicinity of the Project Bridge*



*b) Land in the vicinity of the Project Bridge*



*c) Land in the vicinity of the Project Bridge*



*d) Land in the vicinity of the Project Bridge*

*Source: PC Roads of FBH*

### 5.3. IMPACTS DURING OPERATION AND MAINTENANCE

Since this bridge is an already existing object no new negative environmental impacts, nor deterioration of existing negative impacts, during operation and maintenance are expected.

#### Socio-Economic Impacts

**Impacts on traffic:** According to Table 1: Traffic prognosis for the main road M5, section Ključ Center- Ključ- East, an increase to the number of vehicles is expected during the operational phase. Accordingly, by the year 2037 the number of vehicles will be increased by cca 50% in reference to the number of vehicles in 2015 (the latest AADT measurement data) Furthermore, an increase in speed of vehicles is expected due to the rehabilitation of the bridge during which all technical problems that were cause to lower speed of vehicles will be resolved.

### 5.4. POSITIVE IMPACTS

Project implementation will contribute to better environmental and socio-economic conditions and will have positive impacts on the quality of life of the local community. There are several social and environmental opportunities which were detected in the project:

- Bridge improvement in the sense of constructive stability, reflecting in increased safety;
- Reduced pollution of river Sana and its environment due to drainage water treatment (installation of grease and oil separator);
- Improved passage for vehicles, pedestrian and cyclist to the city of Ključ;
- Safer traffic conditions for drivers by improving construction elements of the pavement structure and safety fence and the Increase of pedestrian safety by reconstructing the pedestrian pavement on both sides of the bridge;
- Less damages to vehicles,
- Better traffic flow.

## 5.5. Enhancement measures

Table 5: Enhancement measures

Impact	Improvements to be achieved	Cost Assessment (US\$)		Institutional Responsibility	
		Operative	Implementation	Operative	Implementation
▪ Traffic	<ul style="list-style-type: none"> <li>▪ Improved road and travel safety by improving construction elements of the pavement structure and safety fence;</li> <li>▪ Better traffic flow</li> <li>▪ Increase of pedestrian safety by reconstructing the pedestrian pavement on both sides of the bridge</li> </ul>	Included in construction works	Included in supervision	Contractor	PC Roads FBH
▪ Socio-economic	<ul style="list-style-type: none"> <li>▪ New job and business opportunities for local construction workers and firms;</li> <li>▪ Better access for local community to necessary services such as jobs, education, health</li> </ul>	Included in construction works	Included in supervision	Contractor	PC Roads FBH
▪ Water	<ul style="list-style-type: none"> <li>▪ Improvement of the protection of the Sana River with implementing a treatment of drainage water (installation of grease and oil separator) and regular maintenance of it;</li> <li>▪ Improved and renewed hydro-isolation</li> </ul>	Included in construction works	Included in supervision	Contractor	PC Roads FBH
▪ Visual aesthetic and landscape	<ul style="list-style-type: none"> <li>▪ Improving visual aspects of the bridge and surrounding area.</li> </ul>	Included in construction works	Included in supervision	Contractor	PC Roads FBH

## 6. MITIGATION MEASURES

The purpose of this ESMP is to set forth mitigation measures associated with the environmental impacts identified for this given project activity. The mitigation measures are included in this section and summarized in *Table 6*. This chapter includes also the general provisions and mitigation measures that the contractor hired for reconstruction will need to obey and/or perform. The requirements that the Contractor needs to follow, beyond the provisions of the ESMP, will be outlined in a number of planning documents (plans) that will be developed by the contractor prior to any start of works. The development of such documents will allow for adjustments of the ESMP measures based on the potential new findings on the site, as a result of the public consultations or developing the project specific baseline.

As a part of Tendering Documents (TD) for the Contractor, PC Roads FBH will require that the Contractor submits a Construction Site Organization Plan (CSOP), which will highlight certain requirements both for completion of works and implementation of mitigation measures.

CSOP consists of following components<sup>4</sup>:

- (i) Description of the preparation works and description of location organization during and after the construction (design of access roads, internal roads, manipulative and parking spaces, layout of installations, design and organization of temporary construction site facilities, terrain rehabilitation upon completion of works). This part of CSOP needs to contain technical description, calculation and graphical appendices, and BoQ.
- (ii) Technological scheme (location and operation of the storage and disposal sites of the materials, location of the mechanization maintenance, disposal sites for special types of waste, storage of dangerous and harmful substances). This part of CSOP needs to contain technical description, calculation and graphical appendices, and BoQ.
- (iii) Elaborate on safety (Elaborate on safety on work and Elaborate on protection from fires and explosions), which shall include according to provision of this ESMP a Management Plan in Case of Accidents (MPCA); and
- (iv) Practical plan of the implementation of this ESMP and among other a detailed Waste Management Plan (WMP)].

Additional request for the Contractor, as stipulated by ESMF and this ESMP, is to design and submit a detailed Traffic Management Plan (TMP) 30 days prior to commencement of works (in accordance with *Appendix 4. Road Safety Management* of the ESMF). The TMP

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<sup>4</sup> Ordinance on Construction Site Organization, Mandatory Documents on Site and Participants in Construction (Official Gazette of the FBH No. 48/09)

shall also include management of traffic according to the season, notably trying to minimize impacts during the summer months.

Within the framework of the project, PC Roads FBH prepared a Resettlement Policy Framework (RPF) which clarifies land acquisition/resettlement and compensation principles, organizational arrangements and procedures for planning land acquisition/resettlement. In this sub-project no land acquisition is expected.

## **6.1. MITIGATION MEASURES IN PRE-CONSTRUCTION PHASE**

### **6.1.1. Contractor Management**

PC Roads FBH will ensure that the construction activity is carried out without risk to the health and safety of all workers and local community through contract clauses. Therefore, the Contractor will plan, coordinate, control and monitor the undertaken activities to effectively minimize the risks presented during their work.

The ESMP is an integrated part of the TD and the Contract for Execution of Works. It is the Contractor's obligation to include the implementation of environmental and social mitigation measures into the overall cost.

The Contractor will be required to provide a short statement that confirms that:

- The ESMP conditions have been estimated and included into the bid price,
- The Contractor for Execution of Works has a qualified and experienced person on the Contractor's team who will be responsible for the environmental and social compliance requirements of the ESMP.
- The Contractor will comply with applicable BH and FBH laws, EU standards and WB requirements, including the relevant Operational Policies, this ESMP, framework ESMF and the Environment, Health and Safety guidelines, where applicable.

The following contractual conditions shall apply to the Contractors for Execution of Works employed by PC Roads FBH:

- The Contractor will be required to prepare site-specific CSOP in accordance with the requirements of this ESMP. All submitted CSOPs shall be formally reviewed by PC Roads FBH prior to agreement and signing.
- The Contractor will provide formal written reports to PC Roads FBH in accordance with requirements set-out in the ESMP which is part of this document;
- PC Roads FBH is responsible to introduce all contractors and sub-contractors and personnel working on the Project on the contents and provisions of this ESMP and any penalties arising from non-compliance therewith;
- The Contractor is responsible for notifying PC Roads FBH immediately upon receiving any complaints or grievances, as well as immediately upon identifying and implementing any of any corrective actions. The Contractor shall inform the

complainant of the Grievance redress mechanism. All grievances will be registered with the Central Feedback Desk (CFD) and logged in the Central Grievance Log. Contractor will fill out the grievance registration template provided in Appendix 2 of this ESMP on a regular basis and will make it a part of the monthly reports to the contractor

The Contractor shall provide monthly reports on its management and monitoring of the working conditions of direct and indirect employees on the work site and ensure that systems are in place to monitor compliance with labor and health and safety standards.

The contractor shall:

- Ensure that all workers are required to comply with all national/federal legislation on labor and health and safety, as well as any other relevant standards, including the World Bank Group EHS guidelines; and be held responsible if compliance is not met;
- Be responsible for all activities undertaken by his subcontractors;
- Maintain regular effective two-way communication with all workers, sharing information and assisting in dealing with any unforeseen problems promptly.
- Exchange information and request any plans from sub-contractors which deals with significant health and safety hazards and risks created by or associated with their work activities.

The recommendations and proposed mitigation measures will be attached to the tendering documentation and subsequently the contract with the Contractor. The ESMP is a part of the work program and as such, it needs to be addressed to the Contractor and carried out as required.

During the construction phase, Contractors will be required to allocate the responsibility of overseeing day-to-day compliance with the SS ESMP to a senior member of staff. Contractors will be responsible for the implementation of all measures included in the SS ESMP for all activities undertaken in terms of the construction contract (including work undertaken by subcontractors). Compliance of Contractors with these measures will be assessed by the Construction Supervisor appointed by the JP Ceste FBIH, in line with the Decree on Construction Site Organisation, Mandatory Documentation on Construction Site and Construction Work Participants.

## **6.2. MITIGATION MEASURES IN CONSTRUCTION PHASE**

### **6.2.1. Environmental Management**

During the construction phase, the Contractor shall award the responsibility of supervising everyday compliance with ESMP to a senior engineer.

The Contractor will be responsible for the implementation of all measures included in the ESMP for all activities undertaken in terms of the construction contract (including work undertaken by sub-contractors).

Compliance of Contractors with provision of ESMP will be assessed by the Construction Supervisor appointed by PC Roads FBH, in accordance with the Ordinance on Construction Site Development, Obligatory Documents on Construction Site and Participants in Construction Work (Official Gazette of the FBH, No. 48/09, 75/09 and 93/12).

Compliance reviews will be submitted by Contractor to PC Roads FBH on a monthly basis. Non-conformances, incidents and deviations from the ESMP will be communicated to PC Roads FBH, or the Supervisor, as soon as possible, within 24 hours from the time of occurrence, where PC Roads FBH shall react to the occurrence a.s.a.p. and impose corrective measures with a deadline for undertaking them.

All mitigation measures are specified in the Table 6. Environmental and Social Impacts Management Plan.

### **6.2.2. Health and Safety**

Works on the rehabilitation of the bridge may pose health and safety risks for construction workers and visitors to the construction site. Population near the construction site and construction workers, as well as road users will be exposed to the risk of: biophysical health risk factors, (e.g. noise, dust, chemicals, construction material, solid waste, wastewater, vector transmitted diseases etc.), and (ii) road accidents from traffic of heavy machinery during the construction period.

Therefore, the Contractor is obliged to:

- Ensure that only properly trained/licensed people operate heavy machinery;
- Implement suitable safety standards for all workers and site visitors, which should not be less than those laid down in the international standards<sup>5</sup> in addition to complying with the national standards the FBH,
- Make sure basic safety features for visitors are in place, such as construction warning signs for protecting unsafe areas from being accessed or the obligation for every visitor to wear a helmet before entering the construction site
- Provide the workers with a safe and healthy work environment, taking into account inherent risks in its particular road rehabilitation activity and specific classes of hazards in the work areas,

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<sup>5</sup> - *Occupational Safety and Health Convention, 1981 (No. 155)*

- *Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187)*

- *The Safety and Health at Work Directive 89/391/EEC*

- *World Bank Occupational Health and Safety Guidelines (April 30, 2007.)*

- *and other Recommendations and EU directives*

- Provide personal protective equipment (PPE) for workers, such as safety boots, helmets, masks, gloves, protective clothing, goggles, full-face eye shields, and ear protection. Maintain the PPE properly by cleaning dirty equipment and by replacing damaged equipment with new one.
- Safety procedures include provision of information, training and protective clothing to workers involved in hazardous operations and proper performance of their job.
- Appoint an environment, health and safety manager to look after the health and safety of the workers.

#### **6.2.2.1. Safety Engagements**

The Contract should ensure that all possible risks in the course of work are eliminated or reduced to a minimum. In order to prevent the possibility of higher-scale accidents it is necessary to plan and develop the measures to help reduce the adverse impacts. The Contractor's duty is to create a Management Plan in Case of Accidents (MPCA).

The MPCA should include organizational structure, responsibilities, procedures, communication, training, resources and other measures needed to provide appropriate reaction of the Contractor in case of accidents which might occur during the project. The most important items of the MPCA are as follows:

- Identify potential hazards and large-scale accidents,
- General procedures for all emergencies and accidents that might occur during the project due to natural disasters, defects on equipment or human errors,
- Description of preventive measures against accidents,
- Workers training for their roles and responsibilities when accident occurs,
- Determining responsible person at the spot,
- Urgent communication procedures,
- Information and contacts of important local authorities and emergency services,
- Internal and external alarming,
- Response plans for specific types of hazards, for example medical assistance, fire etc.

The MPCA should include:

- Spill Response Plan,
- Emergency Preparedness,
- Response Plan to Accidents.

Specific measures for works above deep obstacles are provided in the Labor protection Law (Official Gazette of SRBH 22/90) and Regulations on Occupational Safety in Construction (Official Gazette of SRBH 42/68)

The Contractor is obliged to secure the construction site in accordance with the Regulations on Occupational Safety and to provide adequate equipment

In case compliance is not met the contractor will be held responsible in accordance with Labor Protection Law

The contractor is also obliged to:

- The contractor should provide portable toilets at the construction sites, if about 25 people are working the whole day for a month. Location of portable facilities should be at least 6 m away from storm drain system and surface waters. These portable toilets should be cleaned once a day and all the sewerage should be pumped from the collection tank once a day and should be brought to the common septic tank for further treatment.
- Contractor should provide bottled drinking water facilities to the construction workers at all the construction sites.

#### **6.2.2.2. First Aid**

The Contractor shall:

- Ensure that facilities that provide health care and first aid are easily accessible. Appropriately equipped first aid stations are to be easily accessible in the whole work area;
- Documenting and reporting accidents, diseases and incidents on workplace;
- Prevent accidents, injuries and diseases originating from, in connection with or arising in the course of work, reducing as much as possible the possible cause of danger in the way which is in accordance with good international practice;
- Identify potential dangers for works, particularly those that might pose threat to life, and provide the necessary preventive and protective measures;
- Ensure that construction site drivers strictly comply with the rules of driving;
- Ensure appropriate lighting alongside roads.

#### **6.2.3. Traffic and Road Safety**

The Contractor shall develop the CSOP which includes preparation and organization of construction site during and after construction, including roads on the construction site i.e. Traffic Management Plan (TMP). Traffic on construction site is to be regulated the same way as public traffic roads.

The Contractor is obliged to:

- Prepare and deliver the TMP to PC Roads FBH for its approval, no later than 30 days upon the beginning of works on any component of the project included in traffic redirection and management.
- For the purpose of uninterrupted traffic movement during the reconstruction of the crossroads, include in TMP the following parts: detailed drawings of traffic solutions by showing all bypasses, temporary roads, temporary turns, necessary barricades, signalization/lighting, traffic signs etc.
- Ensure signs in strategic parts of traffic roads.
- Install and maintain a sign on each important crossroads, on roads which will be used during reconstruction works, which will clearly indicate the following data in a local language:
  - Location: station label and settlement name,
  - Duration of construction,
  - Name and contact address/telephone number of responsible personnel,
  - Name and contact address/telephone number of contractor,
  - Sincere apology for the caused inconvenience.

According to the Law on Roads FBH, article 77. For every construction on public road, for works on regular maintenance or any other works under traffic, appropriate temporary signage has to be set up. Respectively traffic has to be regulated in a way that will guarantee safety of traffic and contractor with minimum traffic flow disruptions.

The appropriate signage will be determined based on the Regulations on Traffic Signs (Regulations on Traffic Signs and Signage on Roads, Ways of Marking Works and Obstacles on Roads and Signs that an Authorized Person Can Give to Participants in Traffic ("Official Gazette of BiH", No. 16/07)) and in line with the Guidelines for Design, Construction, Maintenance and Control on Roads (Sarajevo/Banja Luka 2005).

TMP should include details about the following:

- Construction plan by phases,
- Beginning and duration of works,
- Overview of the existing conditions near the construction site,
- Identification of affected areas,
- Mitigation measures
- Circulation plans, including zones of entry and exit, routes for towing of material, turnaround points, parking areas, zones of interlocking with other traffic roads etc.,

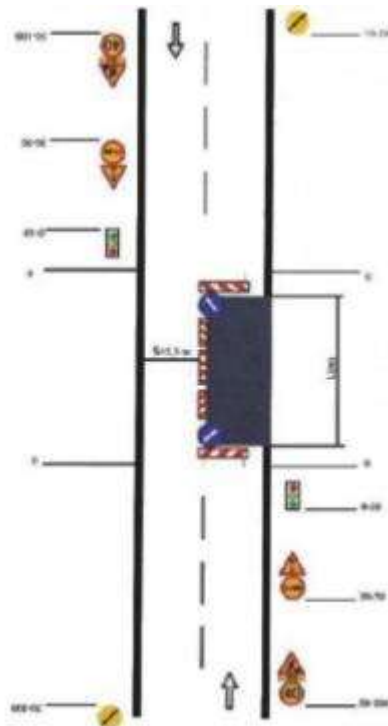
- Routes for pedestrians and vehicles,
- Traffic controls for each expected intervention, including illustrations of barriers, paths, signalization plan, warning signs etc.,
- Requirements for special vehicles, for example, those of large dimensions,
- Construction works paths (access, ramps, loading, unloading),
- Connection roads for supply vehicles and storage of material,
- Expected interaction of pedestrians and vehicles,
- Roles and responsibilities of persons on construction site regarding traffic management,
- Instructions on the procedures regarding traffic control, including urgent situations.

TMP should also include appropriate communication with affected population about traffic and timely information of traffic changes/road blockage.

TMP should be monitored on a regular basis (responsibility of the supervision engineer) and audited to ensure effective implementation and to take into consideration any changes on construction site. All workers on construction site should get acquainted with the TMP.

Road safety measures that will be in place during the reconstruction of the bridge include light and vertical traffic signage as shown on figure 15.

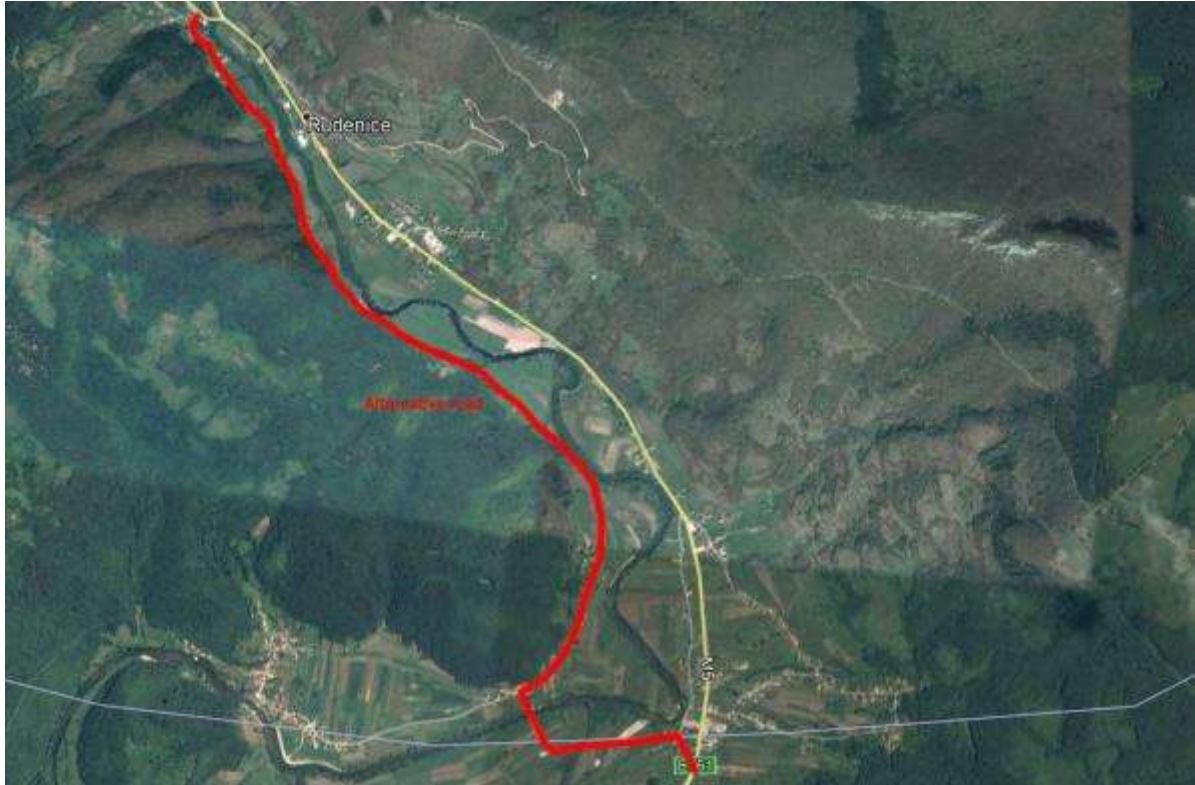
*Figure 17: scheme of an example of road safety measures during the construction phase*



Source: PC Roads Federation of BH

In order to minimize the impact on traffic and road safety an alternative route will be made available as depicted on figure 16. The alternative road exists now as a local macadam road and will for this purpose be leveled and evened.

Figure 18: scheme of an example of road safety measures during the construction phase



Source: PC Roads Federation of BH

#### 6.2.4. Construction Site Safety

The Contractor shall secure the construction site. The construction site should be accompanied with a board with information on works and participants in construction (investor's name, contractor's name, project designer's name, name and type of construction being built, beginning and end of works). These measures are necessary so the Contractor could ensure safety of construction site and prohibit entry ensure of unauthorized persons.

The *Elaborate on safety on work* and *Elaborate on protection from fires and explosions* should include detailed measures of safety on construction site in order to ensure safety of location and remove possible risks and adverse impacts on employees and unauthorized persons.

### **6.2.5. Land Acquisition, Involuntary Resettlement and Economic Displacement**

At this moment, it is not expected that any private land will have to be occupied during construction for lodging machines and disposal of materials. However, if temporary occupation of private land is needed during construction, this will be agreed upon with respective owners and the compensation will be paid in accordance with provisions determined in the RPF before the land is accessed. Furthermore it can be confirmed that no changes to the footprints of the alternative road will be made. The contractor is responsible for keeping the works within the right of way.

### **6.3. MITIGATION MEASURES IN OPERATIONAL PHASE**

It is required from PC Roads FBH to undertake the instructions given in the Table 6. Environmental and Social Impacts Management Plan in operational phase.

### 6.4. SUMMARY OF MITIGATION MEASURES

Table 6: Environmental and Social Impacts Management Plan

Impact/Problem	Mitigation Measures	Cost Assessment (US\$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
<b>PRE-CONSTRUCTION PHASE</b>						
<ul style="list-style-type: none"> <li>Impacts on living conditions</li> </ul>	<ul style="list-style-type: none"> <li>Informing the local communities on the extent of works and duration prior to the commencement of construction works via local newspapers, the municipality’s notice board and website and via PC Roads’ website as soon as the contract is signed.</li> <li>informing road users via the construction site information board, and an information leaflet at the construction site</li> </ul>	Internal resources	Internal resources	PC Roads FBH	PC Roads FBH	<ul style="list-style-type: none"> <li>Impacts on living conditions</li> <li>Road users are orderly informed about construction works on roads via radio news and auto-moto club’s press releases.</li> </ul>
<ul style="list-style-type: none"> <li>Compliance with national legislation</li> </ul>	<ul style="list-style-type: none"> <li>Obtaining all necessary permits for Project implementation.</li> </ul>	Internal resources	Internal resources	PC Roads FBH + Project designer	PC Roads FBH	<ul style="list-style-type: none"> <li>Prevention of negative impacts</li> </ul>

Impact/Problem	Mitigation Measures	Cost Assessment (US\$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
<ul style="list-style-type: none"> <li>Restrictions on land use and damages on private property</li> </ul>	<ul style="list-style-type: none"> <li>Avoid private properties where possible;</li> <li>The Contractor will organization the construction site in collaboration and agreement with Ključ municipality;</li> <li>In case occasional restriction on land use cannot be avoided, compensation will be provided to affected owners/users (application of RPF), as well as compensation for loss of the possibility to continue to use land as intended.</li> </ul>	Internal resources	Internal resources	Contractor + PC Roads FBH	PC Roads FBH	If occasional restriction on land use cannot be avoided, it will be agreed upon with respective owner and compensation will be paid before the land is accessed
<ul style="list-style-type: none"> <li>Job creation and impacts on local business</li> </ul>	<ul style="list-style-type: none"> <li>Informing the public in advance about the construction works, in order to enable businesses and workforce in the area to prepare for the demand on the market via local newspapers, the municipality's notice board and website and via PC Roads' website as soon as the contract is signed</li> <li>Informing business owners in advance about the construction works, in order to be able to plan the necessary road use accordingly (via local newspapers, the municipality's notice board and website and via PC Roads' website as soon as the contract is signed)</li> </ul>	Internal resources	Internal resources	Contractor + PC Roads FBH	Contractor + PC Roads FBH	
<b>CONSTRUCTION PHASE</b>						

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Impact/Problem	Mitigation Measures	Cost Assessment (US\$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
<ul style="list-style-type: none"> <li>▪ Access restriction</li> </ul>	<ul style="list-style-type: none"> <li>▪ Implementation of the provisions on providing timely information to citizens through the media about upcoming construction works, expected duration of the works, alternative routes, etc. via an information leaflet on the construction site local newspapers, the municipality's notice board and website and via PC Roads' website as soon as the contract is signed</li> <li>▪ Implementation of TMP.</li> <li>▪ Clear signs posted. Notifications made through media or other road safety clubs on road closure.</li> <li>▪ Area where materials and equipment are stored are clearly marked and closed off to unauthorized access.</li> </ul>	Included in construction works	Included in supervision	Contractor	Supervisory body*	
<ul style="list-style-type: none"> <li>▪ Temporary occupation of publicly or privately owned land plots in case of unforeseen events</li> </ul>	<ul style="list-style-type: none"> <li>▪ Avoidance of temporary occupation of privately owned plots;</li> <li>▪ In case avoidance is not possible, minimize size of the area used and impacts on the vegetation and implementation of RPF on temporary occupation.</li> </ul>	Internal resources	Internal resources	PC Roads FBH + Contractor	PC Roads FBH*	
<ul style="list-style-type: none"> <li>▪ Impacts on living conditions of local community</li> </ul>	<ul style="list-style-type: none"> <li>▪ Providing timely information to the citizens on any type of disruption and inconvenience; via local newspapers, the municipality's notice board and website and via PC Roads' website, as soon as the type and duration of the disruption and inconvenience is known.</li> <li>▪ Implementation of TMP;</li> <li>▪ Implementation of CSOP;</li> <li>▪ Implementation of ESMP provisions.</li> </ul>	Included in construction works	Included in supervision	PC Roads FBH (providing information s to the citizens) + Contractor(f ollowing the	Supervisory body*	

\* Supervisor shall be a Consultant appointed by PC Road FBH according to Federal Legislation.

\* Supervisory body shall be a Consultant appointed by PC Roads FBH according to Federal legislative

Impact/Problem	Mitigation Measures	Cost Assessment (US\$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
				provisions of the TMP, CSOP, ESMP		
<ul style="list-style-type: none"> <li>▪ Impact on the Sana River</li> </ul>	<ul style="list-style-type: none"> <li>▪ Infill must be controlled in order not to endanger the flow profile of the Sana River control</li> <li>▪ Ensure that the sandblasting of the bridge construction and demolition works are carried out with protective covers, so waste cannot reach the river; and that the dripping of paint is caught in tarps.</li> </ul>	Included in construction works	Included in supervision	Contractor	Supervisory body*	
<ul style="list-style-type: none"> <li>▪ Impact on fish habitat and water quality</li> </ul>	<ul style="list-style-type: none"> <li>▪ In order to avoid negative impacts the following mitigation measures can be used:                             <ul style="list-style-type: none"> <li>- Limit the execution of works outside the spawning fish season;</li> <li>- Ensure that concrete works are isolated from watercourses;</li> <li>- Ensure that dirty water from machines, during the rehabilitation works, is collected and disposed properly</li> <li>- Ensure that equipment is not washed near the watercourse.</li> <li>- Ensure that the sandblasting of the bridge construction and demolition works are carried out with protective covers, so waste cannot reach the river; and that the dripping of paint is caught in tarps.</li> <li>- Ensure no changes to the flow of the river are caused by diversions during works on foundations</li> <li>- Respect all protection provisions in line with the local regulations that call for protection of the Sana river and riverbanks</li> </ul> </li> </ul>	Included in construction works	Included in supervision	Contractor	Supervisory body*	

Impact/Problem	Mitigation Measures	Cost Assessment (US\$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
<ul style="list-style-type: none"> <li>▪ Impacts on local traffic (increase of local traffic, including heavy machinery and trucks), operation of roads with only one lane causing traffic delays and limited access</li> </ul>	<ul style="list-style-type: none"> <li>▪ Implementation of TMP;</li> <li>▪ Introduction of appropriate signalization and warning signs;</li> <li>▪ Timely information to public on traffic disruptions.</li> <li>▪ Providing an alternative route</li> </ul>	Included in construction works	Included in supervision	Contractor	Supervisory body*	In collaboration with the local Ministry of the Interior Relations and BHAMK
<ul style="list-style-type: none"> <li>▪ Temporary occupation of privately owned land plots for the purpose of placement of staff, machines and material</li> </ul>	<ul style="list-style-type: none"> <li>▪ Avoidance of the use of private lands;</li> <li>▪ In case avoidance is not possible Implementation of RPF.</li> </ul>	Internal resources	Internal resources	PC Roads FBH	PC Roads FBH	
<ul style="list-style-type: none"> <li>▪ Air emissions:                             <ul style="list-style-type: none"> <li>- exhaust gasses;</li> <li>- dust generation</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ High quality fossil fuels (with low percentage of sulphur and lead) need to be used for construction machinery and equipment;</li> <li>▪ All machines and vehicles to be used in construction/ reconstruction/ rehabilitation activities must have use permit;</li> <li>▪ Vehicles need to be regularly maintained;</li> <li>▪ Equipment with installed filters to reduce soot emission needs to be used;</li> <li>▪ When not in use the equipment and machinery need to</li> </ul>	Included in construction works	Included in supervision	Contractor	Supervisory body*	

\* Supervisor shall be a Consultant appointed by PC Road FBH according to Federal Legislation.

Impact/Problem	Mitigation Measures	Cost Assessment (US\$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
	<ul style="list-style-type: none"> <li>be shut down;</li> <li>▪ Maximum speed of the vehicle on unpaved roads should be restricted to 20 km/h;</li> <li>▪ Moistening/ wetting the site to prevent dust occurrence (in areas with dry soils or where activities generate dust);</li> <li>▪ Sand and gravel materials need to be transported in covered trucks.</li> </ul>					
<ul style="list-style-type: none"> <li>▪ Increased level of noise and vibration:</li> <li>- noise emission and noise disturbance;</li> <li>- vibration</li> </ul>	<ul style="list-style-type: none"> <li>▪ Restriction of works to period of day only (period of day: 06:00 to 22:00, period of night: 22:00-06:00; or agreed with the local community)</li> <li>▪ In the case of noise complaints by local residents, simultaneous use of machines that generate noise over 70 dB needs to be limited;</li> <li>▪ In the case of noise complaints by local residents, number of trucks per day visiting the site needs to be reduced;</li> <li>▪ All machines and vehicles to be used in construction/ reconstruction/ rehabilitation activities must have use permit;</li> <li>▪ When not in use the equipment and machinery need to be shut down;</li> <li>▪ Maximum speed of the vehicle on unpaved roads should be restricted to 20 km/h.</li> </ul>	Included in construction works	Included in supervision	Contractor	Supervisory body*	
<ul style="list-style-type: none"> <li>▪ Emissions into water:</li> <li>- possible contamination of surface water</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ensure there is an emergency plan to contain all leaks and spills that result from an accident.</li> <li>▪ Prevent any repairs, handling of machinery, fuels or lubricants in areas that are not designated for such use.</li> <li>▪ Proper waste disposal and separation of hazardous</li> </ul>	Included in construction works	Included in supervision	Contractor	Supervisory body*	

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Impact/Problem	Mitigation Measures	Cost Assessment (US\$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
	waste is required, as well as the engagement of authorized companies for final waste disposal; <ul style="list-style-type: none"> <li>▪ Oil and fuel collection systems to be fitted to prevent leakage;</li> <li>▪ Vehicles and machines need to be regularly maintained to prevent leakage.</li> </ul>					
<ul style="list-style-type: none"> <li>▪ Soil degradation and emissions to soil:</li> <li>- soil erosion;</li> <li>- soil contamination by oils, fuels and other hazardous substances</li> </ul>	<ul style="list-style-type: none"> <li>▪ Proper waste disposal; separation of hazardous waste; engagement of authorized companies for final waste disposal; track of the final disposal sites especially for removed asphalt; note/record of the waste amounts;</li> <li>▪ Oil and fuel collection systems to be fitted to prevent leakage</li> </ul>	Included in construction works	Included in supervision	Contractor	Supervisory body*	
<ul style="list-style-type: none"> <li>▪ Degradation of biological and ecological resources:</li> <li>- destruction of aquatic habitat due to changes in water flow and quality in terms of sediment load</li> </ul>	<ul style="list-style-type: none"> <li>▪ Prevent and control oil, fuel, and chemical spillages that can find their way to the streams;</li> <li>▪ Works in the riverbed must be minimized and restricted;</li> <li>▪ The land determined for use by the Project can only be used for the construction activities and no other land is available for i.e. storage of building material, parking of the heavy machinery etc. in terms of soil disruption.</li> </ul>	Included in construction works	Included in supervision	Contractor	Supervisory body*	
<ul style="list-style-type: none"> <li>▪ Inadequate waste handling</li> </ul>	<ul style="list-style-type: none"> <li>▪ Implementation of WMP that shall ensure environmentally sound collection of waste, its storage, transport and final disposal, and primarily reuse / recycling.</li> </ul>	Included in construction works	Included in supervision	Contractor	Supervisory body*	+ local waste management

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Impact/Problem	Mitigation Measures	Cost Assessment (US\$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
	<ul style="list-style-type: none"> <li>▪ No clandestine waste disposal will be allowed on site, including open burning of wastes.</li> <li>▪ The waste should be stored for a short period of time and should be removed as soon as possible.</li> <li>▪ The waste should be primarily recycled or reused where possible and then finally disposed</li> <li>▪ No open burning of wastes is allowed on site</li> <li>- Waste that cannot be reused should be handed over to a licensed company or agent (amounts are to be recorded as well as types of handling actions).</li> <li>▪ Disposal sites of construction material are determined by the municipality and should be handled in the most appropriate environmental manner.</li> </ul>					t operator
<ul style="list-style-type: none"> <li>▪ Inadequate workers safety</li> </ul>	<ul style="list-style-type: none"> <li>▪ Implementation of work safety measures:                             <ul style="list-style-type: none"> <li>- Provide workers with a safe and healthy work environment as defined in the Occupational Health and Safety Management Plan (OHSMP), developed as a part of the Construction Site Organization Plan (CSOP) that will be developed for the Project</li> <li>- Provide personal protective equipment,</li> <li>- Respect safety procedures,</li> <li>- Provide portable toilets,</li> <li>- Provide drinking water</li> </ul> </li> </ul>	Included in construction works	Included in supervision	Contractor	Supervisory body*	
<ul style="list-style-type: none"> <li>▪ Accidental situations i.e. spills, leakage of oils, fats, fuels and similar hazardous materials</li> </ul>	<ul style="list-style-type: none"> <li>▪ Implementation of Environmental Management Plan which includes:                             <ul style="list-style-type: none"> <li>- Spill Response Plan,</li> <li>- Emergency Preparedness and Response Plan.</li> </ul> </li> <li>▪ Implementation of Management Plan of Fire and</li> </ul>	Included in construction works	Included in supervision	Contractor	Supervisory body*	

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Impact/Problem	Mitigation Measures	Cost Assessment (US\$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
	Explosion ▪ Implementation of Labor Protection Law					
▪ Materials supply and transport	▪ Implementation of CSOP to ensure materials are transported in covered vehicles to reduce impacts on environment	Included in construction works	Included in supervision	Contractor	Supervisory body**	
▪ Paving of the bridges and painting fences on bridges	▪ Ensure that the asphalt is not deposited on purpose or accidentally into watercourses; ▪ Ensure that the sandblasting of the bridge construction is carried out with protective covers and the dripping of paint is caught in tarps.	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Impact to the flow profile of river Sana	▪ Works should be carried out in the period of low water; ▪ Strictly control work of excavation around foundations; ▪ Restrict the movement of vehicles in the river bed; ▪ Excavated material cannot be disposed in the riverbed or on riverbanks. ▪ No waste disposal in river. ▪ No cutting off of flow of the river in entirety ▪ Maintain high standard of protection of the riverbanks and river profile during works.	Included in construction works	Included in supervision	Contractor	Supervisory body*	
CHANCE-FIND PROCEDURES DURING CONSTRUCTION PHASE						
▪ Impacts on cultural heritage	▪ If archaeological findings or other chance finds appear on or near construction site immediate work suspension and local authorities notification is required;	Included in construction works	Included in supervision	Contractor	Supervisory body*	In case of finding cultural

\* Supervisor shall be a Consultant appointed by PC Road FBH according to Federal Legislation.

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Impact/Problem	Mitigation Measures	Cost Assessment (US\$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
						heritage, supervision is implemented by the competent institution
<b>OPERATION PHASE</b>						
<ul style="list-style-type: none"> <li>Problems due to lack of maintenance</li> </ul>	<ul style="list-style-type: none"> <li>Regular road/bridge maintenance works</li> </ul>	Included in maintenance works	Internal resources	Contractor for maintenance works	PC Roads FBH	
<ul style="list-style-type: none"> <li>Contamination of river Sana</li> </ul>	<ul style="list-style-type: none"> <li>Installation of oil separators in accordance with EN ISO 858-1 and 858-2</li> <li>Regular maintenance of the water treatment system in accordance with Maintenance Department of PC Roads FBH</li> </ul>	Included in maintenance works	Internal resources	Contractor for maintenance works	PC Roads FBH	
<ul style="list-style-type: none"> <li>Decrease in road safety due to the increase of traffic and speed</li> </ul>	<ul style="list-style-type: none"> <li>Regular maintenance of road safety equipment and signage</li> </ul>	Incl. in maintenance works	Internal resources	Contractor for maintenance works	PC Roads FBH	

## **7. ENVIRONMENTAL MONITORING PROGRAM**

The table below presents monitoring plan necessary for construction site – developed in connection with mitigation measures to avoid or reduce negative impact.

Prior to commencement of works, in accordance with requirements of the ESMP, and a minimum of monitoring requirements, described in table below, without limitation to these requirements, the Contractor shall prepare detailed list of mitigation measures and parameters to be monitored and prepare the site-specific baseline data as foreseen in the monitoring plan below.

The monitoring plan on construction site will be used by Supervision Engineers of PC Roads FBH. These signed lists will be forwarded to PC Roads FBH, who will be responsible for monitoring and reporting about the compliance.

PC Roads FBH will maintain a registry of grievances, which will contain all information on grievances or complaints received by the community or other interested parties. That will include: type of grievance, time and actions for their resolution and outcome.

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Table 7: Environmental Monitoring Program

Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US\$)		Responsibility	
					Implementation	Operative	Implementation	Operative
<b>PRE-CONSTRUCTION PHASE</b>								
▪ Job creation and impacts on local businesses	<ul style="list-style-type: none"> <li>▪ Number of employed persons from local communities</li> <li>▪ Timely informing the local communities</li> </ul>	Wider area of construction	Inspection	Prior to construction	Included in performance	Included in performance	Contractor	Contractor
▪ Temporary occupation of privately owned land plots for the purpose of construction of access roads and placement of Staff, machines and material	<ul style="list-style-type: none"> <li>▪ Implementation of RPF provisions</li> </ul>	Construction site	Visual inspection and inspection	Prior to construction and during construction when necessary	Included in construction contract	Included in construction contract	COntactor	Contractor
<b>CONSTRUCTION PHASE</b>								
▪ Access restrictions	<ul style="list-style-type: none"> <li>▪ Provided alternative access,</li> <li>▪ TMP in place,</li> <li>▪ Implementation of RPF, provisions on compensation procedures for businesses affected by access restrictions</li> </ul>	Construction site	Visual inspection	Random checks at least once a week during the construction	Included in supervision	Included in supervision	Supervisory body + PC Roads FBH	Supervisory body + PC Roads FBH
▪ Restrictions on land use and damage to the private property (agricultural plots,	<ul style="list-style-type: none"> <li>▪ CSOP in place,</li> <li>▪ Disposal of construction and maintenance materials,</li> </ul>	Construction site	Visual inspection	Prior to construction and random checks at least once a week	Included in supervision	Included in supervision	Supervisory body +	Supervisory body +

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Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US\$)		Responsibility	
					Implementation	Operative	Implementation	Operative
horizontal infrastructure, fences and railings) due to disposal of construction waste, work camps and parks of heavy machinery	<ul style="list-style-type: none"> <li>Position of work camps and heavy machinery parks,</li> <li>Implementation of RPF provisions on compensation procedures in case occasional land use cannot be avoided, compensation will be provided to affected owners/users</li> <li>Grievances (including ones from workers)</li> </ul>			during the construction			PC Roads FBH	PC Roads FBH
<ul style="list-style-type: none"> <li>Impacts on local traffic (increase of local traffic, including heavy machinery and trucks, operation of roads with only one lane causing traffic delays and limited access)</li> </ul>	<ul style="list-style-type: none"> <li>TMP in place</li> <li>Traffic patterns,</li> <li>Timely information to the citizens</li> </ul>	On construction site and nearby	Visual inspection and inspection	random checks during the week	Included in supervision	Included in supervision	Supervisory body	Supervisory body
<ul style="list-style-type: none"> <li>Air emissions:                             <ul style="list-style-type: none"> <li>- exhaust gasses;</li> <li>- dust generation</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Level of dust (amount of particles of sediment and floating particles)</li> <li>Emissions of exhaust gases from vehicles and equipment</li> <li>(SO<sub>2</sub>, NO<sub>2</sub>, dim and PM<sub>10</sub>)</li> </ul>	Construction site	Measuring devices	As a baseline and during construction when needed and upon complaints by the citizens	-	500 USD/measuring	Contractor	Authorized laboratory
<ul style="list-style-type: none"> <li>Increased level of noise and vibration:                             <ul style="list-style-type: none"> <li>- noise levels</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Level of noise</li> </ul>	In populated places near the construction	Measuring devices	Upon order by supervisory organ or upon complaints by the	-	500 USD /measuring	Contractor + Supervision	Authorized laboratory

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Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US\$)		Responsibility	
					Implementation	Operative	Implementation	Operative
- vibration		site		citizens				
<ul style="list-style-type: none"> <li>▪ Emissions into water:</li> <li>- possible contamination of surface water</li> </ul>	<ul style="list-style-type: none"> <li>▪ Analysis of parameters of surface water quality:                             <ul style="list-style-type: none"> <li>- Chemical analysis (PH, turbidity, conductivity, temperature, suspended particles, COD, BOD, ingredients with nitrogen)</li> <li>- Standard bacteriological analyses</li> </ul> </li> </ul>	In watercourse near construction site (Sana River) downstream	Standard laboratory equipment and methods of water quality monitoring	As a baseline and upon order by supervisory organ or upon complaints by the citizens	-	1000 USD /measuring	Contractor + Supervision	Authorized laboratory
<ul style="list-style-type: none"> <li>▪ Pollution of surface watercourses</li> </ul>	<ul style="list-style-type: none"> <li>▪ Presence of oil film in surface watercourses</li> </ul>	In watercourse near construction site (Sana River) downstream	Visual inspection + Standard laboratory equipment and methods of water quality monitoring	Upon order by supervisory organ or upon complaints by the citizens	-	500 USD /measuring	Contractor + Supervision	Authorized laboratory
Soil pollution	<ul style="list-style-type: none"> <li>▪ Soil quality, including, PH, heavy metals, phosphorus, nitrogen, Na, Ca, salts, PAHs hydrocarbons</li> </ul>	On representative plots of land near construction sites	Taking samples and standard laboratory analyses	As a baseline and upon order by supervisory organ or upon complaints by the citizens	-	500 USD /measuring	Contractor + Supervision	Authorized laboratory

September 2017

Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US\$)		Responsibility	
					Implementation	Operative	Implementation	Operative
<ul style="list-style-type: none"> <li>Emissions into water and soil due to improper waste handling</li> </ul>	<ul style="list-style-type: none"> <li>CSOP in place,</li> <li>WMP in place</li> <li>Placing protective covers during demolition works and sandblasting works</li> </ul>	Construction site	Visual inspection, disposal records or receipts from landfills	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
<ul style="list-style-type: none"> <li>Degradation of biological and ecological resources</li> </ul>	<ul style="list-style-type: none"> <li>Survey of the site for any endemic or endangered species</li> </ul>	In the zone of corridors of direct and indirect impacts	Field recordings and incorporation of the findings in the ESMP	As a baseline	-	-	Contractor	Authorized laboratory/institution
<ul style="list-style-type: none"> <li>Waste management</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of WMP</li> </ul>	Construction site	Visual inspection, disposal records or receipts from landfills	Regularly during construction, as appropriate. Amount and disposal records internal reports will be made daily	Included in performance	Included in performance	Contractor + Supervision	Contractor

September2017

Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US\$)		Responsibility	
					Implementation	Operative	Implementation	Operative
				and monthly				
▪ Accidental situations i.e. spills, leakage	<ul style="list-style-type: none"> <li>▪ Implementation of EMP which includes:                             <ul style="list-style-type: none"> <li>- Spill Response Plan,</li> <li>- Emergency Preparedness and Response Plan</li> </ul> </li> </ul>	Construction site	Visual inspection	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Materials supply	<ul style="list-style-type: none"> <li>▪ Implementation of CSOP (the origin of material, material approvals etc.)</li> </ul>	Construction site	Reports	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Material transport	<ul style="list-style-type: none"> <li>▪ Implementation of CSOP (the origin of material, licenses etc.)</li> </ul>	Construction site	Visual inspection	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Workers safety	<ul style="list-style-type: none"> <li>▪ Implementation of work safety measures (protection equipment, toilets, drinkable water etc.)</li> <li>▪ Implementation of World Bank Occupational Health and Safety Guidelines</li> </ul>	Construction site	Visual inspection	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ River bed and river flow	<ul style="list-style-type: none"> <li>▪ Changes in the river flow, including flooding, water retention or complete cutting</li> </ul>	Construction site	Visual inspection	Daily	Included in performance	Included in performance	Contractor +	Contractor

September 2017

Potential impact	Which parameter is to be monitored?	Where will the monitoring be performed?	How will the monitoring be performed?	When will the monitoring be performed?	Cost assessment (US\$)		Responsibility	
					Implementation	Operative	Implementation	Operative
	off of river flow during works. ▪ Changes to the river banks ▪ Disposal of wastes or materials on river banks or in river ▪ Unauthorized activities being conducted within the river bed						Supervision	
<b>OPERATION PHASE</b>								
▪ Water emissions	▪ Analysis of the water quality parameters: ▪ Chemical analysis (PH, turbidity, conductivity, temperature, suspended particles, COD, BOD, ingredients with nitrogen, total fats and oils, mineral oils);	At the treated water outlet	Sampling	Once a year	Internal resources	1000 USD/sample	PC Roads FBH	Licensed laboratory

*Note: All mitigation measures and parameters to be monitored should be included in total price of works performance. The table includes additionally provided prices of sampling and laboratory testing, solely as information for assessment of overall costs of construction.*

## **8. IMPLEMENTATION AND REPORTING**

### **8.1. PROJECT IMPLEMENTATION**

PC Roads FBH is the implementer of the project and will be responsible for the implementation and compliance of the project in line with ESMP.

The public has the right to participate directly or indirectly, with a possibility to state their interests and opinion in decision-making process during all project activities.

The application of all identified environmental and social mitigation measures and the environmental monitoring program will be ensured. The Contractor will be responsible for the implementation of the environmental mitigation measures during construction. The contracted supervisor will employ environmental experts to supervise the implementation of Contractor's responsibilities, and will be in communication with the investor. PC Roads FBH will constitute a Grievances Committee which will receive all grievances during Project implementation in accordance with grievance mechanisms as prescribed in the Environmental Management Plan and Environmental and Social Management Framework for the Program of Modernization of Major roads of the FBH (ESMF). Furthermore, the Project Implementation Unit of PC Roads FBH includes an environmental and a social expert. During project implementation, the Investor will supervise compliance of the Contractor with provisions and ESMP.

Upon project completion, PC Roads FBH will be in charge of structures' management and maintenance. Regular and timely payment will be carried out in accordance with monitoring plan.

### **8.2. REPORTING PROCESS**

#### **8.2.1. Contractor to PC Roads FBH**

The Contractor shall prepare a Report on compliance with ESMP in form of a monthly progress report and submit it to PC Roads FBH in a local language (C/S/B and in English, in analogue and digital form.

In case of any accidental situations or jeopardizing the environment and society the reporting process must be immediate. The Contractor is obliged to inform the PC Roads FBH and local community immediately after any accidental situations that happened over the phone +387 33 250 370 or via email form at the PC Roads FBH website: <http://www.jpfbih.ba/ba/kontakti/kontakti.shtml>.

The Contractor's reports to PC Roads FBH are to include a list and description of the performed activities, as well as recommendations and planned future activities and protection measures.

**8.2.2. Supervision Engineer to PC Roads FBH**

The Supervision Engineer shall prepare a Report on compliance with ESMP in form of a monthly progress report and submit it to PC Roads FBH in a local language (C/S/B and in English, in analogue and digital form.

**8.2.3. PC Roads FBH to WB**

PC Roads FBH shall prepare Annual Environmental Health and Safety Reports (AEHS) including monitoring indicators and reports on the implementation of their requirements set in ESMP and submit them to the World Bank for review.

In case of higher-scale accidents or deaths on construction site, PC Roads FBH shall promptly notify the World Bank thereof.

## **9. PUBLIC DISCUSSION AND INFORMATION DISCLOSURE**

### **9.1. PUBLIC CONSULTATION**

Public consultation of the subject ESMP was organized in Ključ after the WB and PC Roads FBH approved the draft of the ESMP.

The document was published and available to the public in a local language on the website of PC Roads FBH on 21.02.2018. Public consultations were announced on the website PC Roads FBH and on the website of Ključ Municipality on 21.02.2018. and on 26.02.2018. in local newspapers (Dnevni Avaz). The public consultations were held on 13.03.2018. in Ključ, and the Minutes of the Public Discussion on ESMP is an Appendix 3 of this document. Public consultations were attended by 11 interested parties.

The record on public discussion, that is, grievances presented at the public discussion shall be recorded in the Grievance Register, and opinions and suggestions of the public shall be integrated into the final ESMP.

After public discussion the documents is disclosed again on the website of PC Roads of FBH.

### **9.2. INFORMATION DISCLOSURE**

ESMP draft was available on the website of PC Roads of the ([www.jpafbih.ba](http://www.jpafbih.ba)) in a local language and on the website of the World Bank in English. During the process of public consultation the interested public got all information regarding the project, including social and environmental issues.

During construction works the Contractors will submit monthly information to PC Roads FBH regarding process of work, which will be published on the websites of PC Roads FBH and BHAMK (Car Association of BH) regarding temporary traffic regulation.

Schedule of works and potential changes to the schedule will also be announced two weeks prior to the beginning of works on the website of PC Roads FBH and in local newspapers, radio and television stations for disclosure. The schedules will provide information on the beginning and end of works, which can impact the affected groups (such as changes to traffic/water/regime of electric energy supply and access, noise and dust due to construction works).

#### **9.2.1. Grievance Mechanisms**

Besides the institutionally available ordinary and extraordinary legal remedy, and existing institutional channels, PC Roads FBH will ensure and form a special Grievance Redress Mechanism in collaboration and direct involvement of those municipalities under whose administrative authority the project is carried out, in this case with the Ključ municipality.

Grievance Redress Mechanism designed for this project is the **Central Feedback Desk (CFD)** at the level of the implementing agency PC Roads FBH which shall serve as both Project level information center and grievance mechanism, available to those affected by implementation of all project sub-components. The CFD shall serve the persons affected directly or indirectly by construction works.

The Grievance Registration Sheet (Appendix 1) as print out shall be available at municipal administration, at the construction site and in the offices of PC Roads FBH and shall be available for download on the website of JP Roads FBH ([www.jpafbih.ba](http://www.jpafbih.ba)) and the municipality's website.

The grievance can be logged in writing with the Contractor who is obliged to hand out the Grievance Registration Sheet, explain the grievance mechanism to the concerned citizen and forward the filled in Grievance Form to the central Feedback Desk in PC Roads FBH, within PC Roads FBH, by phone, by fax, and by e-mailing it to the designated e-mail address [zalbena@jpafbih.ba](mailto:zalbena@jpafbih.ba), or by mail to the address Terezija 54, 71000 Sarajevo.

An information leaflet concerning the grievance mechanism will be available at the construction site at all times, whether the construction site is closed or open. The information leaflet will be plasticized and hung on the construction site information board to be available to road users at all times.

All grievances will be archived in the register and assigned a number, and acknowledged within 3 working days.

The CFD will make all reasonable efforts to address the complaint upon the acknowledgement of grievance. If the CFD is not able to address the issues raised by immediate corrective action, a long-term corrective action will be identified. The complainant will be informed about the proposed corrective action and follow-up of corrective action within 14 working days upon the acknowledgement of grievance.

If the particular issue raised through the grievance mechanism cannot be addressed or if action is not required, a detailed explanation/ justification will be provided to the complainant on why the issue was not addressed. The response will also contain an explanation on how the person/ organization that raised the complaint can proceed with the grievance in case the outcome is not satisfactory.

At all times, complainants may seek other legal remedies in accordance with the legal framework of FBiH.

## 10. Requirements for start of works

The Contractor shall establish all required baseline data before the commencement of works. The Baseline – Monitoring data shall include air quality data, surface water quality data, soil quality data, survey of the site for any endangered and endemic species and other environmental issues in zone of corridors of direct and indirect impacts. The Contractor is also obliged to ensure these measurements during and after completion of the construction works. The Contractor will ensure that the measurements are conducted by authorized agencies and that they are based on the findings and recommendations of a qualified expert.

The Contractor shall develop a Construction Site Organization Plan (CSOP) that is made up of:

- e. Implementation Plan of this ESMP,
- f. a detailed Waste Management Plan (WMP)]
- g. Study on Safety (includes Elaborate on Safety at Work and Elaborate on Protection From Fire and Explosions),
- h. Traffic Management Plan (TMP) must be developed, which will be created by the Contractor prior to the beginning of construction works.

These studies are to be developed in accordance with federal acts<sup>6</sup>, before starting the execution of works, while the Contractor's legal obligations defined in the Bidding Documents and Contract shall be based on the provisions of this ESMP. The Contractor shall submit these studies to the PC Roads FBH supervisory engineer, Environmental and Social Specialists, before beginning of works, and the company has to accept and approve them prior to start of works.

Due to the time constraints related to the issuance of the bidding documents, the public consultations are to be held prior to the start of works but once the bidding documents have been issued; therefore the EMP included in the bidding documents may need to be subsequently updated after the consultations. The contractor will be obliged to follow the updated ESMP.

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<sup>6</sup> Provision on arrangements of construction site, mandatory documentation at the construction site and participants in construction, Official Gazette of FBH 48/09, 75/09 and 63/12

**APPENDICES**

**APPENDIX 1. GRIEVANCE FORM**

	REFERENCE NUMBER (Filled by the office)	
CATEGORY OF COMPLAINTS	A) Affected by expropriation	
	b) All others	
PARTICIPANT INFORMATION OF GRIEVANCE		
FULL NAME		
YEAR OF BIRTH		
GENDER	M	F
ADDRESS		
TELEPHONE/MOBILE NUMBER		
E-MAIL		
Description of Incident for Grievance (What happened? Where did it happen? Whom did it happen to? What is the result of the problem?)		
Date of the Incident?		
<ul style="list-style-type: none"> <li>• One-time incident/grievance – Date: _____</li> <li>• Happened more than once (How many times?) _____</li> <li>• On-going (currently experiencing problem)</li> </ul>		
What would you like to see happen?		
DATE:	SIGNATURE:	
RETURN THIS FORM TO:	<p style="text-align: center;"><i>CENTRAL FEEDBACK DESK</i></p> <p style="text-align: center;"><i>PC ROADS OF THE FBH</i></p> <p style="text-align: center;"><i>Terezija 54,</i></p> <p style="text-align: center;"><i>71000 Sarajevo</i></p> <p style="text-align: center;"><i>Note: All copies are returned to PIU</i></p>	

**APPENDIX 2. GRIEVANCE REGISTRATION TEMPLATE TABLE**

No.	Date of receipt	Type of grievance (concerning expropriation, construction works or other)	Description of grievance	Complainant		Date of acknowledgement of receipt	Description of actions undertaken	Date of solvation of grievance
				Status	Sex			

**APPENDIX 3. REPORT ON PUBLIC DISCUSSION**

JP Ceste Federacije BiH d.o.o. Sarajevo poziva sve zainteresirane subjekte, nevladine organizacije i stanovnike općine Ključ i naselja koja gravitiraju području namjeravane rehabilitacije mosta preko rijeke Sane, da uzmu učešće u

**JAVNOJ RASPRAVI**

o nacrtu **Plana upravljanja okolišem i društvenim aspektima za projekat rehabilitacije mosta preko rijeke Sane**

koja će se održati u Ključu, u prostorijama općine Ključ 13.03.2018. godine u 14.00 sati, s ciljem davanja prijedloga i sugestija javnosti i uključivanja relevantnih pitanja u finalnu verziju dokumenta. Dokument je izrađen za potrebu Programa modernizacije magistralnih cesta u FBiH prema politikama kreditora. Nacrt dokumenta može se pronaći na službenoj stranici JP Ceste FBiH na sljedećem linku: <http://jpcfbih.ba/bs/aktivnosti/modernizacija-magistralnih-cesta/38> i na web stranici općine Ključ.

Svi zainteresirani subjekti koji nisu u mogućnosti da prisustvuju javnoj raspravi mogu svoje sugestije i komentare dostaviti do 13.03.2018. putem e-mail adrese: [pimt@jpcfbih.ba](mailto:pimt@jpcfbih.ba).

**Dnevni red:**

1. Prezentacija Plana upravljanja okolišem i društvenim aspektima za projekat rehabilitacije mosta preko rijeke Sane
2. Pitanja, diskusija, odgovori i objašnjenja

21.02.2018.

Announcement of Public discussion in the Local Newspaper „Dnevni Avaz“ (26.02.2018.)

oglas

Na osnovu člana 11. Zakona o javnoj raspravi i odobrenju Izvršnog kantona („Službeni vjesnik Tuzlanskog kantona“ broj 22/09, a također Odlukom Upravnog odbora broj 02-02-118/16 od 22.10.2016.g.; Upravnog odbora JU za projekat odgoja i obrazovanja „Opcija školstvo“ Dobojski listik broj 16/17.

JAVNI KONKURS za prijem zaposlenika

1. Otpisatelj – na prijedbu realizacije Obveznog programa predškolskog odgoja i obrazovanja u općini od 180 smj. i opći uslovi rada, pošto norme, na određena vrijeme do 2,5 mjeseci. Obilježiti se na dokazima za predaju. I. se jave predaju bez obzira na – predaju predškolskog odgoja, za realizaciju normativnog programa predšk. se na predaju izdatih osim koji predaju Upravnje od strane Poduzetnik zvanje Tuča da se na predaju izdatih osim za predaju (Materijal, program predškolskog odgoja i obrazovanja pred položaj u materije škole.

2. Otpisatelj – I. izvršitelj, zvanje norma, na određeno vrijeme, do povratka zaposlenika sa bolovanja, a najduže do 31.03.2019.godine.

Iskusi konkursa koje kandidati moraju ispunjavati:

- 1. Da je državljanin Bosne i Hercegovine;
2. Da je stariji od 18 godina;
3. Da je zdravstveno sposoban za obavljanje poslova pod odredbama za radno mjesto na koje se javi;
4. Završio VSS – VII stepen i profesor predškolskog odgoja ili odgovarajuće predškolske škole;
5. Posjeduje iskustvo u radu na odgovarajućem radnom mjestu.

Podnošenje prijave: Iz prijava kandidata, koje sadrži: adresu, kontakt broj, biografiju i podatke na koje poziciju kandidira, porovno se dostavlja:

- 1. Uspješno o obrazloženje, na stranicama od 8-12;
2. Izjava o istinitosti podataka;
3. Deklaracija o izdatim sredstvima i dopunama, za predložene materijale nastave i uslova za postizanje modularne obuke;
4. Deklaracija o posjedovanju radnog iskustva;
5. Uspješno o obrazloženje (izjava od nadležnog organa, na stranicama od 3 mjeseci);
6. Uspješno o obrazloženje (izjava od nadležnog organa, na stranicama od 3 mjeseci).

Svi dokumenti moraju biti originali ili ovjereni kopiji. Prijave kandidata dostaviti se u roku od 7 dana prijema predaju (uključujući vrijeme). Rokovne datume otvoren i zatvoren datuma od dana objavljivanja. Odbora u izbora kandidata, nakon savjetovanja komisije, objaviće da se na određeno mjesto Upravno. Prijave se podnose u dva primjerka (original i fotokopija) uz priloženu preporuku na adresu: JU za predškolski odgoj i obrazovanje „Opcija školstvo“, 71 206 Bratunac, u Sarajevu, u Sarajevu – na adresi: „Nedjeljivo“ i dostaviti prijave može se nositi. Kandidati koji ne budu ispunili dokumentaciju se neće računati.

Predsjednik Upravnog odbora: Abdulah Hrnjčić

U PRODAJI JE NOVI BROJ



ZDRAVLJE IZ PRIRODE

- Prirodna apoteka: KAKO LJEČITI ISHRANOM RAK?
• Savjeti: ZA ŠTA SU KORISNE PRIRODNE TKANINE
• Škotijska dječak Lin Cameron (48): Je sam živi dokaz da je ulje kanabisa stopostotni ubica rakal

JOŠ PROCITAJTE

- NOĆ KADA JE BAVO DOŠAO U POSJETU: Dovolji otisci\* u engleskom Devnu i dalje čekaju na objašnjenje
• Amerikanac Timoti Pej Braun (51), prvi pacijent koji je izliječen od sive oči
• Tajno ukletog Alkatraza izlaze na vidjelo: Zatrovnici „gule“ kaznu i nakon smrti?

ISTINITE PRIČE

- Pero Mitrović iz Beograda: Podivljali šećer pred Mirsadovim preparatima kapitulirao za samo tri mjeseca!
• Bosanac se na egzotičnom putovanju zarazio HIV virusom: Oporavljam se uz homeopatske lijekove!
• Dr. Tarika Alija, penzionerku Fahr Džozo, Almu Spahić i Nazifa Šehovića u život vratila energija ruku Redžepa Hanića

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BOSNA I HERCEGOVINA FEDERACIJA BOSNE I HERCEGOVINE KANTON SARAJEVO OPĆINSKI SUD U SARAJEVU Odlukom za sprovođenje javne vještavine Iliđa Broj: 45-0 Mal 606376 16 Mal Sarajevo, 16.02. 2018. godine Općinski sud u Sarajevu, stručni savjetnik Edvina Karadžić, u pravnoj stvari tužila ZIRAATBANK BH D.D. Sarajevo, ul. Zemaljski trgovački centar 471, kojeg zastupaju punomoćnici advokati Amel Kurusić i Maja Sedović iz Sarajeva, protiv tuženih 1. Dobrota Opatić iz Hadžića, ul. 27. Jula bb, 2. Bajro Merina, iz podizvojnica posmatran protivizvojnica u Hadžićima, ul. Budinskih 44, zaštićena država, s.p.p. 3.013.18 KM, na osnovu člana 348. stav 3. Zakona o parničnom postupku („Službeno glasnik FBiH“ broj 53/03, 73/05, 19/06 i 98/15 – u daljem tekstu ZPP).

OBJAVLJUJE

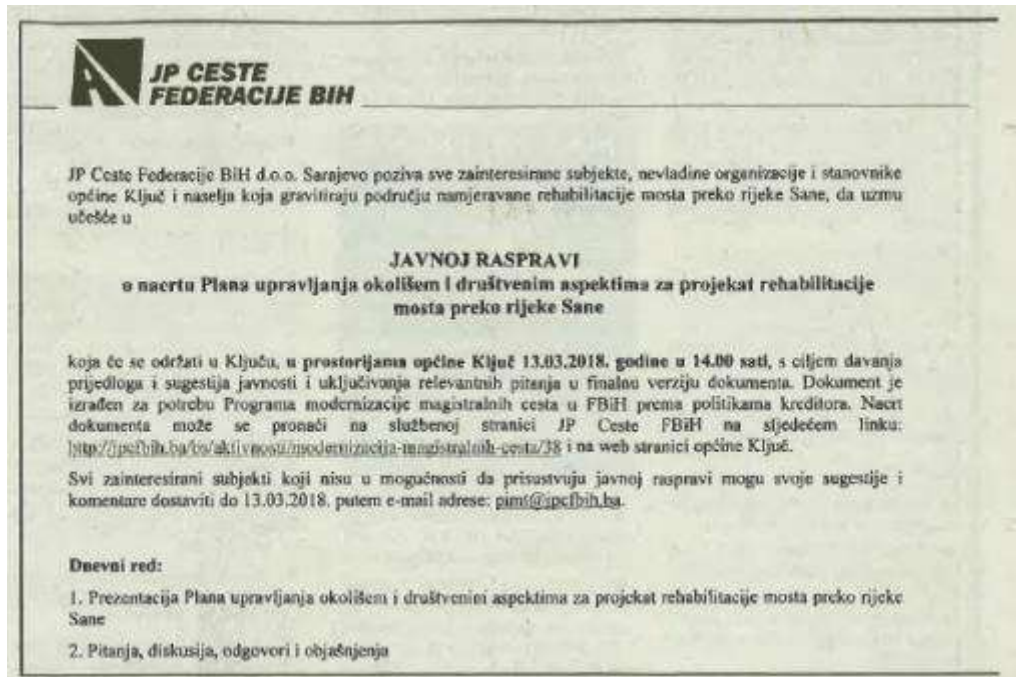
- dostavu tužbe na odgovor drugotuzenom Bajrić Nerminu -

Dana 19. 10. 2016. godine tužitelj je kod ovog suda podnio žalbu protiv tuženih, radi solidarnog isplate duga u iznosu od 3.013,18 KM. U žalbenom zahtjevu se navodi da su tužitelj i prvotuzeni dana 12. 11. 2013. godine zaključili ugovor o znanjenskom kreditnom kreditu broj 44213 na iznos od 4.000,00 KM, najdužim rokom je tužitelj odobrio ostvaren kredit u iznosu od 4.000,00 KM, dok je drugotuzeni kao dozidarac s njim potpisao napredni Ugovor, te na taj način priznao obavezni da kao solidarni jemac odgovara na neizmirene obaveze prvotuzenog. Prvotuzeni kao protivnik kredita nije vratio povrat novčanih sredstava na način i u ugovorenim rokovima, zbog čega mu je tužitelj uputio više opomena sa pozivom da izmiri svoje dugovanje kao prvotuzeni nije vratio, kao što to nije učinio ni drugotuzeni nakon uposlene mu Općine u sluzi opomena. Prva i druga opomena, obratno da tužitelj nije izvršio isplatu duga po dostavljenim računima, ni nakon upućenih opomena, niti se daje odgovoriti, to tužitelj podiže da sud nakon provedene rasprave donese odluku kojom se obaveza tuženog da tužitelju solidarno isplate iznos od 2.578,83 KM sa pripadajućim zakonskim kamatama počev od 31. 12. 2015. godine pa do isplate, na ime ugovorene kamate iznos od 148,43 KM sa zakonskim zateznom kamatom počev od 31. 12. 2015. godine pa do isplate, te na ime dopunskog nepodnog duga za zateznu kamatu iznos od 285,92 KM kao i da tužitelj zahtjeva troškove parničnog postupka, pod prijetnjom prinudne zapovijesti. Ovim putem drugotuzenom Bajrić Nerminu se dostavlja tužba od 19. 10. 2016. godine na odgovor u skladu odredbama člana 62. stav 2. ZPP-a, pa je drugotuzeni dužan da u skladu sa odredbama člana 75. i člana 71. ZPP-a najkasnije u roku od 10 dana od dana prijema tužbe, dostavi sudu pisani odgovor na tužbu. U odgovoru na tužbu tužena može istući procesne prigovore i izraziti se da li priznaje ili osporava postojanje tužbenih zahtjeva, te izvesti i druge podatke koje u skladu sa odredbama člana 334. ZPP-a mora istući svakim podnošak. Ako tuženi osporava tužbeni zahtjev, odgovor na tužbu mora sadržavati i računge iz kojih se tužbeni zahtjev osporava, izjave na kojima tužena razvija svoje zahtjeve, dokaze kojima se utvrđuju te činjenice, te pravni osnov za navode tuženog. Tužena može u odgovoru na tužbu, a najkasnije na pripremanom ročnu, podnijeti protivtužbu. U skladu sa rokom od 30 dana se dostavi pisani odgovor na tužbu u zakonskom roku, sud će donijeti presudu zbog propuštanja u smislu odredbi člana 182. ZPP-a. Odgovor na tužbu se priloženo se predaje sudu u dva primjerka, pozivom na broj građana. Obavijestava se drugotuzeni da se dostava tužbe smatra obaveznom proteći rok od 15 dana od dana objavljivanja iste u službenim novinama koje se distribuiraju u Federaciji BiH.

Stručni savjetnik Edvina Karadžić

JP CESTE FEDERACIJE BIH JAVNOJ RASPRAVI o nacrtu Plana upravljanja stalištem i društvenim aspektima za projekat rehabilitacije mosta preko rijeke Pive. 17. Ceste Federacije BiH Sarajevo putem sve zainteresovani subjekti, uključujući organizacije i stanovnike općine Piva i stališta koja gravitiraju području rehabilitacije mosta preko rijeke Pive, da u roku od 10 dana...

JP CESTE FEDERACIJE BIH JAVNOJ RASPRAVI o nacrtu Plana upravljanja stalištem i društvenim aspektima za projekat rehabilitacije mosta preko rijeke Pive. 17. Ceste Federacije BiH Sarajevo putem sve zainteresovani subjekti, uključujući organizacije i stanovnike općine Piva i stališta koja gravitiraju području rehabilitacije mosta preko rijeke Pive, da u roku od 10 dana...



Web addresses containing the document and the Announcement of Public discussion with screenshots of the websites:

### 1. PC Roads of FBH website

<http://jpcfbih.ba/bs/novosti/javna-rasprava-o-nacrtu-plana-upravljanja-okolisem-i-drustvenim-aspektima-za-projekat-rehabilitacije-mosta-preko-rijeke-sane/32>

Announcement of the Public discussion (B/H/S language) 21.02.2018.

<http://dev.jpcfbih.ba/assets/upload/dokumenti-modernizacija/PUO-Sane.pdf> - Document (B/H/S language) 21.02.2018.

<http://jpcfbih.ba/bs/aktivnosti/modernizacija-magistralnih-cesta/38>

[http://dev.jpcfbih.ba/assets/upload/dokumenti-modernizacija/ESMP\\_Sana\\_River\\_EN.pdf](http://dev.jpcfbih.ba/assets/upload/dokumenti-modernizacija/ESMP_Sana_River_EN.pdf) - Document (English language) 21.02.2018.

<http://jpcfbih.ba/en/activities/modernization-of-main-roads/38>



## 2. Municipality of Ključ – webpage

<http://opcina-kljuc.ba/2018/02/21/javna-rasprava-o-planu-upravljanja-okolisem-i-drustvenim-aspektima-za-projekat-rehabilitacije-mosta-preko-rijeke-sane/> - 21.02.2018.

[http://opcina-kljuc.ba/wp-content/uploads/2018/02/ESMP\\_10\\_Plan-upravljanja-okolisem-i-drustvenim-aspektima-za-projekat-rehabilitacije-mosta-preko-rijeke-Sane-1.pdf](http://opcina-kljuc.ba/wp-content/uploads/2018/02/ESMP_10_Plan-upravljanja-okolisem-i-drustvenim-aspektima-za-projekat-rehabilitacije-mosta-preko-rijeke-Sane-1.pdf) - 21.02.2018.



**MINUTES from the Public Discussion on the Draft Environmental and Social Management Plan for the Reconstruction of bridge over r. Sana**

Held on March 13, 2018 in the premises of the Municipality of Ključ at 2 pm

A public discussion on the draft of Environmental and Social Management Plan for the Reconstruction of bridge over r. Sana was held with the aim of notifying the public about the draft of the above document.

The public discussion was organized by the investor, PC Roads of the Federation of Bosnia and Herzegovina, and on behalf of the Investors participated: Muamera Grebo - project manager, Selma Ljubijankić - member of the PIT in charge of social aspects, and Haris Zejnić – PIT assistant for environmental monitoring of the Project.

A list of all participants is enclosed to these minutes.

These minutes were composed by Haris Zejnić.

Presentation and Discussion:

- **Selma Ljubijankić** on behalf of the Investor PC Roads of the Federation of BiH greeted all participants and presented representatives of the Investor, gave a brief introduction on the Modernization Program and the document. She presented the document itself, and familiarised all the participants with the Environmental and Social Management Plan for the Reconstruction of bridge over r. Sana with the goals of design, mitigation measures for all identified environmental and social impacts, monitoring plan, disclosure of the information, grievance mechanism, requirements for work commencement and all the relevant information from the document. It was underlined that this is a draft document and that all the relevant comments from the public discussion will be included in the final document. It was also emphasized that the document was revised by the World Bank team and, after the adoption, will become a binding document for the contracting parties in the implementation of the project itself.

- Project manager, **Muamera Grebo**, briefly presented the project of reconstruction of bridge over r. Sana, describing the scope, development and objectives of the project. She provided the description of the existing bridge characteristics and emphasized that a new project shall increase the bearing capacity of the bridge and reinforce the spanning structure with carbon strips and new pavement deck, making the new grade level 11 cm higher than the existing one. The main reason for the bridge reconstruction is because it is in the "S" curve. Traffic light was subsequently included in the project. It was emphasized that the deadline for works completion is 4 months, and that the relevant municipal services suggested including into the project a bypass to be used during the works. The bypass is 4.6 km long and is in poor condition. Its large part is neglected, and in order to accept traffic flow from the main road the minimum pavement width of 3 m has to be implemented. For

this reason, the bidding documents were supplemented with the requirement to increase the width of the above bypass up to 3 m and to use it only for personal vehicles, so as not to damage the paved part of the bypass. Base condition of the bypass shall be surveyed before the work commencement and if damage occurs during the works it will be repaired. It was emphasized the issue of obtaining all the necessary permits and approvals, although the works were not carried on the riverbed.

- Public discussion on the document followed.

- **Rufad Čajić:** As the municipality plans to reconstruct the intersection near the bridge, he asked whether the implementation of this project will impact this bridge reconstruction.

- **Muamera Grebo:** She stated that the bridge project was completed in March 2014, and she was contacted last year regarding the design of the intersection. Given that there is a limit to which the cross section of the bridge can be expanded, it is unacceptable that the bypass at the intersection of M5 and M15 is organized on the part of the spanning structure of the bridge. The location of the bypass which is partly on the bridge structure requires the demolition and construction of a new spanning structure, reinforcement of bridge columns, etc. Road Safety and Maintenance Department of the investor works on compiling the project documentation for the roundabout that will be outside the spanning structure area.

- **Nermin Kapetanović,** Municipality of Ključ: raised a question of scope of works on the alternative road, given that the one will be increased.

- **Muamera Grebo:** It was stated that the complete length of the alternative road is 4.6 km. She said that there will be no works on first 340 m of the bypass because it is in good condition. Scope of work encompasses approximately 3 km, and the rest of the alternative road is in good condition too. The scope of work includes mechanical removal of bushes and shrubs, removal of gravel road covered with grass and excavation of one meter of soil on either side of the road, depending of condition. Thereafter, an unbound layer of even granulation will be built over 3 km of length (width 3 m, thickness 10 cm).

- **Rufad Čajić:** He asked whether it is possible to shorten the 4-month deadline due to the crowds in the summer period.

- **Muamera Grebo:** She explained that one can expect traffic jams due to one-way alternating traffic, but that there is an alternative road too. In case the works start at the end of March or early April, most of the work would be done in April – May - June.

- **Damir Smajić,** Ministry of Construction, Physical Planning and Environmental Protection of Una - Sana Canton: he explained that after obtaining urban approval it takes 30 days for it to become legally valid, and then the procedure for issuing a building permit will have to be initiated. Any premature start of the work would have caused an automatic reject of the permit. He believes the works will not start in April, or not even in May.

- **Muamera Grebo:** She agrees with the statement regarding the provision of permits and adds that preliminary works can be carried out during that period, or works to widen the bypass. She encouraged the parties involved to speed up the process of permits issuance so as the works could start as soon as possible.
- **Muamera Grebo:** She invited all interested parties to inspect the project, stating that there is a main water pipe on the bridge and it is envisaged that additional barriers will be hooked so that the pipeline will not be displaced. She further states that there is an optical cable, ownership of BH telecom, near the shore pier on the right bank of the River Sana, but it will not be relocated and will have to be protected during the works, in cooperation with BH Telecom. Regarding the requirements of the Elektrodistribucija, these will have to be agreed during the works execution.
- **Damir Smajić:** He states that the only collision with the Elektrodistribucija's requirements is related to the construction of a separator and a pond for precipitations sampling.
- **Rufad Čajić:** He points out that the Environmental and Social Management Plan has been well-developed, and that has included all relevant aspects presented in a very comprehensive manner.

The public discussion was closed at 3 pm.

*Photographs of participants in the Public Consultations in Ključ (premises of Ključ Municipality)*





## List of Participants in the Public Consultations



Javna rasprava o Planu upravljanja okolišem i društvenim aspektima za projekat rehabilitacije mosta preko rijeke Sane, Ključ, 13. mart 2018.g.

## LISTA SUDIONIKA / LIST OF PARTICIPANTS

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