JP CESTE FEDERACIJE BIH

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN FOR THE PROJECT OF THE REHABILITATION OF THE BRIDGE KOMAR ACCROS DEEP OBSTACLE

September, 2017

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LIST OF ABBREVIATIONS

BH - *Bosnia and Herzegovina*
CFD - *Central Feedback Desk*
CSOP - *Construction Site Organization Plan*
EIB - *European Investment Bank*
EIA - *Environmental Impact Assessment*
EMP - *Environmental Monitoring Program*
ESMF - *Environmental Social Management Framework*
ESMP - *Environmental and Social Management Plan*
EP - *Environmental Permit*

FBH - Federation of Bosnia and Herzegovina
FMoET - Federal Ministry of Environment and Tourism
CBC - Central Bosnia Canton
IFI - International Financial Institutions
MP - Main project
MPCA -Management Plan in Case of Accidents
OP - Operational Policy of the World Bank
PAP - Project Affected Person
PPE - Personal Protective Equipment
PC Roads FBH - Public Company Roads of the Federation of Bosnia and Herzegovina
RAP - Resettlement Action Plan
RPF - Resettlement Policy Framework
TD - Tendering Documentation
TMP - Traffic Management Plan
WB - World Bank
WMP - Waste Management Plan
AEHS - Annual Environmental Health and Safety

EXECUTIVE SUMARY

INTRODUCTION AND OBJECTIVES OF THE ESMP

This Project of the Rehabilitation of the Bridge Komar across deep obstacle (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 Komar, across deep obstacle, on the road M-5*, section Donji Vakuf 1 -Turbe, is screened as a category B project according to the 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 requirean 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 Komar, across deep obstacle is situated on the main traffic direction of Travnik municipality, on the major road M-5, section Donji Vakuf 1 – Turbe. The importance of the project is reflected through the fact that a lot of transit commercial traffic is going through this bridge into and from the region.

The nearest relevant traffic count device is in Komar, 2 km south-east from the bridge, and it shows that, in 2015, 2672 vehicles were passing daily. In addition, the traffic count shows that traffic in summer is 5,4% higher than in the rest of the year.

PROJECT DESCRIPTION

The project bridge was built in 1965. The bridge crosses the obstacle with three spans. Therefore, the structure presents, in a constructive way, a continual frame with elastic clamps on junctures of piers and span structure.

The reconstruction of the bridge is planned to be done in two phases, thus allowing a traffic flow on one side of the bridge while the other is being reconstructed.

A revision path which will serve as a footway of total width 110 cm was adopted thus enabling a safer crossing of pedestrians.

BASELINE OF PARTICULAR INTEREST

The terrain of the Project is mostly with a high attitude in the range from 600 to 700 meters above sea level. This area stands out by the amount of snow cover during the year, and also by the duration of snow cover which lasts 30 days longer than in the valleys. The area has a cool climate (average annual temperature 7,4 °C) characterized by high atmospheric humidity and much harsher winters than in the valleys, so it is suitable for the occurrence of icy conditions on roads. 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 across a deep obstacle, and not over a watercourse. In close proximity to the Project area, there are no facilities for residential purposes (houses), business purposes (stores), hospitals, health resorts etc., which could be impacted by an increased noise level. Woodland is the dominant land cover type covering large areas in the wider area of the bridge according to the CORINE methodology. There are neither protected areas nor cultural-historic heritage near the project area. The municipality of Travnik has a population of 57 543 people living in the area of 529km^2. The project area is located on the border with the Municipality Donji Vakuf and is uninhabited. Therefore, its significance is for the local community is low. However, the project's importance is reflected by connecting other municipalities, and their centers, Jajce and Donji Vakuf, to the cantonal capital as well as in the transit connection of north and south of the country.

IMPACTS DURING PRECONSTRUCTION

Socio economic impacts: no land acquisition or resettlement is expected on this project.

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 groundwater 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 in 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.

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. The area in the vicinity of the project construction site is not populated, thus, no impact on local communities is identified.

Land screening: On September 2nd, 2017 land screening and walkover survey was conducted. It has been noted that public land plots owned by the Investor and required for project activities 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 (specified in chapter 6.4) and will have positive impacts on the quality of transport on road M5.

MITTIGATION 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 groundwater 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 DISCUSION AND INFORMATION DISCLOSURE

Public consultation of the subject ESMP was organized in Travnik 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 FBIH webpage on 21.02.2018. and public consultations were held on 14.03.2018. in Travnik.

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 Travnik 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, 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:

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

1. INTRODUCTION

Based on the guidance from the Environmental and Social Management Framework (ESMF has been disclosed and available to the public in local language on the website of PC Roads Federation of Bosnia and Herzegovina (FBH) in March 2016, http://www.jpcfbih.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 FBiH), a limited liability company wholly owned by the Government of FBiH, has initiated the FBiH 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 40km 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 Komar across deep obstacle (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.

2. METHODOLOGY AND OBJECTIVES OF ESMP

Rehabilitation of the Bridge Komar, across deep obstacle, on the road M-5, section Donji Vakuf 1 -Turbe, is screened as a category B project according to the Operational Policies (OP4.01 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 an environmental assessment or an environmental permit - whether Federal or Cantonal[1]. 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. 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 is 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 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

[1] *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 FBiH No. 19/04). In Central Bosnia 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 CBC, No. 5/06).*

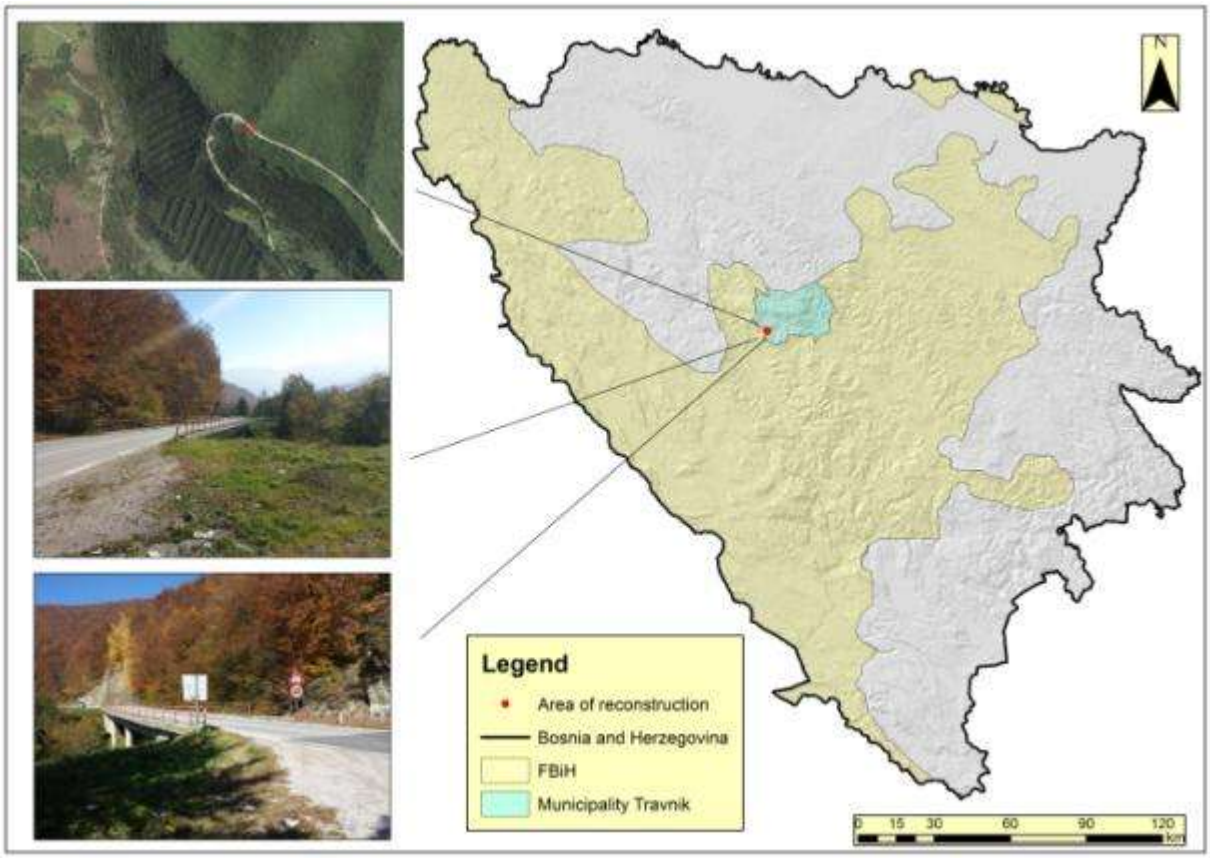
limitation to these requirements, the Contractor shall prepare detailed list of mitigation measures and parameters to be monitored.

3. LOCATION DESCRIPTION

The bridge Komar, across deep obstacle is situated on the main traffic direction of Travnik municipality, on the major road M-5, section Donji Vakuf 1 – Turbe. 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.

The importance of the bridge for the local community Goleš in Travnik and local communities in Donji Vakuf like Oborci is reflected trough the fact that this is the fastest and most convenient way for locals to reach Travnik, the educational, health and administrative center of the region. The importance of the project is reflected through the fact that a lot of transit commercial traffic is going through this bridge into and from the region.

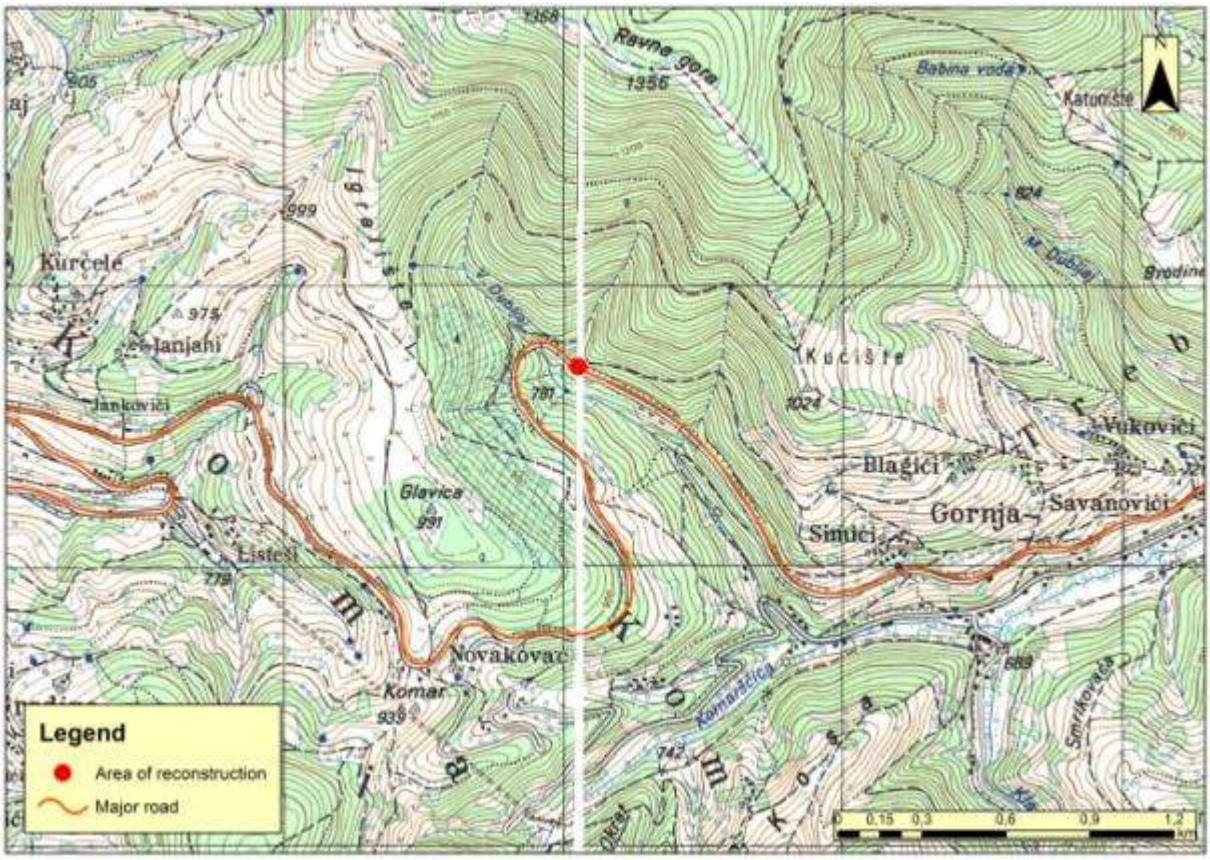
Figure 1*: The geographical location of the project*



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

Woodland is the dominant land cover type covering large areas in the wider area of the bridge. There are no residential or any other objects in the vicinity of the bridge.

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



Source: PC Roads Federation of BH

3.1. Traffic data

PC Roads FBH has installed automatic traffic counting devices along the main traffic network throughout FBH. Automatic traffic counting is done since the 2005 and, last report[2] was published in 2016 with data for the previous year. The nearest relevant traffic count device is in Komar, 2 km south-east from the bridge, and it shows that, in 2015, 2672 vehicles were passing daily (*Figure 3*). Average daily summer traffic equals 2816 which derives the conclusion that the traffic in summer is 5,4% higher than in the rest of the year.

[2] *"Traffic count on major roads in Federation of BiH in 2015", PC Roads Federation BiH, Sarajevo 2016*

Figure 3: 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[3] 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 Donji Vakuf-Turbe*

Major road	Section name	AADT									
		2016	2018	2020	2022	2023	2025	2030	2035	2037	2040
M 5	Donji Vakuf- Turbe	2693	2625	2644	2818	2880	159	180	201	209	221

Source: PC Roads FBH, 2014

The data from Table 1 shows a predicted decrease in the number of vehicles after 2025 on the project section. That is the case due the planned construction of a high speed road in the vicinity of the project section which was taken into account in the given prognosis. However, until 2025, traffic is projected to increase by 8%. The currently poor condition of the bridge poses a safety risk to bridge users.

[3] *„Justification study for modernization of major roads in FBiH programme",IPSA Institute Sarajevo, 2014*

4. PROJECT DESCRIPTION

Main design of the *Rehabilitation of the Bridge over a deep obstacle on the mountain Komar* was prepared by the company Trasa Ltd. Sarajevo in 2008 by the request of PC Roads FBH.

The project bridge was built in 1965. The bridge crosses the obstacle with three spans. Therefore, the structure presents, in a constructive way, a continual frame with elastic clamps on junctures of piers and span structure. Basic geometrical characteristics of the bridge are as follows:

- Spans: 15+20+15=50 m
- Total width of the driveway with curb lanes is 600 cm, while the total width of the bridge is 790 cm
- The grade slope equals 5,5% while the cross slope equals: 1,5-0%
- The alignment is in a left horizontal curve R= 350 m and a spiral
- The total middle length of the bridge with the parallel walls is approximately 63,15 m

The driveway slabs are cross reinforced and supported by transversal carriers and the span structure. The width of the slab equals 25 cm. The consoles are 105 cm long. This bridge was categorized as somewhat damaged with a partial rating of transport capacity R1=628 and a total rating of R=922

Considering the condition of the bridge it is decided that the main structure of the bridge is to be kept, and strengthened with carbon lamellas where needed. The following reconstruction works are to be done, according to 2008 design that has remained unchanged:

- Removal of the entire bridge equipment (asphalts, footpaths and fences)
- Removal of loose parts of concrete (with a Pickhammer) from the upper part of the slab, the down part of the structure and the edges of consoles on the entire length for the minimal width of 15 cm until the reach of healthy concrete.
- Sandblasting of the entire surface of the concrete and damaged reinforcement
- Making slits for setting carbon slats above the center piers
- Placing carbon strips on main carriers in the support zone
- Demolition of battlement of abutments
- Patching of the segregated parts of concrete and eventual impact holes on the upper surface with polymer-mortar
- Concreting the edge of consoles

- Placing the amplification for the span structure (carbon lamellas)
- Protection of carbon lamellas and stripes from UV radiation.
- Rehabilitation of skittles and existing retaining walls
- Placing *hydro insulation* on the upper surface of the driveway slab
- Replacing of bearings
- Strengthening of the body of abutments with a 25 cm thick layer of concrete
- Strengthening of retaining walls on abutments with a 15 cm thick layer of concrete
- Construction of the battlements and intermediate plates
- Setting up the equipment on the bridge (footpaths, curbs, fences, gutters and asphalt concrete).
- Integration of the road level in the roadway of the bridge on both sides for 30 m.
- Rehabilitation of crossbeams on abutments with waterproof mortar.

The reconstruction of the bridge is planned to be done in two phases, thus allowing a traffic flow on one side of the bridge while the other is being reconstructed. Considering the damages of the span structure the right side of the bridge is to be reconstructed first.

A revision path which will serve as a footway of total width 110 cm was adopted thus enabling a safer crossing of pedestrians.

Figure 4 (a-f): Photos of Current State of the Bridge, 2008

a) Span structure

b) Coastal Pillar nr. 1

c) Base of the coastal pillar nr. 1

d) Driveway slab and cross carrier

e) Damaged pavement structure, turning point

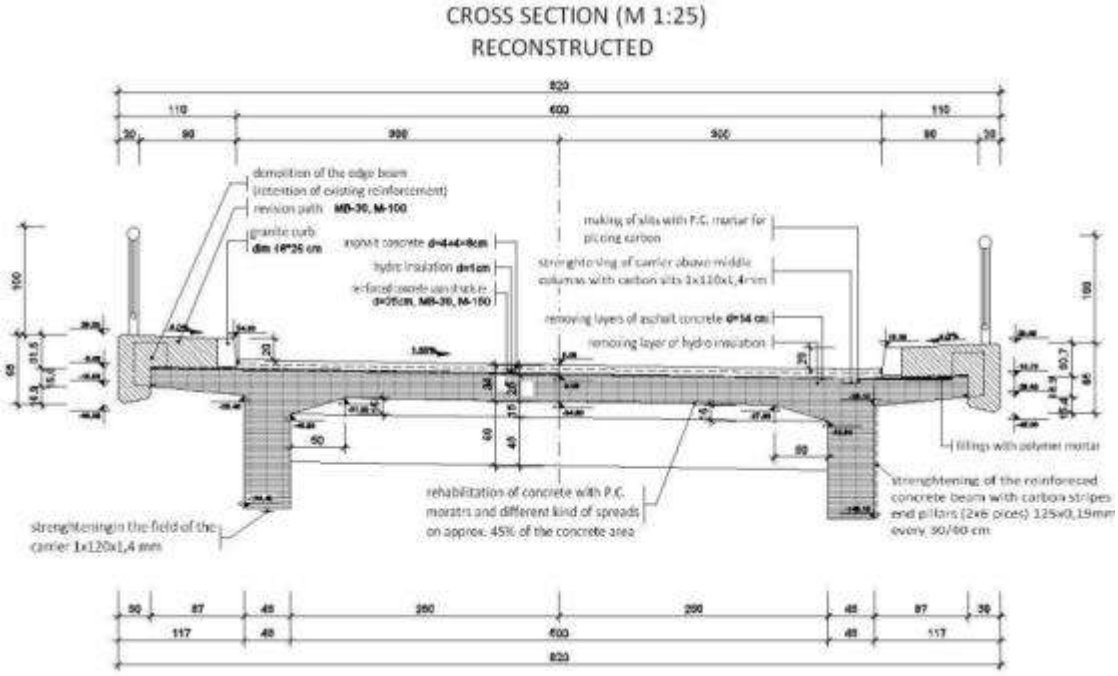
f) Damaged fence

Source: Main Design of the Rehabilitation of the Bridge over a deep obstacle on Komar Trasa Ltd. Sarajevo, 2008.

Figure 5 shows main elements of the Main design.

Figure 5: Excerpt from the Main design

Cross section through the construction in the first field



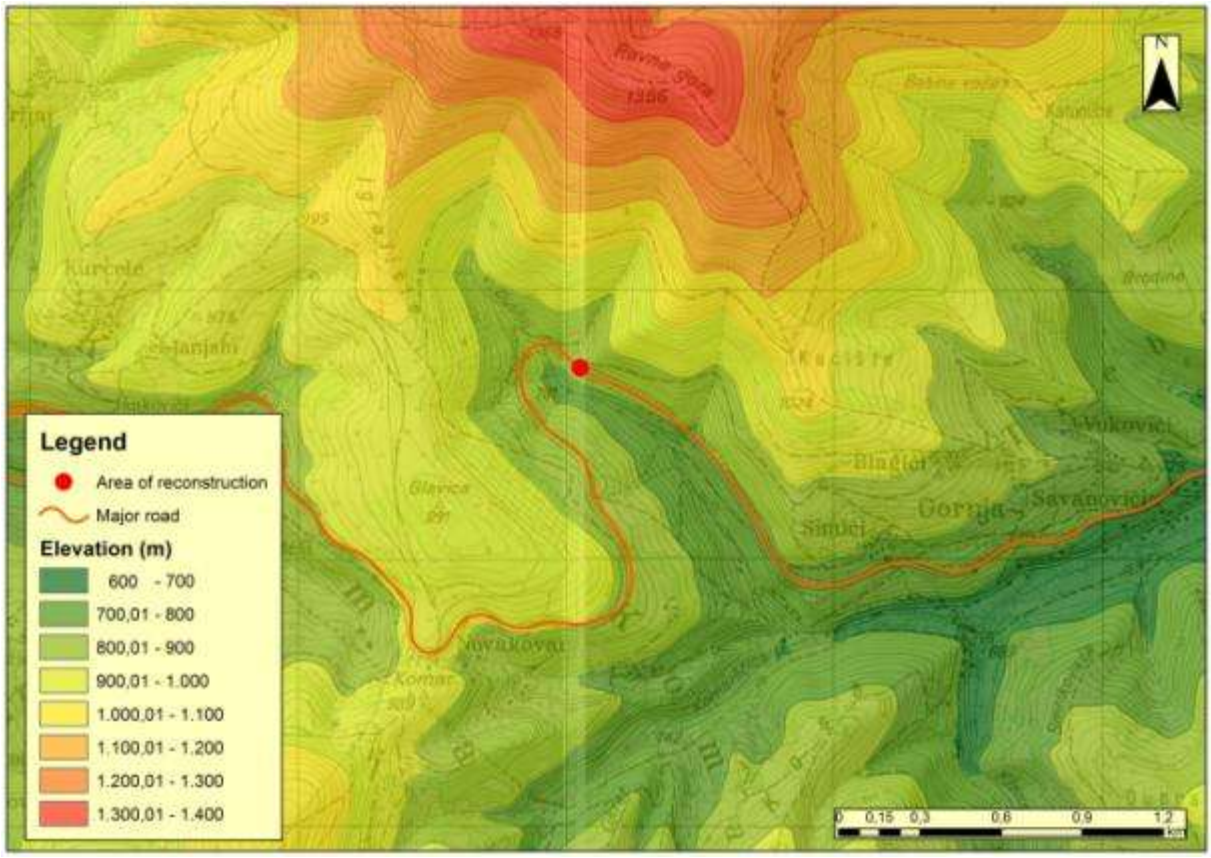
Source: Main Design of the Rehabilitation of the Bridge over a deep obstacle on Komar Trasa Ltd. Sarajevo, 2008.

5. BASELINE OF PARTICULAR INTEREST

5.1. GEOGRAPHIC CONDITIONS

The terrain of the Project is mostly with a high attitude in the range from 600 to 700 meters above sea level. In the wider area the altitude goes up to 1400 meters above sea level, as indicated in Figure 6. From stratigraphic – petrographical point of view this area is composed from 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.

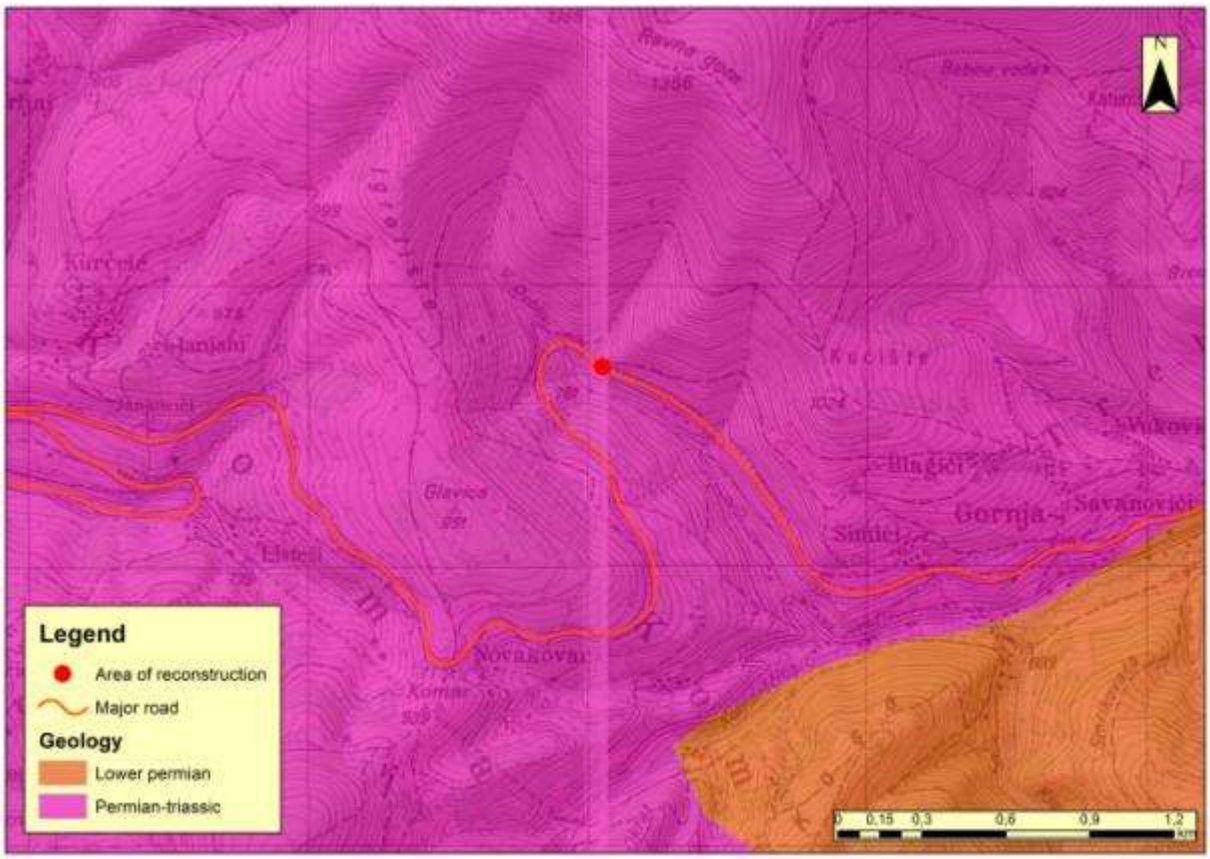
Figure 6: Geographical Map of Wider Area with the Project Location



Source: PC Roads Federation of BH

The geological structure of the area of reconstruction is characterized by permian – Triassic alevrolytes and green sandstones. In areas where it was possible, permian – triassic sediments are separated into packets.

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



Source: Draft of Spatial plan of FBiH 2008.-2028.

5.2. 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 this area is under the influence of the moderate continental climate or moderately warm and humid climate type (Cfb climate according to Köppen climate classification), while the higher zones are characterized by subalpine and alpine climate (areas over 1000 meters above sea level).

Meteorological station in Komar, closest to the site of reconstruction, reports following data: the average multi-annual temperature is 7.4 °C, the warmest month is July, with an average perennial air temperature of 16.6 °C and the coldest month is January when the average perennial temperature is - 3.2 °C.

Table 2. Average temperature and precipitation for the multi-year period

Month	*I*	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI*	*XII*	*Avrg./Summ.*
Temperature(°C)	*-3,2*	*0,4*	*2,8*	*6,5*	*11,5*	*14,2*	*16,6*	*16,5*	*12,5*	*8,5*	*2,7*	*0*	*7,4*
Precipitation (mm)	*67*	*61*	*83*	*88*	*102*	*131*	*71*	*59*	*82*	*102*	*79*	*76*	*1001*

Source: Federal Hydrometeorological Institute, Sarajevo

The average rainfall measured at the same meteorological station, during multi-year period is 1001 mm per year. The rainiest month is June, when the average precipitation is 131 mm. The least precipitation occurs in August, only 59 mm on average. This area stands out by the amount of snow cover during the year, and also by the duration of snow cover which lasts 30 days longer than in the valleys. The area has a cool climate (average annual temperature 7,4 °C) characterized by high atmospheric humidity and much harsher winters than in the valleys, so it is suitable for the occurrence of icy conditions on roads.

5.3. AIR QUALITY

No particular monitoring of air quality for this location was performed, neither for the area. Judging by the location of the bridge, it can be concluded that the highest and the only air pollution refers to traffic of the major road, while there are no other major air polluters near the bridge. As well in the wider area, there are no significant air polluters.

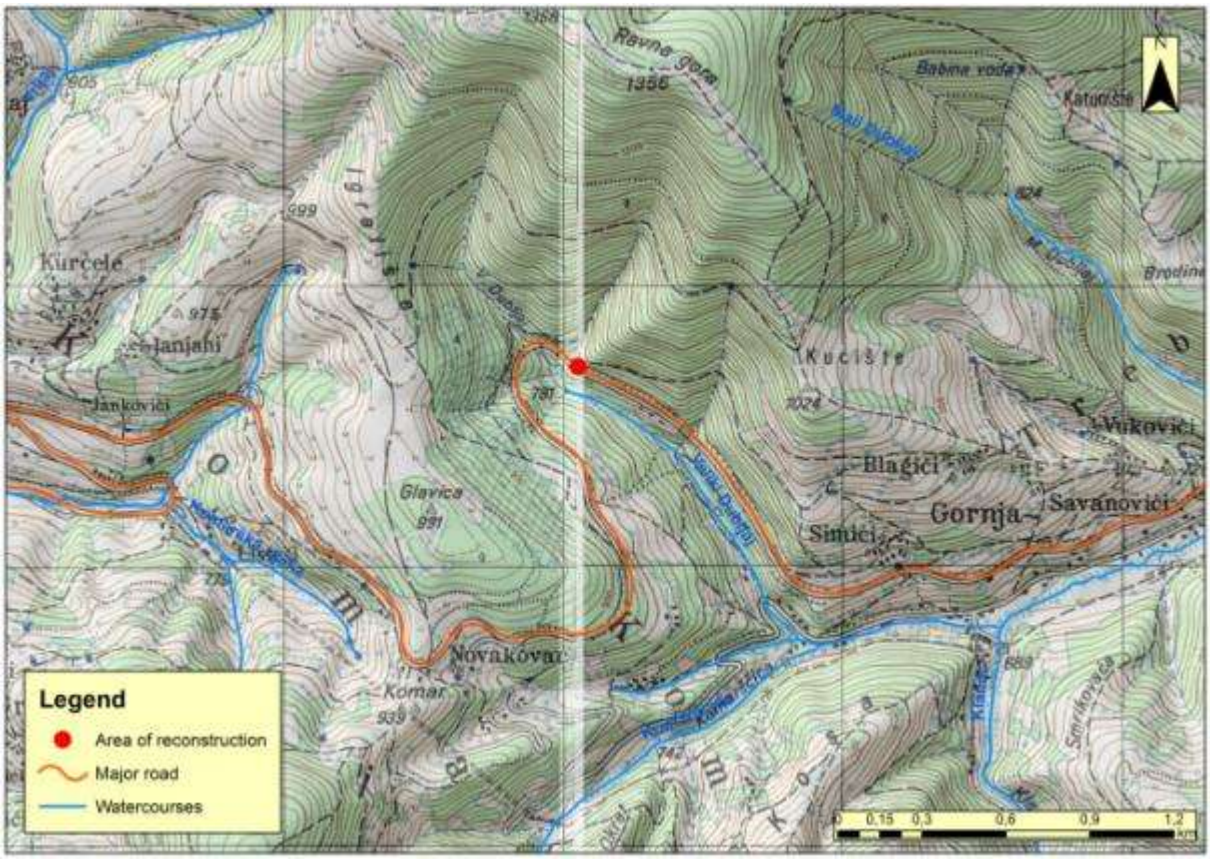
There are no data on air quality on this particular location, but based on geographical features and the fact that there are no significant polluters, and the only polluter is the road traffic in the wider area it can be considered that the air quality is good. The Contractor shall conduct a baseline measurement for air quality monitoring prior to the start of works.

5.4. WATER AND WATER QUALITY

The bridge, as already mentioned, stretches across a deep obstacle, and not over a watercourse. Near the location of the bridge (app. 500m), we can find only a few streams like Veliki Dubljaj, Komarščica and Klanac. There is no hydrological monitoring of these watercourses at the Project area.

The watercourses are threatened by human activities such as transport, agriculture, non-sanitary waste disposal and discharging untreated wastewaters from the housing facilities in the area.

Figure 8: Hydrographic Map of the wider area of the Project



Source: PC Roads Federation of BH

5.5. 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, there are no facilities for residential purposes (houses), business purposes (stores), hospitals, health resorts etc., which could be impacted by an increased noise level. According to the Law on Noise Protection, they fall under the sixth zone, where allowed noise levels are 70 dBA during day and 70 dBA at night.

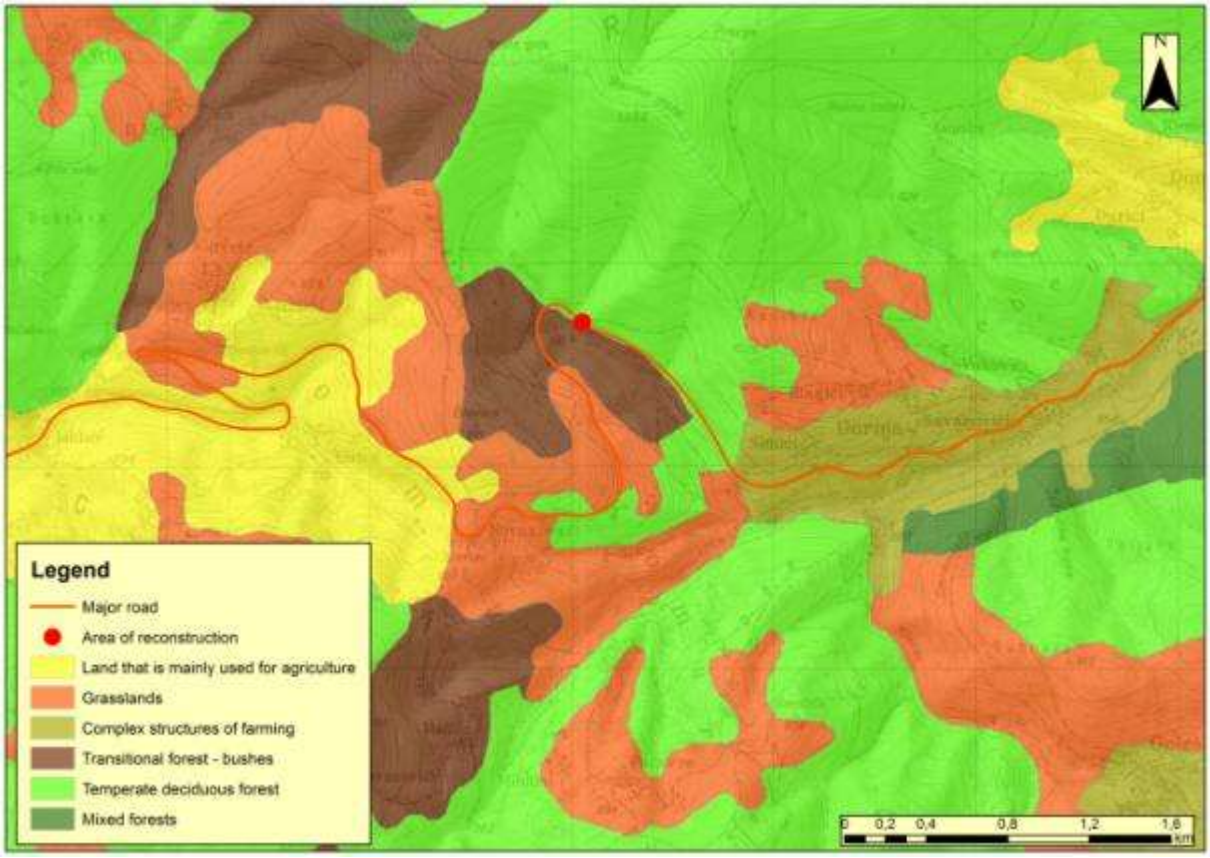
5.6. LAND AND LAND USE

Woodland is the dominant land cover type covering large areas in the wider area of the bridge according to the CORINE methodology[4]. There are no residential or any other objects

[4] Coordination of information of the Environment - European Environment Agency

near the bridge. No agricultural land or land of high importance is located in close vicinity of the site. All plots in the vicinity of the project bridge are in public ownership.

Figure 9: Land use in the wider area of the project according to CORINE model



Source: Coordination of information of the Environment, European Environment Agency

5.7. FLORA AND FAUNA

The area of Central Bosnia Canton where the municipality of Travnik is located, with geographic features of the terrain and large variety of ecosystem, it is considered that in the wider area reside over 4000 species of vascular plants many of which are endemic and relict, and more than 200 species of birds and other elements of the biodiversity.

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 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.

5.8. PROTECTED AREAS

There are neither protected areas nor cultural-historic heritage near the project area according to Spatial plan of FBH, Spatial plan of Central – Bosnia Canton and Commission to Preserve National Monuments. There are also no recorded archeological findings in the observed area.

5.9. POPULATION AND SETTLEMENTS

The municipality Travnik has a population of 57 543 people living in the area of 529km^2. The population density is 102,9 people per km^2 which is considerably higher than the cantonal and Federation BH average. The municipality has 90 settlements and 34 local communities.

The municipality of Travnik has eleven primary schools, six high schools and three private universities, which makes Travnik a university center of the region.

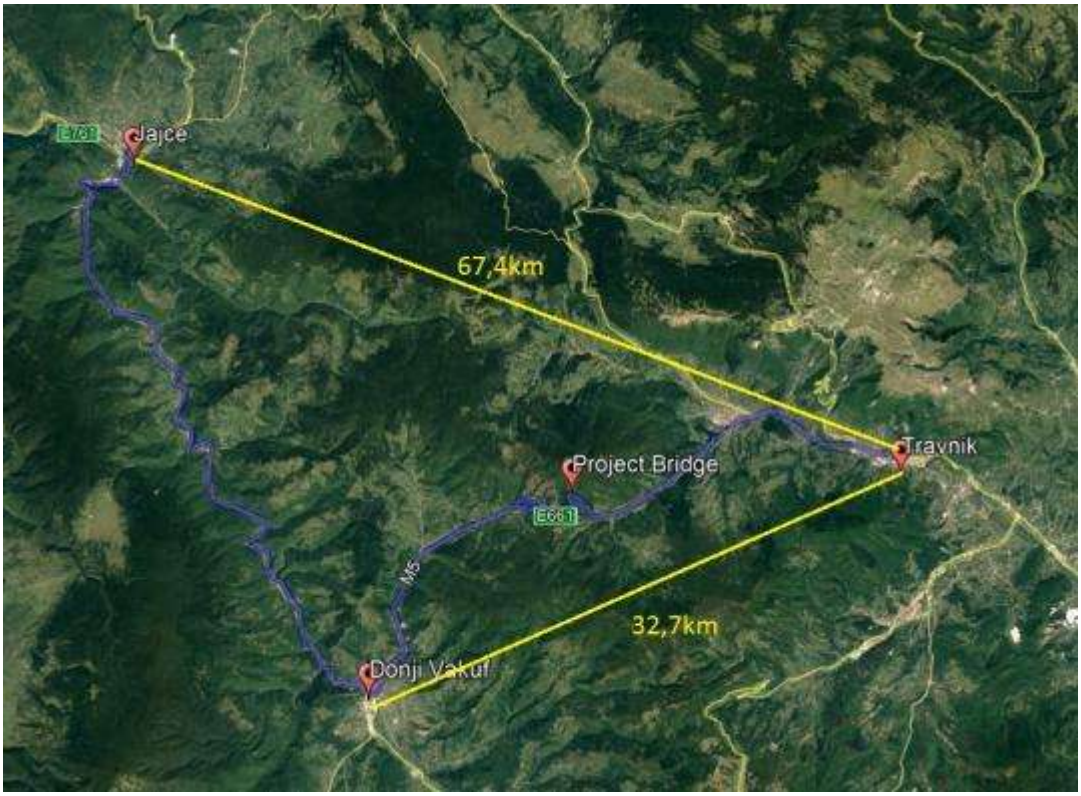
As for the health care system, both primary and secondary health care are present in Travnik. Travnik is the capital of the CB Canton making it the educational, administrative, health and economy center. Thus, Travnik has immense significance for municipalities and local communities in the region, such as Jajce, Donji Vakuf, Bugojno, Busovača, Dobretići, Gornji Vakuf, Vitez, Kiseljak, Kreševo, Novi Travnik and Fojnica. The towns (which are also municipality centers) Jajce and Donji Vakuf are connected to Travnik (the Cantonal center) through the use of the project Bridge. The distances of Jajce and Donji Vakuf to Travnik are depicted in Figure 11.

The project area is located on the border with the Municipality Donji Vakuf and is uninhabited. Therefore, its significance is for the local community is low. However, the bridge route is important for connecting other municipalities, and their centers, Jajce and Donji Vakuf, to the cantonal capital as well as in the transit connection of north and south of the country.

Figure 10. The distances of the project bridge from inhabited areas

Source: PC Roads Federation of BH

Figure 11.connection of Jajce and Donji Vakuf to the Cantonal Center Travnik



Source: PC Roads Federation of BH

6. DESCRIPTION OF POSSIBLE IMPACTS DURING PRE- CONSTRUCTION, CONSTRUCTION, OPERATION AND MAINTENANCE

6.1. Impacts during pre-construction

Socio-economic impacts

Land acquisition and resettlement: No land acquisition or resettlement is expected on this project since there will be no widening of the carriageway. Furthermore, there are no changes in the project footprint that would require land acquisition.

6.2. IMPACTS DURING CONSTRUCTION

Impact on Air Quality

Exhaust gases - The machinery that 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 SO2, CO2, CO, NOX and Pb.

Dust generation - where the most important polluters are solid particles (PM10 and PM2,5). Possible sources of dust generation include: site preparation activities, handling of building materials such as gravel, sand, asphalt, cement and the construction itself. The spreading of this pollution will depend on the weather conditions (wind strength and precipitation). The impact of dust emissions is not significant, it is temporary and of local character.

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 Groundwater Quality

Possible contamination of groundwater– may occur due to general construction activities and malpractice including handling of hazardous substances (i.e. 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) etc. These impacts can be avoided by working carefully and respecting the construction practices set forth in this ESMP, so the construction will not have a significant negative impact on the groundwater.

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 animals living in the surrounding area.

Impact on Protected areas

The observed project is not situated in any of the existing or planned protected areas.

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 road section - increased traffic flow, leading to congestion and obstruction is likely to be experienced on major road (M-5) during the construction. This is especially expected during delivery of construction material to site and collection of waste from site. During the reconstruction of the road, one of the traffic lanes will be closed for traffic therefore there will be decrease in traffic flow and possible standstills on the bridge and wider. This is also an important issue in the summer months where the volume of traffic on this road substantially increases. 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.

Socio-Economic Impacts

Temporary land occupation and damage to private property:

Temporary land occupation of private land for lodging machinery and material is not expected since land alongside the public road that is owned by the investor will be used for such purpose. Furthermore, since one lane traffic regimes are planned during construction a part of the lane under construction at the entrance/exit of the bridge can be used for lodging machinery and materials.

However, if additional temporary occupation of private land would be 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.

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 due to the limited scope and duration of civil works.

Impact on living conditions of local communities

The area in the vicinity of the project construction site is not populated, thus, no impact on local communities is identified. Still, following adverse impacts during construction are possible:

- Noise increase,
- Construction waste disposal, Local businesses can be affected in means of late delivery of goods and products. The impact is short termed.

Land screening: On 2nd of September,2017, the social specialist of the Project Implementation Team (PIT) conducted a walkover survey on the location of the Project Bridge (Bridge acrossdeep obsticle on Komar). It has been noted that public land plots owned by PC Roads and required for the project activities, such as material and machinery lodging, are not being used in any way, neither formal nor informal, and do not require clearance.

The Parking seen on figure 12a is owned by PC Roads and is used by road users for the purpose of a short resting stop, thus contributing to safety increase on the project section. This land plot has no other usage, formal nor informal.

Figure 12 (a-d): Photographs made during the walkover survey on the 2nd of September, 2017

a) existing bridge

b) existing bridge

c) existing bridge

d) existing bridge

Source: PC Roads of FBH

6.3. IMPACTS DURING OPERATION AND MAINTENANCE

Since this bridge is an already existing object neither new negative impacts, nor deterioration of existing negative impacts, during operation and maintenance are expected.

6.4. POSITIVE IMPACTS

Project implementation will contribute to better environmental and socio-economic conditions and will have positive impacts on the quality of transport on road M5. 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;
- Improved passage for vehicles, pedestrian and cyclist;
- Safer traffic conditions for driversby improving construction elements of the pavement structure and safety fence and the Increase of pedestrian safety by widening the pedestrian pavement on both sides of the bridge;
- Less damages to vehicles,

6.5. Enhancement measures

Table 3: Enhancement measures

Impact	Improvements to be achieved	Cost Assessment (US$)		Institutional Responsibility	
		Operative	Implementation	Operative	Implementation
▪ Traffic	▪ Improved road and travel safety by improving construction elements of the pavement structure and safety fence; ▪ Better traffic flow ▪ Increase of pedestrian safety by reconstructing and widening the pedestrian pavement on both sides of the bridge	Included in construction works	Included in supervision	Contractor	PC Roads FBH
▪ Socio-economic	▪ New job and business opportunities for local construction workers and firms; ▪ Improving connections between the middle and the North west of BH	Included in construction works	Included in supervision	Contractor	PC Roads FBH
▪ Visual aesthetic and landscape	▪ Improving visual aspects of the bridge and surrounding area.	Included in construction works	Included in supervision	Contractor	PC Roads FBH

7. 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 4*. 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 submit 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[5]:

(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)].

[5] *Ordinance on Construction Site Organization, Mandatory Documents on Site and Participants in Construction (Official Gazette of the FBH No.48/09)*

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 shall also include management of traffic according to the season, notably trying to minimize impacts during the summer months where the traffic in this area is 5,4% higher than in the rest of the year.

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 envisaged at this moment.

7.1. MITIGATION MEASURES IN PRE-CONSTRUCTION PHASE

7.1.1. 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 though 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 should 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 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.

7.2. MITIGATION MEASURES IN CONSTRUCTION PHASE

7.2.1. 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 Contractor 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 form 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 4. Environmental and Social Impacts Management Plan.

7.2.2. 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. Road users and construction workers 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[6] in addition to complying with the national standards the FBH,

[6] *- 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.)

- 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,
- 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.

7.2.2.1. 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 of 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,

- and other Recommendations and EU directives

- 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.

7.2.2.2. 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.

7.2.3. 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:

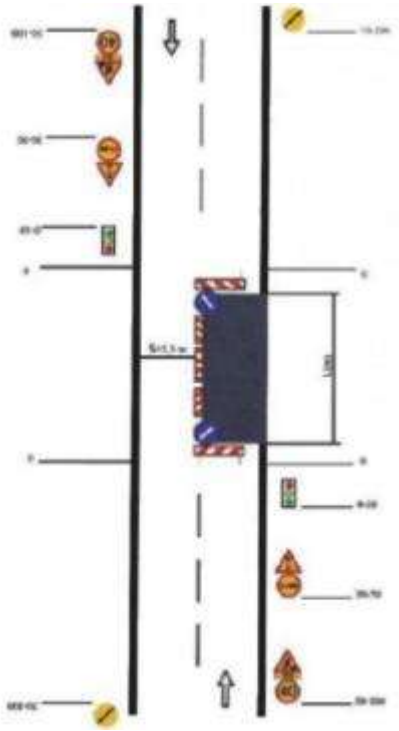
- Construction plan by phases,
- Beginning and duration of works,
- Overview of the existing conditions near the construction site,
- Identification of affected areas,
- Mitigation measures
- Circulation plans, including zones of entry and exit, routes for towing of material, turnaround points, parking 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 be 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 13.

Figure 13: scheme of an example of road safety measures during the construction phase



Source: PC Roads Federation of BH

7.2.4. 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.

7.2.5. 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. The contractor is responsible for keeping the works within the right of way.

7.3. MITIGATION MEASURES IN OPERATIONAL PHASE

It is required from PC Roads FBH to undertake the instructions given in the Table 4.Environmental and Social Impacts Management Plan in operational phase.

7.4. SUMMARY OF MITIGATION MEASURES

Table 4: Environmental and Social Impacts Management Plan

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
PRE-CONSTRUCTION PHASE						
▪ Impacts on living conditions	▪ 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. ▪ informing road users via the construction site information board, and an information leaflet at the construction site	Internal resources	Internal resources	PC Roads FBH	PC Roads FBH	▪ Impacts on living conditions ▪ Road users are orderly informed about constructi on works on roads via radio news and auto-moto club's press releases.
▪ Compliance with national legislation	▪ Obtaining all necessary permits for Project implementation.	Internal resources	Internal resources	PC Roads FBH + Project designer	PC Roads FBH	Prevention of negative impacts

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
▪ Restrictions on land use and damages on private property	▪ Avoid private properties where possible; ▪ The Contractor will organization the construction site in collaboration and agreement with Travnik municipality; ▪ In case occasional restrictions 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.	Internal resources	Internal resources	Contractor + PC Roads FBH	PC Roads FBH	If occasional restrictions on land use cannot be avoided, it will be agreed upon with respective owner and compensation will be paid before the land is accessed
▪ Job creation and impacts on local business	▪ 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. ▪ Informing business owners in advance about the construction works, in order to be able to plan the necessary road use, such as potential delays, accordingly (via local newspapers, the municipality's notice board and website and via PC Roads' website as soon as the contract is signed)	Internal resources	Internal resources	Contractor + PC Roads FBH u	Contractor + PC Roads FBH	.
CONSTRUCTION PHASE						

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
▪ Access restriction	▪ 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 ▪ Implementation of TMP. ▪ Clear signs posted. Notifications made through media or other road safety clubs on road closure. ▪ Area where materials and equipment are stored are clearly marked and closed off to unauthorized access.	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Impacts on local traffic (increase of local traffic, including heavy machinery and trucks), use of only one road lane causing traffic delays and limited access	▪ Implementation of TMP; ▪ Introduction of appropriate signalization and warning signs; ▪ Timely information to public on traffic disruptions.	Included in construction works	Included in supervision	Contractor	Supervisory body*	In collaboration with the Cantonal Ministry of the Interior Relations and BHAMK
▪ Temporary occupation of publicly or privately owned land plots in case of unforeseen	▪ Avoidance of the use of private lands; ▪ In case avoidance is not possible, minimise size of the area used and impacts on the vegetation and Implementation of RPF provisions.	Internal resources	Internal resources	PC Roads FBH + Contractor	PC Roads FBH	

[*] *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	
circumstances						
▪ Air emissions: - exhaust gasses; - dust generation	▪ High quality fossil fuels (with low percentage of sulphur and lead) need to be used for construction machinery and equipment; ▪ All machines and vehicles to be used in construction/ reconstruction/ rehabilitation activities must have use permit; ▪ Vehicles need to be regularly maintained ; ▪ Equipment with installed filters to reduce soot emission needs to be used; ▪ When not in use the equipment and machinery need to be shut down; ▪ Maximum speed of the vehicle on unpaved roads should be restricted to 20 km/h; ▪ Moistening/ wetting the site to prevent dust occurrence (in areas with dry soils or where activities generate dust); ▪ Sand and gravel materials need to be transported in covered trucks.	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Increased level of noise and vibration: - noise emission and noise disturbance; - vibration	▪ In the case of noise complaints by local residents, simultaneous use of machines that generate noise over 70 dB needs to be limited; ▪ In the case of noise complaints by local residents, number of trucks per day visiting the site needs to be reduced;	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	
	▪ All machines and vehicles to be used in construction/ reconstruction/ rehabilitation activities must have use permit; ▪ When not in use the equipment and machinery need to be shut down; ▪ Maximum speed of the vehicle on unpaved roads should be restricted to 20 km/h.					
▪ Emissions into water: - possible contamination of surface water and groundwater	▪ Ensure there is an emergency plan to contain all leaks and spills that result from an accident. ▪ Prevent any repairs, handling of machinery, fuels or lubricants in areas that are not designated for such use. ▪ Proper waste disposal and separation of hazardous waste is required, as well as the engagement of authorized companies for final waste disposal; ▪ Oil and fuel collection systems to be fitted to prevent leakage; ▪ Vehicles and machines need to be regularly maintained to prevent leakage.	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Soil degradation and emissions to soil: - soil erosion; - soil contamination by oils, fuels and other hazardous substances	▪ 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; ▪ Oil and fuel collection systems to be fitted to prevent leakage	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Inadequate waste handling	▪ Implementation of WMP that shall ensure environmentally sound collection of waste, its storage, transport and final disposal, and primarily reuse /	Included in construction works	Included in supervision	Contractor	Supervisory body*	+ local waste managemen

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
	recycling. ▪ No clandestine waste disposal will be allowed on site, including open burning of wastes. ▪ The waste should be stored for a short period of time and should be removed as soon as possible. ▪ The waste should be primarily recycled or reused where possible and then finally disposed ▪ No open burning of wastes is allowed on site ▪ 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). ▪ Disposal sites of construction material will be determined by the municipality and should be handled in the most appropriate environmental manner.					t operator
▪ Inadequate workers safety	▪ Implementation of work safety measures: - 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, - Provide personal protective equipment, - Respect safety procedures, - Provide portable toilets, - Provide drinking water	Included in construction works	Included in supervision	Contractor	Supervisory body*	
▪ Accidental situations i.e. spills, leakage of oils, fats, fuels and similar hazardous materials	▪ Implementation of Environmental Management Plan which includes: - Spill Response Plan, - Emergency Preparedness and Response Plan.	Included in construction works	Included in supervision	Contractor	Supervisory body*	

Impact/Problem	Mitigation Measures	Cost Assessment (US$)		Institutional Responsibility		Comments
		Operative	Implementation	Operative	Implementation	
	▪ Implementation of Management Plan of Fire and 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 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*	
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 heritage, supervision is implemented by the competent institution
OPERATION PHASE						
▪ Decrease in road safety due to the	▪ Regular maintenance of road safety equipment and signage	Incl. in maintenance	Internal resources	Contractor for	PC Roads FBH	

[*] *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	
increase of traffic and speed		works		maintenanc e works		
▪ Problems due to lack of maintenance	▪ Regular road/bridge maintenance works	Included in maintenance works	Internal resources	Contractor for maintenance works	PC Roads FBH	

8. 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.

Table 5: Environmental and Social 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
PRE-CONSTRUCTION PHASE								
▪ Job creation and impacts on local businesses	▪ Number of employed persons from local communities ▪ Timely informing the local communities	Wider area of construction	Inspection	Prior to construction	Included in performance	Included in performance	Contractor	Contractor
▪ Temporary occupation of publicly owned land plots for the purpose of construction of access roads and placement of Staff, machines and material	▪ Implementation of RPF provisions	Construction site	Visual inspection and inspection	Prior to construction and during construction when necessary	Included in construction contract	Included in construction contract	Contractor	Contractor
CONSTRUCTION PHASE								
▪ Access restrictions	▪ TMP in place, ▪ Implementation of RPF, provisions on compensation procedures for businesses affected by access restrictions	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 public property (agricultural plots, horizontal infrastructure, fences and	▪ CSOP in place, ▪ Implementation of RPF provisions on compensation procedures in case occasional land use cannot be avoided,	Construction site	Visual inspection	Prior to construction and random checks at least once a week during the	Included in supervision	Included in supervision	Supervisory body + PC Roads FBH	Supervisory body + PC Roads

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
railings) due to disposal of construction waste, work camps and parks of heavy machinery	compensation will be provided to affected owners/users ▪ grievances (including from workers)			construction				FBH
▪ 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)	▪ TMP in place ▪ Traffic patterns, ▪ Timely information to the citizens	On construction site and nearby	Visual inspection and inspection	random checks during the week	Included in supervision	Included in supervision	Supervisory body	Supervisory body
▪ Air emissions: - exhaust gasses; - dust generation	▪ Level of dust (amount of particles of sediment and floating particles) ▪ Emissions of exhaust gases from vehicles and equipment ▪ (SO_2, NO_2, dim and PM_{10})	Construction site	Measuring devices	As a baseline and during construction when needed and upon complaints by the citizens	-	500 USD/measuring	Contractor	Authorized laboratory
▪ Increased level of noise and vibration: - noise levels - vibration	▪ Level of noise	In populated places near the construction site	Measuring devices	Upon order by supervisory organ or upon complaints by the citizens	-	500 USD /measuring	Contractor + Supervision	Authorized laboratory
Soil pollution	▪ Soil quality, including, PH, heavy metals, phosphorus, nitrogen, Na, Ca, salts, PAHs hydrocarbons	On representative plots of land near construction	Taking samples and standard laboratory	As a baseline and upon order by supervisory organ or upon complaints by the	-	500 USD /measuring	Contractor + Supervision	Authorized laboratory

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
		sites	analyses	citizens				
▪ Emissions into groundwater and soil due to improper waste handling	▪ CSOP in place, ▪ WMP in place ▪ Placing protective covers during demolition works and sandblasting works	Construction site	Visual inspection, disposal records or receipts from landfills	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Degradation of biological and ecological resources	▪ Survey of the site for any endemic or endangered species	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 institution
▪ Waste management	▪ Implementation of WMP	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 and monthly	Included in performance	Included in performance	Contractor + Supervision	Contractor

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
▪ Accidental situations i.e. spills, leakage	▪ Implementation of EMP which includes: - Spill Response Plan, - Emergency Preparedness and - Response Plan	Construction site	Visual inspection	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Materials supply	▪ Implementation of CSOP (the origin of material, material approvals etc.)	Construction site	Reports	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Material transport	▪ Implementation of CSOP (the origin of material, licenses etc.)	Construction site	Visual inspection	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor
▪ Workers safety	▪ Implementation of work safety measures (protection equipment, toilets, drinkable water etc.) ▪ Implementation of World Bank Occupational Health and Safety Guidelines	Construction site	Visual inspection	Daily	Included in performance	Included in performance	Contractor + Supervision	Contractor

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.

9. IMPLEMENTATION AND REPORTING

9.1. 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.

9.2. REPORTING PROCESS

9.2.1. 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 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.jpcfbih.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.

9.2.2. 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).

9.2.3. 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 ESPM 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.

10.PUBLIC DISCUSSION AND INFORMATION DISCLOSURE

10.1. PUBLIC CONSULTATION

Public consultation of the subject ESMP was organized in Travnik 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 Travnik Municipality on 21.02.2018. and on 27.02.2018. in local newspapers (Dnevni Avaz). The public consultations were held on 14.03.2018. in Travnik, 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.

10.2. INFORMATION DISCLOSURE

ESMP draft was available on the website of PC Roads of the (www.jpcfbih.ba) in a local language and on the website of the World Bank in English. During the process of public consultations 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).

10.2.1. 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 Travnik 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 city 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.jpcfbih.ba) and the municipality's website.

The grievance can be logged in writing with the Contractor, at the construction site as well as in the contractor's offices. The contractor 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. The grievance can also be filled in within PC Roads FBH, by phone, by fax, and by e-mailing it to the designated e-mail address zalbena@jpcfbih.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, weather 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.

11.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, 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:

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.

These studies are to be developed in accordance with federal acts[7], before starting the execution of works, while the Contractor's legal obligations defined in the Bidding Documents and Contract shall be based on the a 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.

[7] 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?			
• One-time incident/grievance – Date: _____ • Happened more than once (How many times?) _____ • On-going (currently experiencing problem)			
What would you like to see happen?			
DATE:	SIGNATURE:		
RETURN THIS FORM TO: *CENTRAL FEEDBACK DESK* *PC ROADS OF THE FBH* *Terezija 54,* *71000 Sarajevo* *Note: All copies are returned to PIU*			

APPENDIX 2. GRIEVANCE REGISTRATION TEMPLATE TABLE

No.	Date of receipt	Type of grievance (conserning expropriation, construction work or other)	Description of grievance	Complainant		Date of acknowlgement of receipt	Description of actions undertaken	Date of grievance resolution
				Status	Sex			

APPENDIX 3. REPORT ON PUBLIC DISCUSSION

JP CESTE FEDERACIJE BIH

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

JAVNOJ RASPRAVI

o nacrtu **Plana upravljanja okolišem i društvenim aspektima za projekat rehabilitacije mosta Komar preko duboke doline**

koja će se održati u Travniku, **u prostorijama općine Travnik 14.03.2018. godine u 10.00 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 Travnik.

Svi zainteresirani subjekti koji nisu u mogućnosti da prisustvuju javnoj raspravi mogu svoje sugestije i komentare dostaviti do 14.03.2018. putem e-mail adrese: pimt@jpcfbih.ba.

Dnevni red:

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

21.02.2018.

Announcement of Public discussion in the Local Newspaper „Dnevni Avaz“ (27.02.2018.)

Javno preduzeće
ELEKTROPRIVREDA BOSNE I HERCEGOVINE
d.d. - Sarajevo
Podružnica Termoelektrana "Kakanj", Kakanj

JAVNI POZIV

1.	Akumulatorske baterije	kg	17.000
2.	Metalno otpadno ulje	tona	70
3.	Otpadna gumena traka transportna	kg	10.000
4.	Kabel bakar sa izolacijom	kg	2.000
5.	Aluminij – otpadni aluminijski lim	kg	1500

JP CESTE FEDERACIJE BIH

JAVNOJ RASPRAVI

JP CESTE FEDERACIJE BIH

JAVNOJ RASPRAVI

VIJEĆE ŠUMARSKOG FAKULTETA U SARAJEVU

OBJAVLJUJE

20 Dnevni avaz, utorak, 27. februar/veljača 2018. život

ODLUKE Veronika Višnjić život u gradu zamijenila

Od Graca do Očevije: i sreću našla na obron

Upoznali se u Austriji, gdje je Zdravko Veroniki pričao o ljepotama pla internet ni TV ● Za mene je mentalitet ljudi koji žive ovdje ljepši nego

Iako je rođena u Austriji i veliki dio života je provela u gradu, Veronika Višnjić (56) svoj mir i sunce srca pronašla je na obroncima planine Zvijezde u selu Očevija kod Vareša. Selo u koje se doselila prije pet godina izabrala je u dogovoru sa supругom Zdravkom, koji je rođeni Varešlak, a u Austriji je otišao devedesetih godina prošlog stoljeća.

Dobre strane

Veronika i Zdravko upoznali su se u jednom udruženju za ručni rad u Austriji. Jedno vrijeme živjeli su u Gracu, ali su uvijek radije za život birali selo i

Dopada mi se ovdje. Mislili smo da je najbolje da odemo iz grada što prije, dok smo u stanu i dok možemo raditi – započinje priču Veronika.

Kada su počeli život planirati na duže staze i razmišljali gdje bi mogli nastaviti i gdje je mjesto koje im može pružiti jednostavne i osnovne stvari, nekoliko dolazaka u Bosnu bilo je presudno.

– Ovdje smo uvijek rado dolazili i Veronika je sama shvatila da bi ovo moglo biti prevo mjesto za nas. Gledali smo dobre strane života ovdje i kako ih je bilo mnogo,

Veronika i Zdravko: Uživaju ovo što imaju

donijeli smo odluku da dođemo u Očevija – kaže Zdravko.

Za Veroniku su dobre strane bile zdrav i prirodan život, kakav tu može voditi,

Proizvodnja sapuna

U udruženju u kojem je upoznala supругa Veronika je pravila sapune, a to je nastavila raditi i u Očeviji.

Od raznog bilja s planinskih livada proizvodim sapune, a aktivne sam članica Udruženja žena „Zvijezdagrad“ u Vareša, gdje ih izlažem i prodajem. U Udruženju sam pronašla i prijateljice koje su složne i važno nam je da imamo jednu drugu – kaže ona.

Veronika u Očeviji pravi prirodne sapune

Naselje iz neolita u Korića hanu kod Gra

Zašto vrijedno arhe nalazište propa

Iskopavanja počela još sedamdesetih godina prošlog stoljeća, a na su brojni fragmenti keramike, tragovi pečene zemlje,

Korića han, jedno od najznačajnijih arheoloških nalazišta u BiH, smješten je jugozapadno od Gračanice, u blizini puta Tuzla - Doboj - rijeke Sokolice koja se ulijeva u Spreču. Na središnjem dijelu otvorenog brežuljka nalazi se plato i na njemu je smješteno prahistorijsko naselje koje zauzima 12 hi-ljada kvadrata.

Ovo arheološko nalazište datira iz perioda neolita i na tom području postojao je grad 5.000 godina prije naše ere.

Još 1971. godine na tom lokalitetu počela su prva iskopavanja, a detaljnija istraživanja rađena su do 1975. godine u okviru projekta "Prahistorijska naselja na području Spreče" Mirsa Kosorić iz Muzeja istočne Bosne - kaže stručni saradnik u Zavodu za zaštitu kulturno-historijskog nasli-

Komisija za očuvanje nacionalnih spomenika 2003. godine proglasila je Arheološko područje Korića han u Gračanici nacionalnim spomenikom

Šakovic: U obimi brojni eksponati s Korića hana

JP CESTE FEDERACIJE BIH

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

JAVNOJ RASPRAVI

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Svi zainteresirani subjekti koji nisu u mogućnosti da prisustvuju javnoj raspravi mogu svoje sugestije i komentare dostaviti do 14.03.2018. putem e-mail adrese: pimt@jpcfbih.ba.

Dnevni red:
1. Prezentacija Plana upravljanja okolišem i društvenim aspektima za projekat rehabilitacije mosta Komar preko duboke doline
2. Pitanja, diskusija, odgovori i objašnjenja

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-komar-preko-duboke-doline/29 - Announcement of the Public discussion (B/H/S language) 21.02.2018.

http://dev.jpcfbih.ba/assets/upload/dokumenti-modernizacija/PUO-Komar.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_Komar_EN.pdf - Document (English language) (21.02.2018.)

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

2. Municipality of Travnik – webpage

http://www.opcinatravnik.com.ba/ba/stream.php?sta=3&pid=4242&kat=188 - 21.02.2018.

MINUTES of Public Discussion on the Draft Environmental and Social Management Plan for the Project of Rehabilitation of Bridge Komar across Deep Obstacle

A public discussion on the Draft Environmental and Social Management Plan for the Project of Rehabilitation of the Bridge Komar across deep obstacle was held on March 14, 2018 in the premises of the Municipality of Travnik at 10 am.

On behalf of the PC Roads of the Federation of Bosnia and Herzegovina public discussion was attended by:

- **Neven Pavlinović** - Expert Associate for Road Structures
- **Selma Ljubijankić** - member of the PIT in charge of social aspects under the Road Sector Modernization Programme
- **Haris Zejnić –** PIT assistant for environmental monitoring under the Programme.

A list of all participants is enclosed to these minutes.

Selma Ljubijankić opened this public discussion, greeted all participants and presented representatives of the PC Roads of the FBiH and gave a brief introduction on the Road Modernization Program and the document.

Haris Zejnić presented the Draft Environmental and Social Management Plan for the Project of Rehabilitation of the Bridge Komar across deep obstacle. He familiarized all participants with the project goals, mitigation measures of all identified potential environmental and social impacts, monitoring plan, disclosure of information, grievance mechanism, requirements for start of works, and other relevant information from the document. It was stressed out that this is the draft document and explained 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.

Kemal Latić asked what portion of the existing structure shall be preserved.

In response to this question, **Neven Pavlinović** represented the technical characteristics of the project including the traffic management plan during the works execution. It is also reported that a one-way traffic regime will be set up during the execution of the works (i.e. traffic lights), and that it will be necessary to completely suspend the bridge traffic for two weeks, for what purpose the traffic shall be diverted to Rostovo. This information was subsequently denied (after public discussion) by the project manager, Mr Behudin Strojil, saying that it is possible to suspend traffic only during the asphalt works, i.e. maximum 24

hours on two occasions. One-way traffic regime will be maintained for the rest of the work period.

Kemal Latić raised a question about the planned commencement date.

Neven Pavlinović answered that the works are planned to commence in early April. Bidding procedure is completed and the submitted bid meets the technical criteria.

Haris Zejnić explained that the bidding procedure for works supervision has not been completed yet, and that this is the only potential issue in terms of work commencement.

Kemal Latić suggested that attention shall be paid to the signaling during the period of complete traffic suspension. Namely, during the previous reconstructions of bridge Komar, people would come to the site and then realize that they will have to get back to the detour point.

Neven Pavlinović explained that warning signage will be set up after the turn to Vitez.

Sifet Melić is convinced that traffic diversion to Bugojno is not a real option, especially because of the transit transport. He anticipated major traffic congestion, especially if there is another site nearby. He's of the opinion that it would be better to have a public discussion in Turbe as it would have been easily accessible by the local community, which will be involved with agricultural activities at the time of works execution. He believes that, during the complete traffic suspension, key traffic will go through Goleš village, which would create great issues for the local community. He finds that that the local road through the Goleš village, which is currently a gravel road, should be prepared (which includes leveling and expansion in some places) and used for traffic diversion during the complete traffic suspension. It was further emphasized the possibility of discovering unexploded ordnances in this area during the preliminary works.

Selma Ljubijankić explained that works will only take place on the road, and there will be no temporary expropriation of the surrounding land.

Neven Pavlinović stressed out that an opinion of BH MAC (Mine Action Center in Bosnia and Herzegovina) has been requested regarding the works on the site in question, and that they have provided the information that the risk of unexploded ordnances on the site is minimal.

Selma Ljubijankić confirmed that any information obtained shall be further disclosed to Project manager, Mr. Behudin Strojil.

Neven Pavlinović explained that PC Roads Road will try to make more impact on transit transport through additional information on traffic diversion transmitted by radio and BIHAMK, including the additional signaling at all major locations (i.e. Bugojno, Donji Vakuf, ahead of Nević Polje etc.). Complete traffic suspension will have the most impact on the local community, including the local business. The local road suggested as an alternative for traffic diversion will certainly be able to accommodate the local traffic. However, the road is

in quite bad condition and it would be necessary to make significant investments so that it could also accommodate the transit transport.

Sifet Melić is of the opinion that the local road should be brought to an acceptable condition. Furthermore, he believes that PC Roads of the FBiH may need this road in the future, in the event of any incident on the bridge that would require a complete traffic suspension.

Neven Pavlinović underlined that alternative roads are always useful to PC Roads, especially when it comes to structures.

Sifet Melić added that the local road suggested for traffic diversion is reachable from the main road M5, turn to Goleš village. There is about 1, 5 km long asphalt section from which departs a gravel road that reaches M5 again at the top of the slope. The road is about 4 km long and mostly wide enough to enable vehicle bypassing. The road is not maintained and it is used by the heavy goods vehicles, if necessary.

Selma Ljubijankić added that PC Roads of the FBiH will try to coordinate the works in such a way that the impact is as small and as short as possible.

The public discussion was closed at 11 am.

Photographs of participants in the Public Consultations in Travnik (premises of Travnik Municipality)


Nacrt Plana upravljanja
okolišem i društvenim
aspektima za projekat
rehabilitacije mosta Komar
preko duboke doline

List of Participants in the Public Consultations

JP CESTE FEDERACIJE BIH

Javna rasprava o Planu upravljanja okolišem i društvenim aspektima za projekat rehabilitacije mosta Komar preko duboke doline, Travnik, 14. mart 2018.g.

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