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# Road Rehabilitation and Safety Project

Rehabilitation and maintenance of I and II category State roads in the Republic of Serbia

# ENVIRONMENTAL MANAGEMENT PLAN

for

Main Design for Heavy Maintenance of State road of IB category no. 21 (old road mark M-21),

section: VALJEVO (Bypass) - KAONA - KOSJERIC

- Environmental Category B -

Draft Belgrade, September 2017

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#### ABBREVIATIONS AND ACRONYMS

BDs Bid Documents

CEP Contractor's Environmental Plan

EBRD European Bank for Reconstruction and Development

EIA Environmental Impact Assessment

EIB European Investment Bank

EMP Environmental Management Plan

ESAP Environmental and Social Action Plan

IFIs International Financing Institutions

INPoRS Institute for Nature Protection of the Republic of Serbia

IPCM Institute for Protection of Cultural Monuments

MoAEP Ministry of Agriculture and Environmental Protection

MoT Ministry of Transport

OP Operational Policy

PERS Public Enterprise "Roads of Serbia"

PSC Project Supervision Consultant

RE Resident Engineer

RoEF Region of Exceptional Features

RRSP Road Rehabilitation and Safety Project

SLMP Safety Labour Management Plan

SSIP Site Specific Implementation Plan

WB The World Bank Group

#### INTRODUCTION

The Environmental Management Plan (EMP) has been prepared for the proposed Project of Heavy road maintenance of the State Road of IB Category No. 21, section Valjevo (Bypass) – Kaona - Kosjeric, in order to ensure application of the good environmental practice and document compliance with the requirements of the International Financing Institutions (IFIs) which will finance this Project.

The road section is 21,1 km long, between chainages km 153+200 and km 174+300. The Project has been classified as Environmental Category B. i.e. a project requiring an EMP pursuant to IFIs Safeguard Policies.

The Project Proponent is the Government of Serbia, acting through its Ministry of Agriculture and Environmental Protection (MoAEP). Project implementing entity is Public Enterprise "Roads of Serbia" (PERS).

The aim of the EMP is to highlight the negative environmental impacts and management problems during the construction works execution, as well as the necessary mitigation measures that the Contractor must apply. The key components of the EMP are: Plan for the mitigation of adverse impacts on the environment and Plan for monitoring the impact on the environment.

Project will comply with Serbian legislation, procedures and policies, international conventions and IFIs safeguard policies.

This site specific EMP is focusing more on heavy maintenance, as it will become part of the respective Contract for the implementation of civil works. The activities related to subsequent regular maintenance of this section are not the main focus of this EMP, but are presented here with for the purpose of completeness.

The preparation of this EMP was undertaken through a desk study and field investigations, including consultations with regional level representatives and local stakeholders. The EMP is based primarily on field investigations performed during Jun 2017.

#### **EXECUTIVE SUMMARY**

### **Project description**

Road Rehabilitation and Safety Project (RRSP) represents the implementation of the first phase of the Government's National Road Rehabilitation Program for the period of 2014-2019 from which it is expected to rehabilitate about 1100 km of national roads across the country. The subject section is a part of the RRSP planned for heavy maintenance during the second year of the Project implementation.

Considered section is located in western Serbia, Zlatibor and Kolubara administrative districts and passes through the territory of the municipality of Valjevo and the municipality of Kosjeric. The beginning of the section is at the chainage km 153+200 (*Picture 1*), and the end of the section at km 174+300 (*Picture 2*)



Picture 1 - Beginning of the section



Picture 2 - End of the section

The road passes through the following settlements: Bacevci and Mrcici. From the beginning of the chainage at ~ km 161+400 parallel to the route flow Bukovska and Suvaja rivers. On the stretch from the chainage ~ km 155+100 to ~ km 158+100 (entrance to the tunnel "Zavojnice") between the existing road on one side and the rivers Bukovska and Suvaja on the other side, there is the railway Belgrade - Bar. Upon exiting the tunnel at chainage ~ km 159+000 the railway departs from the road alignment. (*Picture 3*)



Picture 3 - Position of larger water-courses and the railway Belgrade - Bar in relation to the road

"Podbukovi" quarry under the management of the company "Erozija a.d." from Valjevo is located on the left side of the road in direction of chainage increase at ~km 160+000 (*Picture 4* and *Picture 5*). On the right side of the road, there is a landfill of chips and sand as well as the administration building (*Picture 6*).



Picture 4 - The position of the "Podbukovi" quarry in relation to the road







Picture 6 - Landfil of sand and grit with the administrative building in the background



Picture 7 - Regulated river bed of Kozlica river in the area of the quarry

Through the quarry flows the Kozlica River that after leaving the quarry zone flows into the Bukovska River. In this part of its course the Kozlica River is in a regulated bed (*Picture 7*). Quarry with accompanying landfills could contribute to cumulative environmental impact. As the "Podbukovi" quarry is located along the edge of the road, it is necessary to separate the surface of the quarry from the edge of the road (New Jersy).

"Mrcici" quarry under the management of the company "Metalfer mining", at chainage km 170+500 is about 500 m away from the road by airline. An aggregate is produced there from the diabase rock (*Picture 8*).



Picture 8 - The position of the "Mrcici" quarry in relation to the road

Near the bridge (Mrcica bridge), over the stream, on the left side of the road (at a distance of 120 m) in direction of chainage increase ~km 172+100 there is an unregulated landfill in the former place of excavation of diabase (*Picture 9* and *Picture 10*). This landfill needs to be cleaned and regulated.

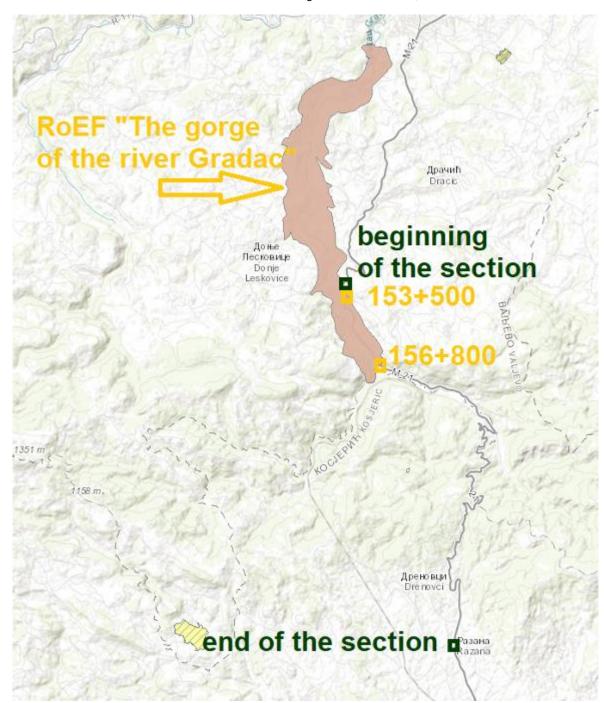


Picture 9 - The position of the unregulated landfill in relation to the road



Picture 10 - Landfill in the former place of excavation of diabase

At the beginning of the section Valjevo - Kaona - Kosjeric the road, in the length of about 3,3 km, passes through the protected area of the Region of Exceptional Features (RoEF) "The gorge of the river Gradac" in the protection regime of III degree. At Kaona node, the road borders with the area that is in the process of protection, the RoEF "Maljen" (*Picture 11*). Also, the observed section of the road is within the scope of the ecological network, an ecologically significant area - Valjevo Mountains.



Picture 11 - Protected ares on the road section Valjevo - Kaona - Kosjeric

The works foreseen by this design, will be implemented within the right-of-way of the existing road. The project entails no resettlement and land acquisition as defined by Operational Policy (OP) 4.12, nor long lasting disruptions to the natural environment and human settlements and activities. More details on the subject are available in Project's Resettlement Policy Framework.

# Policy, legal and administrative framework

MoAEP, is the key institution in the Republic of Serbia responsible for formulation and implementation of environmental policy matters.

The environmental legislation currently in force in Republic of Serbia is summarized in *Appendix III*.

In the Republic of Serbia, the Environmental Impact Assessment (EIA) procedure is regulated by the Law on EIA, which is completely in line with European EIA Directive - 85/337/EEC. PERS has submitted to the MoAEP a request for an opinion on the assessment of the project's impact on the environment. Based on the obtained decision (no. 953-13562 Appendix V- Conditions from relevant public institutions), no EIA Study is required. Based on the decision (no. 020-750/3) issued by the Institute for Nature Conservation of Serbia (Appendix V - Conditions from relevant public institutions), the section Valjevo - Kaona - Kosjeric in one its part is located within the protected area – RoEF "The gorge of the river Gradac", in the third-level protection regime, and at one part of the route (at the Kaona node) it borders with the area in the process of protection, RoEF "Maljen". Also, the subject section of the road is within the scope of the ecological network, an ecologically significant area - Valjevo Mountains. Subject works can be implemented under the conditions defined by this decision, because it is estimated that they will not affect the natural values of protected areas. Based on the decision (no. 148/1) issued by the Institute for Protection of Cultural Monuments (IPCM) "Valjevo" (Appendix V - Conditions from relevant Public Institutions), directly on the road alignment, there are no registered archaeological sites or cultural monuments. Based on the decision (no. 585/3) issued by the IPCM "Kraljevo" (Appendix V - Conditions from relevant Public Institutions), on the subject route there is a monument to fallen fighters in National Liberation War and fallen victims of the fascist terror from 1941-1945, as well as the memorial fountain to the shot citizens of Kosjeric and its surroundings.

Lender requirements will also apply to this project and include the following Environmental Policies:

- OP 4.01 Environmental Assessment;
- European Bank for Reconstruction and Development (EBRD) Environmental and Social Policy (2008).
- European Investment Bank (EIB) Statement of Environmental and Social Principles and Standards (2008).

EBRD and EIB will require that the project complies with the Republic of Serbia national laws and EU standards.

#### Baseline conditions assessed during route survey

Directly along the alignment of the road Valjevo - Kaona - Kosjeric there is a protected area, RoEF "The gorge of the river Gradac" and near Kaona node there is the border of the protected area, RoEF "Maljen" which is still in the process of protection. Based on the decision issued by the Institute for Nature Conservation of Serbia, works on heavy maintenance can be carried out in accordance with the issued conditions of nature protection. IPCM "Valjevo" did not register archaeological sites and cultural monuments on the considered section. The investor is obliged to give the notification of the commencement of works to the IPCM "Valjevo", and to notify the same Institute within 15 days from the date of completion of works, for the purpose of reviewing and checking on the site whether the works have been carried out in accordance with the issued conditions.

IPCM "Kraljevo", on the subject route registered a monument to fallen fighters in National Liberation War and fallen victims of the fascist terror from 1941-1945, as well as the memorial fountain to the shot citizens of Kosjeric and of its surroundings.

During the Project implementation, there will be no land acquisition, as defined by OP 4.12.

The road, in its total length of 21.1 km, on the first 7.2 km is laid at a greater or lesser distance along the Bukovska and Suvaja rivers, and from Kaona node no. 2126 to the end of the section (6.6 km) along the Razanska River. Occasional watercourses, which are crossed by the route in several places, discharge into said rivers.

As the conditions of the Institute for Nature Protection of the Republic of Serbia (INPoRS) require that the Project foresees the placement of catch basins and separators of grease and oil for waters generated by leaching from the pavement, in particular on the route in: the protected area RoEF "The gorge of the Gradac river", along Bukovska and Razanska rivers in order to protect against pollution, the Project envisages controlled discharge of water from the pavement by setting up a separator system at locations where the section is in direct contact with the watercourse.

The Environmental Protection Agency published the Results of quality testing of the Surface and Groundwaters for 2013. There are no stations for the monitoring of surface water quality on Bukovska, Suvaja and Razanska rivers, as they are smaller watercourses. Due to the nature of works on heavy road maintenance and the construction of a drainage system at crossing points with watercourses, the mentioned watercourses will be protected.

The "Podbukovi" quarry which is located along the edge of the road has been identified as an existing source of air pollution. The "Mrcici" quarry has a weaker impact on air pollution due to a slightly longer distance from the road. For the studied area, there are no additional industrial facilities that would cause an increase in the level of concentration of pollutants in the atmosphere.

Current Annual Average daily traffic for 2015 on the section Valjevo (Brezdje) - Kaona is 3561 vehicles/day, while on the section Kaona - Kosjeric (Varda) 1669 vehicles/day.

The node Kaona is located on the observed section (no. 2126 according to the reference system) and it represents the crossing of the roads of IB category no. 21 and of II A category no. 175 thus establishing a connection with Divcibare.

There are four sources of noise on the section of Valjevo (Bypass) - Kaona - Kosjeric. Linear noise sources are the existing road of IB category no. 21 and the railroad Belgrade - Bar, which is parallel to the route from the beginning of the section to the tunnel "Zavojnice". Upon exiting the tunnel the railway is moving away from the road (it is no longer parallel) and therefore it has no impact on the environment as a source of noise. Point sources of noise are two quarries: "Podbukovi and Mrcici".

### **Summary of environmental impacts**

The possible temporary adverse impacts as consequence of the construction activities would consist of: disruption of current traffic flow, reduced roadway safety, damage to access roads, dust, and gaseous emissions, potential pollution of soils and water resources, brief disturbance to biota, and momentary interference to neighboring settlements through various operation activities. Off-site activities include quarry, borrow pit and asphalt plant operations, which if not managed properly, may cause localized adverse impacts. The Contractor's yard and workers' camp can be potential sources of temporary adverse impacts on the environment.

No relocation and resettlement issues are anticipated by OP.

In respect to future use - this section represents a traffic connection between the AP Vojvodina and West Serbia, it connects the city of Valjevo with the Municipality of Kosjeric and as a result of the RRSP, and it is not expected to increase road traffic. In respect to impact of the potential increase of the vehicle speed on rehabilitated roads, this issue will be addressed through the project's road safety component, which will include implementation of the active and passive measures to control the vehicle speed on rehabilitated road sections.

Local residents will be affected with air and noise pollution during the heavy road maintenance works.

Various cases of water contamination can occur during the rehabilitation of the road and future operation. Wastewater discharged during the construction works can jeopardize the quality of the surface and underground water. Adequate mitigation measures and monitoring activities are planned, in accordance with the Law on Water ("Official Gazette of RS", 30/10 and 93/12). As for the potential pollution during operation, these are limited to accidents only. In such a case, procedures for action in incidental situations, as defined by the Ministry of Interior and in the Water Law, will apply.

Because of the existence of the "Podbukovi" and "Mrcici" quarries, as well as the potential construction and operation of new facilities, there are cumulative impacts that do not significantly affect the environment. Most important cumulative impacts are noise and air pollution.

The proper implementation of the EMP measures, as listed in *Appendix I* (Mitigation plan) would offset or minimize any impact on local human and biotic environment that might be related with any long-term cumulative negative effects.

### **Environmental management plan**

Possible environmental impacts will be mitigated during the design, heavy maintenance, and road operation phases, as summarized in the EMP as shown in *Appendix I.* 

Based on the assessment of the proposed heavy maintenance project, it was concluded that the adverse impacts will be negligible if the mitigation measures are properly implemented. The EMP consists of 3 parts, Mitigation plan (*Appendix II*), Monitoring Plan (*Appendix II*) and Stakeholder Engagement and reporting from public consultations (*Appendix IV*).

Before commencing the work, the Contractor will prepare a Contractor's Environmental Plan (CEP). During the heavy maintenance, the Contractor will work according to the requirements of the CEP (based on the EMP). The CEP explains in detail how the Contractor will address the activities in the heavy maintenance section of the EMP. The contractor will submit the CEP to the PERS for approval.

The findings and proposed mitigation measures have been compiled into the Mitigation Plan (*Appendix I*). It summarizes all the anticipated environmental impacts and its associated mitigation measures during the design, heavy maintenance and operational phases. It makes reference to the laws and Bid Documents (BDs), approximate location, timeframe, and the responsibility for its implementation and supervision.

It is the Contractor's obligation to include implementation of environmental mitigation measures in his overall cost. The Contractor will be required to provide a short statement that confirms that:

- The EMP has been included into the bid price.
- The Contractor has a qualified and experienced person on the Contractor's team who will be responsible for the environmental compliance requirements of the EMP.
- The Contractor and its sub-contractors will comply with Republic of Serbia national laws, EU standards and Borrower requirements.

PERS will build fines and penalties for any non-compliance into contracts, and enforce them.

A Monitoring Plan for the proposed Project (*Appendix II*) has been prepared. The main components of the monitoring plan are the following:

- Environmental issues to be monitored and the means of verification;
- Specific areas, locations and parameters to be monitored;
- Applicable standards and criteria;
- Duration and frequency;
- Institutional responsibilities for monitoring and supervision.

# Stakeholder engagement - Information disclosure, consultations and public participation

As required by IFIs Safeguards Policies, public consultations will be undertaken during the preparation of EMP.

After public consultations, this document will be complemented with corresponding report.

# Summary of public disclosure process

The EMP will be submitted for review and public consultations will be held.

#### 1. PROJECT DESCRIPTION

RRSP represents the implementation of the first phase of the Government's National Road Rehabilitation Program for the period of 2014-2019 from which it is expected to rehabilitate about 1100 km of national roads across the country. The subject section is part of the Project planned for heavy maintenance during the second year of its implementation.

The main objective of RRSP is "providing support to the Government of the Republic of Serbia in improving the efficiency and safety of traffic within the network of arterial and regional roads through improvement of one part of this road network, proportional increase of implementation of efficient solutions in the management of the resources of the road economy, through the institutionalization of the principles of road safety design and control of traffic safety as well as by strengthening the institutional capacities of the PERS".

### **Location Description**

The proposed section belongs to the Kolubarski and Zlatiborski Administrative district, located in the western part of the Republic of Serbia.

The section belongs to the state road of IB category no. 21. All chainages are provided in accordance with the Reference System from December 2015.

The Main Design for Heavy Maintenance is performed in the length of 21.1 km. On the subject section there are three stretches rehabilitated within the previous period, thus they are not covered under this Project. In this regard, the beginning of the section is defined on 12.896 km after the node 2125 Valjevo (Brezdje) observed in direction of chainage increase (~km 153+200), while the end is defined on 8.825 km before the node 2127 Kosjeric (Varda) ~km174+300 entrance at the settlement Razana (*Picture 12*).



Picture 12 - Section intended for heavy maintenance

The following settlements are located along the section: Bacevci and Mrcici.

On the observed section there is an intersection with state road of II A category no. 175 (Kaona node) and railway Belgrade - Bar.

The route of the road was laid along the Suvaja, Bukovska (which crosses in one point) and Razanska rivers. A number of occasional watercourses are crossing the route as well.

Along the section there are two quarries "Podbukovi", along the edge of the road, and "Mrcici", which is about 500 m away.

The drainage system maintains the existing concept (gutters, overflow over the shoulder) except at locations directly downstream from bridges before releasing into the recipient. Separation systems will be installed in these places.

Existing condition of drainage system requires thorough cleaning of ditches and culverts of accumulated waste and vegetation (*Picture 13*). As for the potential pollution during operation, these are limited to accidents only. In such a case, procedures for action in incidental situations, as defined by the Ministry of Interior and in the Water Law, will apply.



Picture 13 - Culvert covered with vegetation and waste

By field visit it was observed the presence of unregulated landfill where previously exploitation of diabase was performed (*Picture 9* and *Picture 10*).

Immediately along the road there are three fountains (*Picture 14*).



Picture 14 - Fountains along the road

The first one is located at the "Podbukovi" quarry (*Picture 15*) and at the moment of visiting the field, the area around the fountain was clean and regulated.



Picture 15 - Fountain at the "Podbukovi" quarry

The second fountain is at the monument (*Picture 16*) and the third one is after the Kaona node (*Picture 17* and *Picture 18*). In the area around them, there is garbage left by drivers when they stop at the widening next to the fountain.



Picture 16 - Garbage in the drain





Picture 17 - Fountain next to the Kaona node

Picture 18 - Garbage around the fountain

On these rest areas along the road no waste bins were spotted. At the third fountain, there is a covered resting area that is also full of garbage, with a notice asking the drivers not to throw it (*Picture 19*). Next to the fountain, there is a board marking the area of rural tourism (*Picture 20*). It is necessary to clean and regulate the area around the fountains with the mandatory installation of waste bins.







Picture 20 - Area of rural tourism, board

The road from the chainage ~ km 163+860 to the Kaona node is located at the border of the municipalities of Valjevo and Kosjeric. The border of the municipality (and the road on it) represents at the same time the border of the hunting ground

of Hunting Association "Braca Nedici" from Valjevo (*Picture 21* and *Picture 22*). On this part of the road it is necessary to place warning signs - animals on the road.



Picture 21 - Road at the border of the hunting ground of H.A. "Braca Nedici"



Picture 22 - Board with hunting ground sign

# **Description of rehabilitation works**

Based on the analysis of traffic safety (primarily data analysis on the type of traffic accidents), as well as the structure of traffic flow on the larger part of the route, the existing road should be expanded. As the nominal width of the road on parts where it is not necessary to carry out the extension of the carriageway in the

curve, the width of the traffic lane tv=3.00m and the width of the edge lane tiv=0.25m were adopted, which makes the total width of the carriageway 6.50m. The extension in the curve was carried out for two passing trucks. Design level was placed so it would fit as much as possible to the existing condition.

Based on determined condition of pavement, the following strategies of pavement rehabilitation have been adopted:

- partial repair that provides removal of existing pavement and construction of new asphalt layers;
- construction of a new pavement (at the extension).

All culverts and bridge spans are of a satisfactory capacity. The only intervention from a hydro-technical aspect involves the cleaning of the deposited material in the said zones, in order to achieve smooth drainage.

The project entails no resettlement and land acquisition, nor long lasting disruptions to the natural environment and human settlements and activities.

### 2. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORKS

#### **Relevant Institutions**

Ministry in charge of environmental protection (The Ministry of Agriculture, and Environmental Protection) is the key institution in Republic of Serbia responsible for formulation and implementation of environmental policy matters.

The other aspects of environmental management related to road rehabilitation projects are dealt with several other institutions, among which are INPoRS and the IPCM of the Republic of Serbia, and the PERS.

# **Existing Serbian legislation**

Environmental protection in the Republic of Serbia is regulated by several national laws and by-laws. The environmental legislation in force in Serbia is summarized in *Appendix III*.

# EIA procedure in the Republic of Serbia

In the juridical system of the Republic of Serbia, the EIA procedure is regulated by the Law on EIA, which is completely in line with European EIA Directive -85/337/EEC. EIA is not required for road rehabilitation projects unless theirs alignment is placed within or in the vicinity of natural/cultural protected areas. The Designer, on behalf of and for the account of PERS, shall acquire the conditions of INPoRS and the competent IPCM under which the project can be carried out. After that, the Designer prepares and delivers to the PERS the Request for issuing an opinion on the need for EIA, together with the obtained conditions of the competent institutions, in order for the PERS to contact the competent ministry for the opinion. In the event that the ministry prescribes the obligation to implement the EIA procedure, the Designer is obliged to prepare and submit to the PERS a Request for decision on the need for EIA.

Based on the above mentioned criteria, the opinion of the Ministry was obtained that the project does not require the Study on EIA (*Appendix V*).

#### Relevant IFIs Policies and Statements

As the road rehabilitation will be funded by IFIs the following Borrower requirements will need to be applied to the any works:

- WB: OP 4.01 Environmental Assessment, which require partial EIA and development of site specific EMPs for projects belonging to Category B;
- EBRD: Environmental and Social Policy 2008;
- EIB: Statement of Environmental and Social Principles and Standards (2008).

EBRD and EIB will require that the project complies with the Republic of Serbia national laws and EU standards.

As a conclusion, it could be stated that GoS regulations do not require separate section-specific EMP to be undertaken for this type of investments (road rehabilitation), while the WB policy requires partial EIA assessment and preparation of site-specific EMP for each section.

#### 3. BASELINE CONDITIONS ASSESSED DURING ROUTE SURVEY

The section Valjevo – Kaona – Kosjeric, in the length of 21,1 km, goes through the territory of the Manucitality of Valjevo and the Manucitality of Kosjeric.

Along the route, there are two RoEF "The gorge of the river Gradac" and "Maljen". There are no registered cultural goods.

### Natural resources and cultural heritage

Part of the road passes through the protected area (third zone of protection), RoEF" The gorge of the river Gradac ". The legal basis for proclamation is:

- Decision on Protection of the RoEF " The gorge of the river Gradac " ("Official Gazette of the Municipality of Valjevo" No. 1/01);
- Decision on amendments to the Decision on Protection of the RoEF" The gorge of the river Gradac " ("Official Gazette of the City of Valjevo" No. 13/10).

This gorge is a landscape of attractive geological and geomorphological properties, hydrographic features of watercourses, habitat of rare and endangered plant and animal species. The total surface of the gorge is 1,268 ha and is located at coordinates 44°12′N 19°51′E (*Picture 23* and *Picture 24*).

According to the Regulation on the ecological network ("Official Gazette of the RS", No. 102/10) "The gorge of the river Gradac " is the selected area for butterflies and belongs EMERALD ecological network.

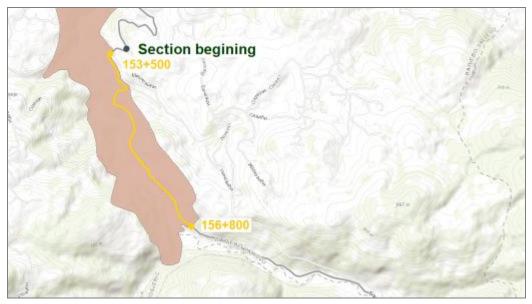


Picture 23 - Board "the Gradac river gorge"



Picture 24 - Gradac river

The road enters the protected zone at the chainage ~ km 153+500 and exits at the chainage ~ km 156+800 (*Picture 25*).



Picture 25 - Part of the road in the third zone of protection "the Gradac river gorge"

The RoEF "Maljen" is in the procedure of protection and the act on its proclamation has not yet been adopted, so that the data on the exact borders of distribution are not available. In the conditions issued by the Institute for Nature Conservation of Serbia (Decision No. 020-750/3), it is stated that, at the Kaona node, the road is near the future border of the RoEF "Maljan". It is estimated that the subject works on heavy road maintenance will not affect the natural values of the protected area if they are performed under the conditions issued by the Institute for Nature Conservation of Serbia.

In the conditions issued by IPCM "Valjevo" (Decision no. 148/1), it is stated that, immediately on the route, there are no registered archaeological sites or cultural monuments. The Employer is obliged to inform the Institute of the beginning of works on heavy maintenance and of the end of works within 15 days from the date of completion of the works.

In the conditions issued by IPCM "Kraljevo" (Decision no. 585/3), it is stated that, immediately along the road, there is a monument to fallen fighters in National Liberation War and fallen victims of the fascist terror from 1941-1945 (*Picture 26* and *Picture 27*), as well as the memorial fountain to the shot citizens of Kosjeric and its surroundings (*Picture 28*). For any interventions on these monuments or their accesses, special conditions of the Institute should be obtained.



Picture 26 - Monument to fallen fighters of NOR



Picture 27 - Monument with coordinates



Picture 28 - Memorial fountain to the shot citizens of Kosjeric

# **Settlements**

The following settlements are located along the section: Bacevci and Mrcici.

Bacevci are cattle-breeding and fruit-growing rural settlement of dispersed type on the right valley side of the Suvaja River, on the left side of the road Valjevo – Kosjeric (*Picture 29*). Bacevci belongs to the municipality of Valjevo and according to the 2011 census it has 381 inhabitants.



Picture 29 - Entrance in the settlement of Bacevci

Next to the "Podbukovi" quarry, which belongs to Bacevci, there is the "Dragoljub Ilic" elementary school, class Bukovi (*Picture 30* and *Picture 31*). Because of the small number of students, the school was closed.





Picture 30 - "Dragoljub Ilic" elementary school

Picture 31 - Board with name of the school

Mrcici are farming – cattle-breeding and fruit-growing rural settlement of dispersed type on the valley sides of the Razanska River, on both sides of the road Valjevo – Kosjeric (*Picture 32* and *Picture 33*). It is located in the municipality of Kosjeric and according to the 2011 census it has 258 inhabitants.





Picture 32 - Entrance in the settlement of Mrcici

Picture 33 - House next to the road in Mrcici

#### Watercourses

The Bukovska River is formed from the Crna river, on the right side of the merged Hajducki stream and the Kozlica river. The river proceeds to Suvaja River, which soon loses water in numerous cracks and sinkholes just below the Veliki vrh. The water rarely flows throughout the entire riverbed up to the spring of Gradac, in whose riverbed it discharges (Picture 34, *Picture 35* and *Picture 36*).



Picture 34 - Flow of Bukovska river



Picture 35 - Flow of Suvaja river



Picture 36 - Flow of Gradac river

The canyon valley of the Gradac River consists of two parts:

- the upper part which extends between Lastra and Bogatic, is known by the name of Suvaja, and has a periodical flow. The underground circulation takes place under the riverbed, and it is directed towards the Kolovrat spring, which is located on the right side of the riverbed downstream from the Zelenci - the main spring.
- the lower part downstream from the spring to Valjevo.

There are six bridges on the route, which are covered by the Project.

Structure name	Chainage (km)	length (m)	watercourse
Bridge over Brdski stream (Picture 37)	157+605	12.20	stream
Bridge over Kozlica river ( <i>Picture 38</i> )	159+980	15.3	Kozlica river
Bridge over Bukovska river in Bacevci ( <i>Picture</i> 39)	160+350	15.2	Bukovska river
Bridge over stream (Mrcica bridge) ( <i>Picture 40</i> )	172+486	27.8	stream
Bridge over stream in Markovici ( <i>Picture 41</i> )	174+310	20.6	stream
Bridge over stream at the end of the section ( <i>Picture 42</i> )	174+310	20.6	stream







Picture 38 - Bridge over Kozlica river



Picture 39 - Bridge over Bukovska river in Bacevci



Picture 40 - Bridge over stream (Mrcica bridge)



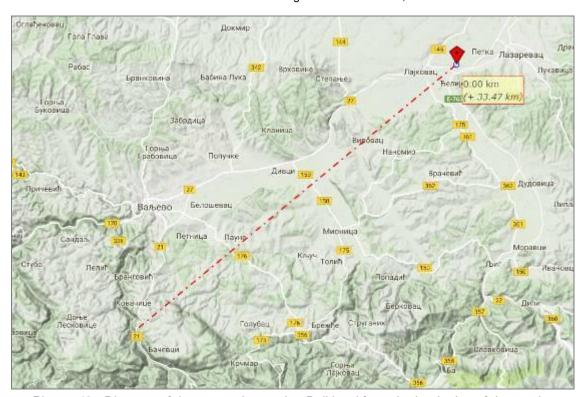
Picture 41 - Bridge over stream in Markovici



Picture 42 - Bridge over stream at the end of the section

On the alignment of the road there are several box culverts for occasional torrential streams.

Data on the quality of surface and groundwater are not available for this section, as there are no measuring stations on the Bukovska, Suvaja and Razanska rivers. Bukovska and Suvaja rivers merge into Gradac River that flows into Kolubara. The measuring station on Kolubara is "Beli brod" (coordinates 7436649/4914439), which is ~ 33 km distant by airline from the beginning of the considered section (Picture 43). Razanska river flows into the Skrapez River which flows into Djetinja with the nearest measuring station Uzice (coordinates 7405392/4857540) at ~ 26 km distance by airline from the end of the section (Picture 44). The distance of the measuring stations, as well as a large number of other watercourses that discharge into Kolubara and Djetinja, make them irrelevant sources of data on water quality on the considered section.



Picture 43 - Distance of the measuring station Beli brod from the beginning of the section



Picture 44 - Distance of the measuring station Uzice from the end of the section

Due to the nature of road heavy maintenance works, watercourses will not be affected by the works through the implementation of good construction management practices.

#### Air

In the corridor of the Valjevo-Kaona-Kosjerić section there are two point sources of air pollution: "Podbukovi" and "Mrcici" quarries. It is up to the Contractor to decide if these stone guarries will be used in the project.

There are no other industrial plants that affect air pollution. PERS will monitor all Contractors activities, including possession of valid working permits and environmental approvals for all subcontractors.

Data on the measured values of air pollution in the observed corridor were not available.

Based on experience and expected traffic load, during and after the foreseen heavy road maintenance works, an increase of existing levels of air pollutants is not expected.

# Roads and Railways

On the observed section there is Kaona node (no. 2126 according to the reference system), an intersection with road of IIA category no. 175, as well as numerous approaches from municipal roads and unclassified roads.

The railway Belgrade - Bar, parallel to the route of the road from the beginning of the section to the chainage ~ 158+940 (exit of the tunnel "Zavojnice"), after which it departs.

#### Noise

Based on experience and expected traffic load, the planned heavy maintenance works, and operation of road after heavy maintenance, will not increase the levels of noise within the proposed road section.

# 4. SUMMARY OF ENVIRONMENTAL IMPACTS

The following table provides a summary of the Environmental Impacts that are predicted for the project impact.	significance	comment
impacts on land use/ settlements	low	No land acquisition is planned within the project
ground and surface water	low	Due to low amount of drainage water that can be drained into Bukovska, Razanska and Suvaje rivers, by placing the separators, the negative impact is negligible.
air quality	low	Temporary impact
flora and fauna (protected areas and species)	low	According to the recommendations presented in the framework of the conditions obtained by INPoRS.
noise	low	Temporary impact
access/crossing points of the main road and local roads	low	Heavy maintenance works won't affect existing crossing points.
land management	low	With the application of appropriate measures of waste management.
waste	low	Ensured through environmental management - waste and wastewater management plan will be prepared and implemented
cumulative impacts etc.	low	Temporary, heavy maintenance works

The following table provides a summary of the Environmental Impacts that are predicted for the project impact.	significance	comment
		may cause a slight increase of noise levels and air pollutants concentrations during the works.

Project for heavy maintenance works on the proposed section Valjevo – Kaona – Kosjeric, will have only minor impacts on the environment (environmental category B). Most of the impacts are of temporary character and they disappear after the heavy maintenance works are completed.

In respect to future use of the rehabilitated road section - this section belongs to the local and regional roads network, on which significant increase of road traffic as a result of heavy maintenance works is not expected. In respect to impact of the potential increase of the vehicle speed on the observed section, this issue will be addressed through the project's road safety component, which will include implementation of the active and passive measures to control the vehicle speed.

The possible temporary adverse impacts as consequence of the construction activities will consist of: disruption of current traffic circulation; roadway safety; damage to access roads; noise, waste and dust nuisance; and air emissions; potential impacts of soils and water resources; momentary disturbance to biota, and interference to neighboring settlements. Off-site activities include quarry, borrow pit and asphalt plant operations, which if not managed properly, may cause localized adverse impacts. The Contractor's yard and workers' camp can be potential sources of temporary adverse impacts.

This site specific EMP is focusing more on the rehabilitation phase of the selected investment, as it will become part of the respective Contract for the implementation of civil works, and as such, the future Contractor's obligation. The activities related to subsequent regular maintenance of this section are not the main focus of this EMP, but bare presented herewith for the purpose of completeness.

# Air and noise pollution within the residential areas

It is expected that local residents will be affected with air and noise pollution during rehabilitation works on proposed road section. There are few residential buildings on the section. At the beginning of the section and after the "Podbukovi" quarry individual structures are present. A larger group of structures is located in Mrcici settlement from the chainage km170+120 to km171+260 (*Picture 45*). Local air quality may experience some moderate and temporary deterioration due to dust from construction traffic and elevated levels of nitrogen oxide (NOx) and sulphur oxide (SOx) from construction equipment exhaust are the primary pollutants. The dust may settle on vegetation, crops, structures and buildings.



Picture 45 - Mrcici settlement with grouped structures

Noise caused by the heavy maintenance works will be only a temporary impact.

#### Potential water contamination

Cases of water contamination may occur during the rehabilitation of the road from site run off, spills of liquids from the equipment maintenance areas and sanitary wastewater effluent from the work camps.

As for the potential pollution during operation, these are limited to accidents only. In such a case, procedures for action in incidental situations, as defined by the Ministry of Interior and in the Water Law, will apply.

Fuel and lubricant spills can, in most instances, occur at the Contractor's work camp and motorpool while maintaining and washing equipment and work vehicles. The oily wash-water should be passed through an adequately sized, gravity oil separator prior to discharge.

Should spills occur in any part of the road, especially where it crosses watercourses or comes in line contact with them, to mitigate the problem the Contractor should use absorbing materials, such as absorbent mats/fabrics, or sand and scrape off the contaminated soils and dispose them in approved facility, in accordance with the Law on water ("Official Gazette of RS", no. 30/10 and 93/12).

# Potential cumulative impacts

The works execution on the heavy maintenance on the section Valjevo – Kaona – Kosjeric could have some cumulative impacts that are temporary (noise, air, water and soil pollution).

In the observed area, potential sources of environmental pollution are the subject section of the road, the railway Belgrade - Bar, "Podvukovi" quarry and "Mrcici quarry. Proper application of the EMP would minimize any negative impact on people and the biotope, which could be associated with negative long-term cumulative effects. If the foreseen protection measures are conducted, the cumulative impact will be minimal.

### 5. ENVIRONMENTAL MANAGEMENT PLAN

Possible environmental impacts will be mitigated during the design, before and during the heavy maintenance and operation phases, as summarized in the EMP.

A basic assessment of the proposed road rehabilitation project concluded that the rehabilitation impacts will be minor, reversible and manageable if the mitigation measures as given in the EMP are properly implemented. The EMP (*Appendix I* and *Appendix II*) is based on the type, extent and duration of the identified environmental impacts. PERS (the Implementing Agency) will monitor the design and supervision engineers and Contractors on the implementation of the EMP.

#### A. MITIGATION PLAN

The findings and proposed mitigation measures have been compiled into an Environmental Mitigation Plan (*Appendix I*). It summarizes all the anticipated environmental impacts and its associated mitigation measures during the design, rehabilitation and operational phases. It makes reference to the law and BDs, approximate location, timeframe, and the responsibility for its implementation and supervision.

# **Contractor Management**

The recommendations and proposed mitigation measures are shown in *Appendix I*. Mitigation measures will be incorporated as integral part of the design and works on heavy maintenance, and as such their costs will be included in the rehabilitation cost.

Experience shows that inadequate application of the EMP by the Contractor may occur due to weak linkages of the EMP with the BDs. The EMP is a part of the work program and as such it must be addressed by the Contractor and carried out as required.

The Contractor will use this document to check his compliance with the EMP. It is the Contractor's obligation to calculate the implementation of environmental mitigation measures in his overall cost.

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

- the EMP conditions have been included into the bid price;
- The Contractor has a qualified and experienced person on the Contractor's team who will be responsible for the environmental compliance requirements of the EMP.
- The Contractor and its sub-contractors will comply with Republic of Serbia national laws, EU standards and Borrower requirements.

### **Design Phase**

Mitigation measures will be incorporated as part of the standard design and heavy maintenance practices and, as such, their costs will be included in the heavy maintenance cost.

## Site Organization Plan

The Plan of construction site organization is the responsibility of the Contractor and the obligation is to comply with it.

The considered section is located, in one part, within the third protection zone, RoEF "The gorge of the river Gradac " and near the RoEF "Maljen" which is still in the process of protection (*Picture 11*). The Gradac river gorge belongs to EMERALD ecological network. Accordingly, the Office for Environmental Protection of Serbia has issued the requirements relating to the organization of the site (*Appendix V*) and which must be taken into account during preparation of Site Organization Plan.

Preparation of site and establishment of facilities, applies to all of the Contractor's facilities such as: storage areas, workshops, concrete batching areas, asphalt plant, etc. The location and development of the Contractors facilities will be approved by the Resident Engineer (RE).

Taking into account the conditions of nature protection, legislation and environmental requirements when choosing a location and organization of the construction site, as well as during the actual construction, it must comply with the following:

- 1. temporary location for storing the necessary construction and other material and equipment needs to be located outside the boundaries of protected areas "the Gradac river gorge" and "Maljen", coastal zone of rivers (flood zones), as well as outside the space with tall vegetation, and limited only to the duration of the works execution:
- prohibit the disposal of any kind of waste, in particular the construction waste (temporary or permanent locations) in the coastal belt and in the river bed itself (Bukovska river, Suvaje and Razanska rivers), in the area of protected natural goods ("The gorge of the river Gradac " and "Maljen"), as well as in the area with high vegetation;
- 3. after the completion of the works, provide that all areas, which were in any way degraded by construction and other works, are remedied as soon as possible;
- 4. when carrying out the works, strictly adhere to the corridor of the road, so that when handling vehicles and machines, no consequences will be left to the wider area, especially in the part of the road section that is within the protected area "The gorge of the river Gradac", as well as the in part that borders with the area "Maljen";
- 5. use the existing road network without the construction of new roads, with the aim of preventing the fragmentation of space and the existing habitats;
- 6. during the execution of works, take all precautionary measures in order to protect the tree rows in the settlement or individual trees along the route from possible damage, such as breakage of the branches and removal of the bark from the trunk during the movement of machinery;
- during the execution of works, maximally preserve the coastal belt of the rivers (Bukovska river, Suvaja and Razanska rivers), i.e. prohibit the destruction of coastal vegetation;

- 8. during the execution of construction works, in the immediate vicinity of residential buildings, plan a dewing in order to prevent dust lifting and negative impact on people;
- prohibit the servicing of machinery and vehicles along the road alignment and the corridor; in case of accidental spills of fuel, oils/lubricants and other harmful substances, the surface must be repaired and reset;
- 10. it is not allowed to perform work during the night hours in the inhabited area due to the possible impact of noise from construction machinery and vehicles, as well as to prevent disturbance of birds because the section of the road is within an internationally and nationally significant area for birds - Valjevo mountains:
- 11. envisage the setting up of the protective fences and pedestrian crossings and passages at the places where it is most appropriate, especially on the locations near settlements;
- during the construction along the whole alignment it should be maintained the maximum level of communal hygiene. Define locations for containers for temporary storage of municipal waste;
- 13. the size of Contractor's facilities are limited to absolute minimum to reduce unnecessary clearing of vegetation;
- 14. the Contractor's facilities are to be contained within an adequate security fence;
- 15. asphalt surfaces, including areas for parking vehicles, workshops and fuel stores, are to be properly drained (dewatered). Collected water must be treated through a separator that separates oil and petroleum;
- 16. fuel storage areas are not located within 20m of a water course:
- 17. where fuel in excess of 5,000 litres is stored on site, it will be stored in sealed tanks on a concrete base that is bounded to hold 110% of the tank capacity;
- all waste oil, oil and oil filters will be collected and disposed of in secure landfill areas; at the closure of the site, all contaminated soil will be excavated and replaced with fresh topsoil;
- 19. cleared material is to be piled into manageable sized heaps, according to disposal or re-use requirements;
- 20. limit the extent of excavation to reduce soil erosion potential; the Contractor will be responsible for ensuring that the erosion is contained by soil conservation protection methods;
- apply soil conservation protection methodology to susceptible areas in order to minimize storm water runoff carrying eroded materials off-site;
- 22. avoid excavation and operating machinery in wet ground conditions;
- upon the completion of all works, it is necessary to remove the machinery, construction materials, containers, spare parts and other equipment, as soon as possible;
- 24. if there has been a disturbance of the area along the route, it should be repaired (cultivate the terrain, or establish a plant cover with the application of

appropriate species that are biologically stable under given climatic conditions).

PE "Roads of Serbia" is obliged to check through the engaged consultant for monitoring/supervision whether the requirements of the EMP and Safety Labour Management Plan (SLMP) are implemented at the site.

#### Mobilisation – Contractor EMP

During the rehabilitation, the Contractor will work according to the requirements of the CEP (based on the EMP) which has been prepared by the Contractor and approved by PERS. Supervision and monitoring of the CEP activities will be undertaken as follows:

- The Contractor has the initial responsibility for preparing and implementing the CEP as agreed;
- RE will direct the Contractor with regard to compliance with the CEP;
- The PERS will carry out independent monitoring of the work and can issue Defect Notices to the RE who will transmit these to the Contractor;
- The Contractor will have his own representative on site the Site Engineer (SE) who will be responsible for implementing the contract and complying with the CEP.

Before commencing the work, the Contractor will prepare a CEP. CEP will addresses the conditions of the rehabilitation in the EMP that has been attached to BDs including measures to comply with national legislation and Borrower requirements.

The CEP will detail how the Contractor will address the activities in the rehabilitation section of the EMP. The Contractor will submit the CEP to the PERS for approval.

Following the approval of the CEP, the Contractor together with the person on the Contractor's staff who will be responsible for supervising the CEP, will meet the Project Supervision Consultant (PSC) on-site. If the Plan is appropriate and implementable, the PSC will advise the PE that the Contractor can then commence work.

## Works on heavy maintenance

Technical specifications for work execution which address environmental, health and safety protection measures:

- Preliminary works,
- Rehabilitation works on the existing pavement,
- Earth works,
- Drainage,
- Traffic signage systems.

## **Environmental Management during heavy maintenance works**

Considering all the identified impacts, it becomes essential for the Contractor to prepare and later conscientiously implement the CEP, in order to ensure compliance with legislative and Borrower requirements. The emphasis of the CEP shall be on the following:

- Layout of the work camp and details of the proposed measures to address adverse environmental impacts resulting from its existence. Description and layout of equipment maintenance areas and lubricant and fuel storage facilities, including distance from water sources/bodies;
- Sewage and septage management plan for provision of sanitary latrines and proper sewage collection and disposal system to prevent pollution of watercourses:
- A plan (mechanism and organizational structure) detailing the means by which local people and other project affected persons can raise grievances arising from the rehabilitation process and how these will be addressed (e.g., through dialogs, consultations, etc.) (see *Appendix* /V for the Project grievance mechanism);
- Soil Management Plan detailing measures to be undertaken to minimize effects of wind and water erosion on stockpiles, measures to minimize loss of fertility of topsoil, timeframes, haul routes and landfills;
- Dust management plan which shall include schedule for water spraying on access road and in nearby settlements along the project route, as well as list of equipment to be used; This applies to all of construction sites and haul roads. During rehabilitation, when dust may be generated, the Contractor will monitor the worksite conditions and apply dust control measures, which include reducing construction traffic movements and spraying water on exposed areas;
- A plan indicating the location of the proposed material extraction site as well as rehabilitation measures to be implemented for the borrow areas and access roads upon project completion;
- Waste and wastewater management plan. Disposal of waste materials:
   All construction waste materials including drums, lumber, sand and
   gravel, cement bags etc. are to be suitably disposed of. If this can not
   restore the old value of the area, these materials should be taken to an
   approved landfill sites for safe disposal. Hazardous waste will be
   stored and removed from the construction site in accordance with the
   Law on Waste management ("Official Gazette of RS" no. 36/09, 88/10
   and 14/16). The Contractor's SSIP should cover all aspects of waste
   management, including implementation of practice and standards
   such as reduce, re-use and recycle;
- The Waste Management Plan will, as a minimum, include details of temporary waste storage, waste transfer and pre-treatment prior to final disposal or recycling. Licensed/approved facilities for solid and liquid waste disposal must be used and a duty of care and chain of custody for all waste leaving the site will be followed. As part of the

Plan, from the Contractor will be expected to produce waste handling forms for chain of custody, which will be used to control waste leaving site. Thus, the waste controller will keep a copy of the form and the driver will always carry a copy and will ensure that the load is signed for at the final disposal site. All records will be kept by the Contractor for audit purposes and to demonstrate that the project is complying with best practice and applicable legislation;

- Oil and fuel storage management plan. The Contractor's SSIP should cover all procedures for storage, transportation and usage of oils and fuels, refuelling of plant and machinery and procedures for minimizing the risk of ground and water contamination. All oils and fuels will be required to be stored within secondary containment of 110 % capacity and all spillages shall be cleaned up immediately. Re-fuelling vehicles will carry Spill Kits to enable spillages to be cleaned up as soon as possible. All categories of spillage will be reported in accordance with the Plan;
- In-river works management plan. The Contractor's SSIP should cover procedures and plans for safeguarding aquatic habitats and fish during in-river works along the Bukovska river, Suvaja and Razanska rivers;
- Camp management plan. The Contractor's SSIP should contain procedures for establishing and operating construction camps in order to safeguard nearby communities and environmental resources;
- Emergency response plan. The Contractor's SSIP should contain procedures for emergency response in the event of accidents or major incidents, in order to safeguard people, property and environmental resources. Details of the spill response equipment to be provided on site are to be specified;
- Noise all equipment is licenced and approved in accordance with EU standards. This applies to all machinery, vehicles and construction sites where noise and vibration may affect susceptible receptors. The Contractor will be responsible for ensuring that noise and vibration does not affect the adjacent communities, in accordance with the Law on noise protection ("Official Gazette of RS" no. 36/09 and 88/10). The Contractor will limit all the works to 07:00 19:00h;
- Rehabilitation Plan. Clearance and rehabilitation of construction sites and removal of Contractor's facilities. It is the Contractor's responsibility to address site clean-up. This includes the removal of all waste materials, machinery and any contaminated soil. The Contractor will develop a plan for handover, sale or removal of all plant, vehicles and machinery to ensure that no unserviceable items are left on the construction site, in accordance with the Law on Waste management ("Official Gazette of RS" no. 36/09, 88/10 and 14/16). All construction sites and work areas will be rehabilitated so that these can be returned as close as possible to their previous state and uses. This includes the stabilization and landscaping of all construction sites. In accordance with the Law on Environmental Protection ("Official Gazette of the Republic of Serbia", No.135/04, 36/09, 36/09 State Law and 72/09 State Law, 43/2011- Constitutional Court decision and 14/16), after the

end of the work, the waste will not remain on-site. Should the Contractor fail to remove the waste, the PERS is entitled to withhold payment and arrange the clean-up and deduct the cost of the clean-up and administrative charges from the final payment.

## Safety

Safety and Hazard Assessment: Before commencing work, the Contractor will be required to identify potential hazards. Provisions for emergency responses are to be included in the Contractor's site safety plan which is to include nomination of a person who will be immediately contacted should an accident occur. The site safety plan will be submitted to the PSC for approval one week prior to starting work.

- The Contractor will be required to keep the site free of drugs and alcohol;
- The Contractor's site safety plan will include provision for a safe work environment and provide safety measures and protective equipment to all workers including; hand, head, eye and ear protection and safety footwear:
- The site safety plan will include provision for first aid facilities on-site and employ a trained first aid person, in accordance with the Law on Safety and Health at work ("Official Gazette of RS", 101/05 and 91/15);
- The Contractor will provide supplies of potable water, toilets and wash water to the workers;
- Safety and Labour Management Plan (SLMP), is necessary in order to ensure H&S provisions during rehabilitation works;
- Contractor is obliged to perform all project activities by respecting SMP recommendations and all Serbian laws and sub-laws which are covering H&S issues.

The PERS and the Contractor together have responsibility for reporting and investigating incidents.

Community safety from increased vehicle movements: This applies to all vehicles and particularly to haul trucks that pass through settlements. The Contractor will ensure that all vehicles which pass through settlements are operated safely, without endangering these communities. The Contractor is to ensure that:

- all trucks and equipment is maintained in a safe operating condition,
- all drivers and machinery operators are trained and act responsibly (to be stipulated in the Contractor's site safety plan),
- all loads are secured and all loads with potential dust generating materials (e.g. excavated soil and sand) will be covered with tarpaulins,
- safety and immediate removal of any drivers that ignore any of the community safety requirements,
- speed limits will be respected.

Prior to commencement of construction activities/site works, all of the above plans will be submitted by the Contractor to the Sector for Investment within the PERS for approval.

Following the completion of works a Site restoration will take place. It is Contractor obligation to restore location of the project as it was at beginning of the project.

## **Operational Phase**

People Safety: During operation, according to the assessment performed within the design phase, road safety features will include (1) measures to slow the traffic; e.g. decreasing of speed at selected places (e.g. settlements); (2) dust suppression by wetting; (3) improvements in road signage and pavement markings; and (4) attention to traffic accidents that are repeated in the same places by placing a "black spot" signs.

Road Maintenance: Routine maintenance (grass cutting, drain clearing, and pothole patching and various repairs, together with regular controls and maintenance of drainage structures) will be undertaken on regular basis. Seasonal maintenance, regular maintenance of safety features and road signs will be undertaken as necessary. Major maintenance, that include resurfacing and bigger repairs are typically scheduled over periods of several years.

#### **B. MONITORING PLAN**

A monitoring plan for the proposed Project has been prepared (*Appendix II*). The main components include:

- Environmental issue to be monitored and the means of verification,
- Specific areas, locations and parameters to be monitored,
- Applicable standards and criteria,
- Monitoring of noise levels near residential areas,
- Monitoring of the procurement of materials (checks that valid permits are in place),
- Duration, frequency and estimated monitoring costs, and
- Institutional responsibilities for monitoring and supervision.

A field monitoring checklist has been prepared based on the EMP and Monitoring plan (*Appendix II*). The field monitoring checklist will be used by the supervising field engineer. The signed checklists will be provided to the PERS, who will be responsible for the follow-up and compliance reporting.

The PERS will maintain a Complaints Database, which will contain all the information on complaints or grievances received from the communities or other stakeholders. This includes: the type of complaint, location, time, actions to address these complaints, and final outcome.

## C. INSTITUTIONAL IMPLEMENTATION AND REPORTING

### **Project Implementation**

PERS is the Implementing Agency for the Project and will be responsible for the implementation and compliance with the EMP and Monitoring Plan. Day-to-day implementation of the Project and monitoring its compliance will be the task of PSC.

Prior to the commencement of works, the PERS will submit to the Bank for its approval this section specific EMP.

The Contractor will provide "Zero monitoring" results prior to commencement of earth works, during its own mobilization phase.

To ensure that the proposed mitigation measures will be carried out by the Contractors during the construction stage, the Project Proponent will undertake the following:

- clearly set out in the tender and BDs the Contractor's obligation to prepare CEP and undertake environmental mitigation measures as specified in the Environmental Mitigation Plan in Appendix I;
- No compensation for the costs of the required environmental mitigation measures and monitoring activities in the form of the particular item in the BoQ shall be given to the Contractor, except for the water quality analysis and noise measurement. It shall be regarded as if the Contractor has included these costs in the other items of the Bill of Quantity. The actual costs of analyzing water quality and noise measurement within the defined contract will be reimbursed to the Contractor in the form of a specific item in the total price. For noncompliance with the requested measures for mitigating the environmental impact and monitoring activities, the Contractor will receive a specific penalty in the form of demerit points. Demerit points are provided as a measure that should stimulate the Contractor to carry out his obligations in an organized and timely way and to perform his duty in a quality manner. Demerit points have in the same time two meanings - numeric and monetary. Each demerit point has associated monetary value which represents permanent payments reduction for determined noncompliance of the contracted obligations. The number of demerit points received will have a cumulative effect. If during the Contract the Contractor receives more than certain number of demerit points specified in the Contract, the Contractor will not be allowed, for a period of 2 years, to compete for any other PERS works contract. Also, if the Contractor is awarded over a specified number of demerit points, the Employer has a right to terminate the Contract. The monetary value of each demerit point, as well as the deadlines for other possible actions by the employer must be clearly stated in the Contract. The explanation for the application of these two measures compensation for specific costs and penalties for non-compliance, should ensure the implementation of all required measures to mitigation of environmental impact and monitoring activities;
- Explicitly require the Contractor to recruit an environmental specialist.
   The Contractor will be responsible for the implementation of environmental mitigation measures during construction and shall employ an environmental specialist who will supervise implementation of the Contractor's environmental responsibilities. He will coordinate

between the Contractor, PERS and the competent ministry, and will address any complaints during project implementation. During project implementation, the PERS shall monitor the compliance of the Contractor with the EMP provisions. It is proposed that the PSC employs an environment specialist (with civil engineering/environmental management background) to assist the environmental supervision

Upon project completion, the PERS will be in charge of the operation and maintenance of the road project. Routine and random monitoring will be undertaken as scheduled in the Monitoring Plan.

## PERS is also responsible for:

- Implementation of requests for environmental protection given by: Government environmental authorities, IFIs document and other institutions, Law on Environmental Protection ("Official Gazette of the Republic of Serbia", No.135/04, 36/09, 36/09 - State Law and 72/09 -State Law, 43/2011-Constitutional Court Decision and 14/16);
- Implementation of requests for environmental protection through Contractors specifications;
- Supervision of the project through the consulting services for supervision and implementation of the project;
- Supervision of environmental monitoring through the consulting services for environmental monitoring;
- Preparation of the final environmental reports.

The Contractor, during a pre-construction period, will make a proposal for environmental protection, including safety of persons associated with the works and the public, within the EMP. This proposal will be reviewed by PERS in order to obtain its acceptance. In this regard, attention will be given to:

- taking all reasonable steps to protect the environment on and off site and avoid damage or nuisance to persons or property arising from its operations,
- maintaining conditions of safety for all persons entitled to be on site,
- provision of all lights, guards, fencing, warning signs, traffic control and watching for protection of the works and other property and for the safety and convenience of the public.

The Competent Ministry for Environmental Protection will have the authority for immediate suspension of works, if performance is not in accordance with environmental standards and regulations. Inspection will then inform the PERS about suspension and order to proceed according to its directive.

Public consultations will be held in the future.

### **Reporting Arrangements**

A) Contractor – PERS

The Contractor will prepare his compliance reports in respect to this EMP and his SSIP as a Quarterly Progress Reports and submit them to PERS, in both Serbian and English language, in hard copy and electronic version.

The Contractor will provide quarterly reports to the PERS which document the environmental mitigation and protection measures, together with prescribed monitoring activities carried out during that reporting period. The Contractor will take care on environment quality, according to the Mitigation and Monitoring Plan, which are a consisting part of EMP (*Appendix I* and *Appendix II*) and will report quarterly to the PERS.

If some kind of accident or endangerment of environment happens, reporting will be immediate. Contractor is obliged to inform the project manager and local authorities about accidents immediately after it happened. In case that project manager is not responding on a call, the Contractor is obliged to inform PERS about the accident (phone number +381113040701 or via E-mail on following address: office@putevi-srbije.rs).

The Contractor will monitor quality of environmental conditions according to the Monitoring Plan which is a consisting part of EMP (*Appendix II*) and will report quarterly to the PERS. These reports will encompass a list and explanation of all undertaken activities at the site and results of the field research, as well as recommendations for future field activities and protection measures.

## B) PSC - PERS

The findings of the regular monitoring activities, including activities specified in the Monitoring Plan (*Appendix II*) carried by the Contractor, will be included in the quarterly PSC progress reports.

If some kind of accident or endangerment of environment happens, reporting will be immediate.

## C) PERS - Ministry of Transport (MoT), WB, EBRD and EIB

Annual Environmental Health and Safety (EHS) report, including monitoring indicators and reporting on the implementation of the requirements set forth in the EMP, will be prepared by the PERS and submitted for IFIs review. IFIs will review the reports and verify their contents through periodic site visits. The PERS shall provide Annual reports to MoT and IFIs regarding the status of implementation of mitigation measures by the Contractors, additional mitigation measures that may need to be implemented, incidents of non-compliance with applicable environmental permits, complaints received from local residents, NGOs, etc. and how these were addressed.

In case of fatalities or major incidents on site, the PERS will immediately report to the Bank which is financing the road section.

## 6. STAKEHOLDER ENGAGEMENT - INFORMATION DISCLOSURE, CONSULTATIONS, AND PARTICIPATION

As required by the IFIs Safeguards Policies, public consultations will be undertaken during the preparation of EMP. The EMP and other project information were disclosed to the Public and will be available locally to the communities.

PERS office	Investment sector, Vlajkoviceva St. no. 19a, Belgrade, on the first floor, on working days from 11:00 AM to 01:00 PM (local time), within 10 days of publication of notification
Community centres	Municipality of Valjevo, Karadjordjeva St. no. 64, 14000 Valjevo, on working days, within 10 days of publication of notification
Community centres	Municipality of Kosjeric, Olge Grbic St. no. 10, 31260 Kosjeric, on working days, within 10 days of publication of notification
PE "Roads of Serbia" - web site	www.putevi-srbije.rs

Interested parties who may have an interest in the Project have been identified and listed in *Appendix IV* and may be consulted and informed on issues related to the project.

Detailed Report on Public Consultation process is presented within the *Appendix IV* of this EMP and includes a list of identified stakeholders, which shall be updated as necessary.

Beneficiary consultations will be conducted during the construction phase, and records of environmental and social issues raised and complaints received during consultations, field visits, informal discussions, formal letters, etc., will be followed up and the records will be kept in the project office at PERS.

Before the commencement of work, the PERS will provide information through:

- Newspaper articles in one national and also in one local media,
- Posters on main notice board at all community centers of potential affected Communities,
- Radio announcement of road diversions,
- Provide contact details of community liaison officer who is appointed to work with local communities.

A Grievance Mechanism will be implemented to ensure that all complaints from local communities are dealt with appropriately, with corrective actions being implemented, and the complainant being informed of the outcome. It will be

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applied to all complaints from affected parties. A grievance form is attached in *Appendix IV*, and hard copies will be made available at community centers.

#### 7. REFERENCE

- 1. Environmental Assessment Sourcebook No. 25, Environmental Management Plans, The World Bank Environment Department, January 1999.
- 2. Roads and the environment: Handbook, The World Bank Environment Department
- 3. EIB, Environmental and Social Practices Handbook, Environment and Social Office Projects Directorate Version 2 of 24/02/2010.
- 4. EBRD Environmental and Social Policy 2008
- 5. EIB, Statement of Environmental and Social Principles and Standards (2008).
- 6. Environmental Management Plan for rehabilitation of roads, bridges and tunnels under the World Bank road management and safety project, Republic of Srpska Road Directorate, Banja Luka, 2001.
- 7. Environmental Assessment REPORT & Environmental Management Plan for Serbian Transport Rehabilitation Project, Report No: E866, project name/ID: YF-Transport Rehabilitation Project no. P075207, document date 30/11/2003.

## **Appendices**

# Appendix I Mitigation Plan

## **MITIGATION PLAN**

WITIGATION FLAN					
Phase	Issue	Mitigating measures	Institutional responsibility		Comments
			Implementation	Supervision	
PRE- CONSTRUCTION	Main Design				
	The respect for the procedures related to the protection of the environment	The Highway Institute JSC Belgrade, based on the authorization by the PE "Roads of Serbia", obtained the Conditions of INPoRS IPCM "Valjevo" and IPCM "Kraljevo", in order to avoid the risks to the environment in the period of heavy maintenance.	PERS The Highway institute, Belgrade	PERS	
	The location and organization of construction site must be approved by the PE and chosen to fulfill the following:	<ul> <li>it shoud be located outside the borders of the protected areas "the Gradac river gorge" and "Maljen", the coastal belt (Bukovska, Suvaja and Razanska rivers);</li> <li>they do not interfere with the environment and social well-being of the surrounding communities (e.g. noise, dust. vibration, etc.);</li> <li>it is located outside of the area with tall vegetation;</li> <li>the size of Contractor's facilities is limited to absolute minimum to reduce unnecessary clearing of vegetation;</li> <li>sanitary waste and grey waters are treated before release into surface water systems, and in accordance with the Law on water ("Official Gazette of RS" no. 30/10 and 93/12) these locations are properly drained;</li> <li>asphalt surfaces, including areas for parking vehicles, workshops and fuel stores, are to be properly drained (dewatered); Collected water</li> </ul>	PERS Contractor	PERS	

Phase	Issue	Mitigating measures	Institutional responsibility		Comments
			Implementation	Supervision	
		must be treated through a separator that separates oil and petroleum, oil and water drainage into the separators, and fuel storage; - wherever possible limit the area to be cleared and avoid excessive machine disturbance of the topsoil; - cleared material is to be collected, removed and/or reused as needed; Prevention of soil erosion on construction site: - the Contractor will be responsible for ensuring that the erosion is contained by soil conservation protection methods; - the Contractor is obliged to limit the extent of excavation to reduce soil erosion; - the Contractor is obliged to apply soil conservation protection methodology to susceptible areas to prevent/minimize storm water runoff carrying eroded materials off-site; - the Contractor should avoid excavation and operating machinery in wet ground conditions.			
	Site selection for construction camps, near or within existing settlements. Impact on public health and sociological setting.	Proper site selection, observing criteria which primarily protect the public interest. Observe a minimum distance (buffer zone) between camp site and nearest residential area. Observe local wind conditions to reduce nuisances. Work safety and environmental protection measures to be specified by the Contractor in his Site Management Plan. Planning for independent water and electric supply network and a medical service station at the site.	Main Design Consultant	Technical Control of Main Design PERS	

Phase	Issue Mitigating measures	Institutional responsibility		Comments	
			Implementation	Supervision	
	Road safety issues associated with pedestrian crossing	Plan for safe and adequate pedestrian crossing facilities that will be equipped with ramps and structures that allow the use of wheelchairs, pushcarts, bicycles and prams.	Main Design Consultant	Technical Control of Main Design PERS	
	Stakeholder engagement	Details of the proposed road alignment, access points and safety features will be disclosed in the locality of the planned works. Feedback from local stakeholders will be sought and recorded. Evidence of how feedback has been considered in the final design will be recorded.	PERS Main Design Consultant	PERS Technical Control of Main Design	
CONSTRUCTION	Management Plans				
	<ul> <li>EMP in order to ensure com</li> <li>Site organization plan</li> <li>Sewage and septage</li> <li>Project grievance me</li> <li>Soil Management Pla</li> <li>Dust management plan</li> <li>Location of the proportion measures to be impurpon project comple</li> <li>Waste and wastewate Waste managemen</li> <li>Oil, fuel and lubricant</li> <li>In-river works managemen</li> </ul>	Contractor provides the implementation the following Plans as described in the EMP in order to ensure compliance with legislative and Borrower requirements.  Site organization plan Sewage and septage management Project grievance mechanism Soil Management Plan Dust management plan Location of the proposed material extraction site, as well as rehabilitation measures to be implemented for the borrow areas and access roads upon project completion Waste and wastewater management plan in accordance with the Law on Waste management ("Official Gazette of RS", 36/09, 88/10 and 14/16) Oil, fuel and lubricants storage management plan In-river works management plan Emergency response plan			

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Phase	Issue	Mitigating measures	Institutional responsibility		Comments	
			Implementation	Supervision		
		Safety and Hazard Assessment     Safety and Labour Management Plan (SLMP)				
CONSTRUCTION	Site Induction					
		vorkers and visitors to site referred to the Safety and Labour Management and instructed in the need and use of PPE.				
CONSTRUCTION	Material supply	Material supply				
	Asphalt plant: dust, fumes, workers health and safety, ecosystem disturbance	use existing asphalt plants; requirement for official approval or valid operating license	Asphalt plant	Asphalt plant		
	Stone quarry: dust, workers health and safety, ecosystem disturbance	use existing stone quarries, requirement for official approval or valid operating license	Stone quarry	Stone quarry		
	Sand and gravel borrow pit: disturbance of river bed, water quality, ecosystem disturbance	use the existing borrow pits or buy material at licensed separations; requirement for official approval or valid operating license.	Contractor or sand and gravel separation	Contractor or sand and gravel separation		
CONSTRUCTION	Material transport					
	Asphalt: Dust, fumes	All trucks are to be covered. (This is a problem area through-out the region and it will be solved by proper selection of	Truck operator	Truck operator		

Phase	Issue	Mitigating measures	Institutional responsibility		Comments
			Implementation	Supervision	
		contractors operating trucks)			
	Stone: Dust	Wet the truck load	Truck operator	Truck operator	
	Sand and gravel: Dust	Wet truck load	Truck operator	Truck operator	
	Traffic noise, vehicle exhaust, and road congestion management	Haul material at off-peak traffic hours (preferably between 9-14h); use alternative routes to minimize major traffic routs; it is necessary to ensure adequate signs of construction sites, in order to minimize 'wrong turn' chances causing even more congestion;	Transport manager; Truck operator	Transport manager; Truck operator	
	Archaeological chance finds	In case of chance finds, the Contractor is obliged to stop the works immediately and inform the IPCM and PERS about it.	Contractor	Supervision Contractor	
CONSTRUCTION	Construction Site				
	Noise disturbance to workers and neighbouring population	Limit activities to daylight working hours (not between 8 p.m. and 7 a.m. or as agreed with public and authorities); equipment operating with noise mufflers and licenced and approved in accordance with EU standards; noise barriers for noisy works for those longer than one day in the same location/area.  Noisy equipment will be located as far as possible from residential or other sensitive receptors.	Contractor	Contractor	

Phase	Issue	Mitigating measures	Institutional responsibility		Comments
			Implementation	Supervision	
	Dust	Water the construction site and cover material storage areas and limit the speed of vehicles. Implementation of Dust Management Plan: measures to avoid/minimize dust emissions, including use of hoardings; wetting down/spraying of construction areas, accesses, materials stockpiles and during loading/unloading activities, covering of vehicles carrying dusty materials; wheel washing/spraying of vehicles, etc.	Contractor	Contractor	
	Vibrations	Limit activities to daylight working hours (not between 8 p.m. and 7 a.m. or as agreed with public and authorities); If any material damage proved to have been caused to local houses, buildings and other infrastructure (including access roads) by the works will be compensated for and subject to repair on a timely basis. Earthmoving equipment will be located as far away as possible from vibration-sensitive receptors.	Contractor	Contractor	
	Traffic disruption during construction activity	Traffic management plan with measures to redirect traffic, that are easily seen or easy to follow, including traffic police assistance if needed.  Preparation of Traffic Management Plan that establishes a speed limit for construction vehicles and organizes traffic so that it is mostly performed outside the populated areas.  During work execution, maximize the existing network of roads and avoid the construction of new roads for temporary use, which would further	Contractor	Contractor	

Phase	Issue	Mitigating measures	Institutional responsibility		Comments
			Implementation	Supervision	
		increase the fragmentation of space and existing habitats. Local residents will be kept informed about planned works.			
	Reduced access to roadside activities	Provide alternative access to roadside activities at all times.	Contractor	Contractor	
	Vehicle and pedestrian safety when/where there is no construction activity	Lighting and well defined safety signs and protection measures.	Contractor	Contractor	
	Water and soil pollution from improper material storage, management and usage	Organize and cover material storage areas; isolate concrete, asphalt and other works from watercourse by using sealed formwork or covers; isolate wash down areas of concrete and asphalt trucks and other equipment from watercourse by selecting areas for washing that are not free draining directly into watercourse.  Operate construction site in a way to reduce the risk of generating sediments and wastewater that may pollute local soils or receiving water bodies (considering situations such as including storm water runoff, wastewater generated from facilities on site).  Soil Management Plan shall be prepared for the controlled removal of top soil, storage and reuse. Prevent sediments flowing into surface waters and drainage channels by localized control measures. Some of the measures are the placement of physical obstacles (e.g. fences, mulch barriers, geofabric, overflow cascades,	Contractor	Contractor	

Phase	Issue	Mitigating measures	Institutional responsibility		Comments
			Implementation	Supervision	
		sediment basins and rock barriers) in order to mitigate the waves. In order to prevent leaching of sediments is also necessary to take into account the slope of the terrain and protection from wind erosion by fencing, covers installation, etc. Depositing of surplus of earth, stone and similar may only be temporary and limited in time to the completion of the planned works. After the completion of works, all excesses of soil, stones and other waste materials should be removed and the full rehabilitation of degraded areas all over the degraded surfaces should be executed.			
	Water and soil pollution from improper disposal of waste materials	Disposal of waste material at location protected from washing out, should be marked in the site plan; if not on site, then at authorized landfill. Storage of waste according to international best practice (IFC, EHS - General Guidelines). Apply additional measures for storage of hazardous wastes (such as use of secondary containment, access restriction, provision of PPE etc.) as necessary to prevent harm to construction staff, environment and public. Appoint responsible persons for waste collection and its storage (hazardous and non-hazardous).	Contractor	Contractor	
	Potential contamination of soil and water from improper maintenance and fuelling of equipment	Apply best engineering practice in handling and safe storage of lubricants, fuels and solvents, ensure proper loading of fuel and maintenance of equipment, collect all waste and dispose to permitted waste recovery facilities.	Contractor	Contractor	

Phase	Issue	Mitigating measures	Institutional responsibility		Comments
			Implementation	Supervision	
	Water and soil pollution from improper transport of waste materials	Transport of waste in marked vehicles designed to the type of waste, in order to minimize the risk of release of materials, hazardous and non. Training of drivers in handling and disposal of their cargo and the following documentation describing the nature of the load (waste) and its degree of hazard.	Contractor	Contractor	
	Worker safety	Provide workers with safety instructions and protective equipment; provide safe organization of bypassing traffic.	Contractor	Contractor	
	Temporarily occupied areas	Undertaking of re-vegetation with native endemic species and monitor its effectiveness. Where initial plantings were not successful, replacement plantings will be carried out.	Contractor	Contractor	
OPERATION	Maintenance				
	Noise disturbance to human and animal population and workers	Limit activities to daylight working hours (not between 8 p.m. and 7 a.m. or as agreed with public); Use of equipment operating with noise mufflers.	Maintenance Contractor	Maintenance Contractor	
	Possible air, water and soil pollution: Dust, vehicle exhaust, fuel, oil and lubricants spills.	Apply best engineering practice in handling and safe storage of lubricants, fuels and oils; ensure proper loading of fuel and maintenance of equipment; collect all waste and dispose in accordance with the Law on Waste Management; Organize and cover material storage areas properly; isolate concrete, asphalt and other works from watercourse by using sealed formwork	Maintenance Contractor	Maintenance Contractor	

Phase	Issue	Mitigating measures	Institutional responsibility		Comments
			Implementation	Supervision	
		or covers; isolate wash down areas of concrete and asphalt trucks as well as the other equipment from watercourse by selecting areas for washing from which the water does not wash freely, directly or indirectly, in the watercourses (Bukovska, Suvaja and Razanska rivers); dispose waste material at location protected from washing out.			
	Vibrations	Limit activities to daylight working hours (not between 8 p.m. and 7 a.m. or as agreed with public and authorities);	Maintenance Contractor	Maintenance Contractor	
	Worker safety	Provide workers with safety instructions and protective equipment; safe organization of bypassing traffic. This measures can be extended.	Maintenance Contractor	Maintenance Contractor	
	Increased vehicle speed	Place traffic signs for speed limit	Maintenance Contractor	Maintenance Contractor	
	Erosion, rockfall, hazardous conditions	Install the information boards for hitting upon a quarry "Podbukovi" Separate the surface of the quarry edge from the road (New Jersy) Install warning signs (rock fall, landslide, wet or slippery conditions, dangerous curve, animal or pedestrian crossing, school, slow moving vehicles), reflective markers to indicate steep edge or convex mirrors to see oncoming traffic at blind curves; place warning signs at points considered necessary by good engineering	Maintenance Contractor	Maintenance Contractor	

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Phase	Issue	Mitigating measures	Institutional responsibility		Comments
			Implementation	Supervision	
		practice, or as agreed in writing with public and authorities.			

# Appendix II Monitoring Plan

## **MONITORING PLAN**

Phase	What is the parameter to be monitored?	Where the parameter should be monitored?	How the parameter should be monitored?  Type of monitoring equipment	When the parameter should be monitored? (frequency of measurement or continuous)	Why the parameter should be monitored (optional)?	Institutional responsibility Implementati on		
CONSTRUCTI ON	Material supply	<b>y</b>						
Asphalt plant	possession of official approval or valid operating license	asphalt plant	inspection / supervising engineer	before work begins	assure plant compliance with environment, health and safety requirements	Plant Operator		
Stone quarry	possession of official approval or valid operating license	Stone quarry: "Podbukovi" and/or "Mrcici".	Inspection / supervising engineer	before work begins	assure quarry compliance with environment, health and safety requirements	Quarry Operator		
Sand and gravel borrow pit	possession of official approval or valid operating license	sand and gravel borrow pit or separation	Inspection / supervising engineer	before work begins	assure borrow compliance with environment, health and safety requirements	Borrow pit or Separation Operator		
CONSTRUCTION	Material transp	Material transport						

Phase	What is the parameter to be monitored?	Where the parameter should be monitored?	How the parameter should be monitored?  Type of monitoring equipment	When the parameter should be monitored? (frequency of measurement or continuous)	Why the parameter should be monitored (optional)?	Institutional responsibility  Implementati on
Asphalt	truck load covered	job site	supervision	unannounced inspections during work, at least once per week	assure compliance with environment, health and safety requirements	Supervision Contractor
Stone	truck load covered or wetted	job site	supervision	unannounced inspections during work, at least once per week	assure compliance with environment, health and safety requirements	Supervision Contractor
Sand and gravel:	truck load covered or wetted	job site	supervision	unannounced inspections during work, at least once per week	assure compliance with environment, health and safety requirements	Supervision Contractor
Traffic management	Hours and routes selected	job site	supervision	unannounced inspections during work, at least once per week	assure compliance with environment, health and safety requirements and enable as little disruption to traffic as possible.	Supervision Contractor

Phase	What is the parameter to be monitored?	Where the parameter should be monitored?	How the parameter should be monitored?  Type of monitoring equipment	When the parameter should be monitored? (frequency of measurement or continuous)	Why the parameter should be monitored (optional)?	Institutional responsibility  Implementati on
CONSTRUCTION	Construction S	Site				
Noise disturbance to workers and neighbouring population	noise levels	construction site; the closest houses of Mrcici settlemet	equipment — hand-held analyzer with application software	once at the beginning of the project and later on quarterly basis, and on complaint; if the results of monitoring are not satisfactory, monitoring should be conducted on monthly basis.	assure compliance of works with environment, health and safety requirements and enable as little disruption to traffic as possible.	Construction Contractor (monitoring)
Dust	air pollution (solid particles)	at and near job site	inspection and visual observation	unannounced inspections during material delivery and construction	assure compliance of works with environment, health and safety requirements and enable as little disruption to traffic as possible.	Contractor's Supervision (monitoring)
Vibrations	limited time of activities	job site	supervision	unannounced inspections during work and on complaint	assure compliance of works with environment, health and safety requirements and enable as little disruption to traffic as possible.	Contractor's Supervision

Phase	What is the parameter to be monitored?	Where the parameter should be monitored?	How the parameter should be monitored?  Type of monitoring equipment	When the parameter should be monitored? (frequency of measurement or continuous)	Why the parameter should be monitored (optional)?	Institutional responsibility  Implementati on
Traffic disruption during construction activity	existence of traffic management plan; traffic patterns	at and near job site	inspection; observation	before works commencement; once per week at peak and non-peak periods	assure compliance of works with environment, health and safety requirements and enable as little disruption to traffic as possible	Contractor's Supervision
Reduced access to roadside activities	provided alternative access	job site	supervision	random checks at least once per week during construction activities	assure compliance of works with environment, health and safety requirements and enable as little disruption to traffic as possible	Contractor's Supervision
Vehicle and pedestrian safety when there is no construction activity	visibility and appropriateness	at and near job site	observation	random checks at least once per week in the evening	assure compliance of works with environment, health and safety requirements and enable as little disruption to traffic as possible	Contractor's Supervision

Phase	What is the parameter to be monitored?	Where the parameter should be monitored?	How the parameter should be monitored?  Type of monitoring equipment	When the parameter should be monitored? (frequency of measurement or continuous)	Why the parameter should be monitored (optional)?	Institutional responsibility  Implementati on
Water and soil pollution from improper material storage, management and usage	water and soil quality (suspended solids, oils, pH value, conductivity)	at Bukovska and Razanska rivers	unannounced sampling; analysis at accredited laboratory with necessary equipment	At least 3 times during project period, monitoring should be done prior construction (or on a referent point upstream of construction site) and during and after rehabilitation works.	assure compliance of works with environment, health and safety requirements and enable as little disruption to traffic as possible	Construction Contractor (monitoring)
Worker safety	protective equipment; organization of bypassing traffic	job site	inspection	unannounced inspections during work	assure compliance of works with environment, health and safety requirements and enable as little disruption to traffic as possible	Contractor's Supervision
OPERATION	Maintenance					

Phase	What is the parameter to be monitored?	Where the parameter should be monitored?	How the parameter should be monitored?  Type of monitoring equipment	When the parameter should be monitored? (frequency of measurement or continuous)	Why the parameter should be monitored (optional)?	Institutional responsibility  Implementati on
Noise disturbance to workers neighboring population	noise levels	job site; nearest homes	equipment — hand-held analyzer with application software	unannounced inspections during maintenance activities and on complaint	Assure compliance of works with environment, health and safety requirements and enable as little disruption to traffic as possible	PERS
Vibrations	limited time of activities	job site	supervision	unannounced inspections during maintenance activities and on complaint	assure compliance of works with environment, health and safety requirements and enable as little disruption to traffic as possible	PERS
Worker safety	protective equipment; organization of bypassing traffic	job site	inspection	unannounced inspections during maintenance activities and on complaint	assure compliance of works with environment, health and safety requirements and enable as little disruption to traffic as possible	PERS
OPERATION	Road Safety					

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Phase	What is the parameter to be monitored?	Where the parameter should be monitored?	How the parameter should be monitored?  Type of monitoring equipment	When the parameter should be monitored? (frequency of measurement or continuous)	Why the parameter should be monitored (optional)?	Institutional responsibility  Implementati on
Increased vehicle speed	condition of traffic signs; vehicle speed	road section included in project	visual observation; speed detectors	during maintenance activities; unannounced	enable safe and economical traffic flow	Maintenance Contractor; Traffic Police
Erosion, rockfall, hazardous conditions	condition of hazard signs	road section included in project	visual observation	during maintenance activities	enable safe and economical traffic flow	Maintenance Contractor, impact monitoring

## Proposed template - additional data required that should be incorporated into monitoring plans:

1. General		
Is the project compliant with all relevant requirements (taking account of agreed action plans, exemptions or derogations)?	Yes 🗖	If No, please provide details of any material non-compliances:
	No □	
Is the project materially compliant with all applicable environmental and social laws and regulations?	Yes □	If No, please provide details of any material non-compliances:
, and the second	No □	
Have there been any accidents or incidents that have caused damage to the environment, lead to injuries or fatalities, affected	Yes □	If yes, please describe, including details of actions to repair and prevent reoccurrence:
project labour or local communities, affected cultural property, or created liabilities for the company?	No □	
Have there been any changes to environment, social, labour or health and safety laws or regulations that have materially	Yes □	If yes, please describe:
affected the company?	No □	
How many inspections did you receive from the environmental authorities during the reporting period?	Number:	Please provide details of these visits, including number and nature of any violations found:
How many inspections did you receive from the environmental authorities during the reporting period?	Number:	Please provide details of these visits, including number and nature of any violations found:
How many inspections did you receive from the environmental authorities during the reporting period?	Number:	Please provide details of these visits, including number and nature of any violations found:
Have these visits resulted in any penalties, fines and/or corrective measures?	Yes □	If yes, please describe, including status of implementing corrective measures:
	No □	
Has the Company engaged any sub-contractors for project-related work?	Yes □	If yes, please state for which types of work, and how the company has monitored the compliance of contractor's work with the Environmental and Social Action Plan (ESAP):
	No 🗆	
Were any of the violations stated above the responsibility of sub-contractor?	Yes □	If yes, please provide details, including how the Company is ensuring that corrective actions are implemented by the Sub-contractor?
	No □	
Have any operations been reduced, temporarily suspended or closed down due to environmental, health, safety or legislation	Yes □	If yes, please describe:

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reasons?	No 🗆	
management systems:	. ,	erating expenditure), and whether this relates to the requirements of the ESAP, or to any other

## 2. Status of the Environmental and Social Action Plan

Please provide information on the status of each item in the ESAP. If the ESAP has been updated during the reporting period, please attach a copy of the new plan.

3. Environmental M	<b>Monitoring Data</b>	a <sup>1</sup>		
Please provide the name environmental manager:	and contact details	s of your		
Parameter <sup>2</sup>	Value <sup>3</sup>	Unit	Compliance Status⁴	Comments <sup>5</sup>
Waste Water				
Total waste water generated				
BOD				
COD				
Suspended Solids				
Phosphorus				
Nitrates				
Heavy metals				
(Other)				
Air Emissions				
Sulfur Dioxide SO <sub>2</sub>				
Nitrogen Oxides NO <sub>X</sub>				

<sup>1</sup> Please provide the results of any environmental monitoring carried out by the Company or its consultants. If you already have all the data requested available in another format (form), then this can be used instead.

<sup>&</sup>lt;sup>2</sup> Not all parameters is necessarily to apply. Please complete those rows that are most relevant to the industry sector. Additional parameters can be added as necessary.

Please ensure that the units of measurement are clearly stated.
 Please report on compliance against the standards agreed for this project (typically local, EU and/or World Bank).
 In addition to any other comments, please indicate whether the measurements reported apply to all or only some process.

3. Environmental Mo	onitoring Dat	a <sup>1</sup>			
Please provide the name a environmental manager:	and contact detail	s of your			
Parameter <sup>2</sup>	Value <sup>3</sup>	Unit	C	Compliance Status <sup>4</sup>	Comments <sup>5</sup>
particulates					
Carbon dioxide CO <sub>2</sub>					
Methane CH <sub>4</sub>					
Nitrous oxide N <sub>2</sub> O					
HFCs					
PFCs					
Sulfur hexafluoride SF <sub>6</sub>					
(Other)					
Other Parameters					
Noise					
(Other)					
Solid Waste					
Please provide details of the disposal method for each was		s of solid waste	es generated by the Project.	Indicate where wastes are classified as hazar	dous. Indicate the final re-use, recycle or
4. Resource Usage	and Product	Output			
Parameter	Valu	ıe	Measurement Unit	Comm	ents <sup>6</sup>
Fuels used					
Oil					
Gas					
Coal					

<sup>&</sup>lt;sup>6</sup> In addition to any other comments, please indicate whether the measurements reported apply to all or only some process. Please include any fuel quality parameters (e.g. calorific value)

3. Environmental Monitoring Data <sup>1</sup>						
Please provide the name and contact details of your environmental manager:						
Parameter <sup>2</sup>	Value <sup>3</sup> Unit		Col	Compliance Status⁴		Comments <sup>5</sup>
Lignite		1				
Grid Electricity						
Heat Purchased						
Raw materials consumed						
Raw material 1						
Raw material 2						
Product output						
Product 1						
Product 2						
£ 11	M					
5. Human Resources Please provide the name an						
Human Resources manager		iis or your				
	Т	otal	Recruited in this reporting period		Dismissed in t	his reporting period
Number of direct employees:						
Number of contracted						
Workers:  Were there any corredundancies during the reperiod?	collective reporting No $\square$ If yes, please describe the redundancy plan, including reasons for redundancies, number of workers involved, how they were selected, consultation undertaken, and measures to mitigate the effects of redundancy:					
Are there any planned redunct to the workforce in the next ye					es, number of workers involved, and	
Were there any changes in union representation at Co facilities during the reporting p	n trade ompany Yes	☐ If y	es, please provide details, and s	summa	rise engagement with trade unions:	

Were there any other worker representatives (e.g. in the absence of a trade union)?	Yes □ No □	If yes, please provide details and summarise engagement with them during reporting period:
Were there any changes in the status of Collective Agreements?	Yes □ No □	If yes, please provide details:
Have employees raised any grievances with the project during the reporting period?	Yes □ No □	If yes, please state how many, split by gender, summarise the issues raised in grievances and explain how the Company has addressed them:
Have employees raised any complaints about harassment or bullying during the reporting period?	Yes □ No □	If yes, please state how many, split by gender, summarise the issues raised in grievances and explain how the Company has addressed them:
Have there been any strikes or other collective disputes related to labour and working conditions at the Company in the reporting period?	Yes □ No □	If yes, please summarise nature of, and reasons for disputes and explain how they were resolved by the Company:
Have there been any court cases related to labour issues during the reporting period?	Yes □ No □	If yes, please summarise the issues contested and their outcome:
Have there been any changes during the reporting period in any of the following areas:  Representative union, Collective Agreement, Non-discrimination and equal opportunity for everybody, Equal pay for equal work, Gender Equality, Bullying and harassment, including sexual harassment, Employment of young persons under age 18, Wages (wage level, normal and overtime work).	Yes  No	If yes, please give details, including any new initiatives, if they exist:

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Overtime,     Working hours,     Flexible working / work-life balance,     Grievance mechanism for workers     Health and safety.						
6. Occupational Health and S Please provide the name and contact of and Safety manager:						
and Salety manager.	Direct employees:	Contracted workers:		Direct employees:	Contracted workers:	
The amount of work that the average worker does in the reporting period in an hour:			Number of Fatalities <sup>7</sup> :			
Budget spent on OHS in this period (total amount and currency):			Number of disabling injuries:			
OHS training provided in this period (in person-days):			Number of Lost Time Incidents (including vehicular) <sup>8</sup> :			
Number of lost workdays <sup>9</sup> resulting from incidents:			Number of cases of occupational disease:			
Number of sick days:						

Accident causes (falling, heavy loads, struck by object, contact with energy source etc.):

Please provide details of any fatalities or major accidents that have not previously been reported to Banks, including total compensation paid due to occupational injury or illness (amount and currency):

If you have not already done so, please provide a separate report detailing the circumstances of each fatality.
 Incapacity to work for at least one full workday beyond the day on which the accident or illness occurred.
 Lost workdays are the number of workdays (consecutive or not) beyond the date of injury or onset of illness that the employee was away from work or limited to restricted work activity because of an occupational injury or illness.

Please summarise any emergency prevention and response training that has been provided for company personnel during the report period:							
Please summarise any emergency response exercises or drills that have been carried out during the report period:							
7. Stakeholder Engagement							
Please provide the name and contact details for you relations or community engagement manager:	r external						
		an and summarise interaction with stakeholders during the reporting period, including:					
- Meeting or other initiatives to engage with members of							
Information provided to members of the public and other coverage in media;	er stakenolders during the re	eporting period, relating to environmental, social or safety issues;					
- interaction with any environmental or other community	arouns						
Please describe any changes to the Stakeholder Engag							
How many complaints or grievances did the Project rece	eive from members of the pu	blic or civil society organisations during the reporting period? Please split by stakeholder					
group. Summarise any issues raised in the complaints of	or grievances and explain hor	w they were resolved:					
8. Status and Reporting on Resettlement Action Plan							
Existing Land Acquisitions							
	Please report any further progress made during this reporting period in the implementation of the Resettlement Action Plan (RAP), using the monitoring indicators as detailed in						
the RAP, and complete the table below. Please provide the results of any other related monitoring and attach any additional information you think would be useful.							
Have all the affected persons been fully compensated	Yes ☐ No ☐	If no, specify how many compensation payments are still outstanding (in terms of number					
for their physical displacement and, if applicable, any		and percentage of recipients and payment amounts) and state when these payment will					
economic losses resulting from the project?		be made:					
Has the land acquisition had any additional,	Yes ☐ No ☐	If yes, quantify these impacts and specify what measures have been undertaken to					
unforeseen impacts on affected persons' standard of		minimize and mitigate these impacts. If no, specify how potential impacts on livelihoods					
living or access to livelihoods that were not previously		have been monitored.					
covered in the RAP?							

Have any vulnerable groups been identified?	Yes 🔟	No <b>⊔</b>	If yes, list the groups that were identified and describe any additional measures undertaken in order to mitigate impacts specific to these groups.
If applicable, have all transit allowances been paid?	Yes □	No □	If no, specify how many payments are still outstanding (in terms of number and percentage of recipients and payment amounts) and state when these payments will be made.
Has legal support been provided to all the affected persons?	Yes □	No □	If yes, specify how many persons effectively made use of the legal support.
Have all outstanding land and/or resource claims been settled?	Yes □ Not applicab		If no, specify how many claims are still outstanding and state what the expected timing is for settling them.
Have there been any new land acquisition-related complaints or grievances?	Yes □	No 🗖	If yes, please state how many and summarize their content.
Has the company regularly reported to the affected communities on progress made in implementing the RAP?	Yes 🗆	No □	If yes, please state how many meetings were held and how many participants attended.
New Land Acquisitions  If the company acquired any new land for the project du	ring the report	ing period ple	ase provide documents to show closure of land acquisition transactions. Please attach
			es, compensation, agreements reached, etc., and provide in tabular form a list of affected
Have any persons been physically displaced?	Yes 🗆	No 🗆	If yes, how many?

Have any persons been economically endangered?	Yes □	No □	If yes, how many?			
Was it a government assisted resettlement?	Yes □	No 🗖				
, and the second						
9. Community Interaction and Development						
Please summarise any social or community development initiatives undertaken by the company during the reporting period, and any associated expenditure:						

## Appendix III Legislation

#### MAIN SERBIAN LEGISLATION:

The main laws and regulations currently in force in Republic of Serbia which are relevant to the environmental protection during planning, design, construction and operating of this Project are listed below:

- Law on Planning and Construction (Official Gazette RS No.72/09, 81/09, 64/10, -Decision of Constitutional Court, 24/11, 121/12, 42/2013-decision of Constitutional Court, 50/13-decision of Constitutional court, 98/13-decision of Constitutional court, 132/14 and 145/14);
- Law on nature protection ("Official Gazette of RS", no. 36/09, 88/10, 91/10 and 14/16);
- Law on environmental protection ("Official Gazette of RS" No. 135/04, 36/09, 36/09 - State Law and 72/09 - State Law, 43/2011-Decision of Constitutional Court and 14/16);
- Law on EIA ("Official Gazette of RS" No. 135/04 and 36/09);
- Law on Strategic EIA ("Official Gazette of RS" No. 135/04 and 88/10);
- Law on Waste Management (Official Gazette RS No. 36/09, 88/10 and 14/16);
- Law on Environmental Noise ("Official Gazette of the RS", Nos. 36/09 and 88/10);
- Law on Waters ("Official Gazette of the RS", No. 30/10 and 93/12);
- Law on Forests ("Official Gazette of the RS", No. 30/10, 93/12 and 89/15);
- Law on Air Protection ("Official Gazette of RS", 36/09, 10/13);
- Law on Occupational Safety and Health ("Official Gazette of the RS", No. 101/05 and 91/15);
- Law on Public Roads ("Official Gazette of RS" No. 101/05, 123/07, 101/11, 93/12 and 104/2013);

Regulations formed on the basis of the aforementioned Laws:

- Decree on establishing the List of Projects for which the Impact Assessment is mandatory and the List of projects for which the EIA can be requested ("Official Gazette of RS" No. 114/08);
- Rulebook on the contents of requests for the necessity of Impact Assessment and on the contents of requests for specification of scope and contents of the EIA Study ("Official Gazette of RS" No. 69/05);
- Rulebook on the contents of the EIA Study ("Official Gazette of RS" No. 69/05);
- Rulebook on the procedure of public inspection, presentation and public consultation about the EIA Study ("Official Gazette of RS" No. 69/05);
- Rulebook on the work of the Technical Committee for the EIA Study ("Official Gazette of RS" No. 69/05);

- Decree on noise indicators, limit values, method for assessment of noise indicators, disturbance and harmful environmental impact of noise ("Official Gazette of the RS", No. 75/10);
- Regulation on watercourses categorization ("Official Gazette of SRS" No. 5/68);
- Decree on limit values for priority and priority hazardous substances which pollute surface water and deadlines for their achievement ("Official Gazette of RS" No. 24/14);
- Decree on limit values of pollutants in groundwater, surface water and sediment and limits for their achieving ("Official Gazette of RS" No. 50/12);

#### Other relevant Serbian legislation:

 Strategy for the Implementation of the Convention on Access to Information, Public Participation in Decision-Making and the Right to Legal Protection in Environmental Matters - the Aarhus Convention ("Official Gazette of the RS" No. 103/11).

# Appendix IV Stakeholder Engagement and reporting from public consultations

#### **Identified Stakeholders**

Stakeholders can be defined as those people and organisations who may affect, be affected by, or perceive themselves to be affected by, a decision or activity. For the Project, the stakeholders range according to the following main groups:

#### Potential affected parties:

- Employees of PERS and Contractors;
- Representatives of companies operating the area immediately adjacent to the Project;
- Residents from settlements within the zone of influence of the Project;
- Statutory regulatory authorities, on local or regional level, such as: Local landowners and leaseholders; and Potentially affected industries/businesses.

#### Other interested parties:

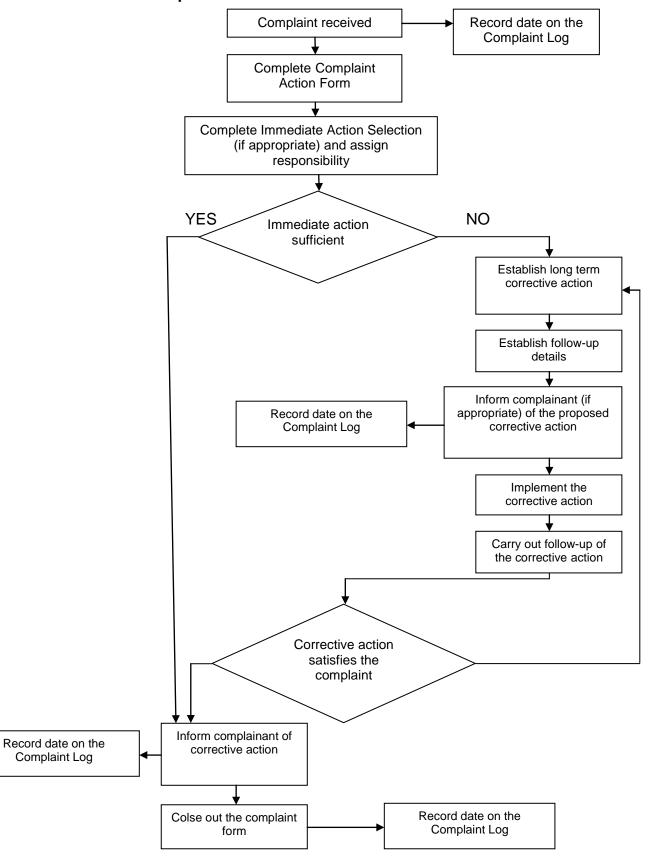
- General public;
- Other companies operating on the National Grid;
- Non-Governmental Organisations (NGO).

It is acknowledged that, as the Project develops, more stakeholders may be identified and engaged. In this regard, once identified, each stakeholder will be characterized in terms of their interests, concerns and requirements and will be included within this list

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#### Grievance mechanism and form

#### Flowchart of Complaints/Grievance Procedure



Grievances to be resolved within 15 working days.

		, ,				
Grievance Reference	Number:					
Contact Details	ntact Details Name:					
	Address:					
	Tel:					
	e-mail:		T			
How would you prefer		By phone	By e-mail			
be contacted? Please	tick					
box						
Name and the identific	cation information (fror	n identity card).				
Details of your griev	ance. Please describe	e the problems, w	who it happened to,			
when, where and how	many times, as releva	ant				
What is your suggeste	ed resolution for the gri	evance?				
33.1	3					
How to submit this	By Post to:					
form to /[name of	By hand:					
concessionaire]	please drop this form	at:				
	By e-mail:					
	Please email your	grievance, sugges	sted resolution and			
	preferred contact deta					
Signature	,		ate			

Feedback from public consultation on EMP

#### 1.BACKGROUND

Public consultations will be held in the future.

#### 2.REPORT ON PUBLIC CONSULTATION

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#### **3.PARTICIPANTS LIST**

#### **4.DOCUMENTATION**

## Appendix V Conditions from relevant public institutions

РЕПУБЛИКА СРБИЈА ЗАВОД ЗА ЗАШТИТУ ПРИРОДЕ СРБИЈЕ

03 Број: 020 – 750/ 3 Датум: 2/1 С/4 2017

НОВИ БЕОГРАД, Др Ивана Рибара бр. 91 Тел. 011/209-3802; 209-3803; факс. 209-3867 ЛАБНО ПРЕДУВЕНЕ ПОТЕЗИ ОРБИЛВ ПЕРОП 1953 - 5990 / 17-1 Датум 2,4-04-2017 ВЕОГРАД, Булевар крепъе Александре бр. 282

Завод за заштиту природе Србије, на основу чланова 9. и 57. Закона о заштити природе ("Службени гласник РС", бр. 36/2009, 88/2010, 91/2010 и 14/2016) и члана 192. Закона о општем управном поступку ("Службени лист СРЈ", бр. 33/1997 и 31/2001 и "Службени гласник РС", бр. 30/2010), поступајући по захтеву Јавног предузећа "Путеви Србије" из Београда за издавање услова заштите природе за израду техничке документације Пројекта Појачаног одржавања деонице државног пута ІБ реда бр. 21 (стара ознака магистрални пут М-21), деоница Ваљево — Каона - Косјерић, доноси

#### РЕШЕЊЕ

- 1. Предметно подручје, односно деоница пута предвиђена за рехабилитацију једним својим делом се налази у оквиру заштићеног подручја Предео изузетних одлика "Клисура реке Градац", у режиму заштите III (трећег) степена, а једним делом трасе (код места Каона) се граничи са подручјем које је у поступку заштите, Предео изузетних одлика "Маљен". Такође, педметна деоница пута је у обухвату сколошке мреже, еколошки значајног подручја Ваљевске планине. Сходно томе, издају се услови заштите природе:
  - Пројектом предвидети таква решења и мере који ће обезбедити услове за очување ваздуха, земљишта, подземних и површинских вода, посебно реке Градац кроз чију клисуру пролази деоница пута, а која је дефинисана као заштићено подручје Предео изузетних одлика "Клисура реке Градац", као и очување Буковске и Ражанске реке дуж чијег тока је предметна деоница пута.
  - Саставни део предметног Пројеката треба да буде и део који се односи на организацију радилишта, при чему је неолходно дефинисати:
    - привремене локације за складиштење потребног грађевинског и другог материјала и опреме, које је неопходно лоцирати ван граница заштићеног подручја "Клисура реке Градац" и "Маљен", обалског појаса река (плавне зоне), као и ван простора са високом вегетацијом, и ограничити их искључиво на време трајања радова;
    - привремене или трајне локације за депоновање шута и другог отпада укључујући и комунални настао у току извођења радова, односно дефинисати забрану одлагања било каквог отпада, посебно грађевинског у обалском појасу и самом кориту река (посебно реке Градац, Буковске и Ражанске реке), на простору заштићених природних добара (ПИО "Клисура реке Градац" и ПИО "Маљен"), као и простору са високом вегетацијом;
    - да се након завршетка предметних радова све површине које су на било који начин деградиране грађевинским и другим радовима, што пре санирају.
  - При извођењу радова строго се придржавати коридора пута, како се при манипулацији возилима и машинама не би оставиле последице на шири простор, посебно у делу деонице пута која је у оквиру заштићеног подручја "Клисура реке Градац", као и делу где се граничи са подручјем "Маљена" (код

- места Каона). Такође, користити постојећу путну мрежу без изградње нових путсва, у циљу спречавања фрагментације простора и постојећих станишта.
- 4) Током извођења радова предузети све мере предострожности како би се дрвореди у насељу или појединачна стабла уз трасу пута максимално заштитила и сачувала од могућег оштећења, као што је ломљења грана и скидање коре са дебла при кретању механизације, или на било који други начин нарушила њихова битна својства.
- Пројектом предвидети таложнике и сепараторе масти и уља за воде које настају спирањем са коловоза, посебно на траси пута у заштићеном подручју "Клисуре реке Градац", дуж Буковске и Ражанске реке, у циљу заштите од загађења.
- б) У циљу очувања реке Градац, а посебно Буковске и Ражанске реке дуж чијет тока је траса пута, Пројектом је неопходно предвидети да се у току извођења радова максимално очува обалски појас река, односно забрани уништавање приобалне вегетације.
- 7) Уколико је неопходно уређење у зони прелаза пута (моста) преко водотока (Ражанска река,..) предвидети употребу камена и других природних материјала, и у највећој могућој мери избећи бетонирање обала и корита водотока (спровести тзв. натурално уређење водотока) при чему је неопходно максимално очување самог корита, али и обала са постојећом вегетацијом.
- Током извођења грађевинских радова (подизања асфалта,...) у непосредној близини стамбених објеката, планирати орошавање како би се спречило подизање прашине и негативан утицај на људе.
- Забрањено је сервнсирање возила и машина дуж трасе и коридора пута, Уколико дође до хаваријског изливања горива, уља/мазива и других штетних материја обавезна је санација површине.
- 10) Није дозвољено извођење радова у току ноћних сати у насељеном подручју због могућег утицаја буке грађевинских машина, као и узнемиравања птица јер је деоница пута у оквиру међународно и национално значајног подручја за птице – Ваљевске планине.
- Предузети мере заштите становништва од удеса. У том смислу потребно је предвидети постављање заштитних ограда и пешачких предаза и пролаза на местима где је то најцелисходније, нарочито на локацијама у близини постојећег насеља.
- Током извођења радова дуж целе трасе одржавати максимални ниво комуналног реда.
- 13) По изведеним предметним радовима неопходно је што пре уклонити сву механизацију и грађевински материјал, а уколико је дошло до нарушавања простора дуж трасе треба га санирати (култивисати терен, односно успоставити биљни покривач уз одговарајуће врсте које су биолошки постојане у датим климатским условима.
- Ово Решење не ослобађа подносиоца захтева да прибави и друге услове, дозволе и сагласности предвиђене позитивним прописима.
- У случају измене Пројекта, потребно је Заводу за заштиту природе Србије поднети нов захтев за издавање услова заштите природе.
- Уколико подносилац захтева у року од две године од дана достављања овог Решења не отпочне радове и активности за које је ово Решење о условима заштите природе издато, дужан је да од Завода прибави ново решење о условима заштите природе.
- 5. Такса за издавање овог Решења у износу од 30.000,00 динара је одређена у складу са чланом 2. став 5. тачка 1. Правилника о висини и начину обрачуна и наплате таксе за издавање акта о условима заштите ("Службени гласник РС", бр. 73/2011, 106/2013). Подносилац захтева је дужан да наведену таксу уплати у корист рачуна Завода у року од 5 дана од дана достављања предрачуна.

#### Образложење

Јавно предузеће "Путеви Србије", Булевар краља Алсксандра бр. 282, 11050 Београд 22, обратило се Заводу дописом II бр. 953-5990 од 24.03,2017. године са захтевом за издавање услова заштите природе за израду техничке документације Пројекта Појачаног одржавања деонице државног пута IБ реда бр. 21 (стара ознака магистрални пут М-21), деоница Ваљево — Каона - Косјерић.

На основу достављеног захтева и пратеће документације подносиоца захтева, утврђено је да је планирана израда Пројекта Појачаног одржавања деонице државног пута ІБ реда бр. 21 (стара ознака магистрални пут М-21), деоница Ваљево – Каона - Косјерић. Предметни Пројекат је саставни део Пројекта рехабилитације путева и унапређења безбедности саобраћаја на мрежи државних путева, који је подршка међународних финансијских институција Националном програму рехабилитације државних путева Републике Србијс. Почетак деонице је на серпентинама кроз село Бачевци, а крај деонице је на уласку у село Ражана (код моста) из правца Ваљева. Врста радова која се планира обухвата радове ојачања постојеће коловозне конструкције (на појединим местима до дубине од 50-60 cm) у постојећим габаритима коловозне конструкције са постојећим и санираним системом одводњавања.

Увидом у Централни регистар заштићених природних добара и документацију Завода за заштиту природе Србије, а у складу са прописима који регулишу област заштите природе, утврђени су услови заштите природе из диспозитива овог Решења. При томе се имало у виду да се предметно подручје, односно део деонице пута налази унутар заштићеног подручја Предео изузетних одлика "Клисура реке Градац" у режиму заштите III (трећег) степена ("Службени гласник Општине Ваљево", бр. 1/2001 и "Службени гласник града Ваљева", бр. 13/2010), а једним делом (код места Каона) се граничи са подручјем које је у поступку заштите, Предео изузетних одлика "Маљен". Такође, педметна деоница пута је у обухвату сколошке мреже, сколошки значајног подручја — Ваљевске планине, ЕМЕРАЛД еколошке мреже — Клисура реке Градац, међународно и национално значајног подручја за птице (IBA - Ваљевске палнине) и одабраног подручја за дневне лептире (РВА - Клисура реке Градац са Магљешом и Повленом) према Уредби о еколошкој мрежи ("Службени гласник РС", бр. 102/2010).

Законски основ за доношење решења је: Одлука о заштити Предела изузетних одлика "Клисура реке Градац" ("Службени гласник Општине Вањево", бр. 1/2001), Одлука о изменама Одлуке о заштити Предела изузетних одлика "Клисура реке Градац" ("Службени гласник града Вањева", бр. 13/2010), Закон о заштити природе ("Службени гласник РС", бр. 36/2009, 88/2010, 91/2010 и 14/2016), Уредба о режимима заштите ("Службени гласник РС", бр. 31/2012), Уредба о еколошкој мрежи ("Службени гласник РС", бр. 102/2010).

Предметни радови могу се реализовати под условима дефинисаним овим Решењем, јер је процењено да неће утицати на природне вредности заштићеног подручја.

На основу свега наведеног, одлучено је као у диспозитиву овог Решења,

Подносилац захтева је ослобођен од плаћања таксе у складу са чланом 18. Закона о републичким административним таксама ("Службени гласник РС", бр. 43/2003, 51/2003, 61/2005, 5/2009, 54/2009, 50/2011, 93/2012 и 45/2015).

Упутство о правном средству: Против овог Решења може се изјавити жалба министарству надлежном за послове заштите животне средине у року од 15 дана од дана пријема решења. Жалба се предаје Заводу за заштиту природе Србије.

ДИРЕКТОР Александар Драгишић

Достављено:

- Подносиону захтева
- Архива х 2

\$480£3434£FMY CRÓMEHAKA KYRTAPE

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\*\*CHAHOM KYRTAPE OLIVALIMOPATHOL BRANCA

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TABHO ПРЕДУЗЕВЕ "ПУТЕЛИ СРВИЛ.

БрЫ 15 - 16 185

Датум

БЕОГРАД Буловар компа Агрисцического о

На основу члана 107. став 1 и 2 Закон о културним добрима (Службени гласник Републике Србије" бр.71/94), Завод за заштиту споменика културе "Ваљево" да је:

#### УСЛОВЕ ЧУВАЊА, ОДРЖАВАЊА И КОРИШЋЕЊА ЗА УРГЕНТНО ОДРЖАВАЊЕ И ОТКЛАЊАЊЕ ОШТЕЋЕЊА НА ДРЖАВНОМ ПУТУ ИБ РЕДА БР. 21 ДЕОНИЦА: ВАЉЕВО-КАОНА-КОСЈЕРИЋ

 Непосредно На траси пута Ваљево-Каона-Косјерић нема регистрованих археолошких налазишта и споменика културе.

#### 2. УСЛОВИ ЧУВАЊА, ОДРЖАВАЊА И КОРИШЋЕЊА АРХЕОЛОШКИХ НАЛАЗИШТА

- Уколико се накнадно открију археолошки локалитет, исти се не смеју уништавати и на њима вршити неовлашћена прекопавања, ископавања и дубока преоравања.
- Инвеститор објекта је дужан да обезбеди средства за истраживања, заштиту, чување, публиковање и излагање добра које ужива предходну заштиту које се открије приликом изградње инвестиционог објекта- до предаје добра на чување овлашћеној установи заштите.
- (члан 110. Закона о културним добрима)
- У непосредној близини археолошких локалитета инвестициони радови спроводе се уз повећане мере опреза и присуство и контролу надлежних служби заштите. (Завода за заштиту сломеника културе "Ваљево")
- Археолошки локалитети се не смеју уништавати и на њима вршити неовлашћено прекопавања, ископавања и дубока заоравања (преко 30 цм).

- Уколико би се током радова наишло на археолошке предмете извођач радова је дужан да одмах, без одлагања прекине радове и обавести надлежни Завод за заштиту споменика културе и да предузме мере да се налаз не уништи и не оштети, те да се сачува на месту и у полажају у коме је отривен ( члан 109, ст. 1 Закона о културним добрима).
- У случају трајног уништавања или нарушавања археолошког локалитета због инвестиционих радова, спроводи се заштитино ископавање о трошку инвеститора,
- (члан 110. Закона о културним добрима)
- Забрањује се привремено или трајно депоновањ земље, камена, смећа и јаловине у, на и у близини археолошких локалитета.
- Забрањено је вађење и одвожење камена и земље са археолошких локалита;
- Остаци старих рударских радова, окна и шљакишта не смеју се уништавати пре документовања, истраживања и узимања узорка шљаке од стране надлежне институције заштите ( Завод за заштиту споменика културе Ваљево).
- Инвеститору се дозвољава да започне радове директно на основу датог решења о условима за предузимање мера техничке заштите и других радова.
- 4. Инвеститор је дужан да издаваоцу овог решења пријави почетак радова као и да у року од 15 дана од дана завршетка радова о томе обавести доносноца овог решења ради прегледа и провере на лицу места да ли су радови изведени у складу са ставом 1.
- Рещења која у оквиру своје надлежности издаје Завод не ослобађа подносиоца захтева прибављања других услова и сагласности предвиђених прописима о изградњи објеката и уређењу и планирању простора и насеља.

#### Образложење:

Јавно Предузеће "Путеви Србије" из Београда обратило се 04.04. 2017. године Заводу за заштиту споменика Културе "Ваљево", са захтевом за израду Услова чувања, одржавања и коришћења За појачано одржавање државног пута ИБ реда бр. 21 деоница: Ваљево-Каона-Косјерић. У прилогу је достављена пратећа документација, пројекат и топографска карта у размери 1: 25 000 са назначеним зонама истражног простора.

По обављеном увиду у службену евиденцију Завода, проучавањем литературе обиласком терена утврђено је да на простору деонице: Ваљево-Каона-Косјерић са становишта заштите непокретних културних добара Дозвољено извођење радова на одржавању и отклањању оштећења на државном путу.

Тачком 2 диспозитива овог решења указује на обавезу која произилази из самог Закона о културним добрима ( члан 109 и 110 ).

лиректора Завода

пр Ксенија Стевановић

Обрађивачи:

Радивоје Арсић, М.А. археолог





#### Завод за заштиту споменика културе Краљево

36000 Краљево, Цара Лазара 24, ПИБ 100239951, матични број 07101104 тел. 036 331 866, тел/факс 036 321 025, e-mail: <u>zzzsky@gmail.com</u> жиро рачун: 840-69664-74, 840-69668-62

ЗАВОД ЗА ЗАМИТАТУ СПОМЕНИКА КУЛТУРЕ
БРО] 585/3
31.04 25/2704.

ИНСТИТУТ ЗА ПУТЕВЕ АД ВЕОГРАД						
пентубенс	02-08.	2017				
Co., pq.	Ep. (	Прилог				
20 -	264	5/10				

Завод за заштиту споменика културе Краљево, Краљево, Улица Цара Лазара бр. 24, на основу члана 36 став 1, тачка 4, члана 99 став 2. тачка 1 и 3, члана 100 став 1 и члана 104,109 и 110 Закона о културним добрима ("Службени гласник РС", бр.71/94, 52/2011-др.закон, 99/2011-др.закон), као и члана 104. Закона о општем управном поступку ("Службени гласник РС", бр.18/2016), поступајући по захтеву привредног друштва ИНСТИТУТ ЗА ПУТЕВЕ АД, Београд, Улица и број: Булевар Пека Дапчевића 45, број 20-2646 од 03.05.2017. године, за потребе израде техничке документације Пројекта појачаног одржавања државног пута IБ реда бр. 21 (стара ознака: магистрални пут М-21), деоница: Ваљево (Обилазница) — Каона —Косјерић, запримљеног у овом Заводу под бројем 585/1 од 08.05.2017.године, доноси

#### РЕШЕЊЕ

- I Подноснощу захтева, издају се мере техничке заштите за потребе израде техничке документације Пројекта појачаног одржавања државног пута ІБ реда бр. 21 (стара ознака: магистрални пут М-21), деоница: Ваљево (Обилазница) Каона –Косјерић, и могу се извршити под следећим условима;
- Инвеститор/извођач је у обавези да обавести надлежни Завод о свакој промени трасе пута као и додавању било каквих нових објеката (петље, пумпе, ауто базе и др.) и за те локације затражи додатне услове Завода.
- На предметној траси утврђено је постојање следећих локалитета од интереса за службу заштите:
  - Споменик палим борцима НОР-а и палим жртвама фашистичког терора 1941-1945, Координате: 7413846: 4881172.
  - Спомен чесма посвећена стрељаним грађанима Косјерића и околине, Координате: 7414323; 4887171.
- За било какве интервенције на наведеним споменицима или њиховим прилазима потребно је прибавити посебне услове Завода.
- Извођач је у обавези да предузме мере заштите како добра под претходном заштитом не би била уништена и оштеђена.
- Уколико се приликом било каквих земљаних радова наиђе на покретне или непокретне остатке археолошког порекла, инвеститор или извођач су дужни да обавесте надлежни Завод и моментално обуставе даље радове.
- Завод може да пропиже, у зависности од вредности налаза, додатие услове, истраживање или археолошки надзор на предметном добру под претходном заштитом.
- Трошкове истраживања, надзора и заштите добра сноси инвеститор.
- Забрањено је неовлашћено прикупљање археолошког материјала.
- Забрањује се просипање и одлагање отпадних и штетних материјала, складиштење материјала и стварање депонија на добрима под претходном заштитом.
- Забрањује се дислоцирање и уништавање надгробних споменика.
- Трошкови истраживања, заштите, чувања, публиковања и излагања добра које ужива претходну заштиту, све до предаје добра на чување овлашћеној установи заштите сноси инвеститор.
- И Инвеститор је дужан да сачини пројектну документацију и на исту прибави сагласност овог Завода у складу са Законом.

-2-

III – Ово Решење не ослобађа подносиоца захтева обавезе прибављања и других услова, дозвола и сагласности предвиђених прописима о планирању и уређењу простора и насеља, изградњи објеката и осталих важећих законских прописа.

IV - Ово Решење важи две године од дана издавања.

V – Жалба на решење не задржава извршење овог Решења.

#### Образложење

Овом Заводу обратило се привредно друштво *ИНСТИТУТ ЗА ПУТЕВЕ АД*, Београд, Улица и број: Булевар Пека Дапчевића 45, за утврђивање услова ради предузимања мера техничке заштите и других радова, за потребе израде техничке документације Пројекта појачаног одржавања државног пута IБ реда бр. 21 (стара ознака: магистрални пут M-21), деоница: Ваљево (Обилазница) — Каона —Косјерић, дефинисан на карти у прилогу која је саставни део овог Решења.

Увидом на лицу места, као и документацију овог Завода, од стране стручног сарадника Завода и Извештаја бр. 585/2 од 26.07.2017. године, на самој траси и у непосредној близини трасе планираног ауто-пута није утврђено постојање непокретних културних добара нити евидентираних добара која уживају заштиту на основу Закона о културним добрима ("Службени гласник РС", бр.71/94, 52/2011-др.закон, 99/2011-др.закон). Међутим, утврђено је постојање локалитета од интереса за службу заштите, који су наведени у тачки 1) диспозитива овог Решења.

Локалитети са археолошким садржајем су специфични са становишта заштите јер се налазе испод површине земље и често није могуће знати за њихово постојање, приликом било каквих земљаних радова могуће је наићи на остатке материјалне културе из прошлости, те је у том случају неопходно организовати праћење спровођења мера заштите од стране археолога Завода.

На основу чл. 36. став 1 тачка 4. Закона о културним добрима прописано је да је сопственик дужан да прибави услове за предузимање мера техничке заштите и прибави сагласност надлежне установе за предузимање мера и радова на добру којима се могу проузроковати промене изгледа, облика или намене добра или повредити његова својства.

На основу чл. 99. став 2. тачка 3. Закона о културним добрима прописано је да се мере техничке заштите и други радови којима се могу проузроковати промене облика или изгледа непокретног културног добра или повредити његова својства, могу предузимати ако се прибаве потребни услови и одобрења на основу прописа о планирању и уређењу простора и изградњи објеката.

Чланом 109. Закона о културним добрима прописано је да уколико се у току извођења земљаних и других радова наиђе на археолошко налазиште или археолошке предмете, извођач радова дужан је да одмах, без одлагања, прекине радове и о томе обавести надлежни Завод за заштиту споменика културе, као и да обезбеди средства за заштитна археолошка истраживања и конзервацију налаза.

Чланом 110. Закона о културним добрима прописано је да је Инвеститор дужан да обезбеди средства за истраживања, заштиту, чување, публиковање и излагање добра које ужива претходну заштиту, све до предаје добра на чување овлашћеној установи заштите.

Са изложеног, одлучено је као у диспозитиву овог Решења.

На основу члана 104. став 3. Закона о културним добрима, жалба не одлаже извршење Решења.

**ПРАВНА ПОУКА**: Против овог Решења дозвољена је жалба Републичком заводу за заштиту споменика културе - Београд у року од 15 дана од дана достављања решења. Жалба се подноси преко доносиоца овог Решења, а на основу члана 16. Закона о културним добрима и ослобођена је плаћања републичке административне таксе.

Обрађивачи: др Марија Марић, археолог и Љиљана Александрић, дипа. правник

#### Доставити:

Подносиону захтева

 Републичком заводу за заштиту споменика културе - Београд

- Архиви Завод

В.Д. ДИРЕКТОРА ЗАВОДА

Иван Милуновић



Број: 011-00-898/2017-16 Датум: 23.06.2017. Београд ЛАВНО ПРЕДУЗЕЋЕ "ПУТЕВИ СРБИЈЕ"
Број 3 6 -07- 2017
БЕОГРАД, Булсаер краље Александра бр. 282

#### JП ПУТЕВИ СРБИЈЕ Сектор за инвестиције

ул. Булевар краља Александра 282 БЕОГРАД

Предмет: Допис у вези са захтевом за давање мишљења

Министарству польопривреде и заштите животне средине обратили сте се Захтевом за давање мишљења о потреби покретања процедуре у складу са Законом о процени утицаја животну средину ("Сл.гласник РС", бр. 135/04, 36/09) за пројекат појачаног одржавања и отклањање оштећења државног пута IБ реда бр. 21 (стара ознака пута М-21) Деоница: Ваљево (Обилазница) – Каона - Косјерић, дужине L= 21.100 км (км 68+241 - км 74+740), заведен под бројем 011-00-0898/2017-16 од 12.06.2017. године.

У допису наводите да је предметни пројекат обухваћен и интегралним "Пројектом Рехабилитације путева и безбедности саобраћаја ("Road Rehabilitation and Safety Project – RRSP"), који се финансира из међународног кредита. Пројекат подразумева грађевинско – путарске радове у оквиру трасе већ постојећет пута.

Планирано је да се Главним пројектом за хитно одржавање путева обезбеди: повећање употребне вредности пута, трајност пута, побољшање безбедности саобраћаја, укључивање захтева локалне заједнице и усаглашеност са захтевима заштите животне средине у највећој могућој мери под датим условима просторног ограничења и ограничења који произилазе из типа дозвољених грађевинских и саобраћајних интервенција. Предметна деоница је лоцирана у западном делу Републике Србије и простире се кроз Златиборски и Колубарски управни округ.

Сва решења приликом израде пројектне документације — Главни пројекат за хитно одржавање пута, морају бити у оквиру постојећег путног појаса (укупна ширина коловоза је 6.50 м), без експропијације нових површина земљишта.

Одводњавање површинских вода са коловоза, и прибрежних вода, вршиће се комбинацијом ригола, отворених канала и пропуста. Атмосферске воде са коловоза ће се третирати у сепаратору ради вотклањања масти, уља и других пливајућих материја пре испуштања у постојећи водоток.

Од материјала за градњу, користиће се земљани материјал, бетон, челик и асфалтни материјали. Пројектована технологија изградње неће произвести никакве загађујуће материјале који би могли доспети у земљиште.

Уз Захтев је приложена и додатна документација:

- Правилник о ургентном одржавању државног пута ("Сл. гласник РС" 74/2014 и 87/2014), којим су дефинисане врсте радова, технички услови и начин извођења радова;
- Кратак опис пројекта;
- Решење бр. 020-750/3 од 21.04.2017. које је издао Завод за заштиту природе Србије;
- Решење бр. 148/1 од 17.05.2017. које је издао Завод за заштиту споменика културе у ваљеву - установа културе од националног значаја;
- Графички прилог прегледне карте;

На освову увида у захтев обавештавамо вас о следећем:

- У складу са члановима 3. и 4. Закона о процени утицаја животну средину ("Сл.гласник РС", бр. 135/04, 36/09) предмет процене утицаја на животну средину су пројекти који се планирају и изводе, промене технологије, реконструкције, проширење капацитета који могу имати значајан утицај на животну средину, а притом су садржани у Уредби о утврђивању Листе пројеката за које је обавезна процена угицаја и Листе пројеката за које се може захтевати процена угицаја на животну средину («Службени гласник РС», бр.114/08).
- Пројекат појачаног одржавања пута и отклањања оштећења, у складу са горе поменутим члановима Закона о процени утицаја на животну средину, не представља предмет процене утицаја на животну средину и није сврстан у Листама пројеката из поменуте Уредбе, па сагласно томе посилан пројекта није у обавези да отпочне процедуру процене утицаја на животну средину у складу са чланом 8. Закона о процени утицаја на животну средину.
  - Носилац пројекта је обавези да се приликом извођења радова на рехабилитацији предметне саобраћајнице у потпуности придржава услова и мера заштите животне средине из 1) Решења о условима заштите природе и заштите животне средине бр. 020-750/3 од 21.04.2017 које је издао Завод за заштиту природе Србије, 2) Решења са условима и мерама заштите непокретних културних добара бр. 148/3 од 17.05.2017 године које је издао Завод за заштиту споменика културе у Ваљеву.

ДРЖАВНИ СЕКРЕТАР по овлашћењу министра

Бр. 119-01-51/26/2016-09 од 25.10/2016

др Стана Божовић

Доставити:

-Наслову

-Архиви