



PROJECT APPRAISAL DOCUMENT

***Construction of local roads***

October 2013

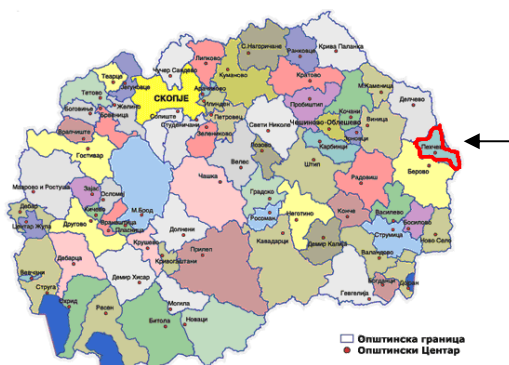
PEHCHEVO MUNICIPALITY

## I. PROJECT DESCRIPTION

### A. GENERAL INFORMATION ON THE MUNICIPALITY

Pehchevo municipality is located in the eastern part of the Republic of Macedonia, in the Malesh region, belonging to the upper flow of the Bregalnica river. Municipality is surrounded on east with Bulgaria, on south with municipality Berovo, on west with municipality Vinica and on the north with municipality Delchevo. The total municipal area is 206 km<sup>2</sup>. Pehchevo municipality has a moderate continental climate with modification of the climate in the higher mountain and lowland parts. The relief is mainly hilly-mountainous, with lowland terrains. The average altitude is 980m.

The municipality has 5,517 inhabitants (2002 Census) and seven settlements of which one is an urban settlement and other six are rural villages. The administrative center of the municipality is Pehchevo city, stretching at the foothills of the Bukovik Mountain.



The municipality belongs to the Eastern Planning Region together with other ten municipalities of Eastern Macedonia.

### B. DEMOGRAPHIC AND ECONOMIC PROFILE

The following tables provide a general picture of the total population of the Pehchevo municipality by sex, ethnic affiliation and age structure based on data of last population and household census (2002).

Table 1: Population by sex and ethnic affiliation

	Pehchevo	Female	Male
Total	5517	2722	2795
Macedonian	4737	2332	2405
Turks	357	181	176
Roma	390	185	205
Vlachs	2	2	-
Serbian	12	9	3
Other	19	13	6

*Source: 2002 Census*

Most of the population according to the ethnic affiliation is Macedonian (85%), with smaller number of Turks and Roma population. The ethnics as Vlachs, Serbian and others represent only 0.5% of the total population of the Pehchevo municipality.

Table 2: Population by sex and age distribution

	Pehchevo	Female	Male
Total	5517	2722	2795
0-14	959	474	485
15-64	3653	1757	1896
Over 65	903	489	414
Unknown	2	2	-

*Source: 2002 Census*

Table 3: Population, labor force and employment (comparison with the state level)

	Pehchevo	Macedonia
Unemployment rate (%)	39.9	38.1
GDP per capita	n/a	6850

*Source: 2002 Census*

The relatively young population is facing problems caused by high unemployment. More than half of young population (15-24 years old) cannot find a job. The unemployment rate in the municipality is higher than the official state rate. This may be a reason of falling number of population in the municipality that decreased from 5650 in 1994 to 5517 in 2002.

Table 4: Beneficiaries of financial compensation and social security according to job seniority

	Pehchevo
Total	112
Up to 25 year	/
Over 25 years	112

*Source: 2002 Census*

Pehchevo municipality comprises city of Pehchevo and 6 rural settlements. There is almost equal distribution among the population that live in the city of Pehchevo and

rural settlements. The number of city population is growing at the price of shrinking rural population, e.g. from 1994 to 2002 city population increased from 3032 to 3237, whereas rural fell from 2618 to 2280.

Table 5: Urban/rural population and households

	Population	Households	Number of households connected to the water supply system	Number of households connected to the sewage system	Number of households receiving waste collection services
Pehchevo (city)	3237	1126	1126	1126	1126
Rural settlements					
Pancarevo	375	143	/	/	/
Negrovo	97	53	53	/	/
Robovo	427	190	190	/	/
Umlena	354	155	155	/	/
Crnik	707	242	242	150	/
Ciflik	320	117	117	/	/
Total: municipality of Pehchevo	5517	2026	1883	1276	1126

Source: 2002 Census

Pehchevo municipality has favorable position due to the fact that eastern Macedonian highway that passes through the municipality and the city of Pehchevo connects Pehchevo with Beroovo, Delcevo and Kocani and also contributes for tourism development with neighboring Bulgaria. The abundance of pastures, forest and arable land is favorable for agrarian production and forestry, therefore much of the population is engaged in farming and ranching. Total arable land is 5,364ha, out of which 87% under cereals, 16.4% under vegetables and 3.4% industrial plants. Wood is mostly processed in the municipality for wood gallantry production, building and fire-resistant materials. Three bigger factories and ten smaller private enterprises are involved in this production. Ecologically clean region of the municipality offers possibilities for development of a winter and summer tourism, hunting and alternative tourism. Several small private companies use this potential in their own businesses. Other commercial entities deal with services and craft activities. According to the municipal data, 132 private enterprises are registered in the municipality, out of which 115 in the city of Pehchevo.

## C. GENERAL DESCRIPTION OF PROJECT

This project assumes construction of 3 local roads in 2 rural settlements: Robovo and Pancarevo. Total length of roads covered with this sub-project is equal to 1112m. All streets will be covered with prefabricated concrete paver elements.

## 1. Current situation

Pehchevo is rural municipality in which all settlements are connected with local roads. The total length of local roads in the municipality is 31.1km, out of which 28km are already asphalted. None of local streets has storm water management system.

The existing sewage system comprises 3,982m. Out of 7 settlements only one has not sewage system (Ciflik) and in two it is not complete (Cernik, Robovo).

Water supply network exists in Pehchevo city and all 6 rural settlements and provides required amount of potable water with necessary quality. It means that 100% of the population has access to the water supply services.

All roads included in this project are not asphalted. In the past all these local roads have been maintained only with some crushed stone layers. Municipality is making systematic efforts to improve the road infrastructure and provide asphaltting of new local roads, but its financial capacity is very limited. For last 3 years it managed to construct/reconstruct 16 km of local roads mostly with funds received from the state budget and own funds.

Table 6: Implemented infrastructure projects in Pehchevo municipality

	Street	Type of work	Value (MKD)	Financing source
2010	"Desni Dol" v.Pancarevo	Construction, setting paver elements 760m	3,500,000	State government: program on financing support of rural development
2011	"Bukovik", Pehchevo	Construction, setting paver elements 270m	1,200,000	Municipal budget
	Local road: Pehchevo – tourist settlement "Ravna Reka"	5km of new asphalt layer and 8km – reconstruction of existing road	15,375,000 (EUR 250,000)	State budget
	Local road v.Pancarevo	Construction, setting paver elements 310m	1,500,000	Municipal budget
2012	Regional road: Pehchevo – Delcevo R523, v.Negrevo	Complete reconstruction of existing road at 1,594m, 3.5m wide	4,128,302	EBRD, project on rehabilitation of improvement of local roads

On those roads selected for this project, there are living 234 persons: in Pancarevo-140 (street 1– 72 and street 2 - 68), in Robovo – 94. These are not transit streets and will be used by the citizens of these rural settlements.

There are only private houses on selected street. The road 1 in Pancarevo leads to the public building currently used as kindergarten (6 children in the age of 2-6 years).

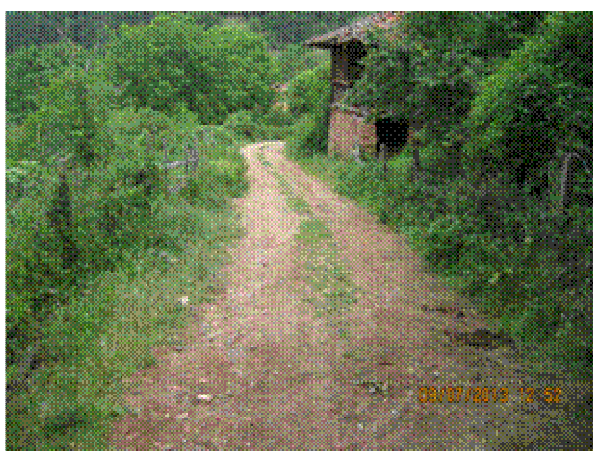
Picture 1: Local roads in Robovo



Picture 2: Road 1 in Pancarevo



Picture 3: Road 2 in Pancarevo



## **2. Future situation**

The population in two villages (Pancarevo and Robovo) will have access to improved road infrastructure and will be able to use every day roads covered with paver elements. Direct beneficiaries of this project are 234 persons living on selected streets (140 in Pancarevo and 94 in Robovo), which is 4% of the municipal population. The number of indirect beneficiaries will be higher by number of visitors coming to the residents of those streets. The quality of life will increase, as now these are land roads, which under difficult weather conditions are difficult to pass, but on the other hand these roads are the only way out for residents from their homes.

## **3. Goals of the project**

The project refers to the strategic goals as defined in municipal documents.

In 2007 the municipality prepared "Sub-strategy on rural economic development 2008-2013". One of four priority areas was "normative regulations and infrastructure". The following programs were identified: "improvement in local infrastructure" and "improvement in rural infrastructure to provide for development of rural tourism".

Strategic goals are reflected in short run planning documents such as annual programs on construction, reconstruction and maintenance of local roads and streets. In such program for 2013 Pehchevo municipality assumed construction of local roads in Pancarevo and Robovo, which are envisaged in this project.

The core objectives of this project are as follows:

- Facilitate local communication in the municipality – provide traffic comfort, convenience and safety for the pedestrians and traffic by improving the surface of the road/streets as well as their carrying characteristics,
- Decrease transport costs,
- Increase work productivity,
- Improve quality of live – satisfy various social, recreational and residential needs of citizens in the local communities.

## **II. SOCIAL IMPACT OF THE PROJECT**

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The sociological study refers to five areas: social diversity and gender, institutions, rules and behavior, stakeholders, participation, social risk. It is based on meetings with relevant stakeholders. Face-to-face interviews were conducted with top municipal officials including mayor and municipal administration. Hence, the project idea was presented to the public in an open debate. Finally, the project was presented to the Council and got its approval.

Demographic analysis presented in chapter I allows formulating the following conclusions:

- The municipality is relatively small by the number of inhabitants and widely distributed among 7 settlements (one urban and six rural),
- This is a rural municipality,
- The number of population is falling due to persistent problems with unemployment, which rate is higher than country average. The number of city population is growing at the price of rural population,
- Male population is dominant with its share of 50.7%,
- By ethnic grounds most of the population is Macedonian (85%) with smaller number of Turks and Roma,
- The number of businesses is very limited and wood industry dominates.

The municipal needs in infrastructure are high, but municipal financial capacity is limited. For last 3 years it managed to construct/reconstruct 16km of local roads mostly with funds received from the state budget and own funds.

Analyzing the social impact of this project it is necessary to identify main stakeholders – organizations, groups or individuals who might have interest in success of the project, can contribute/ affect project implementation, or can directly or indirectly influence the design and implementation. The following stakeholders were identified: mayor, municipal administration, inhabitants, political parties, local social organizations like NGOs or media. The legal framework requires organization of consultations with all stakeholders on any infrastructure projects proposed by the municipality.

In line with those legal requirements the selection of streets for this project was done in democratic process that included local population. Namely, in 2012 and at the beginning of 2013 the number of meetings was organized in all rural settlements where local problems and needs were discussed. Based on these meetings, the lists were made on prioritizing the projects on improvement in local roads network for each of settlements. The selected streets got the biggest number of votes in villages Pancarevo and Robovo.

On September 4, 2013 the municipality has organized public debate on the proposed project. Invitations were sent via the local communities and the entrance was free to anyone interested. The project was presented to the population by the mayor and municipal administration. The selection of the road in Pancarevo was welcomed by the local population. It is expected that construction of the new road will support the local employment in agriculture and wood processing industry that indirectly can



slow the rural-urban migrations. The further ideas were presented on reconstruction of streets: “Bel kamen” in Pehchevo, “Rekata” in Umlena, “Pandurska” in Robovo, access road to the local landfill and construction of sidewalks in Pehchevo. Concluding, the citizens expressed their support for the project, but also indicated further priorities. Based on these local consultations the municipal Council approved the project and the way of its financing.

The municipal Council comprises 11 councilors representing different political parties (6 are from VMRO-DPMNE and 4 are from SDSM and 1 independent). Majority of Councilors voted for the project (6 in favor, 4 against, 1 withdraw). Based on this public consultation one may conclude that there is no resistance to the project and it has support of all citizens and their representatives.

The citizens are fully informed of the project, its goals, costs and consequences. All stakeholders had access to information and could influence scope of the project. Citizens’ interests are mostly expressed by political parties, which are present in the municipal Council. Voting results indicate that in a democratic procedure the majority of Council members supported project implementation. Based on this support expressed by citizens in public debate and their representatives in Council voting one might conclude that there is no resistance to the project.

The project will not cause a feeling of inequality among the citizens, as the project does not favor any social or ethnic group. The project was publicly consulted and approved by the majority of Councilors, therefore it is not expected that some group, organization or institution might cause some problems during implementation.

Citizens are not expected to participate directly in the project as all the costs will be covered with the loan.

This Project is not a subject to resettlement issues because involves construction of already existing local roads located on a municipal territory. Technical design was prepared in accordance with the urban plan, but also in line with local conditions. As a result, there are no property issues in this sub-project.

Concluding, the project does not carry any social risks. It is considered cost-effective over a long run and will contribute to improvement in community standards of living in Pehchevo municipality. The project is priority for the public administration and citizens. The population is not expected to contribute financially. The project is not subject to resettlement issues. No expropriation is expected to be raised during the implementation of the project.

Potential success of the project depends on its efficient implementation. The quality of constructed roads is of the highest importance. The citizens will pay special attention to quality as the loan will have to be paid off during the next 13 years from the municipal budget. The project is designed in such a way that during the loan repayment there should not be incurred any additional maintenance costs, except regular ex-ante predicted. The quality of project implementation will be provided by supervision of the selected company employed by the municipality. However, to achieve high quality of provided works citizens involvement is necessary.

### III. ENVIRONMENTAL IMPACT

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The project assumes construction of three local roads in Pehchevo municipality: a) two roads in village Pancarevo and b) one road in village Robovo.

All three roads will be constructed with concrete prefabricated elements. The roads are 3m wide with a total length of 1,112m.

The main project goal is to provide better road infrastructure in the municipality through construction of local roads in these two villages, ensuring improvement of living conditions for the residents.

All three roads are land roads, which during the bad weather conditions are difficult to pass, but on the other hand these roads are the only way out for residents from their homes.

#### *1. Construction of road "1" in Robovo village*

The local road "1" in Robovo village begins from the main street of the village and then goes north over the bridge on Robovska river to the first crossroad at the main road. The total length of the street is 253m with constant width of 3m.

The road is a land road throughout its entire length. The sub-project will also repair a 5m long box culvert on several meters from the starting point. Along the left road edge before the culvert, there is the need for construction of a wing wall that will be connected to the culvert abutment.

The main element for designing and projecting of the street "1" is  $V_r=30$  km/h. Road structure consists of 25cm road base made of crushed stone material  $t = 25$ cm, above the base thin layer of fine sand for setting of concrete elements,  $t = 5$ cm and the pavement made of concrete elements,  $t = 8$ cm.

The location of the local road "1" in village Robovo is shown on Picture 4.

#### *2. Construction of roads "1" and "2" in Pancarevo village*

a) The road "1" in Pancarevo village is the access road from the main street to the local kindergarten. Construction of the new street "1" will enable easy walking for the pupils towards the kindergarten. The length of the street "1" is 601m. The location of the local road "1" in village Pancarevo is shown on Picture 5.

b) The road "2" in Pancarevo village will continue from the already existing main street that is constructed with the same structure as the newly designed street. The total length of the street is 258m of which 48m is the left section of the street at chainage 0+130km. The location of the local road "2" in village Pancarevo is shown on Picture 6.

Picture 4: Local road “1” in village Robovo



Picture 5 and 6: Local road “1” and Local road “2” in village Pancarevo



The main element for designing and projecting of the roads “1” and “2” in village Pancarevo is  $V_r=30$  km/h. Road structure consists of 25cm road base made of crushed stone material  $t = 25\text{cm}$ , above the base thin layer of fine sand for setting of concrete elements,  $t = 5\text{cm}$  and the pavement made of concrete elements,  $t = 8\text{cm}$ .

The two roads “1” and “2” will be constructed in Pancarevo village using the same type of pavement.

According the Project documentation the project activities for all three roads include: marking and cleaning of the site, wide digging with the machine, soil compaction, embedding of sub-base material, making the road-base layer and thin layer of fine sand for setting of concrete elements, pavement made of concrete elements and construction of crushed-stone shoulders for stabilization of the road curbs.

According the national legislation (Law on environment – Official Gazette No. 53/05, 81/05, 24/07, 159/08, 83/09, 124/10, 51/11, 123/12, 93/13) and secondary legislation, the Project for construction of the local road belongs to the Annex I Chapter XII – Infrastructural projects, Part 1: Local roads and streets. For these types of projects the EIA Report should be prepared and the report should be adopted by the mayor of the municipality.

The EIA Reports for all three sub-projects were prepared and submitted to the municipality and the decisions on approval the EIA reports and mitigation measures proposed were issued on 26.09.2013.

The project activities will be limited along the local roads in villages Robovo and Pancarevo. The construction site is passing along the rural settlement area and no biodiversity and cultural heritage will be influenced.

The environmental impacts are expected to be on short-term basis - during the construction period and the impacts will be with minor local significance. The good construction practice could cover almost all mitigation measures proposed mainly to overcome the OH&S risks and community risks that could appear as a result of rural settlement area and surrounding of the project site.

The major impacts are expected as a result of improper waste management with different waste streams (mainly inert waste with a very small quantity of biodegradable waste) and noise from the outdoor equipment that could cause noise disturbance to the sensitive receptors - the households living along the road "1" in village Robovo (94 persons living along the street) and the households living in village Pencarevo in surrounding of roads "1" and "2". The special attention should be paid to the safety of children from the kindergarten near the local street "1" and proper marking and fencing the construction site is crucial measure.

The main project documentation for all three roads proposes the following waste generation: a) For local road "1" in Robovo - 258m<sup>3</sup> ground/soil to be digged and 200m<sup>3</sup> ground/soil to be disposed on the municipal landfill; b) For local road "1" in Pencarevo it proposes 1297m<sup>3</sup> ground/soil to be digged and 500m<sup>3</sup> ground/soil to be disposed on the municipal landfill and c) For the construction of the local road "2", 400m<sup>3</sup> ground/soil have to be digged and 240m<sup>3</sup> ground/soil to be disposed on the municipal landfill. The municipal landfill is situated around 4km far from city of Pehchevo at the location called Suvi Dol. The coordination needs to be established between the contractor and the Communal Service Enterprise "Komunalec" from Pehchevo, responsible for proper waste management during the construction works.

According the Law on noise protection (Official Gazette No. 79/07, 124/10, 47/11) the living area belongs to the area with second degree of noise protection and the max. allowed noise level should be 45dB for night and 55dB for day and evening. The project activities are not envisaged during the evenings and nights. On the construction site near the kindergarten near street "1" in Pancarevo even stricter noise limits should be proposed – the area with first degree of noise protection, so during the day the max. allowed noise level should be 50dB (when the kindergarten is operating).

In order to prevent the minor adverse environmental impact and to ensure regular transportation of goods and people across the local street, the preparation of the Traffic Management Plan is essential to be adopted prior the start of the activities. The Plan should include the re-routing (if it is feasible), temporary stopped traffic or parking the vehicles on these roads or along them and announcement of time schedule for construction works.

Other mitigation measures that need to be applied before and during construction activities for all three sub-projects in villages Robovo and Pancarevo are included within the following Environmental Mitigation Plan. The main responsibility for implementation of the mitigation measures lay to the contractor and supervisor (nominated by the Municipality) on daily basis. Some of the measures should be applied by the municipal staff (recording the waste quantities for all three sub-projects, announcement of temporary stopping of traffic or re-routing driving directions).

The Monitoring Plan proposes tasks mainly dedicated to the supervisor and an environmental inspector who need to control the implementation of the mitigation measures by contractor and reporting to the municipality on the status of implementation of the construction works, quality of works and environmental mitigation measures applied.

## A. ENVIRONMENTAL MITIGATION PLAN

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
Marking out the route for construction of three roads in the villages Robovo and Pancarevo in Pehchevo municipality	<p>Possible adverse social and health impacts to the population, drivers and workers due to:</p> <ul style="list-style-type: none"> <li>- Lack of ensured safety measures at the start of construction works</li> <li>- Injury passing near by the construction sites (especially important for the children in village Pancarevo as the street is near the kindergarten)</li> <li>- Not compliance with strict OH&amp;S standards and work procedure</li> <li>- Inappropriate public access within the district</li> </ul>	<p>Local/within the villages where the construction activities are performed</p> <p>Short term during the construction of the roads</p> <p>Major</p>	<ul style="list-style-type: none"> <li>• Ensure the appropriate marking out the construction sites and construction materials near the roads</li> <li>• Warning tapes and signage need to be provided</li> <li>• Forbidden entrance of unemployed persons within the warning tapes</li> <li>• Community and Worker's OH&amp;S measures should be applied (first aid, protective clothes for the workers, appropriate machines and tools). Very important is the safety of children in village Pancarevo passing near by the construction site.</li> <li>• Machines should be handled only by experienced and trained personnel, thus reducing the risk of accidents</li> <li>• Larger quantities of flammable liquids should not be kept on the site along the construct street</li> <li>• All workers must be familiar with the fire hazards and fire protection measures and must be trained to handle fire extinguishers, hydrants and other devices used for extinguishing fires</li> <li>• The roads and surrounding areas near the houses should be kept clean</li> </ul>	Contractor – Bidder Supervisor
			<ul style="list-style-type: none"> <li>• Preparation of the Traffic Management Plan (re-routing if it is possible or stopping the driving and/or parking on and near the construction sites) together with the municipal staff.</li> </ul>	Contractor – Bidder Supervisor Municipal staff (Communal Inspector/ Environmental Inspector/ Traffic Engineer)

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
Construction of three roads in two villages located in the municipality Pehchevo	Possible impacts on landscape and visual aspects	Local/within the villages where the construction activities are performed Short term /minor	<ul style="list-style-type: none"> <li>Minimization of the construction area as much as possible</li> <li>Fully clean-up of the construction site immediately after accomplishment of activities</li> <li>Collection of the generated waste on daily basis, selection of waste, transportation and final disposal on appropriate places (according the type of waste – more details under Waste management issue)</li> </ul>	Contractor – Bidder Supervisor
	Possible emissions by transportation vehicles and impact on air quality due to gases emissions of dust-suspended particulates	Local/within the villages Pancarevo and Robovo Short term /minor	<ul style="list-style-type: none"> <li>Construction site, transportation routes and materials handling sites should be water-sprayed on dry and windy days</li> <li>Construction materials should be stored in appropriate places covered to minimize dust</li> <li>Vehicle loads likely to emit dust need to be covered</li> <li>Usage of protective masks for the workers if the dust appears</li> <li>Restriction of the vehicle speed within the construction location</li> </ul>	Contractor – Bidder Supervisor
	Possible noise disturbance as a result of outdoor equipment usage and transportation vehicles driving around the site	Local/within the villages Pancarevo and Robovo Short term /minor	<ul style="list-style-type: none"> <li>As it is a rural residential area with second degree of noise protection the level of noise should not exceed 55dB during the day and evening and 45dB during the night. In the village Pancarevo near street “1” stricter noise level should be applied – 50 dB during the day when the kindergarten is operating</li> <li>The construction work should be not be permitted during the nights, the operations on site shall be restricted to the hours 7.00 -19.00</li> </ul>	Contractor – Bidder Supervisor
	<p>Possible adverse environmental impact and health effects could occur as a result of generation of the different waste streams</p> <p>The inappropriate waste management and not in time</p>	Local within the villages/ Short term /major	<ul style="list-style-type: none"> <li>Identification of the different waste types at the construction site (soil, sand, concrete, road surfacing, bottles, food, etc)</li> <li>Classification of waste according the national List of Waste (Official Gazette no.100/05)</li> <li>The main waste would be classified under the Waste Chapter 17 “Construction and demolition wastes (including excavated soil from contaminated sites)” with the waste code 17 01 – Waste from concrete, bricks, 17 05 04 – Excavated soil, 17 09 04 – Mixed waste from construction site</li> </ul>	Contractor – Bidder Supervisor

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
	collection and transportation of waste streams		<ul style="list-style-type: none"> <li>• Transportation and final disposal of the inert and communal waste by the CSE “Komunalec” Pehchevo on the municipal landfill in Suvi Dol</li> <li>• Fulfillment of the Annual Report for non-hazardous waste management by the mayor and reporting to the MoEPP</li> <li>• The construction waste should be promptly removed from the site, should be re-used if possible</li> <li>• Possible hazardous waste (motor oils, vehicle fuels) should be collected separately and authorized collector and transporter should be sub-contracted to transport and finally dispose the hazardous waste</li> </ul>	Municipality staff (Communal Inspector/ Environmental Inspector) CSE “Komunalec” Pehchevo
	Water management	Local/ short term/major	<ul style="list-style-type: none"> <li>• Minimize storage of substances harmful to waters (e.g. fuels for construction machinery) on the construction site near the watercourse (Robovska river). Organize proper handling and storage.</li> <li>• The road should be kept clean and tidy to prevent the build-up of oil and dirt that may be washed into a watercourse or drain during heavy rainfall</li> </ul>	
	Soil pollution The compaction of soil can be expected due to vehicle movement, ground contamination from the spillage of materials such as vehicle fuel, motor oils, asphalt and inert waste.	Local within the villages Pancarevo and Robovo / Short-term impact/ Minor	<p>The possible mitigation measures for minimization of the soil pollution could be:</p> <ul style="list-style-type: none"> <li>• Transportation vehicles should be enclosed to avoid potential leakage</li> <li>• Promptly clean-up spills of transported material on public roads and construction sites</li> <li>• Proper positioning of the water drainage system on the construction site</li> <li>• Not to keep fuel, oil or lubricants along the alignment, especially not in the vicinity of draining structures</li> </ul>	Contractor – Bidder Supervisor
<i>No environmental impacts are expected during the Operational phase</i>				



## B. MONITORING PLAN

What  Parameter is to be monitored?	Where  Is the parameter to be monitored?	How  Is the parameter to be monitored?	When  Is the parameter to be monitored (frequency of measurement)?	Why  is the parameter to be monitored?	Cost		Responsibility	
					Construct ion	Operati ons	Construction of three roads in two villages located in the Pehchevo municipality	Operation s of the street
Project stage: Start up of the construction works (marking out the construction site)								
Traffic Management Plan prepared	On the construction site	Visual check and reporting to the municipal staff	At the beginning of the project activities (before the works start)	To ensure safety and easy re-route of the traffic across and around roads			Contractor - Bidder /Supervisor Communal inspector at the Pehchevo municipality/Traffic Engineer	
The safety protection measures applied for the residents of two villages and children from the village Pancarevo	On the construction site along the route	Visual checks	At the beginning of the construction work (first day) Every working day during the project activities	To prevent community health and safety risks – mechanical injuries			Contractor - Bidder /Supervisor Communal inspector at the municipality/ Environmental Inspector	
The occupational health and safety measures applied for the workers	On the construction site	Visual check	Before start of the project activities and each of working day	To avoid occupational and safety risks (injuries)			Contractor - Bidder /Supervisor Communal /Environmental Inspector at the Municipality	
Project stage: Construction of three roads in two villages located in the Pehchevo municipality (villages Rabovo and Pancarevo)								
Fulfilled Annual Report on transportation and disposal of	Local self-government administratio n	Review of documentation – Identification waste List	After the accomplishment the task of collection, transportation of waste	To improve the waste management on local and national level To be in compliance with			Mayor /Director of the CSE “Komunalec” - Pehchevo	

What  Parameter is to be monitored?	Where  Is the parameter to be monitored?	How  Is the parameter to be monitored?	When  Is the parameter to be monitored (frequency of measurement)?	Why  is the parameter to be monitored?	Cost		Responsibility	
					Construct ion	Operati ons	Construction of three roads in two villages located in the Pehchevo municipality	Operation s of the street
waste			on daily/monthly basis	national legal requirements				
Noise level	On the site	Monitoring of the noise levels dB (A) with appropriate monitoring devices	On regularly basis during the work, through site visits, in accordance with the national legislation	To monitor if the noise level is above/or below the acceptance noise level for that type of areas - II exposure area for noise protection as residential district (55dB during the day and evening time and 45dB during the night). The 50 dB should be applied for construction of street "1" in Pancarevo near the kindergarten.			Contractor – Bidder Company authorized to performed noise levels measurements sub-contracted by the Contractor – Bidder	