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Republic of Macedonia
Municipality Kriva Palanka

Project Appraisal Document

Construction and reconstruction of various streets
in the city Kriva Palanka and provision of the new
equipment for public services

World Bank

Municipal Services Improvement Project

Skopje, November 2012

1 PROJECT DESCRIPTION

1.1 General Information on the Municipality of Kriva Palanka

The Municipality Kriva Palanka is situated on the south-east part of the Republic of Macedonia (see picture 1) with 400 m average altitude and maximum 2252 m on the top Ruen of Mountains Osogovski, spreading on an area of 480,81 km².

Picture 1. Municipality Kriva Palanka in the Republic of Macedonia



Source: Ministry of local self – government of the Republic of Macedonia

The Municipality Kriva Palanka has 20820 inhabitants (revised Census data from 2005) in the 480 km² area, including the city Kriva Palanka and 33 villages: B's, Bastevo, Borovo, Varoviste, Gabar, Golema Crcorija, Gradec, Dlabocica, Dobrovnica, Drenak, Drenje, Duracka reka, Zidilovo, Kiselica, Konopnica, Kostur, Kosari, Krklja, Krstov dol, Lozanovo, Luke, Mala Crcorija, Maritnica, Metezevo, Mozdivnjak, Nerav, Ogut, Osice, Podrzi Konj, Stanci, T'lminci, Trnovo and Uzem.

The Municipality Kriva Palanka has mean continental climate with mean cold winter, mean hot summer, fresh spring and relative cold autumn according to the geographic disposition and influences from Aegean Sea through the Kriva river.

The high parts of Osogovski mountain have steppe climate.

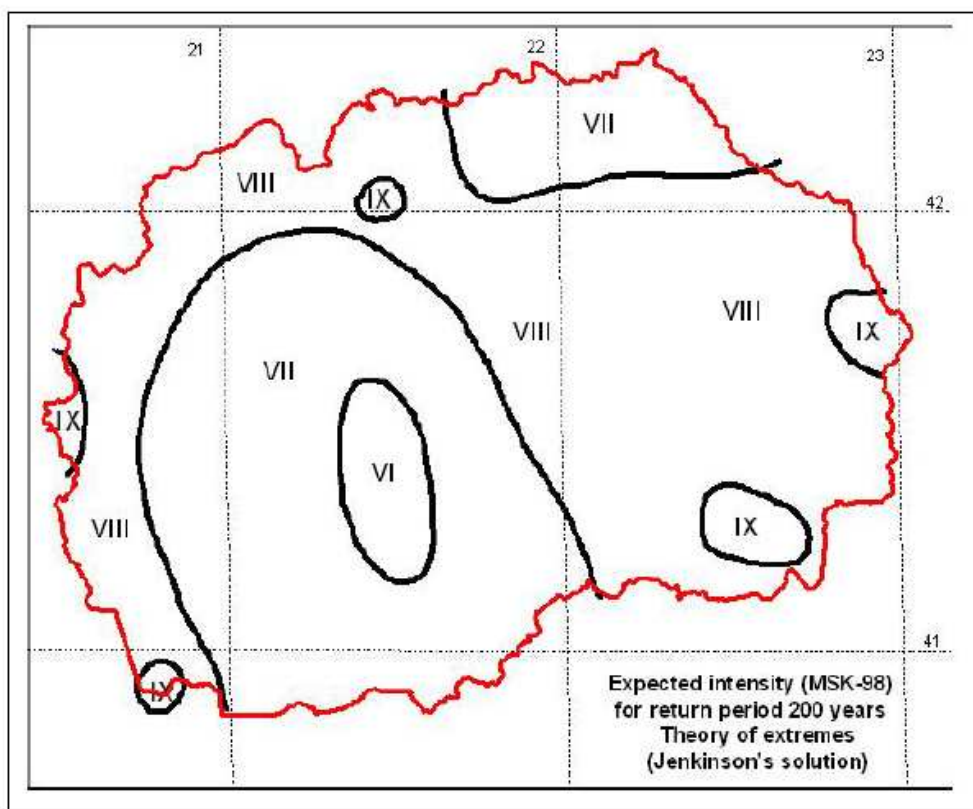
The average annual temperature is 10.2°C. The warmest month is July with average temperature of 30°C. The extreme cold month is January with average temperature of -0.3°C. The temperature variations are 20.3°C through the whole year.

There are many rains in the area of Kriva Palanka. The main reason is the high height which is the natural condensate for water steam.

The average date for the first snow falls is 30 november. The mountain tops: Uen and Carev Vrv have snow cover from October to the beginning of June.

According to the seismic repartition, the Municipality Kriva Palanka belongs to seismic zone with maximum intensity of earthquake of VII degrees, which is important factor for a seismic design of structures such as retaining walls and bridges.

Picture 2. Expected intensity of earthquakes in the Republic of Macedonia



Source: MSK – 98 Seismic scale

1.2 Demographic and economic profile of the Municipality Kriva Palanka

According to the revised 2005 Census, the total number of inhabitants is 20820 with a natural growth rate of 2.4. The total number of households is 6600, while the average number of households' members is 3.6. There are approximately 120 km of local roads and 7 primary health protection centres. Additionally, there is one high school, 2 primary schools in the city Kriva Palanka and 12 schools in the area. There are 132 small children in the three buildings of a children nursery at the age to 6 years. As regards economy, there are 448 active enterprises according to the State Statistical Office data. The rate of employment is 50.6%, while the unemployment rate 49.4% of the economy active inhabitants. The women activity rate is 46.3%. The main macroeconomic indicators of the Municipality Kriva Palanka are provided in the following table:

Table 1. Main macroeconomic indicators of the Municipality Kriva Palanka

Demography	Municipality Kriva Palanka	Republic of Macedonia
Total Population	20,820	2,022,547
Natural growth rate	2.4%	2.5%
Total number of households	6,600	506,203
Average number of households members	3.60	3.58
Percentage of households connected to the public water supply system (related to the total number of households),	84.5%	85.5
Percentage of household connected to the sewerage system (related to the total number of household),	72.38%	59.8
Infrastructure		
Local roads	120km	n.a
Number of locations in primary health protection	7	n.a
Education		
Regular primary Schools in school year 2009/2010	14	1,046
Children at age 0-6 that attend children nursery	132	n.a
Population literacy at age 15 and more	17,110	1,693,044
Economy		
Number of business subjects – active	448	70,710
GDP per capita (US\$)**	n.a	2,855
Employment		
Employment rate (percentage of employed in working-age population – age 15-64)	50.5%	62
Activity rate	50.9%	47.2
Activity rate of women	54.0%	36.1
Unemployment rate (percentage of unemployed from the labour force)	49.4%	32.0

Source: State Statistical Office, Revised Census Data 2005, Municipality Kriva Palanka, Pension and disability insurance Fund, Central registry of the Republic of Macedonia

The following table represents the age distribution in the total population.

Table 2. Age repartition

Repartition	Municipality Kriva Palanka	
	Number	Percent
0 - 14	4,351	20.9
15 - 65	14,283	68.6
Above 65	2,186	10.5
Total:	20,820	100

Source: State Statistical Office, Revised Census Data 2005

The following table represents the gender repartition in the total population. As it can be seen, 53.7% of the total population in the Municipality are male, while 46.3% are female, which means that male population is dominant.

Table 3. Gender repartition

	Municipality Kriva Palanka		Republic of Macedonia	
	Male	Female	Male	Female
Number	11,180	9,640	1,015,377	1,007,170
%	53.7	46.3	50.2	49.8

Source: State Statistical Office, Revised Census Data 2005

The prevailing population is the urban one, it means that around 69.9% of the total population is settled in the urban area of Kriva Palanka (see table 4.)

Table 4. Urban repartition

Repartition	Municipality Kriva Palanka		Republic of Macedonia	
	Number	Percent	Number	Percent
Urban	14,553	69.9	1,169,032	57.8
Rural	6,267	30.1	853,515	42.2
Total	20,820	100	2,022,547	100

Source: Programme for development of South-east Planning region (2009-2014) and State Statistical Office, Revised Census Data 2005

In relation to the ethnic affiliation of the citizens, the prevailing population in the Municipality Kriva Palanka are Macedonians, representing 96% of the total population (see table 5). It is important to note that each of the above ethnicities speaks its own languages in the informal communication. The officially used language in this Municipality is the Macedonian with its Cyrillic alphabet.

Table 5. Population repartition

Repartition	Municipality Kriva Palanka		Republic of Macedonia	
	Number	Percent	Number	Percent
Macedonians	19,998	96	1,297,981	64
Serbs	103	0.5	35,939	2
Roma	668	3.2	53,879	3
Vlachs	3	0.01	9,695	0
Turks	2	0.01	77,959	4
Bosniacs	2	0.01	17,018	1
Albanians	0	0	509,083	25
Others	44	0.2	20,993	1
Total	20,820	100	2,022,547	100

Source: State Statistical Office, Revised Census Data 2005, Municipality Kriva Palanka

Economic profile of the Municipality Kriva Palanka

Additionally, according to the SSO data, almost 2000 employees are hired in the mining industry, agriculture, textile industry and production of shoes. The other employees are hired in the processing of food, wood, plastic and metal. There are 448 active business subjects in the Municipality Kriva Palanka and 65 of them are hotels and restaurants.

When analyzing the labour market, the available data show that 8668 of the municipal population is considered economically active, of which 4,382 are employed, while 4,286 are unemployed. From the total number of the unemployed persons, 46% are female, while 54% are male.

Table 6. Activity rates

		Economically active			Economically inactive	Total
		All	Employed	Unemployed		
Municipality of Kriva Palanka	Number	8,668	4,382	4,286	8,346	17,014
	Percent	50.9	50.5	49.5	49.1	100
Republic of Macedonia	Number	743,676	460,544	283,132	833,325	1,577,001
	Percent	47	62	38	53	100

Source: State Statistical Office, Revised Census Data 2005

Finally, 8,346 persons are considered economically inactive, where 54% are male, while 46% are female.

1.3 General description of the Project

In general, the project assumes construction of the new bridge across the “Kukov dol” and construction/reconstruction of 9 various streets in the urban districts of the Municipality Kriva Palanka, in addition to storm-water network on four streets and drainage elements of other streets, as well as retaining walls on four of the streets, which are subject to this Appraisal. Then, the project assumes procurement of three vehicles for the purpose of CSE: construction machine, multifunctional machine with snow cleaning equipment, and tractor with a trailer and a plow for snow.

The technical design (see Chapter 4) is intended to be implemented in the urban area of the city Kriva Palanka i.e. in the central part and city settlements: Srkljava, Ilinden, Zitni, Lozanovo, Divjanska. Actually, the streets predicted for construction/reconstruction are:

str.”Nikola Tesla” – left branch, str. “Nikola Tesla”, str. “Divjanska” and str. “Pirinska”, graphically presented on the picture 2 and;

str.” Biljinska”, str. “Osogovska” (two branches), str. “Nasko Tamburkov”, str. “Kliment Ohridski”, str. “Goran Stojanovski”, graphically presented on the picture 3.

and new bridge across the “Kukov dol” is predicted for construction.

In addition, the project assumes construction of a storm-water network of streets: “Nikola Tesla“, “Biljinska”, “Nasko Tamburkov”, “Osogovska” and “Pirinska”. In the other streets predicted for construction/reconstruction, drainage elements are predicted to be connected directly in the existing drainage channels which are parallel to the streets or drainage elements are connected to the existing storm-water network of the nearest streets.

According to the mountain terrain configuration, reinforced concrete retaining walls are predicted to provide safety terrain stability and protection of existing houses on the streets: “Biljinska”, “Divjanci”, “Nasko Tamburkov” and “Osogovska”.

The total length of the 9 streets that are subject to this Appraisal is 2,664.47 m, varying in length from 111.0 m to 563.02 m, while the width of the street varies from 3.5 m to 5.0 m.

The streets are located in the urban area of the city Kriva Palanka i.e. in the central part and urban districts: Srkljava, Ilinden, Zitni, Lozanovo, Divjanska. According to the data available, there are approximately 220 households with 880 inhabitants, which is 4.2% of the total population in the Municipality Kriva Palanka. The streets are part of the Detailed Local Urban Plans (DLUPs hereinafter) for the urban districts and settlements which are adopted by the municipal Council. The DLUPs of the urban districts and settlements were used as a base for elaboration of the technical documentation of the Project. The new designed routes of the streets are drawn on the available DLUPs.

According to the existing situation and the information provided by the Municipality, 7 of 9 above mentioned streets have not upper-layer, actually they are unpaved roads. The other 2 streets have upper layer: street “Nikola Tesla” which is paved with cobblestones and street “Pirinska” which is in great stage of damaged asphalt. They are all in a very poor condition without appropriate drainage and road constructive elements. The infrastructure on the streets has fallen into such disrepair that an expansive construction and/or reconstruction is required, so as to extend their useful life. The main purpose of the proposed technical solution is to provide a long range improvement of the streets by maximizing the technical life of the surface, thus meeting the needs of the community in the Municipality Kriva Palanka.

In the Municipality Kriva Palanka there is a public enterprise “Komunalec” with the following main activities: water supply, arrangement and maintenance of gardens, collect and disposal of waste, maintenance of local roads in the whole Municipality Kriva Palanka, especially in the winter period.

Existing water supply system has 25 km length, built 40 years ago and it is amortized. So, there are many defects of the water supply system during the summer period when the consumption is higher. The public enterprise intervened to repair defects, but it does not possess the appropriate construction machines. So, many times, the public enterprise hired the private companies with construction machines, but with delay of interventions (appropriate machines are not available at the moment when is necessary) and higher costs. On this way, the public enterprise “Komunalec” has determined the need of procurement of: (1) one construction machine and (2) one multifunctional machine with snow cleaning equipment. The same machines will be used to clean the irregular landfills, civil works on the regular city landfill etc.

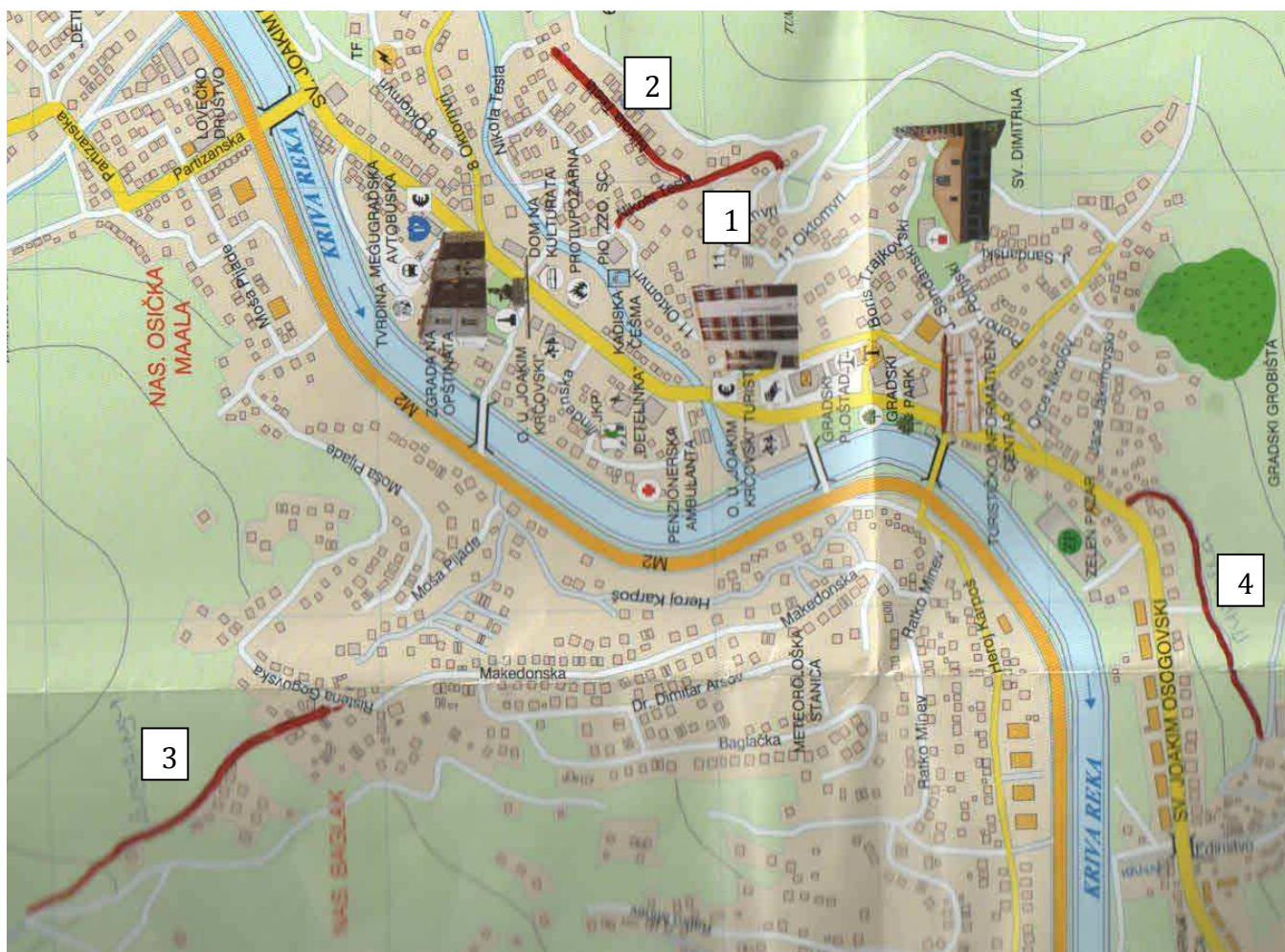
For maintenance of local roads in the whole Municipality Kriva Palanka, actually town Kriva Palanka and 33 villages, especially in the winter period, the public enterprise “Komunalec” has determined the need of procurement of: (3) one tractor with a trailer and a plow for snow.

The objectives of the technical solution of the project are as follows:

- to provide traffic comfort, convenience and safety for the pedestrians and traffic by improving the surface on the 9 streets and sidewalk on the street “Kliment Ohridski”, as well as their carrying characteristics;
- to ensure that there is no stormwater inundation of the streets by construction of storm water networks of the streets: “Biljinska”, “Nasko Tamburkov”, “Osogovska” and “Pirinska” and drainage elements and outlets of the streets: “Divjanci”, “Goran Stojanovski”, Kliment Ohridski”, Nikola Tesla” and “Nikola Tesla” – left branch;
- to provide adequate retaining structures – reinforced concrete walls to satisfy stability of terrain of the streets: “Biljinska”, “Divjanci”, “Nasko Tamburkov” and “Osogovska”.
- to construct a new reinforced concrete bridge across the “Kukov dol”, to provide better traffic communication between the city settlement “Lozanovo” and central part of city Kriva Palanka.
- To improve the public services in the Municipality Kriva Palanka by provision of appropriate machines for: maintenance and repairing of defects on the water supply system, collection of waste from the irregular landfills, civil works on the regular landfill, maintenance of local roads in the winter period in the city of Kriva Palanka and 33 villages in the Municipality.

The benefits expected from the implementation of this project are related to increasing the traffic safety and comfort, increasing the traffic capacity and communications, ensuring a feeling of security by pedestrians, enhancing the commercial activities, as well as extending the outdoor social and recreational activities for the residents living on the streets. The present condition of the streets causes frequent interruption of public transport services and forces the citizens to search for alternative routes, which ultimately results in fall of productivity. Additionally, the implementation of the project is expected to lead towards reduction of the municipal costs for constant repairs of the streets to fill the holes with soil (tampon). Once the project is implemented, the Municipality will spend less money for repairs and reallocate them to other municipal services. The implementation of the project is also expected to increase the property value for houses and other residential or commercial objects on the streets, thus increasing the growth of revenues from property taxes. Improvement of public services is related to the reduced costs in the public enterprise “Komunalec” and reparation of defects and snow cleaning, on time. The 72 employees in the public enterprise will be enough to perform the above mentioned public services with the new equipment.

Picture 2. The municipal area concerned with the Project

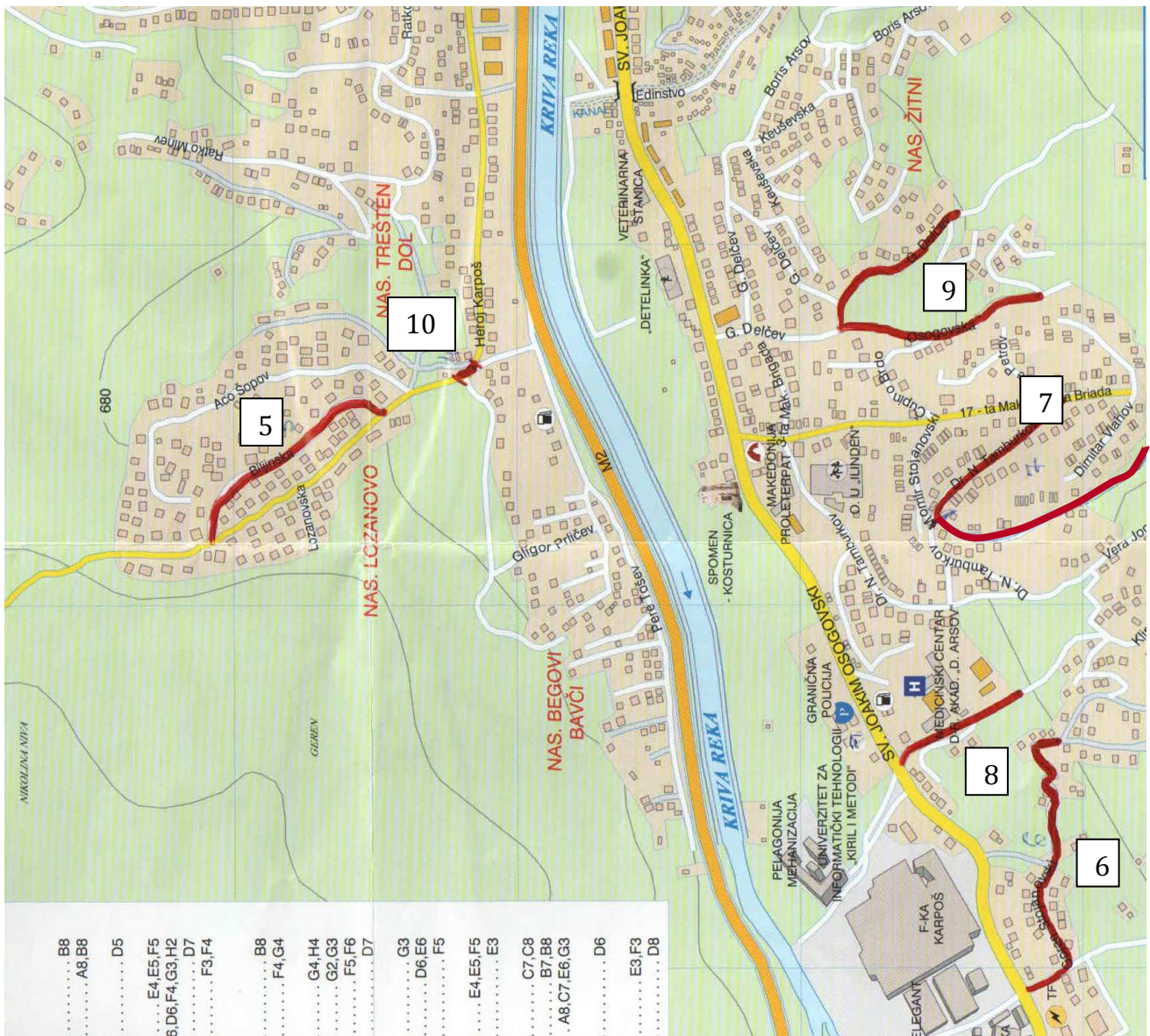


Source: Municipality Kriva Palanka

*Note: The municipal streets that are subject of this appraisal are marked in red.

- 1 – str. “Nikola Tesla”
- 2 – str. “Nikola Tesla” – left branch
- 3 – str. “Divjanci”
- 4 – str. “Pirinska”

Picture 3. The municipal area concerned with the Project



Source: Municipality Kriva Palanka

*Note: The municipal streets that are subject of this appraisal are marked in red.

- 5 – str. “Biljinska”
- 6 – str. “Goran Stojanovski”
- 7 – str. “Nasko Tamburkov”
- 8 – str. “Kliment Ohridski”
- 9 – str. “Osogovska” (two branches)
- 10 – new bridge across the “Kukov dol”

Strategic Interest of the Municipality Kriva Palanka to implement the Project

If implemented, the Project will contribute towards accomplishment of the strategic goals in the area of infrastructure of the Municipality Kriva Palanka. As elaborated in the Programme for development of the South-East Region (2009-2014), the highest strategic priority in the area of improvement of the municipal infrastructure is improvement of the existing network of local roads and streets and construction of a new one where it is deemed necessary.¹ The Mayor and the municipal administration strive to achieve full coverage of a transport, communal (utility) and electricity infrastructure throughout the municipal territory. It can be inferred that the achievement of the above elaborated goal will undoubtedly contribute towards improvement of the quality of life and well – being of citizens of the Municipality Kriva Palanka.

Knowledge and Experience of the Municipality Kriva Palanka to implement the Project

The knowledge and experience needed for successful implementation of the Project are related to project management, technical knowledge and execution of procurement practices. The Municipality Kriva Palanka, the competent authority in this Project, has participated in a wide variety of large construction or other type of projects with different investors, whereby the Municipality allocated the land and provided the investors with technical services, and gained in return new businesses on its territory or improved housing facilities, schooling facilities, wastewater networks and treatment. The Municipality has implemented several Projects for improving municipal services supported from the European Commission, European Investment Bank, UNDP, USAID, Swiss Agency for Development and Cooperation and others. It can be inferred that the Municipality is able to contribute with the necessary experience to large construction Projects such as the rehabilitation and reconstruction of various streets in the urban districts of the Municipality Kriva Palanka envisaged to be financed from the World Bank MSIP funds to the Government of the Republic of Macedonia.

1.4 Concluding remarks

The Project is inline with the Programme for development of the South-East Region (2009-2014) and it will contribute towards achieving the vision of the municipal administration for providing full coverage of a transport, communal and electricity network throughout the municipal territory of Kriva Palanka. In the above mentioned Programme, 6 municipalities are considered with their visions for development of south-east region of the Republic of Macedonia.

The relevance of the Project results from the fact that 4.2% of the total population lived along the streets and approximately 8% of total population is influenced by negative implications of the inadequate surface of streets and sidewalks, in addition to stormwater due to lack of storm-water network and an inadequate terrain stability without retaining structures.

The proposed technical solution is inline with the existing standards and regulations for this kind of projects. The knowledge and experience needed for successful implementation of the Project are related to Project management, technical knowledge and execution of procurement practices. Municipality Kriva Palanka has implemented various similar Projects in the past, some of which in collaboration with international institutions, which implies that the Municipality is able to implement large construction Projects such as the rehabilitation

¹ Programme for development of the South-East Region (2009-2014)

and/or reconstruction of various streets and construction of the new bridge in the urban districts of the Municipality Kriva Palanka.

2 SOCIAL IMPACT

2.1 Methodology

The methodological approach was based upon the methodological concept of World Bank summarized as Five Entry Points, One Result. This concept requires exploration of five components - social diversity and gender, institutions, rules and behaviour, stakeholders, participation and social risk. The Assessment anticipated field research to get available information on interests and attitudes of stakeholders. Unfortunately, the time and resources constraint, did not admit field application of all instruments for data collection such as survey, meetings with focus groups, thus the research is reduced to relevant secondary data from the Municipality Kriva Palanka and face-to-face interviews with four officials (the Mayor: Arsenco Aleksovski, the Head of the Department for Urban and Communal Utilities: Aleksandar Angelov, Advisor and civil engineer: Nikola Gramatikov and the Head of Department for financial issues in the Municipality Kriva Palanka), who gave their opinions about the role and influence of various stakeholders in the process of decision making relevant to the Project, as well as the level of information, capacities and readiness of the citizens to support the Project.

Taking their delegation and duties into account, the above mentioned officials proved to be useful interpreters of the opinions of the citizens since being their representatives and having frequent meetings with them, they are very familiar with the needs, attitudes and opinions of the local population.

Nevertheless, the weakness of this approach lies in its indirectness. More precisely, the indirect way of getting information on this issue, plus possibility of subjective approach among some of the interviewees decreases the level of accuracy of the public opinion in this respect. However, the answers from the interviews are very indicative and give a very good insight in the local processes relevant to the Project.

2.2 Social diversity and gender

Like in the other Municipalities in the country, in the Municipality Kriva Palanka, citizens are organized into various social groups based on their status prescribed at birth (ethnicity, gender, language, etc.). From the demographic data presented in Chapter 1, the following can be seen:

- The age groups are mainly distributed in the age of 15–65. The data show that this is the case on a country level as well;
- The life births number in the Municipality is growing on an annual basis. The data show that this is the case on a country level as well;
- There is unequal representation of male and female in the total population in the Municipality - male population is dominant with share of 53.7%;
- The prevailing population is the urban one (69.9% of the total population in the Municipality is located in the urban area);
- The prevailing nationality in the Municipality Kriva Palanka is the Macedonian, representing 96% of the total population;

- Each of the ethnicities in the Municipality speaks its own languages in the informal communication. The officially used language in the Municipality is Macedonian with its Cyrillic alphabet;
- 84.50% of the households are connected to the public water supply system and 85.5% on a country's level;
- 72.38% of the households are connected to the public sewerage system, opposite to 59.8% on a country's level;
- There is no public heating system in the Municipality Kriva Palanka;
- There are 448 active business subjects in the Municipality, opposite to 70,710 in the country;
- The activity rate of women in the Municipality is 54%, opposite to 36.1% in the country;
- The unemployment rate in the Municipality is 49.4%, opposite to 32.0% in the country.

Asked about the number of beneficiaries of the projects, the interviewees expressed their opinion that all of the citizens in the Municipality will be beneficiaries of the Project. However, the citizens who live on the streets: "Nikola Tesla", "Nikola Tesla" – left branch, "Divjanska", "Pirinska", "Biljinska", "Goran Stojanovski", "Nasko Tamburkov", "Kliment Ohridski", "Osogovska" and nearly the new bridge across the "Kukov dol" located in the central part and the urban Districts of Srkljava, Ilinden, Zitni, Lozanovo, Divjanska, can be considered as direct beneficiaries of the Project. According to the data available, 880 inhabitants live on these streets, which is 4.2% of the total population in the Municipality Kriva Palanka. The real assumption is that approximately 10% of total population are citizens who live in the 5 above mentioned urban districts and they are direct and indirect beneficiaries of the Project.

2.3 Institutions, rules and behaviour

According to the interviewees' opinions the selected contractor must provide guarantees for the realization of the Project. The Municipal Council might request information from the Mayor in reference to the Project's realization at any time. In addition, based on experience with other Projects and the overall existing local road and streets network in the Municipality Kriva Palanka, the municipal administration has the capacity to maintain the streets after the implementation of the Project. In addition, the Municipality has an administration and civil engineers who have experience to monitor the progress of the Project.

2.4 Stakeholders

There are several important stakeholders of the Project. The interviewees fully agree that the most influential participants in the process of decision making at the municipal level are the Mayor and the Municipal Council. In addition, potentially influential stakeholder in Kriva Palanka is the business sector. The nongovernmental organizations (NGOs hereinafter) are influential to some extent, but not as much as the former. Citizens, as an organized group of stakeholders, articulate their opinion directly to the Council and the Mayor, through the local communities present in every District and they are not very influential stakeholder in the municipal decision making, although their opinion is always taken into consideration.

The interviewees stated that the Project is supported by the Councillors representing different political parties in the Municipal Council, which means that a political consensus is

achieved on this issue and that the Councillors consider this Project one of the top priorities of the Municipality Kriva Palanka. In respect to the citizens, the opinion of most interviewees is that all of the citizens support or will support the Project, because it is in the general interest of municipal community. With regards to citizens' support of the Project, it is worth mentioning that under the initiative of the Municipality Kriva Palanka an analysis of the business environment and the overall quality of life and communal living in the Municipality Kriva Palanka. A relevant part of the methodology for this analysis was a questionnaire which was undertaken on the municipal territory during the period of June/September of 2012, where various business entities and citizens were interviewed. According to the results of the questionnaire, the citizens and the business entities have chosen the transport infrastructure (road and street network) and communal infrastructure to be of highest importance for improvement of the overall community living in the Municipality Kriva Palanka (see table 7 below). This adds to the level of relevance of the Project.

Table 7. Features which will contribute towards improvement of the community living according to their level of importance

Feature	of high importance	of little importance	Not very important	Not important
Transport infrastructure (road and street network)	28	1	1	0
Communal infrastructure	20	5	5	0
Public services	18	6	5	1
Parks and green areas	9	15	2	4
Recreational utilities	14	11	3	2

Source: Municipality Kriva Palanka

Influential stakeholders are the Mayor and the Councillors representing different political parties. As implied earlier, this Project has been supported by the Councillors adding additional weight to its relevance.

The NGOs have some influence, but since this Project will promote environmental protection and improvement of the quality of life in the Municipality Kriva Palanka, the NGOs are expected to be in favour of the Project.

The citizens in the urban Districts of Srkljava, Ilinden, Zitni, Lozanovo, Divjanska have frequently submitted their complaints about the current situation in the streets that are subject to this Appraisal, which again implies that the citizens are fully in favour of the Project. As elaborated earlier, since this Project is expected to influence the overall living standard in the Municipality, it is expected that the citizens will support the Project.

2.5 Participation

It is decided that the loan will be repaid from the municipal Budget in the following years. The answers of the interviewees were unanimous that there is no need for any kind of voluntary participation or financial contribution of the citizens.

2.6 Social risks

High social risks for carrying out the Project cannot be perceived. In the Municipality Kriva Palanka, the Municipal Council consists of 19 Councillors from 6 political parties. Out of the total number of Councillors, 12 support the Mayor while 7 are in opposition. In spite of their political orientation, the Councillors cannot endanger the realization of the Project because it is a part of the adopted DLUPs for the city Kriva Palanka and urban Districts which are adopted by the City's Council. The Project is also a part of the Annual Program for Communal Services of the Municipality Kriva Palanka. As elaborated earlier, the Councillors

have already expressed their support for the Project and for raising a loan for its implementation by official decision adopted on the meeting of City's Council.

Interviewees presented a wide range of priorities in many fields that are within the local government competencies. They identified: the construction or rehabilitation of infrastructure (communal) facilities, improvement of public services, the local economic development, increasing the employment rate, construction of water supply and stormwater network, use of renewable energy sources, improvement of social aid and social protection to vulnerable groups, promotion of education and agriculture, etc. Without exception, all of the interviewees said that one of the highest priorities is improvement of the transportation (road and streets) network throughout the Municipality Kriva Palanka, emphasizing the necessity of rehabilitation and reconstruction of the streets in the 5 urban districts that are subject of this Appraisal in particular. Also, the improvement of public services is one of the high priority for many interviewees.

Additionally, it was discussed in detail whether the citizens are fully informed of the intended reconstruction and rehabilitation of the streets that are subject to this Appraisal and the ensuing financial repercussions on the Budget of the Municipality Kriva Palanka. The interviewees believe that the citizens are informed in detail about the Project. Their arguments are based on the fact that this Project is part of the previously designed DLUPs for the Districts of Srkljava, Ilinden, Zitni, Lozanovo, Divjanska, which is also a part of the annual Programme for communal utilities. The DLUPs have been prepared over a long period and they were a subject of a public debate. In addition, the interviews highlighted the frequent complaints by the citizens of the urban Districts about the current state of the streets that are a subject of this Appraisal, which implies that the citizens are fully informed about the implementation of this project.

One very important question that was discussed is related to potential *feeling of inequality among the citizens and possibility they could endanger the realization of the Project in order to get some personal or group benefits?* The interviewees stated that the population in the rural areas will be direct beneficiaries of the Project, too, especially with improved approach to the local roads in the winter period by usage new machines in the public enterprise "Komunalec". So, the improvement of the quality of life in the Municipality is general and it should be in favour of the Project. It is also important to state that the Municipality has the intention to improve the transportation network in all of the settlements. It solves the problems that were persistent for many years. Those, who will not be covered by this Project, can expect that will be provided with such public good subsequently. With the implementation of this strategically important Project, the municipality is sending a strong signal that plans to solve the essential issues on the whole municipal area, such as: removing of irregular landfills, better maintenance of public water system with 25 km length and better maintenance of local roads in the villages and city. The interviewees unanimously expressed their opinion that any special technical or economic obstacles and difficulties in the maintenance of the Project could not be expected. They referred to both the implementation phase and the operation's and maintenance phase.

Since the streets that are subject for reconstruction to this Appraisal are set on municipal (state) property, thus no expropriation issue is expected to be raised.

2.7 Other considerations

The construction and reconstruction of the streets in the urban districts of the Municipality Kriva Palanka that are subject to this Appraisal, is expected to improve the overall community living in the Municipality Kriva Palanka. The provision of the new equipment for public services with this Project is expected to create savings in the item of the municipal budget and budget of the public enterprise "Komunalec" on the long-term basis. The implementation of the project is also expected to improve local public finances in a sense

that once the streets are being constructed and reconstructed, the Municipality will spend less money for repairs and reallocate them to other municipal services. Moreover, increased property value as a result of the improved infrastructure and public services will result in growth of revenues from property taxes.

2.8 Resettlement issues

This Project is not a subject to resettlement issues because the project involves construction and reconstruction of already existing streets in the urban districts on the municipal territory.

2.9 Concluding remarks

The Project is expected to be socially successful for the following reasons:

- the Project is relevant because it is considered both as cost-efficient and cost-effective over a long run and also useful for the improvement of the community living in the Municipality Kriva Palanka;
- the Project is of a highest municipal priority for the public administration and for citizens;
- the stakeholders are very motivated by the realization of the Project;
- none of ethnicities is concentrated so to prevent the Project realization in case of their discontent;
- the Project does not bear very high financial burden in comparison to the Budget and the population is not placed into a position to contribute financially, so there is no cause for conflict on this point;
- the Project is not a subject to resettlement issues;
- no expropriation issue is expected to be raised during the implementation of the Project;
- significant improvement in performing of public services in the whole Municipality is expected, by provision of new equipment for public enterprise needs.

3 ENVIRONMENTAL IMPACT

The project consists of several sub-projects located within the urban zone of City of Kriva Palanka:

- a) Construction of the new concrete bridge across the location “Kukov dol” on the local road Kriva Palanka – settlement Lozanovo. The bridge will be 8m long, 8.5m width and the street will be 6m width with 2 side walk paths with 2.5m width;
- b) Construction/reconstruction of 9 various streets in the urban districts of the City of Kriva Palanka including : 1) construction of storm-water network on four streets and drainage elements to all other streets and 2) construction of retaining walls on four of the streets;
The construction of the following streets will be done with appropriate upper-layers (new tampon layer and new asphalt layer): “Nikola Tesla” – left branch with length of 111.00 m, “Divjanska” (240.33 m), “Biljinska”(261.95 m), “Osogovska” (two branches in length of 563.02 m), “Nasko Tamburkov” (213.00 m), “Kliment Ohridski”(307.25 m), “Goran Stojanovski” (356.31 m).
The reconstruction activities will be applied to 2 existing streets: “Nikola Tesla”(209.00 m) where there is a upper-layer of cobblestones and the existing street “Pirinska” (320.19 m) where there is a damaged upper-layer of asphalt.
The total length of all 9 streets which need to be constructed/reconstructed is 2664.47 m. The location of all streets and the bridge are provided in Chapter 1.3 General description of the Project (Picture 2 and 3).
- c) Procurement of three vehicles for the purpose of Public Communal Enterprise “Komunalec”: construction machine SKIP, multifunctional machine with snow cleaning equipment and tractor with a trailer for snow.

The construction envisages: a) road base coarse layer with a thickness of 25-30cm and b)setting of a new one-layer asphalt BNHS 16a (bituminous asphalt bearing layer) with a thickness of 7cm. The reconstruction envisages: a) removing of the existing upper-layer, b)setting of a new road base (tampon) layer of crushed stone 25-30 cm thickness, c) asphalt layer - BNHS 16a (bituminous asphalt bearing layer) with a thickness of 7cm.

The construction of the storm-water networks (PE corrugated pipes, class SN8, street gullies and inspection manholes), drainage elements and construction of retaining reinforced concrete walls are designed to ensure terrain stability and protection along several streets is also proposed.

All streets are dispersed through the urban living and administrative area (near by the green bazaar, municipality building, elementary schools, hospital, museum, veterinary station, industrial plants) within City of Kriva Palanka. The location of the streets are on left and right side of the river Kriva Reka which is passing through the town, but all of them are far from the river banks.

The environmental impacts are expected on short-term basis- during the construction/reconstruction 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 very urban area and surrounding of the project sites. The major impact is expected as a result of improper waste management with different waste streams, noise from the outdoor equipment (especially near schools, houses and hospital) and pollution of ambient air. The impacts are minor and with very locally significance.

In order to prevent the adverse environmental impacts and to ensure regular transportation of goods and people across the town (extremely important because 10 construction sites will be active during several months affecting the regular traffic) 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 directions and time schedule. The Information note/Press release about the project activities (start, timeframe and re-routes should be put in public) need to be prepared by the Municipality staff and announced via local TV/radio/newspaper.

Other mitigation measures need to be applied before and during construction/reconstruction activities and they are included within the following Environmental Mitigation Plan. The main responsibility for implementation of the mitigation measures lay to the Sub-contractor and Supervisor (nominated by the Municipality) on daily basis. Some of the measures should be applied by the municipality staff (announcement of the traffic regime, recording the waste quantities).

For the procurement of the vehicles for the PCE “Komunalec” , the noise specification(to be in compliance with EU Directive 2000/14/EC - noise level lower than 102 dB (A)) and the regular maintenance of the vehicles are crucial for minimization of the environmental and occupational safety risks.

The monitoring tasks are mainly dedicated to the Supervisor and an Environmental inspector who needs to control the implementation of the mitigation measures together with his colleagues from other departments (communal inspector, traffic engineer, urban planners). Important role has also the Public Utility Enterprise “Komunalec”, which main tasks will be proper waste management (collection, transportation and final disposal of waste on the landfill in Konopica village (3 km far from the town) and landfill for inert waste. The Director and Technical staff of the PCE are responsible for regular maintenance of the vehicles, regular service and to keep them clean.

According the national legislation, The Environmental Impact Assessment Report was prepared in September 2012 (Company “Technolab” – Skopje) and adopted by the Municipality of Kriva Palanka. The Report contains the main project goals, project activities, photos of the locations where the construction/reconstruction activities will be performed. The Report provides general environmental mitigation measures and present Monitoring Plan.

The Environmental Mitigation Plan and Monitoring Plan are presented in Tables 3.1 and 3.2.

3.1 Mitigation plan

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
Marking out the route for construction/re construction sites in City of Kriva Palanka and the bridge on location “Kukov Dol”	Possible adverse social and health impacts to the population, drivers and workers due to: <ul style="list-style-type: none"> - Lack of ensured safety measures at the start of construction works - Injury passing near by the construction sites (especially near schools) - Not compliance with strict occupational health and safety standards and work procedure - Inappropriate public access 	Local/within the City of Kriva Palanka Short term during the construction/re construction Major impact	<ul style="list-style-type: none"> • Preparation of the Traffic Management Plan together with the municipal staff • Announcement the start of project activities via local radio/TV station/local newspaper • Information provide on daily basis on traffic access near the project sites • Ensure the appropriate marking out the construction site /section by section (where it is possible to be done) • Fencing the construction material near the streets • Warning tapes and signage need to be provided • Forbidden of entrance of unemployed persons within the warning tapes • Community and Worker’s OH&S measures should be applied (first aid, protective clothes for the workers, appropriate machines and tools) • Machines should be handled only by experienced and trained personnel, thus reducing the risk of accidents • Constant presence of fire fighting devices should be ensured in case of fire or other damage; • Flammable liquids may be placed and kept exclusively in vessels constructed for that purpose; • Pouring of flammable liquids and gasses may be done only be trained persons and by using devices specially designed for that purpose; • Larger quantities of flammable liquids should not be kept on the site along the alignments; • 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 	<ul style="list-style-type: none"> • Contractor – Bidder • Supervisor • Municipality staff (Communal Inspector/Environmental Inspector/Traffic Engineer)

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
			<ul style="list-style-type: none"> used for extinguishing fires • Devices, equipment and fire extinguishers should be always functional, so in case of need they could be used rapidly and efficiently; • Fire extinguishers should not be used for other purpose except for extinguishing fires, for training and for other possible accidents. They should be labeled with guidelines for their use and handling; • Provision of portable toilets on the construction site; • The street and around sidewalks/small streets should be kept clean 	
Construction/ Reconstruction of the streets	Limited, short-term adverse environmental impacts could be expected due to effects on several environmental elements:			
Construction of storm sewage networks and drainage elements	a) Landscape and visual environment	Local within the particular settlements where the activities are performed (short term /minor	<ul style="list-style-type: none"> • Minimization of the construction area as much as possible (carefully planning and design of the project activity according the Traffic Management Plan) • Clean up of the construction site immediately after accomplishment the work at each section • 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 measures) 	<ul style="list-style-type: none"> • Contractor – Bidder • Supervisor • Municipality staff (Communal Inspector/Environmental Inspector/Traffic Engineer)
Construction of reinforced concrete retaining wall on several streets	b) Air quality	Local within the City of Kriva Palanka / short term/minor	<ul style="list-style-type: none"> • Reconstruction site, transportation routes and materials handling sites should be water-sprayed on dry and windy days; • Construction materials should be stored in appropriate places covered to minimize dust; • Vehicle loads likely to emit dust need to be covered • Usage of protective masks for the workers if the dust 	<ul style="list-style-type: none"> • Contractor – Bidder • Supervisor • Municipality staff (Communal Inspector/Environmental
Construction of Reinforced Concrete Bridge on location	The construction/ reconstruction activities will generate emissions into air mainly the dust-suspended particulates (PM)			

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
“Kukov Dol”	Traffic congestion will be caused as well causing changes in existing traffic circulation especially because it is very urban area		<p>seems to be appeared</p> <ul style="list-style-type: none"> • Restriction of the vehicle speed within the construction location 	Inspector/Traffic Engineer)
	<p>c) Noise and vibration</p> <p>The construction/reconstruction activities will cause noise and vibration due to the outdoor machinery and vehicles used</p>	Local within the center of City of Kriva Palanka / short term/minor	<ul style="list-style-type: none"> • For each of the construction sites the area should be identified according the Law on noise protection (if it is a residential, industrial, commercial area) in order to define the noise level legal requirements • The national regulation on noise level for each area (noise level areas - I, II, III and IV) should be followed • The noise limit for zone I - residential and public health and education area should be 40 dB during the night and 50 dB during the day and evening, noise limit for zone II - commercial and business area is 45 dB during the night and 55 dB during the day , noise limit for zone III is and 60 dB during the day and evening and below 55 dB during the night for the commercial area and in the range 70-60 dB for the area out of residential and commercial areas • The construction work should be banned during the nights, the operations on site shall be restricted to the hours 7.00 -19.00 • The vehicles that are excessively noisy due to poor engine adjustment should not be operated until corrective measures have been taken • The location of noisy equipment should be chosen as far as possible away from sensitive receptors (houses, workplaces, schools and hospitals); • The workers should be provided with ear protective devices (ear muffs and/or ear plugs); • The good management practice should be kept on 	<ul style="list-style-type: none"> • Contractor – Bidder • Supervisor • Municipality staff (Communal Inspector/Environmental Inspector/Traffic Engineer)

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
	<p>d) Waste management</p> <p>Possible adverse environmental impact and health effects could be occurred as a result of generation of the different waste streams</p> <p>The inappropriate waste management and not in time collection and transportation of waste streams</p>	<p>Local within the City of Kriva Palanka / short term/major</p>	<p>distribution of the heavy noise equipment along the route, to avoid the cumulative noise values (especially in settlement Srkljava and Zitni)</p> <ul style="list-style-type: none"> • Identification of the different waste types at the reconstruction site (soil, sand, asphalt, pieces of asphalt, road surfacing, bottles, food, etc. • Classification of waste according the national List of Waste (Official Gazette no.100/05) on hazardous and non-hazardous waste • 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 • Small amount of solid municipal waste could be found (food, beverages), as well as packaging waste (paper, bottles, glass, etc. • Transportation and final disposal of the inert and communal waste by the Public Utility Enterprise “Komunalec” to the landfill in Konopica (the municipal waste) and on landfill for inert waste the inert waste streams • Fulfilment of the Annual Report for non-hazardous waste management by the Mayor and reporting to the Ministry of Environment and Physical Planning • The construction waste should be promptly removed from the site, should be re-used if it is possible • 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 	<ul style="list-style-type: none"> • Contractor – Bidder • Supervisor • Municipality staff (Communal Inspector/Environmental Inspector) • CSE “Komunalec” –Kriva Palanka

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
	<p>Possible impact on soil and water and cause the erosion of the land as a result of</p> <ul style="list-style-type: none"> - Construction activities and large water level – water flow of the streams or water under the bridge - Loss of upper soil layer due to erosion as a result of construction activities - Damage of the soil structure by movement of vehicles and storing construction and reconstruction materials in the vicinity of the construction and reconstruction site 	<p>Local/within the municipality/short term during the reconstruction/major</p>	<ul style="list-style-type: none"> • Proper positioning of the water drainage system on the construction site • The land needs to be stabilized (the slab) in order to prevent erosion of land; this should be done by implementing proposed project solutions (curbs, adopted longitudinal and crosswise profiles). This will avoid the suspended matters to flow into the stream • Reduction / elimination of waste lubricants and oils in the waste water which will appear after rains or other precipitation • Application of remediation measures as replanting the soil under the bridge with native species • To avoid storing water polluting substances (for example fuels, or substances for maintaining machines) • To avoid filling in vehicles and machines with fuel on the construction site; • Control and safety service should be established in order to control the vehicles and find possible defects which could cause uncontrolled leakage of oil, oil derivative, lubricants and other chemicals • The cleaning and washing of construction machines should be performed on locations dedicated to that purpose and in a way not to cause runoffs into ground water; • All roads and asphalt surfaces should be maintained clean in order to prevent runoffs from them into the ground water and other water flows (especially important for the bridge “Kukov dol”), during rain or in another natural way; • Not to keep fuel, oil or lubricants along the alignment, especially not in the vicinity of draining structures 	<ul style="list-style-type: none"> • Contractor – Bidder • Supervisor

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
<ul style="list-style-type: none"> Operational phase 	<ul style="list-style-type: none"> No environmental risks are expected 			
Procurement of the machines for CSE “Komunalec” - construction machine - backhoe loader, one multifunctional machine with snow cleaning equipment and tractor with a trailer and a plow for snow				
Put the vehicle into operation	<p>Improper put into operation (running), or not prior check of the fuel quantity, lubrication oil quantity and breaking and steering system at the spot could cause adverse environmental and health impacts.</p> <p>The noncompliance with noise requirements could cause noise disturbance to the workers and citizens of Kriva Palanka</p>	<p>Local/within the City of Kriva Palanka</p> <p>Long term/major</p>	<ul style="list-style-type: none"> Perform the procedure of homologation of the vehicle at the Faculty of Mechanical Science The technical specifications provided by the vehicle supplier should be checked according the emission standards, general and specific safety requirements and all fitted devices like: rear protection devices, warning light, speed limitation device, braking and anti-blocking system, electrical and hydraulic system, etc. The noise specification should be checked as well Noise emissions to be lower than 102 dB (A) measured according the requirements of EU Directive 2000/14/EC Perform the annual approval test at the authorised compliance body issuing the registration card for the vehicles 	<ul style="list-style-type: none"> Contractor – Bidder Director of the CSE “Komunalec”
Regular operation of the machines	<p>Improper or lack of regular maintenance could increase the environmental and occupational safety risks and health risks to all citizens due to the following:</p> <p>a) low fuel efficiency, b) higher emissions of GHGs and other pollutants (CO, HC, PM and NOx)</p>	<p>Local/within the City of Kriva Palanka</p> <p>Long term/major</p>	<ul style="list-style-type: none"> Regular maintenance and repair of the new vehicles and delivery of the spare parts on time by the professional service company Signing a contract with the service company for regular maintenance, replacement of spare parts, preventive lubricant oil changes, checks on electronic and hydraulic compression system, proper tire maintenance as one of the most important safety function, etc. Regular washing of the vehicles and keep the parking site clean 	<ul style="list-style-type: none"> Director of the CSE “Komunalec” Municipal inspector/Traffic engineer at Municipality of Kriva Palanka

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
	c) increase of noise level d) water and soil pollution as a result of possible oil leakages		<ul style="list-style-type: none"> Forbidden replacement of motor and hydraulic oil at the parking site to avoid the oil and pollution of waters and soil Perform regular annual approval test during the annual registration of the vehicle 	

3.2 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	
					Construction	Operations	Construction/Reconstruction of 9 streets in Kriva Palanka	Operations of the street
Project stage: Start up of the construction/reconstruction work (marking out the reconstruction sites in all settlements in Kriva Palanka)								
Traffic Management Plan prepared	On the construction/reconstruction site	Visual check and reporting to the Municipality staff	At the beginning of the project activities (before the works start)	To ensure safety and easy re-route of the traffic across around roads/streets			Contractor - Bidder /Supervisor Communal inspector at the Municipality of Kriva Palanka/ Traffic Engineer	
Information prepared and announced about the traffic redirection	At the municipality public relation office	Visual check of the Information/Press release prepared and announced	At the beginning of the project activities (before the works start)	To inform the citizens of Kriva Palanka about planned reconstruction works and re-routes			Municipality staff/ Communal inspector at the Municipality of Kriva Palanka/ Traffic Engineer	
Safety traffic flow through around streets	At the spot	Visual monitoring	During the project implementation	To ensure the coordinated traffic flow within City of			Municipality staff/ Communal inspector at the Municipality of	

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	
					Construction	Operations	Construction/Reconstruction of 9 streets in Kriva Palanka	Operations of the street
				Kriva Palanka			Kriva Palanka/ Traffic Engineer	
The safety protection measures applied for the residents of Kriva Palanka	On the reconstruction site	Visual checks	At the beginning of the reconstruction work (first day) Every working day during the project activities	To prevent community health and safety risks – mechanical injuries due to the very urban area			Contractor - Bidder /Supervisor Communal inspector/OH&S inspector at the Municipality of Kriva Palanka	
The occupational health and safety measures applied for the workers and the community	On the reconstruction site	Visual check	Before start of the project activities and each of working day	To avoid occupational and safety risks (injuries)			Contractor - Bidder /Supervisor Environmental inspector at the Municipality of Kriva Palanka	
Separated hazardous and non-hazardous waste	On the construction site	Visual monitoring and reporting	During the project activities	To avoid disposal of hazardous waste on municipal landfill in Konopica			Contractor - Bidder / Municipal staff (Communal inspector and Environmental Inspector) Director of the CSE “Komunalec” – Kriva Palanka	

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	
					Construction	Operations	Construction/Reconstruction of 9 streets in Kriva Palanka	Operations of the street
Erosion caused by the implementation of construction activities; destabilization of the ground should not be permitted	On the alignments under reconstruction	Visual monitoring	Continuously during the construction and operational activities	Good construction practices			Contractor - Bidder / Municipal staff (Communal inspector and Environmental Inspector)	
Runoff of waste water to surface streams and pollution of ground water	On the alignments under reconstruction and construction	Visual monitoring	Daily monitoring / removal immediately after it is generated	Legal requirements			Contractor - Bidder / Municipal staff (Communal inspector and Environmental Inspector)	
Fulfilled Annual Report for transportation and disposal of waste	Local self-government administration	Review of documentation – Identification waste List	After the accomplishment the task of collection, transportation of waste on daily/monthly basis	To improve the waste management and hazardous waste management on local and national level To be in compliance with national legal requirements			Mayor of Municipality of Kriva Palanka/ Director of the CSE “Komunalec” – Kriva Palanka	
Project stage: Delivery and put into operation (running) the new vehicles – machine								

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	
					Construction	Operations	Construction/Reconstruction of 9 streets in Kriva Palanka	Operations of the street
The environmental and safety protection measures applied before put the vehicle into operation:	On the CSE "Komunalec" parking site	Check the fuel quantity, lubrication oil quantity and breaking and steering system at the spot Test running successfully done	Immediately after arriving of the truck in the Public Utility Enterprise "Komunalec"	To prevent health and safety risks – mechanical broken and injuries			Contractor - Bidder Director of the CSE "Komunalec" Municipality Inspector	
Noise level specification of the vehicle Lights, electronic and hydraulic compression system, braking and antiblocking system and tires	At the homologation site – Faculty of Mechanical Science, Skopje (Homologation attest) The approval test site at the authorized body for annual registration	Review the technical specifications of the vehicles Mechanical and electronic checks	At the beginning of the running phase Before put into operation (running)	To minimize the adverse environmental and health impacts			Contractor – Bidder Director of the CSE "Komunalec" with technical team	
Project stage: Running of the vehicles								
Good maintenance practice and	At the service company	Review of reports from the	Periodically (six months min.)	To ensure minimization of the environmental and				Director of the CSE

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	
					Construction	Operations	Construction/Reconstruction of 9 streets in Kriva Palanka	Operations of the street
repair performed by professional staff		service company		occupational safety risks through high fuel efficiency and decrease of emissions of GHGs and other pollutants (CO, HC, PM and NOx)				“Komunalec” with technical team

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