MUNICIPAL SERVICES IMPROVEMENT PROJECT

PROJECT APPRAISAL DOCUMENT

CONSTRUCTION OF 2008 STREET AND STORM WATER SYSTEM ON STREETS ILINDENSKA AND BRACA MILADINOVI

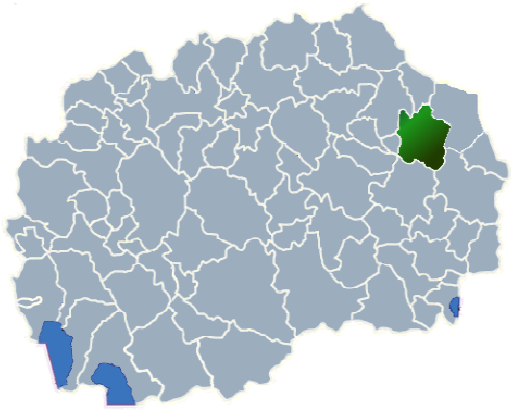
May 2013

VINICA MUNICIPALITY

I. PROJECT DESCRIPTION

A. GENERAL INFORMATION ON THE VINICA MUNICIPALITY

1. Location map



2. Information

Vinica municipality is located in Eastern Macedonia in the south-eastern part of Vinica-Kocani valley. Vinica is also a name of a town where the municipal seat is found. The average altitude is 390-450m and the terrain is mountainous (the mountain Plackovica is situated on the south and eastern part of the municipality with two peaks Lisec – 1754m and Golak 1000m) with moderate continental climate. The municipality belongs to the Eastern Planning Region together with ten other municipalities of Eastern Macedonia.

In 2003, due to changes in territorial division, the rural Blatec municipality was attached to Vinica municipality. As a result, the population increased to 19,938 inhabitants (about 11,000 live in Vinica city). Municipality comprises 16 populated settlements located on a territory of 443km^2. The population number increased by 4.6% in 1994-2002 and in the following years is stable, mostly due to emigration.

Table 1: Municipal population by Census data

	Population	
Census year	Vinica municipality	Blatec municipality
1994	17,058	2,005
2002	17,914	2,024

Source: Census data, State Statistical Office

Vinica is famous of its archeological discoveries. The fortress in Vinica city originates from early Byzantium period and is famous of terracotta icons found there (5th and 6th century).

Table 2: Main characteristics of settlements

	Settlement	Population	Households
1.	Vinica	10,863	3,416
2.	Jakimovo	1,101	346
3.	Istibanje	1,476	464
4.	Gradec	1,245	391
5.	Leski	579	182
6.	Lipec	430	135
7.	Blatec	1,594	501

8.	Trsino	730	229
9.	Dragobraste	392	123
10.	Grlani	206	65
11.	Kalimanci	239	75
12.	Vinicka Krsla	99	30
13.	Krusevo	131	38
14.	Pekljani	432	135
15.	Crn Kamen	107	33
16.	Laki	314	98
	Total:	19,938	6,261

Source: Vinica municipality, SSO 2002 Census – book XI

B. DEMOGRAPHIC AND ECONOMIC PROFILE OF THE VINICA MUNICIPALITY

1. Gender and age repartition

The age structure shows that 10.3% of the total Vinica population is more than 65 years old, which is close to the average in Macedonia (11%). Male population is more numerous: 51% to 49% of female share.

Table 3: Age distribution

	Total	Structure
0-14	3986	20.0
15-64	13908	69.8
over 65	2044	10.3
Total	19938	100

Source: SSO, 2002 Census, book XI

2. Minorities repartition

According to the ethnic affiliation most of the population is Macedonian (91.6%), with smaller number of Roma (6.2%) and Turks (1.4%). Other ethnicities comprise less than 1% of municipal population.

Table 4: Population by ethnic groups

	Vinica	Blatec	Total
Macedonians	16245	2016	18261
Albanians			0
Turks	272		272
Romas	1230		1230
Vlachs	121		121
Serbs	24	8	32
Bosniacs			0
Other	22		22
Total:	17914	2024	19938

Source: Vinica municipality

3. Employment repartition

By 2002 Census data the unemployment rate in Macedonia was 38% and in Vinica municipality was 33%. Employment Agency data as of end 2012 indicate there were 2406 unemployed persons in

municipality (1247 in urban parts and 1159 in rural parts). According to the municipal estimations the current unemployment rate is about 46%.

Census data indicate that activity rate of female population is very low: only 29% of woman over 15 years old is employed.

Table 5: Main employment indicators

	Total			Male			Female		
	Vinica	Blatec	Total	Vinica	Blatec	Total	Vinica	Blatec	Total
Population over 15y	13819	1484	15303	6964	742	7706	6855	742	7597
Labor force (active population)	7361	691	8052	4339	407	4746	3022	284	3306
Employed	4930	432	5362	2871	253	3124	2059	179	2238
Unemployed	2431	259	2690	1468	154	1622	963	105	1068
Nonactive	6458	793	7251	2625	335	2960	3833	458	4291
Employment rate			35%			41%			29%
Unemployment rate			33%			34%			32%
Activity rate			53%			62%			44%

Source: SSO, 2002 Census, book VI and XII

4. Economy

Population is mostly occupied with agriculture. Half of municipal territory is covered with forest, 27% with pastures, 21.6% is arable land and only 0.68% is non-arable land.

Municipality is rich in geothermal mineral waters, although so far those capacities are not used.

Main industrial capacities are as follows:

- Tondah – construction materials;
- Triko, Vinka, Vinicanka – textile;
- Mebel-Vi, Mebel Trejd – furniture;
- Vincini – food.

In the end of 2011 there were 554 active business entities registered in Vinica municipality: 1 large, 4 medium, 199 small and 350 micro. The sector distribution of legal entities in Vinica is illustrated in the next table. As can be seen trade entities are largest in number.

Table 6: Legal entities by sectors

Sector	Legal entities by sector	Structure
Agriculture, forestry and fishing	42	7.6
Mining and quarrying	2	0.4
Manufacturing	97	17.5
Water supply, sewage, waste management	3	0.5
Construction	27	4.9
Trade	193	34.8
Transport and storage	49	8.8
Accommodation and food service	37	6.7
Total	554	100

Source: SSO, 2012 Statistical Yearbook

5. Infrastructure

Vinica is rural municipality in which all settlements are connected with local asphalted roads. The total length of local roads in the municipality is 126km, out of which 51km are already asphalted and 75km are land roads. The network of streets in Vinica city is 39km long (34km are asphalted) and in rural inhabited settlements is 52km (36km asphalted).

None of the local streets in the municipality has storm water management system.

Total length of the water supply network in the municipality is about 48km and 99.2% of population is connected to the network.

Total length of the sewage network is about 35km and 91% of population is connected to the network. There are some settlements where this service is not provided or the service is delivered to the part of population. On the other hand many settlements have full coverage of the sewage system.

C. GENERAL DESCRIPTION OF THE PROJECT AND CURRENT SITUATION

The project assumes construction of the "2008" street with length of 512m located in the industrial settlement "Govedarski pat" in Vinica and construction of the storm water system on the main streets in the Vinica city: "Ilindenska" and "Braca Miladinovi".

The following activities are assumed on the "2008" street: construction of storm water, road base, asphalting and sidewalks. The project will complete the previously implemented municipal activities: construction of the water supply, sewerage network and street lighting on "2008" street.

The municipal share of water supply, sewage system and street lighting on "2008" street is in progress. Presently, the construction permit is being issued. Tender was announced on April 26, 2013. It is expected the construction works are completed by end June 2013. The municipal project is included in the Program on management of the construction land in 2013 (point 3.1, pos.3 – water supply and sewage in block 8 and 12).

As concerns two streets "Ilindenska" and "Braca Miladinovi" these are existing streets with water supply and sewerage network already constructed.

"2008" Street is a part of the Detailed Urban Plan created in 2010 for an area of 38.93ha, which contains 245 parcels. Out of this number 12 parcels are located on "2008" street and 11 are already sold to domestic and foreign investors - 2 plots are bought by foreign company, 7 by domestic companies and 2 by physical persons. All payments for these transactions were done and funds were transferred to the municipal account. The new owners plan to construct industrial facilities for production of bread, textile, restaurant, service workshops, and warehouses. By preliminary estimations these new production facilities will create 400 working places.

The construction of "2008" street is of great importance, because the previously sold parcels should receive building permits within nine months and start building facilities within six years. Without construction of this street, no permission for construction could be issued and subsequently no facilities could be built. The location of "2008" street starts from the crossroad of "Krusevska Republika" street and ends on the crossroad with "Marshal Tito" street. The current condition does not allow traffic of light vehicles, but only tractors or some other agricultural machines.

DUP refers to the whole settlement. Besides "2008" street there will be a need to construct two more streets: "2009" and "2010".

At the moment, Vinica does not have a storm water system, which is the biggest municipal problem, especially in the Vinica city. Even the smallest rain causes problems by remaining on the streets and making drifts on certain locations. The construction of the storm water system on streets "Ilindenska" (724.20m) and "Braca Miladinovi" (613.13m) will solve the problem of collecting the storm water.

The citizens regularly complain on lack of storm water system on the main streets in the city. In case of strong rains, the backyards and basements are flooded, and the traffic on the main street and on the sidewalks is obstructed. The water remains on the road and damages the street surface. As a result, the municipality spends minimum MKD 500.000 annually to repair the road. The costs of individual and corporate damages are not reported by the municipality.

Taking into consideration that these kind of project do not involve specific maintenance, the assumption is that standard technical life of storm water network exceeds 50 years, which means that the implementation of this project will be a long term solution to the problems and inconveniences caused by the storm water that the residents on the streets of "Ilindenska" and "Braca Miladinovi" are facing at present, and the total construction of "2008" Street.

So far there are no objects on "2008" street. However, on "Ilindenska" and "Braca Miladinovi" lives 1.4% of the municipal population and 4% of companies registered in the municipality. Those will be direct beneficiaries of the project.

Table 7: Basic characteristics of selected streets

	Population	Households	Companies	Institutions
Ilindenska	90	24	6	0
Braka Miladinovi	190	52	16	1
Total:	280	76	22	1
Share in municipality:	1.4%	1.2%	4.0%	

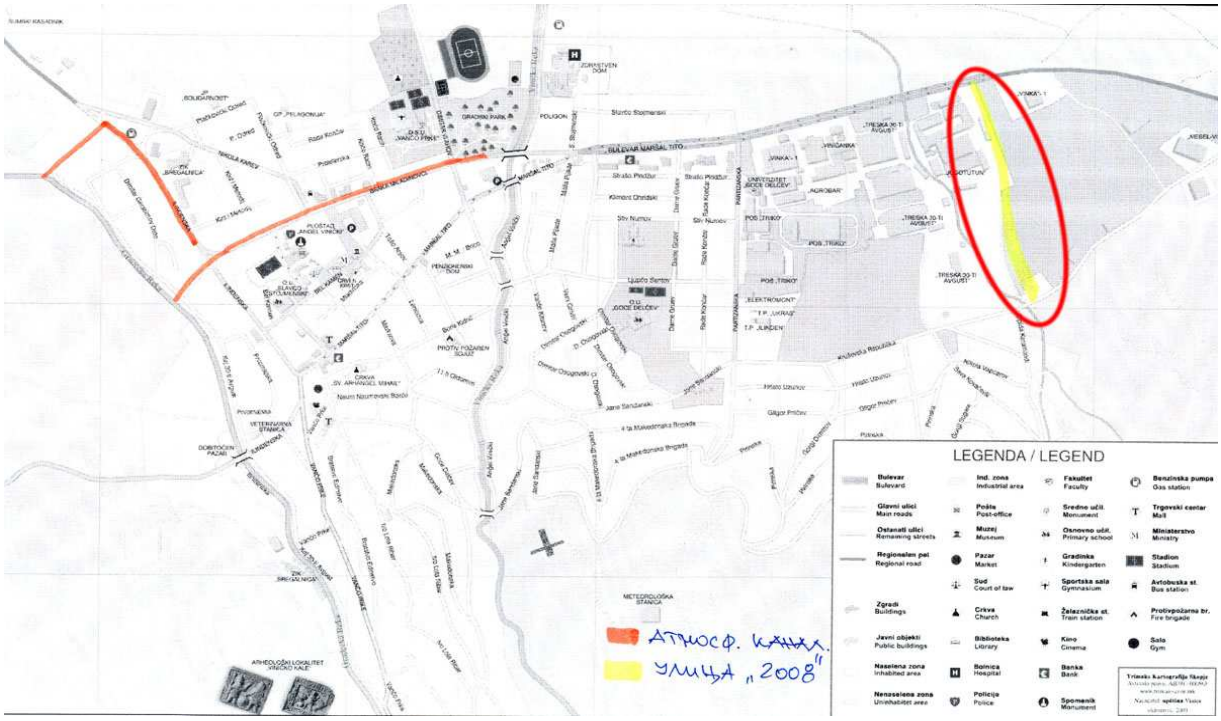
Source: Vinica municipality

The technical documentation was prepared by the municipality and financed with own funds.

1. Current situation

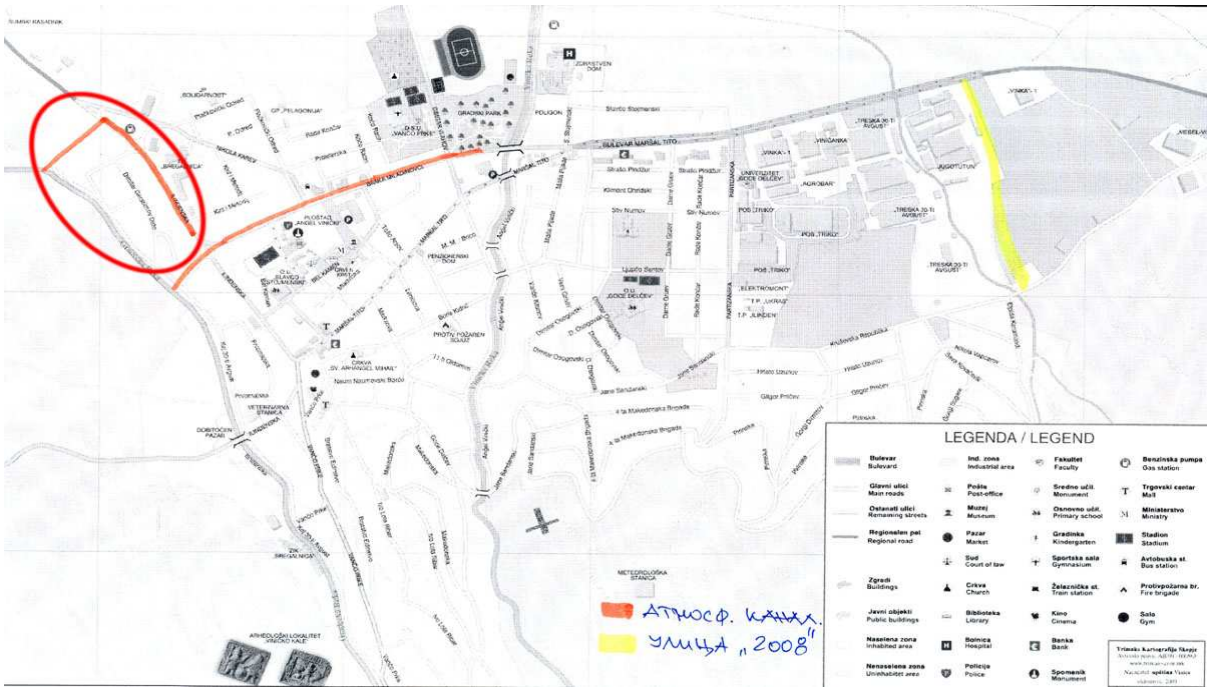
Picture 1: The municipal area concerned with the project

a. The "2008" street



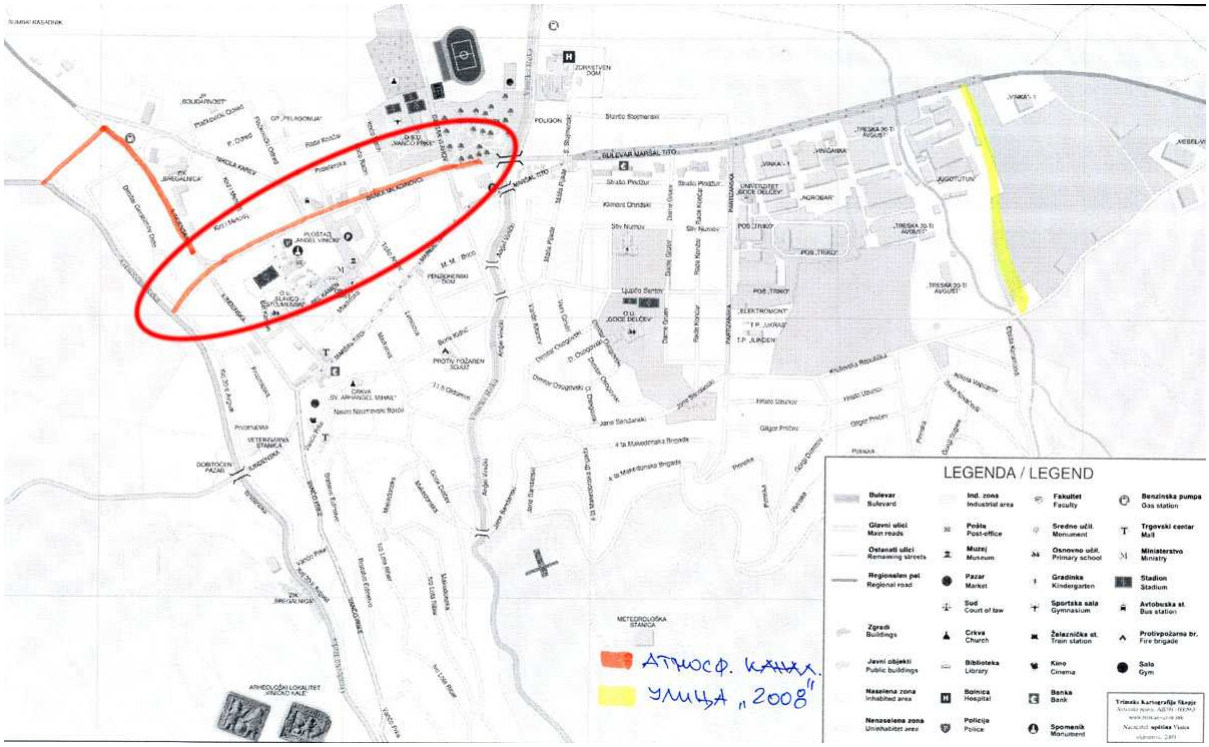
Source: Vinica municipality

b. The "Ilindenska" street



Source: Vinica municipality

c. The “Braca Miladinovi” street



Source: Vinica municipality

Picture 2: Present condition of the streets that are subject of this appraisal
a. Location of the “2008” street

Source: Vinica municipality

b. “Ilindenska” street

Source: Vinica municipality

c. “Braca Miladinovi” street

Source: Vinica municipality

D. FUTURE SITUATION

Population of Vinica municipality will get access to new public service: storm water system on the main streets in Vinica city. Direct beneficiaries are people living on these streets, but indirectly all municipal population will benefit from this project, as the selected streets are the main streets in the city and all municipal administration is located there. Most of the people visiting the local administration will pass by these streets. Moreover, the transit traffic in the city passes on these streets. Therefore, it might be said that all municipal population is indirect beneficiary of the project on construction of storm water system.

Hence, the project will contribute to economic development and creation of working places. Construction of “2008” street will allow the municipal administration issuing construction permits to the plots’ owners, who subsequently will start with construction of industrial facilities. It is expected that new businesses in this location will ultimately create about 400 working places. It would be a crucial benefit for the municipal population where the estimated unemployment rate is 46%.

Additional benefits expected from the project implementation 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 on selected streets. The present condition of these streets causes frequent problems and material losses to inhabitants and commercial entities located there. Additionally, the implementation of the project is expected to lead towards reduction of the municipal costs for constant repairs of the streets and will improve the life of people in the municipality. 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.

E. GOALS

The project responds to the strategic municipal goals defined in the "Strategy on Local Economic Development 2008-2013". The document is organized by the strategic area, goal and program. This sub-project refers to the area 4 – infrastructure.

4. Area	**Infrastructure**
4.1. Goal	To improve road connections
4.2. Goal	To construct storm water and sewerage system
4.2.1. Sub-goal	*To protect citizens from the flood (Program on protection from floods, Project on storm water system)*
4.3. Goal	To improve water supply system
4.4. Goal	To improve urban infrastructure

If implemented, the project would contribute towards accomplishment of the strategic goals in the area of infrastructure. As elaborated in the Strategy on LED, 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 where it is necessary.

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 all citizens in the municipality.

Municipality is making systematic efforts to improve the road infrastructure, but its financial capacity is limited. For last 3 years it managed to construct/reconstruct local roads in the total value of MKD 44,621,702 (see Tables below). On average half of the value of implemented infrastructure project refers to the local roads.

Table 8. Implemented infrastructure projects in Vinica municipality in 2010

Project name	Amount
Asphalting G.Delcev street in Vinica (642m^2)	583,204
Covering V.Prke street with pavement blocks in Vinica (210m^2)	286,681
Filling the holes in Vinica	140,939
Asphalting the streets in Jakimovo village (2120m^2)	1,684,491
Asphalting the streets in Istibanja village (852m^2)	658,086
Asphalting the streets in Gradec village (550m^2)	731,549
Construction of street in Gradec village	128,738
Covering street with pavement blocks in Blatec and setting the sidewalks (259m^2)	96,561
Covering the sidewalks in Trsino village (180m^2)	40,000
Regulation and cleaning of rivers and channels (drainage channel on Gradecka river and oth.)	2,100,189
Reconstruction of water supply network on I.L.Ribar street	199,953
Water supply and sewerage on Bel Kamen street	95,108
Sewerage on G.Delcev street	93,847
Water supply network on J.Sandanski street	300,325
Sewerage in Jakimovo	102,018
Sewerage in Gradec	265,056
Reconstruction of the water supply system in Blatec	184,163
Asphalting the road Spas-Pekljani	10,433,647
Asphalting the road Dragobraste-Mirmarci	3,579,294
Asphalting the road Grljani-Marinci	8,481,676
Asphalting the road Vinica-Gradec	2,000,000
Construction of the road Kalimanci-Visoka	337,008

Construction of the road Kapetanci-Balinci	336,800
Flower pots on M.Tito street	951,472
Land works on tennis playground G.Delcev	186,912
Retaining wall on J.Sandanski street	122,389
Fountain and verandah in Dragobraste	53,489
Cadastre and geodetic services	450,000
Urban documentation and basic design	1,500,000
Total:	**36,123,595**
of which:	
Construction/reconstruction of streets in Vinica city	1,010,824
Construction/reconstruction of streets in rural settlements	3,202,864
Sidewalks and walking streets out of pavement blocks	136,561
Regulation and cleaning the rivers and channels	2,100,189
Water supply and sewerage	1,240,470
Local roads	25,168,425
Other activities	3,264,262
Financing:	
Agency on State Roads	5,600,000
State government (WB funds)	22,500,000
Fund on waters	1,500,000
Ministry on Transport and Communications (decade on Roma)	500,000
State government (Center on Crisis Management)	1,500,000
Municipal budget	4,523,595

Source: Municipal information on implementation of program on management of construction land, streets and local roads in 2010

Table 9. Implemented infrastructure projects in Vinica municipality in 2011

Project name	Amount
Asphalting Vidoe st., Bato village (1650m^2)	1568659
Asphalting Bel Kamen st. (370m^2)	328430
Filling the holes in Vinica	60513
Construction of road to “Svet Krst”	180000
Asphalting the streets in Leski village (1162m^2)	1203985
Asphalting the streets in Istibanja village (1289m^2)	1166663
Asphalting the streets in Blatec village (1722m^2)	1588932
Construction of streets in Lipec village	92179
Covering street with pavement blocks in Dragobraste and setting the sidewalks (198m^2)	111527
Covering street with pavement blocks in Gradec and setting the sidewalks (261m^2)	168297
Setting the sidewalks on Prvomajska st.	39618
Setting the pavement blocks on the street to “Svet Krst”	920000
Cleaning the rivers	2000000
Sewerage in Dragobraste village (Mirmarci)	48123
Sewerage channel on Pirinska street	267100
Sewerage in Leski village	334741
Sewerage in Jakimovo village	158453
Sewerage in Trsino village	310960
Sewerage in Gradec village	373907
Water supply in Lipec village	79901
Retaining wall on the road Vinica-Gradec	159761
Playground in Roma settlement	1173038
Playground in Istibanja village	348926
Cleaning the Osojnica river bed	349516

Construction of house of culture G.Delcev	630712
Cadastre and geodetic services	392561
Urban documentation and basic design	2900000
Other activities (e.g. replacement of power line in v.Istibanja, winter maintenance, traffic signs, marking the pedestrian passages)	2000000
Total:	**18,956,502**
of which:	
Construction/reconstruction of streets in Vinica city	2137602
Construction/reconstruction of streets in rural settlements	4051759
Sidewalks and walking streets out of pavement blocks	1239442
Regulation and cleaning the rivers and channels	2000000
Water supply and sewerage	1573185
Other activities	7954514

Source: Municipal information on implementation of program on management of construction land, streets and local roads in 2011

Table 10. Implemented infrastructure projects in Vinica municipality in 2012

Project name	Amount
Construction of base-road (410m^3)	421439
Asphalting of Goce Delcev street (1km)	1678030
Filling out of the wholes	130815
Asphalting the road in Dragobraste village (1892m^2)	937077
Asphalting the road in Trsino village (1526m^2)	1726780
Asphalting the road in Lipec village (1306m^2)	910084
Construction of sidewalks and streets out of pavement blocks (2500m^2)	1870000
Gabion baskets for wall on the road Vinica-Gradec	159761
Playground in Leski village	1173038
Reconstruction of sport hall in Gradec village	1900000
Reconstruction of floors in the primary school V.Prke	2600000
Boreholes for technical water in the park	150000
Tennis playground in the primary school G.Delcev	3000000
Management of the Vinica fortress	7832658
New church in Vinica	1000000
Adaptation of the square around the Saint Cross	812399
Replacement of the windows and doors in the primary school G.Delcev in Istibanja village	490000
Cadastre and geodetic services	600000
Urban documentation and basic design	2200000
Other small activities	1500000
Total:	**31,092,081**
of which:	
Construction/reconstruction of streets in Vinica city and rural settlements	5804225
Sidewalks and walking streets out of pavement blocks	1870000
Other activities	23417856

Source: Municipal information on implementation of program on management of construction land, streets and local roads in 2012

This project is assumed in municipal planning documents. The municipal program on management of construction land, streets and roads in Vinica municipality in 2013 assumes construction of the storm water system on “Ilindenska” and “Braca Miladinovi” streets and construction of “2008” street (500m long with 6cm asphalt). The municipal share is also included in the planning document.

The knowledge and experience needed for successful implementation of the project are related to project management, technical knowledge and execution of procurement practices. The Vinica municipality 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 on 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 construction of street and storm water management system envisaged to be financed from the World Bank MSIP funds.

II. SOCIAL IMPACT

A. SOCIAL STUDY

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. This evaluation assumes a field research to obtain information on opinions and interests of citizens and stakeholders. The interviews were conducted with municipal officials (the Mayor, the Head of the Department for Urban and Communal Utilities, the Head of Unit for Local Economic Development and the Head of Department for Financial Issues in the Vinica municipality), who presented 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.

The weakness of this approach lies in its indirectness. Specifically, the indirect way of obtaining information and the possibility of subjective approaches reduces 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. Social diversity and gender

In Vinica municipality citizens are organized into different groups based on the social status that they are attributed by birth, according to their ethnicity, gender, location, language, etc. This study presents statistical data that are of special importance to this particular social assessment. The demographic tables above indicate the following:

- The age groups are almost evenly distributed, which means that any age group is dominant and the age structure of population is balanced;
- There is unequal representation of male and female in the total population: male population is more numerous (51% vs. 49%);
- In terms of ethnicity, predominant group in Vinica municipality are Macedonians. The second ethnic group by number are Roma, who are mostly located in one settlement;
- Each of the above indicated ethnic groups speak their language in informal communication. Formal language used in Vinica is Macedonian.

Asked about the number of beneficiaries of the projects, the interviewees expressed their opinion that all citizens in the municipality will be beneficiaries of the project. However, the citizens who live on the streets “Ilindenska”, and “Braca Miladinovi” will be direct beneficiaries. According to the data available, 280 inhabitants live on these streets, which is 1.4% of the total population in Vinica municipality. In addition, there are around 2,000 inhabitants who gravitate around these streets, implying that additional 20% of the total population in the municipality will benefit from the realization of this project. Finally, it should be taken into consideration that “Braca Miladinovi” is the main street in Vinica city, where e.g. the municipal administration building is located. Most of the people visiting the municipal administration will pass by this street. Hence, all the transit traffic in the

city passes on this street. Therefore it might be said that all municipal population is indirect beneficiary of the project.

3. Institutions, rules and behavior

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 Vinica municipality, the municipal administration has the capacity to maintain the streets after the implementation of the project. In addition, the municipal administration has experience to monitor the progress of the project.

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 Vinica is the business sector. The non-governmental organizations (NGOs hereinafter) are influential to some extent, but not as much as the former. Citizens, as an organized group of stakeholders, articulate their opinions directly to the Council and the Mayor, through the local communities present in every settlement and they are not very influential stakeholder in the municipal decision making, although their opinion is always taken into consideration.

The public opinion was presented at the public hearing organized by the municipality on October 22, 2012. In the meeting participated representatives of CSE, Councilors, representatives of local communities Trsino, Pekljani, Gradec, Leski, Jakimovo, Istibanja, municipal employees and others. All participating citizens expressed their support for the proposed project and confirmed that these are priority investments, which will contribute to the improvement in living conditions for all inhabitants of the municipality. Based on these conclusions the project was presented at the sessions of municipal council on November 14, 2012 and April 30, 2013. It was voted with the majority of Councilors (9 out of 15).

The interviewees stated that the project is supported by the Councilors representing different political parties in the Municipal Council, which means that a political consensus is achieved on this issue and that the Councilors are considering this project as one of the top priorities of the Vinica municipality. In respect to the citizens, the opinion of most interviewees is that all citizens support or will support the project, because it is in the general interest of municipal community.

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

The NGOs have some influence, but since this project will promote improvement of the quality of life in the Vinica municipality, the NGOs are expected to be in favor of the project.

The citizens in the local community of Vinica have frequently submitted their complaints on the current situation in the streets that are subject to this Appraisal, which again implies that the citizens are fully in favor 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.

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.

6. Social risks

High social risks for carrying out the project cannot be perceived. In the Vinica municipality, the Municipal Council consists of 15 Councilors, out of whom 6 represent opposition. In spite of their political orientation, the Councilors cannot endanger the realization of the project because it is a part of the adopted DUPs for the local communities of Vinica. The project is also assumed in the Program on management of construction land, streets and local roads in 2013, which has been also adopted by the Council. As elaborated earlier, the Councilors have already expressed their support for the project and for raising a loan for its implementation.

Interviewees presented a wide range of priorities in many fields that are within the local government competencies. They identified: the construction or reconstruction of infrastructure (communal) facilities, increasing the employment rate, construction of water supply and sewage network, the local economic development, etc. Without exception, all interviewees said that one of the highest priorities is improvement in storm water network throughout the Vinica municipality, emphasizing the necessity of construction of new streets in industrial area.

Additionally, it was discussed in detail whether the citizens are fully informed about the intended construction of street and storm water system that are subject to this appraisal and the ensuing financial repercussions on the municipal budget. 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 DUPs for the local communities of Vinica. 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 lack of storm water system, 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 it might happen that the realization of this project causes a slight discontent among the population in other communities, simply because they will not be direct beneficiaries of the project. However, taking into consideration that the citizens highlighted the improvement of the storm water system and the development of the industrial street will contribute mostly to the improvement of the quality of life in the municipality in general, they should be in favor of the project. It is also important to state that the municipality has the intention to construct the storm water system in other locations. Those, who will be not 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 this issue. 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.

The project on construction of storm water system refers to existing streets. The construction of new street in industrial area will be done in accordance with DUP on the location where no facilities exist so far. Thus, the project does not require any expropriation and there is no risk this issue could be raised during the implementation.

7. Other considerations

The construction of street and storm water system is expected to improve the overall living standards. The implementation of this project is expected to create savings in the municipal budget on the streets and road maintenance in the long-run. The implementation of the project is also expected to improve local public finances in a sense that once the storm water system is constructed, 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 will result in growth of revenues from property taxes. Finally, new facilities constructed on "2008" street will contribute to the municipal budget.

It is worth mentioning that the Vinica municipality is considered one of the top tourist destinations in the eastern part of Macedonia with a high potential of rural and alternative (eco) tourism. Vinica city and its surroundings offer many historical monuments of an utmost historical, cultural and artistic value. Taking into account the significance of tourism for the economic development of the Municipality as well as the decline in the unemployment, the development of the rural tourism is considered one of the pillars of the Strategy on local economic development. In this regard, the municipality frequently organizes fairs and exhibits for promotion of local traditional products, cultural and entertainment manifestations, outings and visits to tourist attractions, mountain climbing and hiking, etc. To that end, the Strategy identifies the improvement of the infrastructure for access to the municipality and to what it can offer to the tourists as of an utmost priority for the municipal administration, which would contribute towards increasing the number of tourists. In that respect, as it was elaborated earlier in the appraisal, the selected streets are the main streets in the settlements in the local communities of Vinica where most of them lead to some tourist attractions. Taking this into account, the project would definitely ensure better access to the municipality, thus contributing towards increasing the number of tourists and ultimately towards higher economic development in the Vinica municipality.

B. RESETTLEMENT ISSUES

This project is not a subject to resettlement issues.

C. CONCLUDING REMARKS

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

- it is considered both cost-efficient and cost-effective over a long run and also useful for the improvement of the community living in the Vinica municipality;
- is a municipal priority for the public administration and for citizens;
- most of the stakeholders are 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 relation to the budget and the population is not put into a position to contribute financially, so there is no cause for conflict on this point;
- is not subject to resettlement issues;
- no expropriation is necessary.

III. ENVIRONMENTAL IMPACT

A. MITIGATION PLAN

1. Construction of storm water system on streets "Ilindenska" and "Braka Miladinovi"

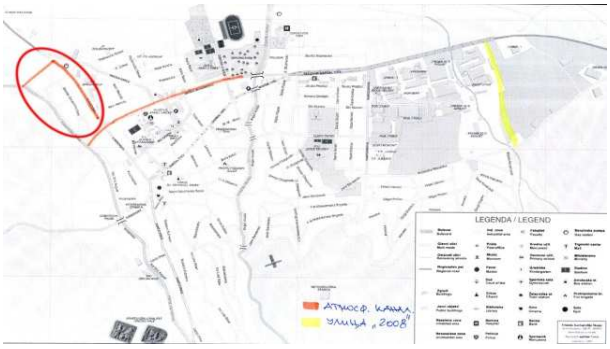
Currently, there is no storm water system installed in Vinica City, so, the rain fall cause problems by water staying on the streets and making drifts on certain locations. The citizens regularly complain on flooded houses backyards and basements due to heavy rain fall as well as on obstructed traffic on the main street and on the sidewalks.

The main project goal is to solve this problem with construction of the storm water system on streets "Ilindenska" (724.20 m) and "Braca Miladinovi" (613.13 m) located down town in Vinica City. The main collective system on street "Ilindenska" will be constructed of polyethylene corrugated pipe with dimensions: PEK OD 400 SN8, L=251.10m and PEK OD 800 SN8, L=473.10m. The main collective system on street "Braka Miladinovi" will be constructed of polyethylene corrugated pipe with following dimensions and lengths: PEK OD 400 SN8 L=310.75m and PEK OD 800 SN8 L=218.52m.

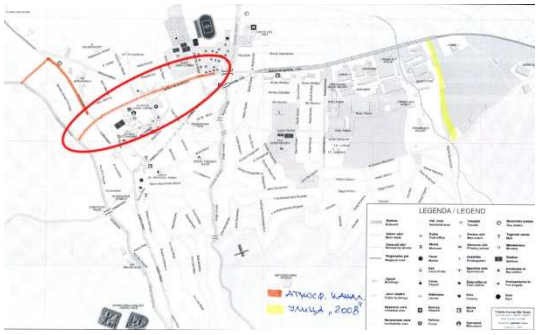
The main project activities will include: a) marking out the route for storm water system and construction site and b) Construction of the storm water system and maintenance of the system during operational phase. The construction works mainly are focused on: cutting the asphalt of the streets areas, excavation of the trench, laying the sewer pipelines, covering the pipelines with soil and sand and installing the reinforced concrete manholes.

The construction of a storm water system envisages mechanical excavation of the soil (str. "Ilindenska" 1,543.94 m^3, str. Braka Miladinovi 2,378.78 m^3). Recipients of the storm waters would be the rivers Gradecka and Vinicka.

In the area of the project location (2 main streets) there are residential buildings – family houses, small enterprises, industrial capacities, Local Park and agricultural land. Along the str. "Ilindenska" there are 75 residential buildings – family houses and 3 foodstuff stores; on the str. "Braka Miladonovi" there are 54 family houses and 2 foodstuff stores. The location of the streets is presented on the figures below.



The street "Ilindenska"

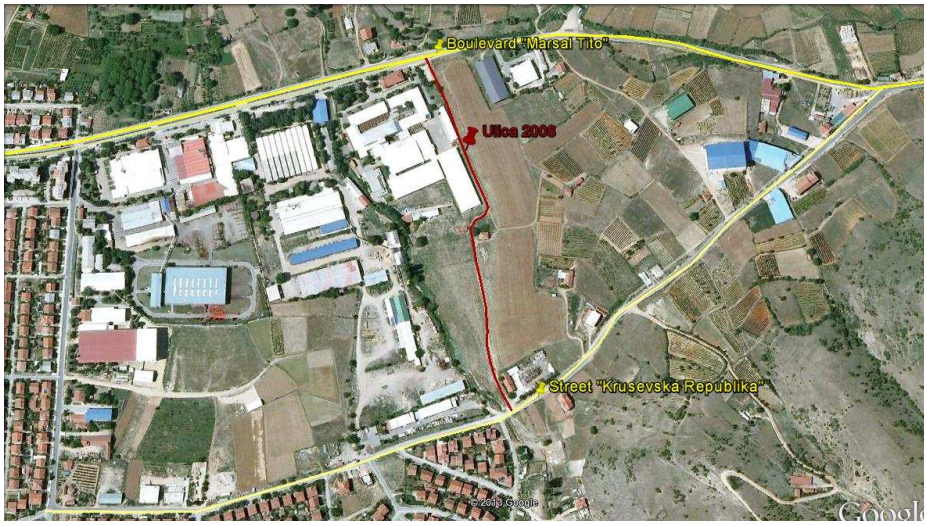


The street "Braka Miladinovi"

2. Reconstruction of a local road "2008"

The main goal of the project is reconstruction of local street "2008" in Vinica City including: construction of double lane street, with changeable width in a length of 512m, construction of sidewalks build in precast concrete paver elements, construction of storm water system along the street, and rebuilding of reinforced concrete culvert. The road track starts at the intersection of street

"Krushevska Republika" and merged with boulevard "Marshal Tito". All along the road is earthlike and the road is passable only for tractors and other agricultural machinery.



The street '2008" intersects street "Krusevska Republika" and boulevard "Marshal Tito"

The road is located in the industrial area of the Vinica City and it connects the street Krusevska Republika with the main boulevard Marsal Tito (regional road Vinica – Berovo), which passes through the city from west to the east. Along the street there are 12 small enterprises which belong to Block 12 according the GUP Vinica.

The construction of local street "2008" envisages: a) removal and replacement of humus layer (2.759 m^3) with soil material that reaches required geo-mechanical characteristic, b) setting of a new road base layer of crushed stone (1870 m^3) c) setting of a base course bituminous asphalt layer BNHS 16 with 7cm thickness and d) wearing course bituminous asphalt layer with 5cm thickness.

3. Environmental impacts

The environmental impacts from all mentioned projects are expected on short-term basis, during the construction period and the impacts will be with local significance. The good construction practice could cover several mitigation measures proposed mainly to overcome the OH&S risks that could appear as a result of surrounding of the construction site.

For the storm water projects the most important affected environmental elements are: community and worker's occupational health and safety aspects, waste management and water pollution (affected rivers could be Vinicka and Gradeska) as a result of improper waste management, noise disturbance and air quality. As the construction works will be performed *in the residential area*, the noise level should be limited to the 55 dB during the day and evening and 45dB during the night.

The reconstruction of street project will generate more amounts of different waste streams, the impact on air quality could be significant and due to the location *(industrial zone)* no noise disturbance is expected. The limitation of noise level for industrial zones is 70 dB during the day and evening and 60 dB during the night.

The improper waste management and construction works on open area will impact the visual aspects and will cause noise disturbance from the outdoor equipment. There is a Public Utility for communal works JP "Solidarnost" – Vinica, established in 1960 serving the citizens with drinking water supply, urban waste water collection and sewage system, collection, transportation and final disposal of municipal solid waste could support the sub-contractor with proper waste management.

The construction mechanization could cause ambient air pollution. All impacts are expected to be minor, with locally significance.

In the project area there are not natural protected areas or cultural heritage sites. The most important and well known archaeological site in Vinica - Vinicko Kale (a settlement from the late ancient

period) with famous terra-cotta icons from the 5th and 6th century as unique and especially valuable archaeological findings is located several kilometers far from the project locations. All the activities for construction of the storm water system are in the urban environment and are not expected direct impacts on biodiversity and natural habitats.

In order to prevent the adverse environmental impacts and to ensure regular transport of goods and people across Vinica City during the construction/reconstruction works, 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 for all vehicles. 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). Good communication and regular meetings between Sub-Contractor, Municipality staff and Supervisor are essential for smoothly projects implementation and protection of environment and community health and safety.

No major environmental risks are expected in the operational phase, only in the case of broken pipelines from the storm water system, the interventions of repairing the pipeline could occur and few environmental elements could be affected, but in very low intensity and minor significance.

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) and secondary legislation, the Project for reconstruction of the local street "2008" belongs to the Annex I Chapter X – Infrastructural projects, Part 1: Construction of local roads and streets. The projects on construction of storm water systems belong to the Annex I Chapter I –Agriculture and water supply, Part 3 - Local water supply and sewer systems. For these types of projects the EIA Report should be prepared and the Report should be adopted by the Mayor of the municipality. Due to the lack of responsible experienced environmental officer in the Vinica Municipality, the EIA Reports were sent to the Ministry of Environment and Physical Planning (Environmental Agency) for adoption.

Two EIA Reports for the all three sub-projects were prepared by "Juvenis" Company and they were adopted by the Ministry of Environment and Physical Planning issuing the Decision on adoption on 2.3.2012.

The EIA Reports describes the local characteristics of the environment, potential adverse impacts that are expected and measures that investor should apply. All these measures are fully incorporated in the Environmental Mitigation Plan and Monitoring Plan presented in Table A and B.

Table A. Environmental Mitigation Plan

Project activity	Potential impact	Impact scale	Proposed mitigation measures	Responsibility
Marking out the route for construction of the "2008" street	Possible adverse social and health impact on the population, drivers and workers due to: - Lack of ensured safety measures at the start of construction works - Injury passing near by the construction sites - Not compliance with strict occupational health and safety standards and work procedure - Inappropriate public access	**Local/within the City of Vinica** **Short term during the construction/** **Major impact**	• Preparation of the Traffic Management Plan together with the municipal staff • Announcement the start of project activities via local radio/TV station/local newspaper • Ensure the appropriate marking out the construction site /section by section • Fencing the construction material near the street • 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 used for extinguishing fires • Devices, equipment and fire extinguishers should	• **Contractor –Bidder** • **Supervisor** • **Municipality staff (Communal Inspector/Environmental Inspector/Traffic Engineer)**

			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 labelled with guidelines for their use and handling • Provision of portable toilets on the construction site • The street should be kept clean	
Marking out the route for storm water system (str. Ilindenska and str. Braka Miladinovi") and construction site	Possible adverse social and health impacts to the pedestrians and traffic as well as for the workers due to: - Unsafely start of construction works - Injury passing near by the open trench and manholes - Not compliance with health and safety at work procedure - Inappropriate public access	**Local/within the Vinica (related streets)/ short term/major**	• Application of good practice for marking out the route for storm water sewer system and construction site including: ➢ Ensure the marking out the construction site ➢ Forbidden of entrance of unemployed persons within the fence ➢ Adequate warning tapes and signage need to be provided ➢ Health and Safety measures should be applied: a) Security measures like: perimeter fence, life jackets, use of proper protective clothing and equipment by employees, warning signs for the public around the construction site; b) Maintain a good level of personal hygiene-have on site installations for washing, cleaning; c) Health protection-fist aid kits and medical service on sites d) Apply the emergency and normal first aid procedure for any injury if such occur through construction work ➢ The streets/roads should be kept clean	• **Contractor –Bidder** • **Supervisor**
Construction of the street	**Adverse environmental impacts could be expected due to effects on several environmental elements:**			

and storm water system including: - **cutting the asphalt of the road areas,** - **excavation of the trench,** - **to lay the sewer pipelines,** - **to cover the pipelines with soil and sand,** - **to install the manholes and connection with the main sewage system**	**a) Landscape and visual environment**	**Local within the particular settlements where the activities are performed / short term /moderate**	• Good construction practices have to be implemented – including fencing and protection of construction sites according to national legislation • Minimization of the construction areas as much as possible (carefully planning and design of the project activity according the Traffic Management Plan) • Carefully clean-up of the construction site immediately after accomplishment of the last activity and all waste has been collected • Collection of the generated waste on daily basis, selection of waste, transportation and final disposal on appropriate landfills (according the type of waste)	• **Contractor –Bidder** • **Supervisor** • **Municipality staff (Communal Inspector/Environmental Inspector/Traffic Engineer)**
	b) Air quality The construction activities will initiate gases emissions of dust-suspended particulates (PM_{10} , $PM_{2,5}$), emissions from the mobile sources (vehicles and construction machinery) of CO_2, NO_x, PAH, SO_2. The airborne dust will be caused by excavation, vehicle movement and materials handling, particularly around the construction sites (it is urban district). Traffic congestion will be caused by storm water system construction and increased construction traffic in urban part	**Local within the City of Vinica/ short term/major**	• The mitigation measures to minimize dust generation during construction will included: ➢ Construction site, transportation routes and materials handling sites should be water-sprayed on dry and windy days, especially due to residential areas neighbourhood; ➢ Vehicles and construction machinery will be required to be properly maintained and to comply with relevant emission standards; ➢ Construction materials should be stored in appropriate places covered to minimize dust; ➢ Vehicle loads likely to emit dust need to be covered ➢ Conduction of regular maintenance of the vehicles and construction machinery in order to reduce the leakages of motor oils, emissions and dispersion of pollution ➢ Usage of protective masks for the workers if the dust seems to be appeared ➢ Burning of debris from ground clearance not permitted	• **Contractor –Bidder** • **Supervisor** • **Municipality staff (Communal Inspector/Environmental Inspector/** **Traffic Engineer)**

	of the city of Vinica. Several streets may be fully or partially closed during construction causing temporary inconvenience to institutions and residents. It could cause changes in existing traffic circulation		➢ Restriction of the vehicle speed within the construction location ➢ Information to the public about the construction work should be announced through the media for carefully low speed driving near the construction location	
	c) Noise and vibration The construction activities and traffic will cause noise and vibration due to the machinery and vehicles used for digging of the storm water sewer system, transport of workers, transport of PVC and concrete pipes and construction materials. The potentially affected will be nearby residents as the project location is very urban part of the Vinica and SMEs in the area of the construction site for the street "2008".	**Local/short term/major**	➢ The main mitigation measures related reduction of level of noise and vibration are: ➢ The equipment should be fitted with appropriate noise muffling devices that will reduce sound level ➢ As it is an urban part (residential area) the level of noise should not exceed more than 55dB during the day and evening and below 45dB during the night; for the industrial zone the level of noise should not exceed more than 70dB during the day and evening and below 60dB during the night ➢ The construction work should be not permitted during the nights, the operations on site shall be restricted to the hours 7.00 -19.00 particularly for pilling ➢ The vehicles that are excessively noisy due to poor engine adjustment, damage to noise amelioration equipment shall 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)	• **Contractor -Bidder** • **Supervisor** • **Municipality staff (Communal Inspector/Environmental Inspector/Traffic Engineer)**

			➢ The good management practice should be kept on distribution of the heavy noise equipment along the route, to avoid the cumulative noise values	
	d) Possible impact on water course – Gradecka nad Vinicka rivers near the project site due to improper waste management	Local/ short term/minor due to the distance from the project site (storm water project)	• Minimize storage or disposal of substances harmful to water – Rivers Gradecka and Vinicka (e.g. fuels for construction machinery) on the construction site. Organize proper handling and storage • 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	• Contractor- bidder • Supervisor
	e) Waste management Possible adverse environmental impact and health effects could be occurred as a result of the following: - generation of the different waste streams - inappropriate waste management with those different type of waste These project activities mainly cause solid waste as a surplus materials of soil and sand The inappropriate waste management and not in time collection and transportation of	**Local within the city of Vinica/ short term/major**	• The good waste management practice should be applied through the preparation of Waste Management Plan including: ➢ Identification of the different waste types that could be generated at the construction site (due to the materials used – soil, sand, parts of PVC pipes, broken pipes and fittings, paper, broken concrete, road surfacing, bottles, food, asphalt, etc. ➢ Classification of waste according the national List of Waste (Official Gazette no.100/05) ➢ 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.	• **Contractor –Bidder** • **Supervisor** • **Municipality staff (Communal Inspector/Environmental Inspector)** • **CSE "Solidarnost" – Vinica**

	waste streams		➢ Fulfilment of the Annual Report for non-hazardous waste management by the Mayor of Vinica and reporting to the Ministry of Environment and Physical Planning ➢ The contract with the company for waste collection and transportation should be signed for collection and transport of waste to the Landfill (in village Leski) or the Landfill for inert waste ➢ The construction waste should be promptly removed from the site ➢ The construction waste should be re-used once again if it is possible ➢ The materials should be covered during the transportation to avoid waste dispersion; ➢ Burning of construction waste should be prohibited ➢ The first selection should be performed by types of waste: PET bottles, paper, batteries and glass ➢ 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	
	e) **Soil pollution** The negligible impacts on soil arising from storm water development construction activities are expected. The compaction of soil can be expected due to vehicle movement, ground contamina-	**Local/** **Short-term impact/** **Minor**	The possible mitigation measures for minimization of the soil pollution could be: ➢ Transportation vehicles should be enclosed to avoid potential leakage ➢ Promptly clean-up spills of transported material on public roads ➢ Proper positioning of the water drainage system on the construction site	• **Contractor –Bidder** • **Supervisor**

	tion from the spillage of materials such as vehicle fuel, motor oils, asphalt, inert waste, construction waste. Possible impact on soil and water and cause the erosion of the land as a result of loss of upper soil layer due to erosion as a result of construction activities		➢ All roads and asphalt surfaces should be maintained clean in order to prevent runoffs from them into the ground water and other water flows ➢ Not to keep fuel, oil or lubricants along the alignment, especially not in the vicinity of draining structures	
Operational phase	**In general no environmental risks are expected, but if any occur several possible environmental impacts could appeared**			
Repair the broken storm water pipeline	• **Water overflow** due to pipe breakage or blocked manholes • **Noise and vibration** created during the excavation of pipes for repair • **Air quality** dust generation from the excavations for pipes repair • **Traffic** due to vehicular movements of operational and maintenance staff • **Solid waste** from the broken road surfacing and soil from pipeline repairs • **water and soil pollution** as a result of possible oil leakages by the vehicles	**Local within the City of Vinica/minor**	The same as in the construction phase for each environmental element	• **Municipality of Vinica** • **Contractor of authorized company for repair of sewer systems** • **Director of the CSE "Solidarnost"-Vinica** • **Environmental Inspector/Communal Inspector/ Traffic engineer**

The aim of the Monitoring Plan is to assess the overall implementation of the proposed mitigation measures.

Table B. Environmental 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 of storm water sewer system	Operations of the storm water sewer system
Project stage: Start-up of the construction work (marking out the route for construction of the "2008" street and construction site)								
Traffic Management Plan prepared	On the construction 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 Vinica/ 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 Vinica about planned construction works and re-routes			Municipality staff/ Communal inspector at the Municipality of Vinica/ 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 Vinica			Municipality staff/ Communal inspector at the Municipality of Vinica/ Traffic Engineer	
The safety	Around the	Visual checks	At the beginning of	To prevent			Contractor -	

protection measures applied for the residents of the City of Vinica	construction site		the construction work (first day) Every working day during the project activities	community health and safety risks – mechanical injuries due to the very urban area			Bidder /Supervisor Communal inspector/OH&S inspector at the Municipality of Vinica	
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 Environmental inspector at the Municipality of Vinica	
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 village Leski			Contractor - Bidder / Municipal staff (Communal inspector and Environmental Inspector) Director of the CSE “Solidarnost” –Vinica	
Erosion caused by the implementation of construction activities; destabilization of the ground should not be	On the alignments under construction	Visual monitoring	Continuously during the construction and operational activities	Good construction practices			Contractor - Bidder / Municipal staff (Communal inspector and Environmental Inspector)	

permitted								
Runoff of waste water to surface streams and pollution of ground water	On the alignments under 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 Vinica/ Director of the CSE "Solidarnost" –Vinica	
Project stage: Startup of the construction work (marking out the route and construction site for storm water system on streets Ilindenska and Braka Miladinovi)								
The safety protection measures applied for the residents of the district	Around the construction site	Visual checks	At the beginning of the construction work (first day) Every working day during the project activities	To prevent health and safety risks – mechanical injuries			Contractor - Bidder / Environmental Officer at the Municipality of Vinica	
The safety protection measures applied for the construction workers at the site	On the construction site	Visual checks	Every working day during the project activities	To minimize the risks on occupational health and safety of the workers			Contractor - Bidder	

Project stage: Construction of the "2008" street and storm water sewer system on streets "Ilindenska" and "Braka Miladinovi"								
Exposure of loud noise from vehicle machine and electric tools	On the site	Review the noise level technical specifications of the used vehicle mechanization and equipment for their use outside	Before the beginning of the work (first day)	To protect the workers against exposure to loud noise taking into account the technical specifications of the equipment and time duration of the work outside			Contractor - Bidder / Environmental inspector from Vinica Municipality	
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 area - II exposure area for noise protection as residential district (55 dB (A) during the day time) and IV exposure area for noise protection as industrial zone (70 dB (A) during the day time)			Contractor – Bidder Company authorized to performed noise levels measurements sub-contracted by the Contractor – Bidder	
Safety traffic flow through the city (redirection of the traffic on streets around the construction site)	On the site	Visual monitoring	During the traffic jam period	To ensure the coordinated traffic flow through the city			Environmental Officer at Municipality of Vinica/Traffic Engineer at the Municipality	

Primary selection of the waste streams as they are generated at the spot	On the site	Review the documentation – identification of the waste type according the List of waste	At the beginning of work with new material/s	To separate hazardous from the non-hazardous waste as well as inert from biodegradable waste			Contractor – Bidder	
Collection and transport as well storage of hazardous waste (if any occur). Really it is not expected in high quantities (maybe some batteries, waste from motor oils, etc.)	On safety temporary storage	Review the transportation list and conditions at the storage facility	Before the transportation of the hazardous waste (if there is any)	To improve the waste management practice on municipality and national level/In order to be in line with the environmental requirements for the hazardous waste management. Not to dispose the hazardous waste on the Leski Landfill.			Authorized Contractor for collection and transportation of hazardous waste (if there is any occur) subcontracted by the Municipality of Contractor-Bidder /Environmental Officer/ Environmental inspector from Vinica	
Collection transportation and final disposal of the solid waste	On the site and around the site	Visual monitoring and reviewing the transportation and disposal lists from the sub-contractor	After the collection and transportation of the solid waste on regular base each day	Not to leave the waste on the spot to avoid the environmental and health impacts to the residents To have the real data for generated waste streams and to improve the waste management			Contractor – Bidder who need to sign the contract with licensed company for collection, transportation and disposal of the solid waste	

Fulfilled Annual Report for collection, transportation and disposal of waste	Local self-government administration	Review of documentation – Identification waste List	After the accomplishment the task of collection, transportation, temporary disposal and final disposal of waste	To improve the waste management on local and national level To be in compliance with national legal requirements			Mayor of Municipality of Vinica/ Ministry of Environment and Physical Planning	
Level of dust – fine particulate matters	At the spot	Visual monitoring and measurement devices	On the sunny, dry days	To avoid and minimize the dust concentration into the air and to minimize the health risks for the workers and residents of the district			Contractor – Bidder and authorized company for dust measurements	