LOCAL ROADS CONNECTIVITY PROJECT

THE WORLD BANK

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

for the project

Upgrading of Local Street: Hristijan Todorovski - Karpos, in Municipality of Cesinovo - Oblesevo

October, 2019

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Contents

IMAGES

TABLES

ABBREVIATIONS

EIA	Environmental Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
IPA	Important Plant Area
LRCP	Local Road Connectivity Project
MoEPP	Ministry of Environment and Physical Planning
MSC	Macro seismic
MTC	Ministry of Transport and Communications
OH&S	Occupational Health and Safety
PCE	Public Communal Enterprise
PIU	Project Implementation Unit
RM	Republic of Macedonia
RNM	Republic of North Macedonia

1. INTRODUCTION

The current situation of transport sector in the Republic of North Macedonia indicates poor condition of the local roads network, unsatisfactory road maintenance. Such poor condition of the local roads is as a result of lack of financial capacity of the Local Self Government (LSG) that differs from region to region in the country. Some of the local roads in the rural areas are in an unacceptable condition with no access to the hospitals, schools and markets so this issue implies social problems as well.

Ministry of Transport and Communications (MoTC) will implement the Local Roads Connectivity Project (LRCP), by 70 million Euro investment secured by the World Bank, in order to support the municipalities in the country, mostly in rehabilitation of existing local road infrastructure (urban / rural streets, regional and local roads), reconstruction, upgrading, pedestrian paths, street lightening, water drainage and capacity building of the municipal staff.

The Ministry of Transport and Communications is proposing allocation of funds from the World Bank Loan for the implementation of the following project activities:

- upgrading of dirt roads/streets;
- reconstruction of the existing local roads/streets;
- rehabilitation of the existing local roads/streets;
- introducing road safety measures like pedestrian paths along one or both sides of the streets/local roads, electrification, drainage.

No construction of new local road (with new route) is envisaged with this project.

When preparing these types of projects, according to the national environmental requirements (Law on Environment and secondary legislation), it is necessary to submit a Notification Letter for intention to start the project to the MoEPP which initiates the environmental impact assessment procedure and based on the Opinion, to prepare the EIA Report. The EIA Report has to be prepared, and whose approval is under the competence of the mayor of the municipality (Official Gazette of the Republic of Macedonia No 32/12) or the Mayor of Skopje or the Mayor of the Municipality, chapter X – Infrastructure projects, item 1 Upgrading of local roads.

The EIA Report shall be prepared in accordance with Article 24 of the Law on Environment (Official Gazette of the Republic of Macedonia No 53/05, 81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11, 123/12, 93/13, 187/13, 42/14, 44/15, 129/15, 192/15, 39/16 and 98/18) and the Rulebook on the form and contents of the EIA Report in accordance with the types of activities for which the report is being prepared, as well as in accordance with the entities performing the activity and the scope of activities being performed by the legal and natural entities, the procedure for their approval, as well as the method for keeping of the register of approved reports (Official Gazette of the Republic of Macedonia No 44/13, 111/14). If the issued Opinion of the MoEPP is positive and EIA Report has to be prepared, the Municipality of Cesinovo-Oblesevo shall prepare an EIA Report and send a copy thereof together with the Decision to the MTC for approval.

The EIA Report for the Project for upgrading of local street: Hristijan Todorovski - Karpos, in Municipality of Cesinovo – Oblesevo was prepared by consultancy company (February 2019) and the Decision was issued for adoption of the EIA Report by the Mayor of the Municipality of Chesinovo – Oblesevo.

Environmental and Social Management Framework (ESMF) was prepared (as part of the LRCP of the MTC) in September/October 2019, in order to address Project's potential environmental and social concerns in accordance with the requirements of the World Bank Environmental and Social Standards. ESMF was used, as the most appropriate tool, for conducting an in-depth analysis of the environmental and social issues. It is prepared so as to ensure that the proposed project is being conducted in accordance with the environmental and social standards of the World Bank, the policies for protection and the national environment legislation which is to be

used as practical tool for determining environmental and social due diligence and tackle impacts and risks during designing, implementation and monitoring of project activities.

Due to the bad condition of some part of the road infrastructure, the Municipality of Cesinovo-Oblesevo intentds to implement project for improving the current condition of the street "Hristijan Todorovski – Karpos", in v. Cesinovo. The project activities will be performed in the length of approx..550m and will include following: mechanical excavation of soil; mechanical making of embankment obtained from excavation; making of reinforced concrete culvert ø1000; installation of the storm drainage system; placing road base layer; asphalt scraping and clearing of the scrapped areas; coating of the scrapped areas with bitumen emulsion; placing of curbs and behaton tiles; and placing a bearing bitumen layer over existing and over the road;

In accordance with the nature, size, location, and capacity to implement ESMP as well as the specifics of the potential environmental impacts during the upgrading of local street: Hristijan Todorovski - Karpos, in v. Cesinovo, but also in the operational phase, ***the project was classified as project with substantial risks, which requires the preparation of Environmental and Social Management Plan (ESMP) according the WB environmental and social standards.***

2. PROJECT DESCRIPTION

2.1 Baseline condition of Municipality of Berovo

The Municipality of Cesinovo-Oblesevo is situated in the eastern part of the Republic of Macedonia, in the lowest lowland region of Kochani's Field. It is in the middle basin's region of the river Bregalnica. The municipality has the middle position among the biggest urban municipalities Kochani, Shtip and Probishtip. On the north-west the municipality borders with municipality Probishtip, on the east and north-east it borders with municipality Kochani, on the south-east with municipality Zrnovci and on the south-west with municipality Karbinci. It is connected with Bulgaria through the highway Shtip-Kochani-Delchevo. In Figure 1 is presented location of the Municipality of Cesinovo-Oblesevo.

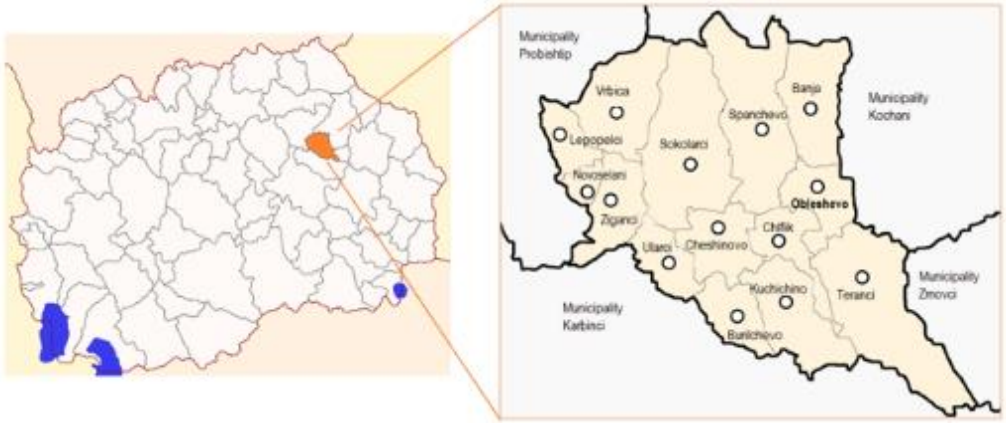


Figure 1 Location of the Municipality of Cesinovo-Oblesevo

The Municipality of Cesinovo-Oblesevo covers territory of 133.5km^2 with 14 settlements, with total 7,490 residents. This village covers an area of 7km^2 and is located on altitude of 335 a.s.l.

2.1.1 Demography

According to the Census in 2002, at the territory of the Municipality of Ceshinovo-Obleshevo live 7,490 inhabitants within 2,423 households. The average number of household members is 3.1. According to the nationality of the Municipality there are 7,455 Macedonians, 30 are Vlachs, 4 Serbs and 1 is declared as the rest. Of the total number of inhabitants, 45.6% are active population.

2.1.2 Climate features

The position of the municipality of Cheshinovo – Obleshevo is located in the eastern part of the country. The region is characterized by the continental climate. The winters are short, the spring is moderate, the summer is dry and the autumn is moderately hot. The average annual temperature is 13 ° C. The coldest month is January, with a recorded low of -3,2 °C. The warmest month is July with a maximum temperature of 41,2 ° C.

Floods and landslides risk

Municipality of Ceshinovo-Obleshevo is part of East Planning Region. Due to the size of the area, the diversity and the specificity of the erosion factors, within the East Planning Region (EPR) are noted a variety of pluvial and fluvial erosion processes, as well landslides and rock decomposition. The most erosive areas are located in the catchment of the Kalimanaci reservoir, in the upper area of watershed of river Bregalnica. Areas of second category of danger of erosion are defined in the part of the watershed of Orizarska River. The most erosive watersheds, that contribute for the largest amount of produced sediment in EPR, are following, presented in

Table 1.

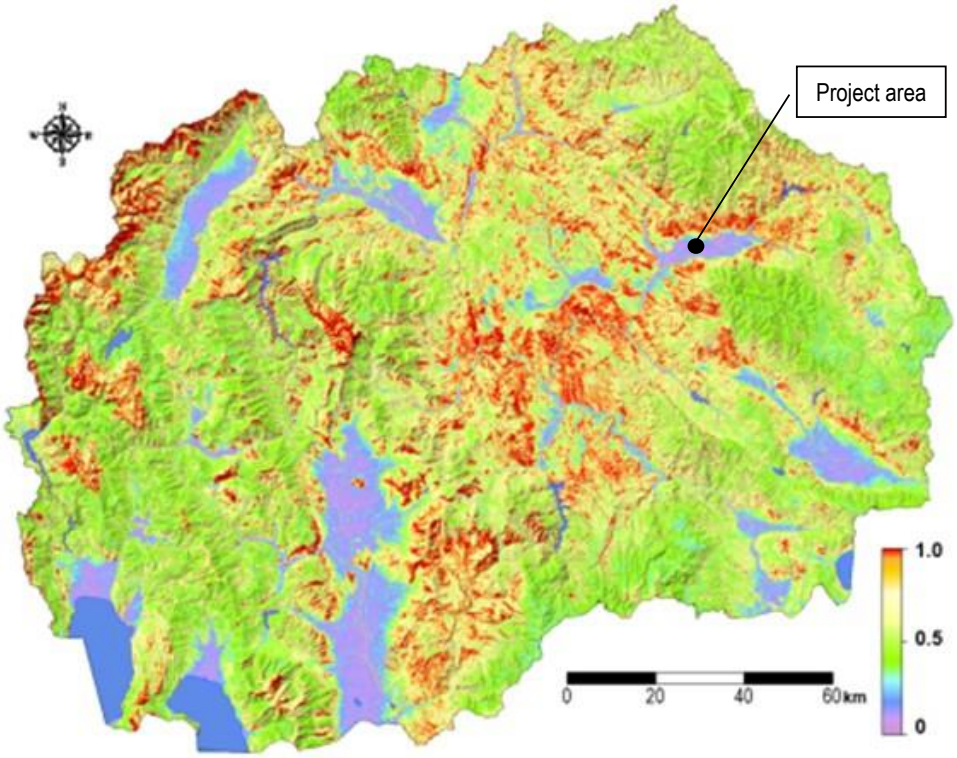
Table 1 Most erosive watersheds in EPR

Watershed	W-m^3/y (annual production of erosive material (sediment)
Zletovska River	190.652
Kamenicka River	151.167
Kriva Lakavica	144.846
Osojnica River	136.602
Zelevica	103.510
Sushica River	100.232
Orizarska River	74.228
Ratevska River	63.509
Bregalnica – upper area of watershed	59.430
Ochiplaska River	49.690

source: Spatial Plan of Eastern Planning Region for period of 2013-2030 (draft version)

Due to erosion damage in the past within EPR, various anti-erosion and flood preventive measures and activities have been carried out (almost 6000ha of heavily eroded land is planted, 17 high flood risk areas are completely regulated, etc.). (*source: Spatial Plan of Eastern Planning Region for period of 2013-2030 (draft version)*.

In **Error! Reference source not found.** is presented location of the project area regards the risk of flooding, landslides and erosion in RNM.



Source:https://www.fakulteti.mk/news/18-02-10/vo_narednite_denovi_i_nedeli_se_ochekuva_zgolemen_rizik_od_poplavi_i_svlechishta_niz_makedonija

Figure 2 GIS model of areas at increased risk of flooding (purple), landslides (orange) and enhanced erosion (red)

2.1.3 According to the aforementioned, the project location in Municipality of Ceshinovo-Obleshevo is characterized as location with low risk of erosion, landslides and high risk of flooding.Seismology

The subject location is on the territory of the Municipality of Cesinovo – Oblesevo. According to the Republic seismology map, it belongs to an area susceptible to frequent and strong earthquake which can be caused by local and more distant epicenters. In this area, earthquakes are possible with intensity of VIII^{o} according to the Mercalli intensity scale.

2.1.4 Water

The River Bregalnica is the main waterway in the municipality located in the middle of the valley and all the other rivers in the present in the valley confluence with it. This water recipient is located about 2.2km southeast from the project site. Larger tributaries of Bregalnica are Kocanska, Orizarska and Zletovska. Beside them, there are smaller rivers and streams such as the rivers Spanchevska and Banska. The fields on the territory on the Municipality are irrigated (flow of 10 m^3/s) with the waters from the lake Kalimanci built on the river Bregalnica. The waters from the lake are also used for electricity production. The settlements in the municipality are connected to the sewage system and their wastewater is treated in the WWTP in v. Cesinovo.

2.1.5 Air quality

In the Republic of North Macedonia, monitoring of the ambient air quality is performed by the Ministry of Environment and Physical Planning. The ministry manages the State automatic air quality system composed of 17 measuring stations of which 5 are located in City of Skopje. There is no measuring station at the project location that is why into account will be taken the closest measuring station to the project location, the one in the City of Kocani, north-east of the project location. In this air quality measuring station, monitoring is performed of the

following: sulphur dioxide, nitrogen dioxide, carbon monoxide, ozone and suspended particles with size of 10 micrometers (PM_{10}).

The sources of suspended particles are burning of fossil fuels and biofuels, different industrial processes, traffic, incineration of waste and wild fires. One of the most important sources is heating of homes and administrative capacities, mainly due to the incomplete incineration of wood in the old furnaces. The number of times the average daily threshold limit value of PM_{10} at the Kocani measuring point in 2018 was exceeded for 71 days, in the year of 2019 (until August) there were 37 days in which the average daily threshold limit value was exceeded.

In the Republic of North Macedonia, the key and dominant source of sulphur oxides in the air are the processes of burning of fuels (coal and fuel-oil). The average daily SO_2 concentrations at this measuring station have not exceeded the threshold value for the year of 2018 and the year 2019 (until August). Carbon monoxide is formed during the incomplete incineration of fuels in internal combustion engines and energy plants, as well as during different industrial processes, public institutions and households. The maximum daily 8 hour average values of CO concentrations at this measuring station for the year 2018 and the year 2019 (until August) there have not been any exceedance of the threshold value. The maximum daily 8 hour average values for the ozone concentration at this measuring station for the year 2018 and the year 2019 (until August) have not exceeded the threshold value. For the 1 hour average values of NO_2 for the year 2018 and 2019 (until August) there were no exceedances of the upper threshold limit.

2.1.6 Waste

The municipality has a temporary location for a municipal landfill in the area of “Bukeski Dol”, near the village Chiflik. The annual amount of generated waste in the municipality is 1,404 m^3 as of 2009. The waste is collected by PCE “Oblesevo” in about 20 to 50% of the populated settlements. There are unregulated landfills present around local roads and river channels.

Because there is no appropriate alternative landfill for waste disposal from project activities, the generated waste streams should be disposed at municipal landfill Bukeski Dol”, (located about 3km from the project area in v. Cesinovo).

2.1.7 Geology and soil

The municipality of Chesinovo-Oblesevo is a part of the Vardar zone. Within this area are developed following formations: Precambrian metamorphic rocks, Paleozoic metamorphic and magmatic rocks, Mesozoic sediments and magmatic, tertiary sediments and volcanic rocks, quaternary deposits and volcanic rocks. The Municipality has the land with the highest quality alluvial soils that extend along the river Bregalnica, Masalnica Kocanska and Zletovska river. The hilly and mountainous part is mainly covered by deluvial soils.

2.1.8 Flora and fauna

Municipality of Chesinovo - Oblesevo has an attractive lowland forest landscapes with diverse faunas. Agricultural crops, cereals, vineyards, industrial crops, dominate the Kocani valley. In addition to the riverbed of river Bregalnica and other watercourses there are meadows overgrown with shrubs, willows and poplars. The vegetation of forests and grasslands is characteristic of the higher sections. The total forest area in the Municipality of Ceshinovo - Obleshevo is 1,045 ha. Very common plant is the rice plant – Oryza Poaceae for which the Kocani valley is known for, shown on Figure 3.

Figure 3 Plant and animal representatives of Municipality of Cesinovo-Oblesevo

Various forms of amphibians, mammals, reptiles, birds can be found as an integral part of biocenosis in the area of the municipality. In aspect of terrestrial biodiversity, most common are: rabbits, wild boars etc. Birds present in this area are partridge, pheasant, pigeon etc. In the aquatic ecosystem there can be found the following fish: mulberry, nettle, redbird etc.

2.1.9 Noise

Within the territory of Municipality of Cesinovo-Oblesevo, no measurement/monitoring of level of noise have been recorded yet. Also, there are not recorded any complains about increased level of noise at the project site.

2.1.10 Cultural heritage

This area was very densely populated in ancient times and many archaeological finds and monuments are evidented. Among the archaeological materials, large Roman pythons, roofing and building ceramics, fragments of other pottery, fragments or entire tombs and necropolises are most commonly found.

Large Roman pythons have been found and are still being discovered today in many places. Antique sculptures and tombstones have been discovered on the site near the village Teranci. About 7km from the village Teranci, turret debris and several buildings have also been discovered

Of particular interest is location near the village Burilcevo. The place is called "Pilavo". It found traces of a turret debris that encompassed a larger framed area where much of the building material and ceramics remained. Several Roman pythons have been excavated here. Interesting is the construction site above the village of Sokolarci. From the older preserved churches we will mention the one dedicated to St. Archangel Michael (Figure 4) in the village Spancevo. Among the older churches is the church "Monastery" above the village Sokolarci. (located about 4km northeast from the project area).

Figure 4 Church St. Archangel Michael in v. Spancevo

2.2 Project location

Planned upgrading project activities, will be implemented in village Cesinovo, which is located in the eastern part of the Municipality of Cesinovo-Oblesevo. The length of the local street, which is object for this project, is 550m.

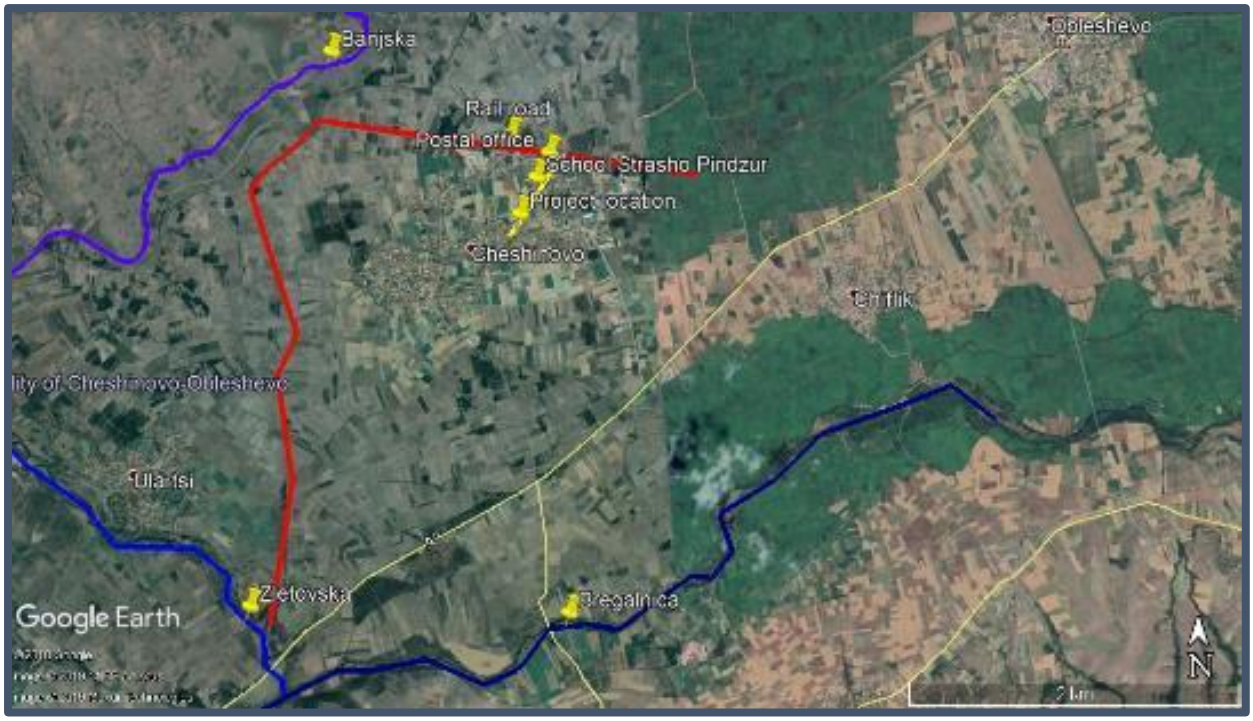


Figure 5 Micro location of the upgrading street in v. Cesinovo

The project site is located in the settlement Cesinovo. It is accessed by the road A3. The terrain is characterized with simple geomorphology. Waterbodies in the vicinity are the River Banjska (located at 1,3 km north west of project location) and the river Zletovska (located at 2,8 km south west of the project location). The biggest river in this region, river Bregalnica is located about 2,2 km south east of the project location. The macro location is shown on Figure 5.

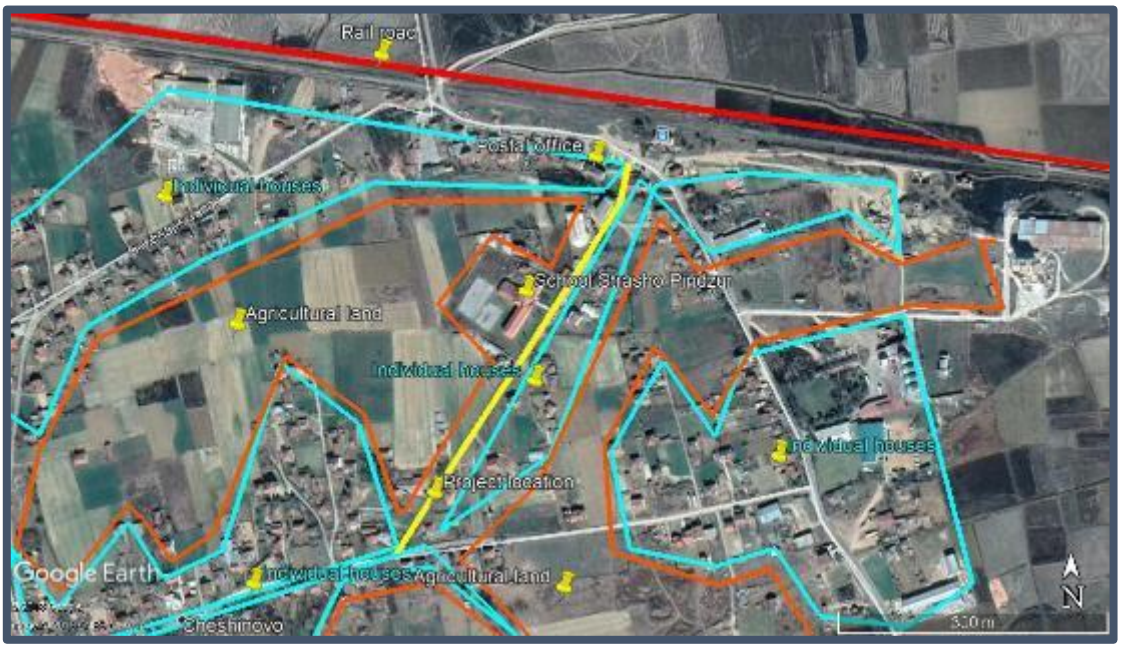


Figure 6 Macro location of the project area in v. Cesinovo

In the close surrounding of the project site (as shown on the Figure 6), primary school “Strasho Pindzur” is located. Along the project site there are individuals houses as well as agricultural land. At about 50 m to the north, a railway infrastructure is located. No cultural heritage sites are identified near the project location.

In order to provide screening of the current condition of the project area, PIU from the MTC and responsible staff from Municipality of Cesinovo-Oblesevo, in 10.06.2019, conduct a site visit of the project location in village Cesinovo,. Following situation of the project location was noted:

a) The project location covers flat terrain ;
b) The existing street is with asphalt pavement, in poor condition (undefined road profiles; varying width along the road; damages on the pavement, etc)
c) The height difference between the route starting and ending point is very small;
d) Along the route there are dwellings and village economies, and
e) Primary School “Strasho Pindzur” is noted;
f) Also along the route, fences, drainage cannel and power lanes are noted.

Figure 7 Current situation of the project area in village Cesinovo

The project team, after the completion of the site visit, recommended an actions, which include: preparation of the technical documentation with updated geodetic surveying (drainage channel should be included), confirmed by the Municipality Administration; upgrading of the street with sidewalks and asphalt pavement, underground installations for street lighting and optical cables (if necessary/possible); completion of the drainage system for the street.

2.3 Project Activities

In Table 2 main project activities are given. They will be implemented in three project phases: preparation activities (marking out and securing the project site, clearing out the route of the street, etc.), upgrading of the street and operational phase – activities related to regular and preventive maintenance.

Table 2 Planned project activities in Municipality of Cesinovo-Oblesevo

	Project phases		
	Preparatory activities	***Updrading phase***	**Operational phase**
Project Activities	• Marking and securing the route at the project location; • Insert security and alert signalization along the route of the project area;	• Mechanical excavation of soil; • Making of bedding; • Mechanical making of embankment obtained from excavation. • Making of reinforced concrete culvert ø1000; • Installation of the storm drainage system; • Placing road base layer; • Concrete work; • Applying bitumen after final concrete work; • Putting of reinforcement in the concrete; • Asphalt scraping and clearing of the scrapped areas (65,52 m^3); • Coating of the scrapped areas with bitumen emulsion; • Placing of curbs and behaton tiles; • Placing a bearing bitumen layer over existing and over the new road;	• Clearing out the project location from the generated waste streams; maintenance in the winter period; cleaning of drainage canals

Taking into account the type and volume of the project activities and sensitive receptors, potential environmental impact and risk can be easily identified and assess. The expected environmental impacts from the implementation of the project activities are present below.

2.4 Sensitive receptors

Several sensitive receptors have been identified as result of the realization of the project phases:

- Local population, who lives along the route of the project location;

- Students who are going to the primary school in v. Cesinovo;
- Workers, who will be working during the upgrading activities.

As result of the implementation of the upgrading project activities, these sensitive receptors will be affected from several environmental impacts and risks are presented below, by aspects.

3. POTENTIAL ENVIRONMENTAL IMPACT AND RISK AND IMPACT AND RISK ASSESSMENT

According the national legislation, the Environmental Impact Assessment Report for relevant project activities was prepared in February 2019, by company "Akva-Ing" from Stip. The adoption of the Report was performed by the Mayor of the Municipality of Cesinovo-Oblesevo, Mr. Gorancho Krstev. The Report contain the main project goals, project activities, photos of the location where the upgrading activities will be performed and proposed general environmental mitigation measures.

Increased level of noise, air emissions, possible improper waste management, OH&S risk and risk on local community safety are main identified adverse environmental impacts and risks. Adverse impact on cultural heritage sites are not expected. Detailed analyses of each possible impact and risk is shown by aspects, below. The presentation of the possible impacts and risk is shown in Table 3.

Table 3 Possible environmental impacts and risks

Possible impacts		
Preparatory phase	***Updrading phase***	***Operational phase***
• *O&H risk for the workers and local population (especially near houses, local primary school*	• *OHS risk* • *community safety risk* • *Air quality,* • *Noise,* • *Waste generation* • *Water pollution*	• *Local community safety* • *Noise*

Aspect: OHS and local community safety

Before the sub-project activates, one of the main obligations of the Contractor is preparation and implementation of the **OH&S Plan including Labor management procedures**, **Community Safety Plan** (with proper preventive measures which should be part of the project design documentation) and implementation of the requirement of the good international industry practice. The Contractor should mark out and secure the project sites (placement of alert signalization). *It is essential good communication between the Contractor, school principals and staff and local representatives of local self-government in order to prevent possible injuries of the pupils and to fulfill smooth running of the project activities.* The local population (especially pupils who daily visits the primary school in v. Cesinovo) should respect the preventive measures given from the Contractor. In order to provide smooth transport of people and goods across the project location, the Contractor should prepare **Traffic Management Plan (TMP)** with time schedule of project activities and directions for re-routing the traffic flow (draft preliminary TMF should be part of the bidders proposal). The Contractor is required to submit a preliminary TMP, which will be part of the ESMP. Before the start of the project activities, the updated TMP with Community Safety Plan will be submitted to ESS. It will be presented to the workers on regular basis. TMP will specifically deal with safety of the pupils and local population using the road (walking / driving); The **Information note/Press** release on the municipal web page (http://cesinovo-oblesevo.gov.mk/), should contain description of the type of the sub-project activities and their in order to provide uninterrupted flow of project activities. Community safety plan should organize lectures for the primary school pupils on safety measures around updrading site. *In order to prevent possible risk on pupils (who visit the primary school), the Contractor should schedule the project activities in the summer period, when the frequency of the pupils is decreased because of the summer break.*

Workers should wear PPE. They also must be informed on Grievance Redress Mechanism, as well as the right to organize in workers organization, by their employer the Contractor/Sub-contractor. All engaged workers must have

regulated full employment status during their assignation on this project, and all their health and pension insurance must be covered in full for the engaged period by their employer.

The potential impact during the updrading phase is expected to be locally negative, with moderate significance with short-term impact duration.

Aspect: Air quality

The possible **air emissions** could appear during transportation of construction materials and operation of heavy machinery. The mitigation measures for air emissions are presented in the Table Mitigation Plan.

During the upgrading phase, the potential impact is expected to be locally negative, with major significance with short-term impact duration.

Aspect: Noise

The operation of the heavy construction machinery and equipment will also generate increased **level of noise** and vibrations. According to national legislative ambient noise and vibration (Official Gazette No. 79/07, 124/10, 47/11, 163/13 and 146/15), the project location have been identified with area of II degree of noise protection (noise limit values for area with II degree of noise protection should not exceed 45dBA for night and 55dBA for day and evening). *Therefore, during project activities, the Contractor should respect requirements (given in the national and EU guidelines against increased ambient noise) and should undertake mitigation measures in order to prevent adverse noise impacts on the pupils and workers.*

The potential impact during the construction phase is expected to be locally negative, with major significance with long-term impact duration.

Aspect: Waste management

The main **waste streams** that may occur during construction activities are: excavation of soil, construction and demolition waste (old asphalt), communal waste and possibly contaminated soil from occasionally oil leakage (from construction machinery). The Contractor should respect national regulation requirements for proper waste management. The proper waste management can be carried out trough: categorization of waste streams (according List of Waste codes – Official Gazette of RM No.100/05), separation and recycle of the waste streams, transportation and final disposal of the waste stream at appropriate landfill (this process will be performed from CSE "Obleshevo" on municipal landfill "Bukeski Dol", located about 3,5km south from s. Obleshevo). Also during project activities, he should sign contract with authorized legal entities for collection of different waste streams. The estimated quantities of the waste form the excavation of soil and removal of the existing asphalt (generated from the project activities and according to the Main Design) are: excavation of soil (1,081.02 m^3) and asphalt (65.52 m^3). The options for reuse/recycling of the generated waste streams should be taking into consideration (e.g. reuse of the removed layer of asphalt, excavated soil, etc.).

During the upgrading activities, the potential impact is expected to be locally negative, with major significance with short-term impact duration.

Aspect: Water

As mention before, in the wider vicinity of the oproject site passes few water recipients: River Banjska (located at 1,3 km north west of project location); river Zletovska (located at 2,8 km south west of the project location) and river Bregalnica (located about 2,2 km south east of the project location). The water categorization of these water bodies is III class (eutrophic – with high organic load, low level of autopurification; cannot be used for bathing and recreation, water sports and fish growing) according Regulation for Categorization of Water Courses and Lakes - Official Gazette of the RM No. 18/99. Because of the wide distance between the relevant water recipients and project location, decreasing of their water quality is not expected. Despite this constatation, in order to prevent

additional water pollution of the relevant water recipients, the Contractor should forbid temporary or final waste disposal near or in river bands.

During the upgrading activities, in aspect of waste management, the potential impact is expected to be with low probability, with medium significance with short-term impact duration.

Aspect: Biodiversity (flora and fauna)

In the wider surrounding of the project site are located following protected areas: Important Plant Area (IPA) "Plachkovica" (located about 13km southeast from the project area); Important Bird Area (IBA) "River Zletovica valley" (located about 3.3km northwest from the project area); and Emerald site "Ovce Pole" (located about 3.3km northwest from the project area). Because of the wide distance between these protected areas and the project location in Municipality of Cesinovo-Oblesevo, adverse impacts and risks on their biodiversity are not expected.

During the upgrading activities, the potential impact on biodiversity is not expected.

In Tables of Mitigation and Monitoring Plan are given proposed preventive and mitigation measures. They should be implemented by the Contractor. The monitoring of their implementation is main obligation of the Supervisor. For completion of the sub-project activities without any possible environmental and OH&S risk it is essential to provide good communication between Contractor, school principals and staff, Municipal staff (Communal Inspector, Environmental Inspector, Project Manager), PIU from MTC and Supervisor.

Implementation of ESMP

This ESMP should be a part of contract that the PIU will sign with the Contractor for implementation of the project activities. The Contractor is obligate to perform all proposed preventive or mitigation environmental and social measures in this plan and to keep the evidence of any documents related to applying these measures (e.g., letter asking the municipality for disposal of inert waste, records on OHS training performed for all workers before start of activities, all developed EHS plans, etc.). The OHS training should be organized by the Contractor for all workers prior start the project activities and prior any specific tasks with high health risks. The training should be delivered by the authorized OHS company and everyday OHS risks should be assessed by the Contractor's OHS responsible person working on the location on daily basis. Evidence for all trainings delivered should be kept.

The Supervising Engineer needs to monitor the implementation of proposed measures by the Contractor and Contractor's subcontractors with visual checking, reviewing the records of evidence that the measures have been applied and ask the Contractor to apply the measures as soon as possible. The non-compliances should be recorded and the Report on any non-compliances should be reported to the municipality (Project Manager) immediately, and the Project Manager will report it to the PIU. Each non-compliance should be closed with appropriate measure/s and the evidence should be kept. The regular monthly report should contain all environmental and social issues raised during that period and the evidence on solutions should be provided as well.

PIU will have main responsibilities regarding the Project implementation, project coordination, monitoring activities and reporting.

The Environmental/Social Specialist engaged by the PIU will be responsible for ensuring proper environmental management of all Project activities, conduct environmental supervision by carrying out document reviews, site visits and interviews with Contractor, Supervising Engineer and municipality staff. She/he will supervise Contractors' compliance with ESMP and visit the project location at least once a month and the Monitoring Report reflecting main issues and arrangements and timing for their solution will be prepared and submitted to the PIU. The semi-annual Project Report should contain a chapter with Environmental/Social risks/impacts of the project and the status of implementation the ESMP proposed measures.

The municipality has a main role for daily monitoring of project activities engaging the Supervising Engineer and coordinating all activities on location nominating the responsible person – Project Manager.

The PIU need to organize regular meetings with the Project Manager, Contractor, representatives from MTC, responsible person from the Municipality of Cesinovo-Oblesevo and the ES specialist on a monthly basis or during any site visit

Public disclosure

The Municipality of Berovo submit draft version of this ESMP to review and approval of the PIU Environmental and Social Experts, who then (when confident that the document meets WB quality and content requirements) submit the draft document for the review and clearance by the World Bank. After the clearance is obtained, the document have to be publicly disclosed.

The Draft ESMP will be available for the public on web site of the Municipality of Cesinovo-Oblesevo (/http://cesinovo-oblesevo.gov.mk) and the web site of the MTC PIU (http://www.mtc.gov.mk/). During the 14 days after the disclosure of the prepared ESMP document, the Municipality of Cesinovo-Oblesevo will conduct public hearing event in order to inform the public on the proposed sub-project activities, anticipated impacts and the ways of their mitigation. Should there be any important feedback provided during the public consultation meetings, such feedback should be duly addressed and incorporated in the final document.

Based on the comments received by the stakeholders, the minutes of meeting would be prepared, including the list of participants and main comments on the prepared document. The final ESMP will be summited to the MTC PIU for the final approval of the Environmental and Social Experts. After the approval of the ESMP the document will be publicly available together with Minutes of meeting from the conducted public hearing event.

Approved Final version of ESMP should be included in the Grant Agreement with sub-project proponent, and then into the respective bidding documents and construction contracts

4. ENVIRONMENTAL AND SOCIAL MITIGATION PLAN

Potential impact		Impact scale	Proposed mitigation measures	Responsibility
Project activity: Marking out the route for upgrading of street "Hristijan Todorovski-Karpos" in Municipality of Cesinovo-Oblesevo				
Aspect: OH&S issues and local community safety	***Expected impact:*** Possible adverse safety and health impacts to the workers and local population in construction phase of local street due to: - Lack of ensured safety measures at the start of construction work - Injury passing nearby the construction site and open trench and water manholes - Not compliance with strict OHS standards and work procedure - inadequate public access within the v. Cesinovo	**Local/ short term/major with moderate significance along the street in settlement Cesinovo where the project activities will be performed**	• Preparation, approval and implementation of **OHS** and **Community safety Plan** • Preparation, approval and implementation **Traffic Management Plan** together with the municipal staff prior start up activities; • The Contractor is required to submit a preliminary TMP, which will be part of the ESMP. Before the start of the project activities, the updated TMP with Community Safety Plan will be submitted to ESS. It will be presented to the workers on regular basis. TMP will specifically deal with safety of the pupils and local population using the road (walking / driving); • • Provision of the information via TV, radio and municipality web site (http://cesinovo-oblesevo.gov.mk/) about the construction activities – start and finish of work for each day and location of activities, duration of work and traffic access on other streets; • Placement of adequate warning tapes and information and warning signs around the construction sites in village Cesinovo; • Provide corridors for trespassing and secure pedestrian line during construction • Obligatory application of good construction practice and application of safety measures such as: a) use of proper protective clothing and equipment by worker (PPE)r; b) Maintain a good level of personal hygiene; c) Health protection-fist aid kits and medical service on sites need to be provided during the works; • Protection of pedestrians, local population - fence the project location and prevent access of non-authorized personnel to construction site; • The construction site should be kept clean, without waste disposed. The waste need to be collected and immediately removed in order to prevent possibility of injuries; • The mobile toilet should be placed on the construction site; • 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; • 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;	• Contractor – Bidder/sub=contractor • Supervisor • Municipal staff (Communal Inspector/Environmental Inspector)

Potential impact		Impact scale	Proposed mitigation measures	Responsibility
			• Larger quantities of flammable liquids should not be kept on the site along the project site.	
Project activity: Upgrading of street "Hristijan Todorovski-Karpos" in Municipality of Cesinovo-Oblesevo				
Aspect: Air quality	***Expected impact:*** Possible emissions by transportation vehicles and impact on air quality in the v. Cesinovo due to: - Gases emissions of operation with construction machinery CO_2, NO_x, PAH, SO_2 and suspended particulates (PM_{10}, $PM_{2.5}$).	**Local/ short term/major with high significance within v. Cesinovo**	• Construction 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 appears; • Restriction of the vehicle speed within the construction sites; • Perform regular maintenance of the vehicles and construction machinery in order to reduce the leakages of motor oils, emissions and dispersion of pollution; • Burning of debris from ground clearance not permitted.	• Contractor –Bidder • Supervisor
Aspect: Waste	***Expected impact:*** Possible adverse environmental impact and health effects could occur as a result of generation of the different waste streams The inappropriate waste management and not in time collection and transportation of waste streams	**Local/short term/ with major significance within the project location – local street "Hristijan Todorovski-Karpos"**	• Identification of the different waste types at the project site (soil, asphalt, food, 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 site)" with the waste code 17 05, 17 05 06 - Excavated soil, 17 09 04 – Mixed waste from construction sites; • Small amount of solid municipal waste could be found (food, beverages), as well as packaging waste (paper, bottles, glass, etc.). Proper containers/waste bins should be provide at the project site during the upgrading activities; • Collection, transportation and final disposal of the inert and communal waste by CSE "Obleshevo" on municipal landfill "Bukeski Dol", located about 3,5km south from settlement Obleshevo; The options for reuse/recycling of the generated waste streams should be taking into consideration (e.g. reuse of the removed layer of asphalt, excavated soil, etc.). • Possible hazardous waste (motor oils, vehicle fuels, etc.) should be collected separately and authorized collector and transporter should be sub-contracted to transport and finally dispose; • The materials should be covered during the transportation to avoid waste dispersion;	• Contractor - Bidder • Supervisor • Municipal staff (Environmental Inspector and Communal Inspector) • PCE "Obleshevo" from Obleshevo

Potential impact		Impact scale	Proposed mitigation measures	Responsibility
			• Burning of construction waste should be prohibited.	
Aspect: **Noise disturbance**	***Expected impact:*** Possible noise disturbance as a result of outdoor equipment usage and transportation vehicles driving around the construction site	**Local/ short term /with major significance/ along the project location in v. Cesinovo**	• The equipment should be fitted with appropriate noise devices that will reduce sound level; • The project location in v. Cesinovo belongs to second level of noise protection (area with family houses, educational facilities, etc.) and the maximum allowed noise level should be 45dBA for night and 55dBA for evening and dayThe control of noise level should be performed before the start up with the working activities and during work peaks(of particular importance when project activities take place in the immediate vicinity of the primary school); • The construction work should be not permitted during the nights, the operations on site shall be restricted to the hours 7.00 -19.00; • The vehicles that are excessively noisy shall not be operated until corrective measures have been taken.	• Contractor –Bidder • Supervisor
Aspect: **Water quality**	***Expected impact:*** Possible environmental impact on the relevant water recipients could occur due to ground contamination (from the spillage of materials such as vehicle fuel, motor oils and lubricants) and waste disposal near or in river bands	**Local/Short term/near the relevant water recipients Medium significance/ Low probability**	• Possible hazardous waste (motor oils, vehicle fuels, lubricants) should be collected separately and authorized company should be sub-contracted to transport and finally dispose the hazardous waste; • According to national legislative for waste management, it is forbidden temporary or final disposal in or near the river bands of the river Bregalnica, Zletovska river and Banjska river.	• Contractor –Bidder • Supervisor
Operational phase: **Operation of the street "Hristijan Todorovski-Karpos" in Municipality of Cesinovo-Oblesevo**				
Because of the presence of the primary school along the route of project location, the implementation of the mitigation measures in the operational phase of the local street in necessary and should include: placement of the horizontal and vertical traffic signalization for speed limitation of the vehicles; implementation of road speed limitation barriers (speed road barriers, road shoulders, etc.). All mitigation measures should be in compliance with national regulative for traffic safety - Law for road traffic safety (Official Gazette of RM, No.54/07, 86/08, 98/08, 64/09, 161/09, 36/11, 51/11,114/12, 27/14 and 169/15).				

5. ENVIRONMENTAL AND SOCIAL MONITORING PLAN

What parameter to be monitored?	Where is the parameter to be monitored?	How is the parameter monitored?	When is the parameter monitored (frequency of measurement)?	Why is the parameter monitored?	Cost		Responsibility	
					Upgrading	Operations	Upgrading of street in v. Cesinovo, in Municipality of Cesinovo-Oblesevo	Operations of street in v. Cesinovo
Project stage: Marking out the route for upgrading of street "Hristijan Todorovski-Karpos" in Municipality of Cesinovo-Oblesevo								
Prepared all required documents related to OH&S, Community safety and Traffic Management	Within the project location	Review of the prepared documentation (OHS Plan Community safety Plan Traffic Management Plan (TMP)	During the clean-up activities At the beginning of each working day during the sub-project activities	To prevent health and safety risks – mechanical injuries To be in compliance with national communal health regulation and OH&S standards	Part of contractors and SE contract		Contractor - Bidder Supervisor Communal Inspector at the Municipality of Cesinovo-Oblesevo	
Training of workers and informing of the local population about the project actvities	At the project site	OHS training By OHS authorized company engaged by the Contractor Provision of the information via TV, radio and municipality web site (http://cesinovo-oblesevo.gov.mk/) about the project activities	Before the start up of the project activities	To prevent health and safety risks – mechanical injuries of the worker and local population To be in compliance with national communal health regulation and OH&S standards	Included in the project budget		Contractor - Bidder Supervisor Communal Inspector at the Municipality of Cesinovo-Oblesevo	
Project stage: Upgrading of street "Hristijan Todorovski-Karpos" in Municipality of Cesinovo-Oblesevo								

What parameter to be monitored?	Where is the parameter to be monitored?	How is the parameter monitored?	When is the parameter monitored (frequency of measurement)?	Why is the parameter monitored?	Cost		Responsibility	
					Upgrading	Operations	Upgrading of street in v. Cesinovo, in Municipality of Cesinovo-Oblesevo	Operations of street in v. Cesinovo
Providing safety traffic flow within the village Cesinovo	Within the project area in v. Cesinovo	Visual monitoring	During the working day	To ensure the safety traffic flow through the project location and easy access of local population to their property and public facilities	Included in the project budget		Contractor /Sub-conntracotr Supervisor Traffic Inspector responsible for the Municipality of Cesinovo-Oblesevo	
Use of PPE	On site	Visual monitoring	Occasionally, during construction	To ensure workers safety	Included in the project budget		Contractor /Sub-conntracotr Supervisor Labour Inspector responsible for the Municipality of Cesinovo-Oblesevo	
Providing safe pedestrian track and trespassing corridors	On site	Visual monitoring	Occasionally, during construction	To ensure the safety traffic flow through the project location and easy access of local population to their property and public facilities	Included in the project budget		Contractor /Sub-conntracotr Supervisor Traffic Inspector responsible for the Municipality of Cesinovo-Oblesevo	
Primary selection of the generated different waste streams at the project location	On the construction site	Review the documentation	At the beginning of work with new material/s	In order to ensure separation of hazardous from the non-hazardous waste as well as inert from biodegradable waste and separation of the reusable from non-reusable generated waste streams	Included in the project budget		Contractor – Bidder Supervisor	
Collection and transport of hazardous waste (if any occurs)	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/ Not to dispose the hazardous waste on the waste disposal spots	Included in the project budget		Authorized Contractor for collection and transportation of hazardous waste (if any occurs)	
Collection transportation and final disposal of the solid waste	At the project site (within the village Cesinovo)	Visual monitoring and reviewing the transportation and disposal lists	After the collection and transportation of the solid waste on regular base each day	Not to leave and dispose the waste streams on the sites in order to avoid the environmental and health impact on local population To have the real data for generated waste streams and	Included in the project budget		Contractor – Bidder Supervisor and PCE “Obleshevo” from Obleshevo	

What parameter to be monitored?	Where is the parameter to be monitored?	How is the parameter monitored?	When is the parameter monitored (frequency of measurement)?	Why is the parameter monitored?	Cost		Responsibility	
					Upgrading	Operations	Upgrading of street in v. Cesinovo, in Municipality of Cesinovo-Oblesevo	Operations of street in v. Cesinovo
		from the sub-contractor		to improve the waste management				
Baseline monitoring of noise and additional upon public complaint (if happens)	Along the street where are located family houses and near the primary school	With noise measurement calibrated equipment	Before the start up with the working activities and during the work peaks	To ensure noise level limits according regulation To prevent noise disturbance	Part of the regular Contractor cost		Contractor; Accredited company for measuring the level of provided by the contractor; Authorized environmental inspector, Construction inspector	
Possible waste disposal (solid and liquid) near or in the river bends within the relevant water bodies	In village Cesinovo near the project site	Visual check if the waste is disposed near relevant water recipient and drainage channel along the street	During the project activities (once per week)	To ensure good status of water quality To prevent possible water pollution	Included in the project budget		Contractor - Bidder Supervisor	
Fulfilled Annual Report for collection, transportation and disposal of waste	Local self-government administration	Review of documentation – Identification of 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	Included in the project budget		Mayor of Municipality of Cesinovo-Oblesevo / Ministry of Environment and Physical Planning	
Project stage: Operational phase of the street "Hristijan Todorovski-Karpos" in Municipality of Cesinovo-Oblesevo								

What parameter to be monitored?	Where is the parameter to be monitored?	How is the parameter monitored?	When is the parameter monitored (frequency of measurement)?	Why is the parameter monitored?	Cost		Responsibility	
					Upgrading	Operations	Upgrading of street in v. Cesinovo, in Municipality of Cesinovo-Oblesevo	Operations of street in v. Cesinovo
Placement of the horizontal and vertical traffic signalization for speed limitation of the vehicles, road speed limitation barriers (speed road barriers, road shoulders, etc.)	Along the street especially near the primary school	Decreased number of traffic accidents along the street and near primary school	Continuously (the parameter should be monitored in compliance with - Law for road traffic safety (Official Gazette of RM, No.54/07, 86/08, 98/08, 64/09, 161/09, 36/11, 51/11,114/12, 27/14 and 169/15).	To achieve safety of the local population and pupils and to be in compliance with national regulative for traffic safety		Municipality budget		Ministry of internal affairs (branch office in Municipality of Cesinovo-Oblesevo

6. ANNEX

Annex 1 Layout of the project location and street elements

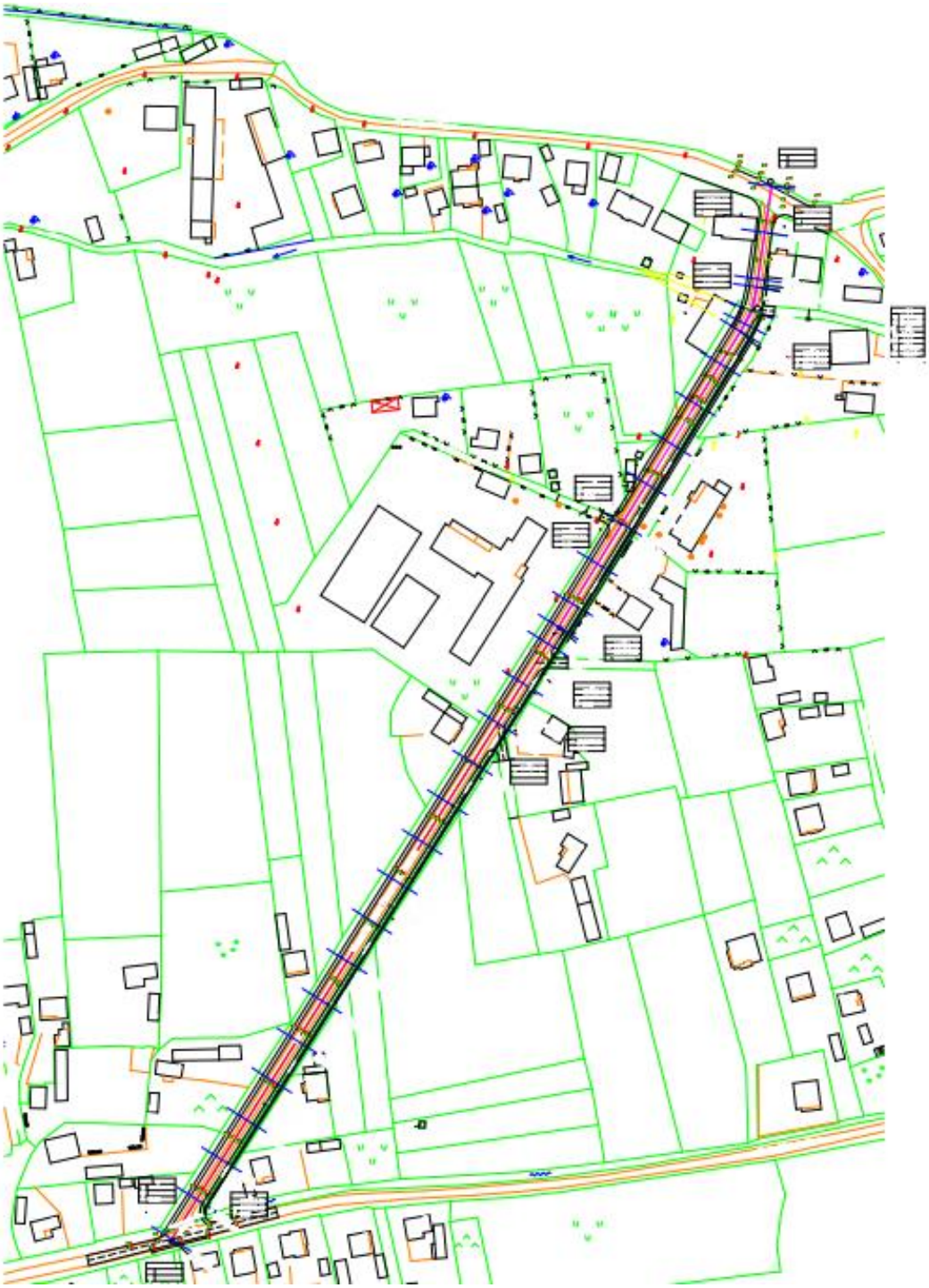


Figure 8 Layout of the project location in v. Cesinovo

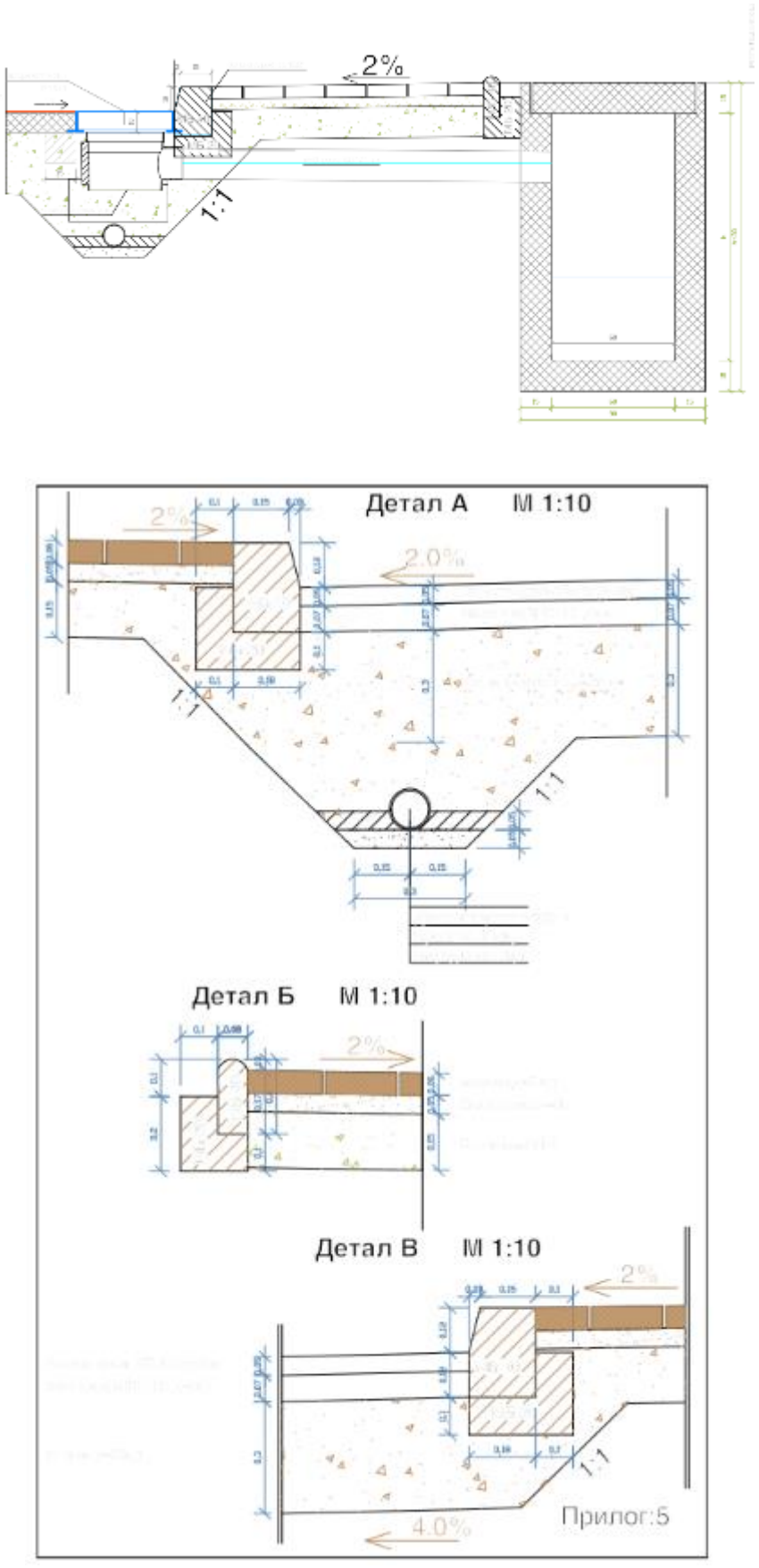


Figure 9 Cross section of the layout of relevant street and drainage system