



MUNICIPALITY OF DELCHEVO

Project Appraisal Document

Purchase of a firefighting vehicle

September, 2020
Delchevo



I. PROJECT DESCRIPTION

A. INTRODUCTION

The Municipality of Delchevo is a local self-government unit established in 1996 on the basis of the Law on Territorial Division of the Republic of North Macedonia. The municipality's boundaries cover an area of 422 km².

According to the 2002 census, Delchevo has 17,505 inhabitants, of which 11,536 or 66% live in the city of Delchevo. The average population density is 42.5 inhabitants / km², which is below the national average of 78.8 inhabitants per km².

The improvement of the public municipal services in the Municipality of Delchevo which is part of MSIP2 consists of 3 sub-projects that refer to reconstruction of streets in the city of Delchevo. This upgrade of the city street network is defined in the annual program of the Municipality for 2019, and inserted as such in the financial plan, double approved by the Council. Based on the application the Municipality of Delchevo signed a sub-loan agreement No.11 within the Second Municipal Services Improvement Project (MSIP2) signed between the Municipality of Delchevo and the Ministry of Finance on 20.08.2019 for implementation of sub-projects for "Reconstruction of streets in Delchevo".

The total value of the signed sub-loan for MSIP2 Project in Delchevo is 32,254,287.42 MKD, and the contracted amount with selected contractor for performance of the works is 26,636,385.44 MKD, and is related to the following 3 sub-projects:

1. Reconstruction of one section of Marshall Tito Street with 745 m length. The scope of work, according to the design, is defined depending on the level of damage to certain parts of the route. The works includes scraping and replacement of the asphalt surface layer; ; expansion of the carriageway including construction of embankment, road-bed structure, replacement of curbs along the entire length, and placement of asphalt in two layers bearing and wearing course. In addition, due to the extension, the R.C. retaining walls should be constructed at the defined position with the design, extension of the existing R.C pipe culvert, construction of additional street drainage gullies, and construction of one sided side walk along the street.

2. Reconstruction of Vera Jovic Street, near the High School The works refers to one section of the street with a total length of 599.2 m. The design includes replacement of the existing asphalt layer and curbs, including reconstruction of the road base and construction of pedestrian sidewalk. The construction of new stormwater in order to separate the existing collector of mixed system sewerage and rainwater is ongoing project funded by the Ministry of Transport and Communications and the European Investment Bank, and will be completed prior commencement of the reconstruction works;

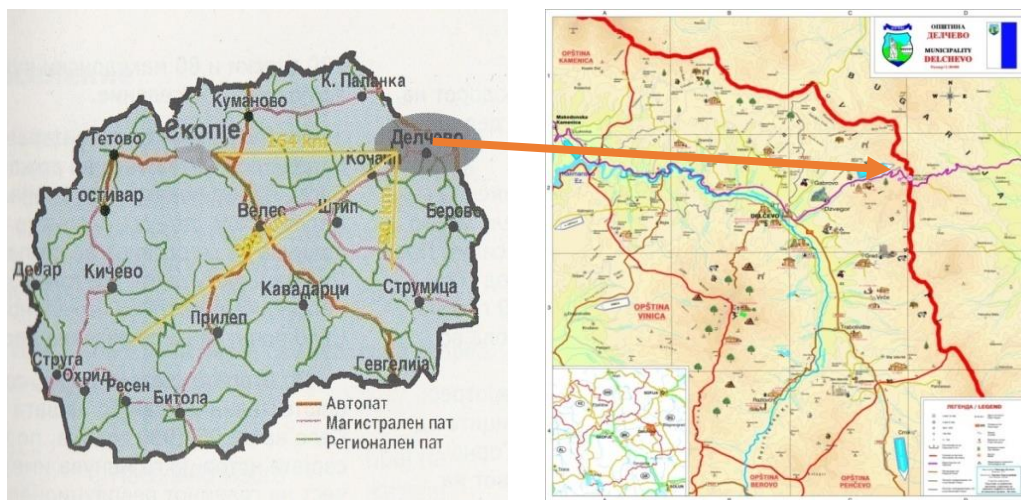
3. Construction of street no. 7 includes construction of the road base, concrete curbs, replacement of the existing asphalt layer, and construction of the sidewalk along one side of the street. The total length of the street no.7 is 293.07 m. The street is part of the residential access traffic system in the newly developed settlement SRC (Sport Recreation Center) near the settlement Pijanec. The street no.7 is one of the 8 designed



residential streets in the settlement, but the only one that passing in parallel along the Transit Street as part of the Regional road R1302 which leads toward Berovo. Due to the fact that the transit street does not have a sidewalk, the street no. 7 will be used as an access to the residential area as well as safety sidewalk for the pedestrians passing by.

Based on the signed sub-loan agreement, the Municipality of Delchevo has the right to obtain a Poverty/Social Inclusion Investment Grant provided under the Second MSIP project, for solving a key problem in the poorest places. According to the MSIP2 sub-loan agreement, the municipality of Delchevo has the right to use grant funds in the amount up to 27% of the contracted value for performance work, which given the total allocated funds for MSIP2 grant for the municipality of Delchevo is 7,191,824.00 MKD.

The Grant funds can be awarded to the Municipality after the mapping of the poorest settlement is done and at least 10% of civil works contract financed from the sub-loan is completed. For that purpose, the municipality conducted an "urban audit (UA)" and additional 120 surveys in the poorest settlements to determine a priority project. The first priority was fire hazard and it was recommended to purchase equipment or purchase a vehicle for extinguishing fires. The construction works on site of the Second MSIP sub-loan project is already over 30%.



Mapping the poorest neighborhood with objective data / explanation: Delchevo Urban Audit

The Municipality of Delchevo received training on how to prepare an Urban Audit. The municipality has implemented the first draft of the AI report and the corresponding ISIP table. The expert who prepared the training for the team and coordinated the activities was Mr. Marjan Nikolov.

The municipality of Delchevo is located in the eastern region, e.g. in the north-east of the country with a territory of 422 km² and a population according to the 2002 census of about 17 thousand citizens. Delchevo covers 21 settlements, and the center is about 10 km from the border with Bulgaria to the east. Here are the settlements / settlements in



Delchevo that are considered in the UA analysis of the municipality of Delchevo with the population according to the 2002 census as in the following table 1 :

Table 1: Settlements Population

<i>Women</i>	<i>Men</i>
51%	49%

The mapping of the population according to the latest proposal of the Municipality of Delchevo (fully serviced with public services, not fully serviced and irregular housing) reveals that the settlements: Dramche, Turija, Ochipala, Vetren, Iliovo are villages of broken type and almost half of the population in these Settlements are excluded from some services such as: local road and utilities.

According to the ISPI table on the UA draft in Delchevo, the local roads are better for the settlements: Milkovo Brdo, Third Region, Gabrovo, Zvegor, Nov Istevnik. The population in the settlements Milkovo Brdo, Novo Delchevo, Star Istevnik, First Region, Second Region, Third Region has the greatest access to ecology and sanitary services and other settlements either do not have at all or do not have sufficient quality of ecology and sanitary public services. The service buildings (schools, kindergartens) are concentrated in Milkovo Brdo, Novo Delchevo, Star Istevnik, First Region, Second Region, Third Region.

The ISPI table from Delchevo UA covers 24 settlements. Quantitative grades for each settlement can range from 1 (bad) to 16 (good). Namely, according to the ISPI table, the municipality has reached each settlement for access to the services of the population from these settlements.

The services that the municipality of Delchevo has in mind are: local roads with asphalt, water supply, sewerage, electricity, communal services, access to the upgrade of buildings for the purpose of: education, health, culture and public administration. These results were grouped into four main pillars: housing, roads, ecology and sanitation, and upgraded facilities. Then, each of the achieved settlements was given an appropriate ranking per column (ranking from 0 to 4). By summarizing the assigned rows by columns, each settlement can have final quantitative estimates from 0 to 16 depending on the access and quality of the supply of appropriate services.

Table 2 Population

No	Settlements	Population	No	Settlements	Population
1.	Dramche	100	13.	Gabrovo	400
2.	Turija	13	14.	Bigla	150
3.	Chiflik	37	15.	Vetren	139
4.	Ochipala	87	16.	Iliovo	38
5.	Razlovci	500	17.	Prvi Reon	1100
6.	Trabotivishte	300	18.	Vtori Reon	650



7.	Nov Istevnik	318	19.	Treti Reon	770
8.	Star Istevnik	144	20.	Star Rasadnik	300
9.	Virche	150	21.	Novo Delchevo	1500
10.	Grad	250	22.	Basarica	200
11.	Stamer	380	23.	Dzvegorska Reka	203
12.	Dzvegor	800	24.	Milkovo Brdo	5600

Vulnerability and exclusion from public services for the citizens of Delchevo

The following settlements / settlements are most affected by the ISIP analysis of quality of life given the unprotected public services: Dramche, Ilinovo, Vetren, Star Istevnik, Razlovci, Stamer with the lowest rank of 1-2 according to the draft UA of Delchevo. These settlements need sewerage, local roads, are far from using schools, kindergartens and other upgrade services. Furthermore, these settlements make a flock to move away from the center of Delchevo (about 15-26 km) and are at risk of fire.

- Dramche is a mountain settlement at about 800 meters above sea level with almost 300 citizens and neighbors of the Republic of Bulgaria. It is 15 km away from Delchevo. Dramche is well connected to local roads. He has a local school but does not work because there are no children enrolled to serve. It has its own water source and is not connected to the municipal water supply network. There is no sewerage network in this village due to the character of the village where the inhabitants and the houses are at a huge distance from each other and are grouped in several houses.

- Iliovo is a mountainous settlement at about 700 m above sea level and the river Bregalnica enters the lake Kalimansko. It is 15 km away from the city of Delchevo. There is a local school but it does not work because there are no children enrolled to serve. Education, early care for children and care for the elderly are used in the municipal center Delchevo, and the municipality organizes the appropriate public transport. It has its own water source and is not connected to the water supply network of the municipality. There is no sewerage network in this settlement. There is a need for better management of municipal waste (collection bins and waste). Households are scattered throughout the territory of this settlement.

- Vetren is a mountain settlement at about 910 meters above sea level with almost 120 citizens and borders the Republic of Bulgaria. It is 15 km away from Delchevo. This settlement is connected to a local asphalt road, but is facing eviction of the local population. There is no water supply and sewerage system due to the large geographical dispersion of households. The municipality supports households for individual solutions to meet the demand for water and sewerage. Garbage collection is a challenge as well as proper solid waste management.

- Razlovci is a mountain settlement at about 800 meters above sea level with about 700 citizens and is in the neighborhood of the municipalities of Berovo and Vinica. It is 19 km



away from Delchevo. There is a school, a textile factory, a local ambulance (twice a week the doctor visits), a culture center with a library. Only about 10% of households do not have access to the asphalt road. There is water and sewerage for about 70% of households. The rest do not have water from the same system due to the location of the houses located on the outskirts, but have their own wells and other sources of water supply. Lack of proper waste and proper solid waste management is a problem for this settlement, although there are several other waste wastes distributed to households, waste collection is not common from the utility company. The school building and ambulance need to be reconstructed.

- Star Istivnik is a mountain settlement at about 800 meters above sea level with about 70 citizens and borders the municipality of Pehchevo. It is 15 km away from Delchevo. It has its own water source and is not connected to the water supply network of the municipality. There is no sewerage network in this settlement. Education is provided in the neighboring Trabotivishte and Delchevo with adequate public transport. Garbage collection is a challenge as well as proper solid waste management. Recently, the young couple returned from Delchevo for the development of agro-tourism in this neighborhood. The population says that the reconstruction of the water supply is a priority and waste collection is a priority in this settlement, and the municipality already in 2020 took measures to improve the water supply in the village by reconstructing the drinking water intake through a larger regional project.

- Stamer is a mountainous settlement at some 740m above sea level with some 350 citizens and it also reports problems with the sewage that is polluting the underground water. It is almost 5km from Delchevo. One of the largest problems is the lack of sewage that the municipality started to work on in the late 2019 to cover to cover at least 30% of the households. The education is served at the city center of Delchevo with a proper public transport. Water supply is served in a mix of households connected to the municipal network and households connected to own sources of water from the settlement.

NOTE: All these settlements have large forest area that are at risks during summer because of the wildfire. This is endangering the citizens and the environment and the municipality have challenges and can not respond in time in case of fire. Citizens reported within the municipality that in addition to solid waste collection, this is one of the most challenging risks they face in their lives. The Municipality of Delchevo, therefore, considers that the protection from forest fire is a public service that is a priority in the municipality of Delchevo, especially for those marked with unprotected settlements in OA.

The conclusion of the municipality of Delchevo as per the Deficiencies and needs are:

- Ecology and sanitary services (sewage, solid waste disposal). By construction of proper communal infrastructure, water supply, sewage system, local roads the life of the citizens will significantly improve. Stamer settlement started to improve the sewage service last year. Most in need are: Razlovci, Star Istevnik.
- Lack of proper solid waste management (obsolete and worn out communal vehicles). Most in need are: Razlovci, Star Istevnik, Gabrovo, Trabotivishte, Grad, Stamer, Virche, Dzvegor.



- Local roads reconstruction and better water supply service is most in need at: Razlovci, Star Istevnik, Dramche, Iliovo, Stamer.
- Citizens, as explained in the UA of Delchevo, are complaining and asking for solution about the wildfire so that the municipality can quickly respond to the need in the early stage. For example, they report in their UA that in 2013, 2015, 2016 the wildfire in Razlovce, Dramche, Iliovo and Stamer resulted in forest damage and even air support interventions from the state Directorate for protection. Further, in some cases even the neighboring firefighters sometimes join the Delchevo firefighters in order to put wildfires under control. The situation is even more complex given that wildfires many times happen at the border with neighboring Bulgaria.

The settlements that are most deprived as per the ISPI table are also the settlements that are especially facing the danger of wildfire: Dramche, Iliovo, Vetren, Star Istevnik, Razlovci, Stamer. For example, as per the documents of the Crisis management center-CMC (Table 28 of the special part of the report from 2020: "Assessment of the endangered areas from risks at the Delchevo territory") the following settlements are endangered from wildfire:

- Golak mountain: settlements Razlovci, Iliovo and Bigla category II, III and IV of wildfire endangered
- Istevnik, Vetren and Razlovci settlements, category II, III and IV of wildfire endangered
- Dramche settlement category I wildfire endangered

The settlements reported in the CMC report are the most deprived settlements as per the ISPI table (except for Stamer).

Frequently these settlements are reported in the CMC document as high risk from wildfire for material damage and risk for life of people. For example, endangered are pointed the TV towers and transmitters at Razlovci and Dramche, human life loses in Vetren (wildfire from 2003). Further, the CMC document from 2020 (in the needs assessment part 3.3.1) is reporting that on the territory of Delchevo there is no firefighting vehicle.

The firefighting unit in Delchevo is reporting the following statistics of wildfire incidents in the period 2007-2019:

Table 3. Firefighting Unit of Delchevo.

Year	Interventions	Open space	Objects	Location/Settlements
2019	84	56	26	Razlovci(Obozna), Star Istevnik, Dramche, Iliovo, Vetren
2018	40	18	16	Razlovci(Obozna), Star Istevnik, Dramche, iliovo, Vetren, Ochipala, Trabotivishte



2017	52	34	14	Razlovci(Obozna), Star Istevnik, Dramche, iliovo, Vetren, Kiselica, Trabotivishte
2016	41	22	19	Razlovci(Obozna), Star Istevnik, Dramche, iliovo, Vetren, Ochipala, Trabotivishte
2015	35	16	14	Razlovci(Obozna), Star Istevnik, Dramche, iliovo, Vetren
2014	29	13	15	Razlovci(Obozna), Star Istevnik, Dramche, iliovo, Vetren
2013	42	24	17	Razlovci(Obozna), Star Istevnik, Dramche, iliovo, Vetren, Trabotivishte
2012	79	56	18	Razlovci(Obozna), Star Istevnik, Dramche, iliovo, Vetren
2011	73	49	18	Razlovci(Obozna), Star Istevnik, Dramche, iliovo, Vetren
2010	26	16	7	Razlovci(Obozna), Star Istevnik, Dramche, iliovo, Vetren
2009	19	7	12	Razlovci(Obozna), Star Istevnik, Dramche, iliovo, Vetren
2008	40	24	12	Razlovci(Obozna), Star Istevnik, Dramche, iliovo, Vetren
2007	55	36	17	Razlovci(Obozna), Star Istevnik, Dramche, iliovo, Vetren

Source: Firefighting Unit of Delchevo. Document received from municipal staff.

The settlements reported from the firefighting unit that frequently suffer from wildfire are the settlements already identified as most vulnerable in the UA of Delchevo (Dramche, Iliovo, Vetren, Star Istevnik, Razlovci, Stamer). Note again that Stamer settlement, as reported by the UA and the staff from Delchevo is already in the process of ecology-sanitary (sewage) service improvement.



B. RECOMMENDATION FROM IMPLEMENTED AUDIT

Municipality of Delchevo has conducted and implemented UA with a draft UA report. The draft UA presented by Delchevo provides enough information to identify poorer and marginalized communities for municipal infrastructure improvements. The draft UA of Delchevo helps the mapping of the settlements for housing, density, infrastructure, ecology-sanitary, electricity and telephone fixed line services and proper superstructure facilities (health, education, culture).

Proper analysis has been demonstrated by Delchevo in the draft UA to the ISPI table to identify clearly the deficiencies and the needs of the settlements. This analysis helps to more clearly identify the priority settlement/neighborhood and the priority projects.

The following settlements/neighborhoods are most deprived with quality of life given the underserved communal public services and the wildfire risks as identified and presented in the ISPI table and the deficiencies and needs analysis: Dramche, Iliovo, Vetren, Star Istevnik, Razlovci, Stamer.

Specific for Delchevo is that the settlements of Dramche, Iliovo, Vetren, Star Istevnik, Razlovci not only are most deprived with regard to infrastructure, proper solid waste management, ecology-sanitary services but also are endangered and at risk of wildfire material damage and human life losses as presented with the UA and the additional documents presented to the independent expert. So, the protection from wildfire is a common priority for these settlements. Stamen settlement is deprived of ecology-sanitary services but in the last year the municipality started to work on improvement of the sewage service there.

The citizen's engagement has been made available during the UA process. We summarize the appraisal in the next table.

Table 4 The citizen's engagement

Criteria	Comments	Appraisal
Urban audit (UA)	Draft implemented with proper ISPI table and analysis	Implemented draft UA enough to make this appraisal and to identify clearly and transparently the most vulnerable settlements ISPI table prepared
Settlements recognized in UA	Yes	One of the lowest scores as per the ISPI table from the UA and well explained situation at the settlements
Vulnerable category of citizens in the settlements	Yes	Settlements at the remote periphery of the municipality (15km-25km from the center of Delchevo) with vast forest areas endangered because of wildfire Vulnerable citizens and materials/objects



		not fully served with the proper sewage, solid waste management and firefighting services Health hazard issue from lack of proper quality of solid waste management and firefighting assets in need
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Thus, given the appraisal by following the criteria from the methodology we recommend the MSIP2 to allocate funds to Delchevo for one or more of the following settlements: Dramche, Iliovo, Vetren, Star Istevnik, Razlovci, Stamer.

Given the pace at which the municipality prepares the UA and its quality so far, we also recommend the municipality to submit mandatory the final UA by the end of September 2020.

C. SOCIAL IMPACT

Additional analyzes were conducted in order to cause the social impact of the contract extension. It was concluded that the social risks are not related to the proposed additional things.

Direct beneficiaries of the project are the population of the six poorest villages or about 1350 citizens living in these settlements.

The number of direct project beneficiaries will increase by 4000 people from the urban settlements in Delchevo but also the neighboring villages: Gabrovo, Grad, Virce, Zvegor, Trabotivishte and Nov Istevnik, where the residents live. Regarding the implementation of the project, there are no unresolved property issues or resettlement issues.

Finally, at the 41st plenary session of the Council of the Municipality of Delchevo, held on 29.06.2020, a Decision was made with the intention to use a grant from MSIP - project (No. 09-1134 / 1), which clearly states the priority of this project, as well as municipal co-financing. The decision was supported by all members of the municipal council coming from different political parties, which makes the project a low risk for implementation and community support.

Mechanisms for communication between the citizens and the municipality of Delchevo are established at different levels, but efforts are being made for their further development and improvement. In the municipality of Delchevo, in addition to direct contact and communication between the mayor and municipal officials with citizens on a daily, weekly and monthly basis, most often communication is used via e-mail, social platforms - FB, Twitter and the official website of the municipality of Delchevo. In addition, in each urban and rural settlement, the municipality of Delchevo has formed local and urban communities, with local officials who serve as a local branch of the functions of the municipality, i.e. to work more closely with the municipality. Transparency and two-way



communication are also present at the sessions of the Municipal Council, where at each session the last subject is related to the questions of the councilors.

Consultations with citizens were conducted several times a year, and the last one was on 23.12.2019, which was attended by more than 50 people of which about 35 are men and 15 women from the poorest settlements in the municipality of Delchevo and discussed the open municipal budget. Citizens identified the lack of fire protection, sewerage and poor condition of the streets as the biggest concerns. The sewerage system is implemented through another municipal project, due to which the municipality decided to procure a fire extinguishing vehicle.

B. PROJECT DESCRIPTION

The project envisages equipment and procurement of a fire extinguishing vehicle for the needs of the Municipality of Delchevo in order to regularly fulfill the competencies of the municipality, especially in the field of fire protection (forest fires), competencies in protection and rescue. The vehicle will be used for protection of the local population and their property from fires through TPPE Delchevo.

The Municipality of Delchevo is the founder of TPPE in charge of performing activities related to protection and rescue. TPPE employs about eighteen people, 16 of whom are responsible for disaster protection and rescue. TPPE has three old vehicles purchased in 1974.

As we mentioned, the Municipality of Delchevo has 21 settlements that need protection for regular exercise of the above competencies of the municipality. The need for procurement of vehicles is a priority, because the municipality currently does not have a vehicle that can meet real needs.

The most vulnerable category are the poor settlements listed in the analysis where 70% of the forest fund is privately owned and it is the main source of financial existence for 50% of the population through the use of forests and forest fruits.

The need for this type of vehicle has increased with the increase in the number of fires, as well as the damage that has occurred in these poorest places and throughout the municipality.

Management plan:

- The vehicle will be owned by the Municipality of Delchevo as a grant holder. By decision of the council, it will be handed over to TPPE Delchevo, which was established by the municipality of Delchevo for activities related to fire protection. The vehicle will be owned by the Municipality of Delchevo and registered on behalf of the Municipality.
- The Municipality of Delchevo will provide funds for vehicle registration and maintenance.
- The Municipality of Delchevo will provide a garage for the vehicle in their premises.



- The manufacturer or supplier is obliged to provide services and spare parts during the warranty period, after which the municipality of Delchevo will be responsible for the maintenance of the vehicle.

Expected results of the project:

- Improving the efficiency and effectiveness of TPPE to raise the level of the environment and improve fire safety in the municipality especially the most vulnerable poor settlements of Delchevo .

Project beneficiaries: Direct beneficiaries of the project will be the inhabitants of the 6 settlements, the employees in TPPE Delcevo, and the inhabitants of the Municipality of Delcevo, .

II. TECHNICAL SOLUTION

The project envisages procurement of a truck for extinguishing fires of the competencies of the municipality in the area of protection and rescue.

- The Municipality of Delchevo in cooperation and consultation with TPPE Delchevo researched the market for procurement of a vehicle for firefighting in the country and came to the following conclusions:
- TPPE Delchevo and the municipality of Delchevo need a fire extinguishing vehicle according to the submitted specification.
- The technical specification was prepared in accordance with the public market offers and the consultations with the technical staff in the firefighting department. Due to the specific type of vehicles the purchasing period will be at least 6 months.
- The vehicle needed by the Municipality of Delchevo and whose purpose is protection and prevention of fires will be of medium size according to the submitted specification. From the research on the market so far, we have come to the realization that on the territory of our country there are no ready-made vehicles for firefighting. They are prepared by order of the chassis of already existing truck manufacturers.
- The implementation of this project will have a great impact on environmental protection and 27,899 hectares of forest throughout the municipality with special reference to the most critical and poorest settlements: Razlovci, Star Istevnik, Stamer, Iliovo, Dramce and Vetren because the number of fires which have been common in those neighborhoods in the past will be minimized.

TECHNICAL SPECIFICATION

Table 5 Serial equipment for the vehicle

Serial equipment for the vehicle



VEHICLE PARTS	LIMIT OF VALUES		
Engine power of the vehicle	<u>min180 kw-</u> <u>max220kwmin150 kw</u>		
<u>Engine capacity minimum</u> <u>6800cm maximum 7500cm</u>	<u>Min6800ccm, max</u> <u>7500ccm</u>		
Wheelbase	Min 3800mm		
Gearbox	Manual min. 6 speeds + 1 reverse speed		
Permissible front axle load min. 6100 kg	min. 4480 kg		
Permissible rear axle load	min. 8480 kg		
Stable roof monitor	nozzle fork		
High pressure nozzle fork	Min 10 piece		
Water tank	Min 4000 l		
Foam tank	Min 500 l		
Independent front suspension	Yes		
Disc brakes on the front and rear axles	Yes		
Double wheels on the rear axle	Yes		
Speed limiter up to 90km	Yes		
Servo steering wheel	Yes		
Heating and electric adjustment of mirrors	Yes		
Heated fuel filter	Yes		
Air conditioning	Yes		
Digital mileage display	Yes		
Prepare a radio with speakers and an antenna	Yes		



Electrical adjustment of the light beam	Yes		
Digital tachograph	Yes		
Sound movement signal back	Yes		
Four-wheel drive	4 X 4		
Central lock	Yes		
Driver's seat with air suspension	Yes		
Vacuum water pump	Yes		
Chassis spare wheel holder	Yes		
Centrifugal pump with about 1500 l / min at 10 bar pressure	Yes		
Additional space for fire hoses and equipment (minimum 10 fire hoses 52 mm)	minimum 10 fire hoses 52 mm		
Two outlets of a 52 mm centrifugal fire extinguishing pump	Yes		
Capacity around 66 l / min at 140 bar	min at 140 bar		
30m hose with normal pressure	Yes		
60m high pressure hose	Yes		
The hoses are mounted on propellers	Yes		
Scale mobile with multiple sections	Yes		
Devices for measuring and controlling through a control panel	Yes		
Water level measuring device	Yes		
Manometer	Yes		
Indicator on / off	Yes		



Lightly confusing zigzagging two rotary cabin lights and 100W sirens	Yes		
Fog lights	Yes		
Two stable reflectors for night extinguishing	Yes		
Electric windshield hoists for driver and front passenger	Yes		
Cabin folding forward	Yes		
Seats min 1 driver + 2 front passenger	Yes		
Main wide-angle mirrors, with heating and electrically adjustable	Yes		
Right angle mirror, heated and electrically adjustable	Yes		
ABS	Yes		
Drives back and forth	Yes		
Parking brake	Yes		
Compressed air filling plug forward	Yes		
Electronic braking system	Yes		
Tires min. 245/75 R17.5	Yes		
Front axle single-row tires	Yes		
Rear axle two-row tires	Yes		
Spare wheel	Yes		

III. ENVIRONMENTAL IMPACT

The procurement of a fire-fighting truck with a minimum emission standard EURO 5 and low fuel consumption, will have a very positive impact on the improvement of municipal services in the Municipality of Delchevo.



The project activity (procurement, delivery of fire-fighting vehicle) has a very low and limited negative impact on the environment, most likely, if regular maintenance and repair occurs, and those impacts will be short-term, locally significant and of very low intensity. In order to prevent and reduce the potential risks in the environment and safety at work, the procurement of this new vehicle for the Municipality of Delchevo should be in accordance with the following standards:

1. Minimum diesel engine EURO 5 or equivalent, aiming to limit the air pollutant emissions within the national level standards;
2. EU Directive 2000/14/EC (noise specification- noise level lower than 102 dB (A)); To comply with this, the Contractor shall use construction machinery which possess Compliance Letter in line with the *Rulebook for the closer types of specific sources of noise and terms and conditions which should be fulfilled by the facilities, equipment, installations and devices that are used in the open space in respect of the emitted noise and the standards for noise prevention* (Official Gazette No. 142/2013).
3. The training should be delivered to at least two drivers of TPPE Delchevo in order to get acquainted with the operation of the new vehicle and the attachment, as well as the workers for their proper maintenance.

Measures have been proposed to avoid, prevent or mitigate adverse effects and to ensure good delivery of municipal services. The environmental management plan is shown in the following tables where the responsibility for implementation lies with the Contractor / bidder and the Municipality of Delchevo.

Drivers in TPPE Delchevo are professionals with many years of experience and trained in regular environmental management to increase fuel efficiency, keep vehicles clean and in good working order. Regular maintenance of the vehicle is key to minimizing environmental and occupational safety risks.

Municipal staff is responsible for implementing mitigation measures during the operational phase (vehicle management).

A. ENVIRONMENTAL MITIGATION PLAN

Potential impact	Impact scale	Proposed mitigation measures	Responsibility
Project activity: Purchase of a firefighting vehicle			
<p>Possible adverse health impacts on workers and inhabitants due to:</p> <ul style="list-style-type: none"> • Non-compliance with strict OH&S standards • No training delivered to the driver/s and firefighting professionals 	<p>Local/ Long term/major</p>	<p>The preventive measures could be implemented when the new fire fighting vehicle is delivered including:</p> <ul style="list-style-type: none"> • Check all technical specifications of the delivered fire fighting vehicle in comparison with the technical requirements (engine specification EURO 5 and noise specifications as minimum environmental requirements) established prior the tender procedure; • Check the fuel quantity, lubrication oil quantity, breaking and steering system at the spot, water reservoir with pump and lighting system as well; • The review of the producer manual and driving manual recommendations for smooth running of the fire fighting vehicle (nomination of the responsible person within the TPPE “Delcevo” from Delcevo); • Delivery of training to the drivers of the fire fighting vehicle for most economical running of the vehicle and professionals for its use; • Delivery of training to TPPE nominated person for regular maintenance of the vehicle as well. • Implementation of the Occupational Health & Safety measures for prevention of COVID - 19 for the workers and participating municipal staff, during the procurement process 	<ul style="list-style-type: none"> • Contractor – Bidder • Commander of the fire brigade Delcevo
Project activity: Putting the fire fighting vehicle into operation			



MSIP

MUNICIPAL SERVICES IMPROVEMENT PROJECT

Potential impact	Impact scale	Proposed mitigation measures	Responsibility
Environmental and health impacts to workers and inhabitants due to: <ul style="list-style-type: none"> Improper putting into operation (running). 	Local Long term/major	<ul style="list-style-type: none"> Perform the procedure of homologation of the fire fighting vehicle; The noise specification should be checked; The level of noise during operation should not exceed the national limited level of 102 dB(A) (according to national legislation and EU requirement); Perform the annual approval test at the authorized compliance body issuing the registration card for the fire fighting vehicle. 	<ul style="list-style-type: none"> Contractor – Bidder Director of the TPPE “Delcevo”
Project activity: Regular operation of the fire fighting vehicle			
Improper or lack of regular maintenance could increase the environmental and occupational safety risks due to: <ul style="list-style-type: none"> low fuel efficiency, higher emissions of GHGs and other pollutants increase in noise level 	Local/Regional Long term/major	<ul style="list-style-type: none"> Implementation of the Occupational Health & Safety measures for prevention of COVID -19 for the TPPE workers/ municipal staff and local population Regular maintenance and repair of the new vehicle and delivery of the spare parts on time by the professional service company; Signing a contract with the service company for regular maintenance, replacement of spare parts, preventive lubricant oil changes, checks on electronic and pump system, proper tire maintenance as one of the most important safety functions, etc.; Regular washing of the vehicle; Perform regular annual approval test during the annual registration of the vehicle; The TPPE should prepare the Fuel consumption and CO₂ emissions data Reports on annual base; The Report should contain at least the amount of diesel fuel consumption, type of diesel fuel used and the CO₂ emissions derived from the consumption, total length of the routes passed. 	<ul style="list-style-type: none"> Director of the TPPE “Delcevo” and technical staff within the PE



B. MONITORING PLAN

What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?	When is the parameter to be monitored (frequency of measurement)?	Why is the parameter to be monitored?	Cost		Responsibility		
					Construction	Operations	Delivery and putting into operation of the vehicle	Operation of the vehicle	
Project activity:					Purchase of a firefighting vehicle				
The environmental and safety protection measures applied before put the vehicle into operation. Prevention measures for COVID-19 are in place.	On the municipal parking site Availability of OH&S Plan including measures for COVID-19 prevention	Check the lubrication oil quantity and breaking and steering system at the spot. Test running successfully done. Visual check of the implementation of prescribed COVID-19 prevention measures.	Immediately after arriving of the vehicle in Delchevo	To prevent safety risks – mechanical broken and injuries			Contractor – Bidder Driver and Commission for technical acceptance of the vehicle		
Bidder to be ISO certified company (9001 and 14001)	The approval test at the authorized body for annual	Review the technical specifications of the vehicle. Mechanical and	Before put into operation (running) On annual basis	To minimize the adverse environmental and safety impacts			Contractor – Bidder Driver and Commission for technical		



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					Construction	Operations	Delivery and putting into operation of the vehicle	Operation of the vehicle
Standard technical operational parameters of the vehicle (EURO 5 engine standard, brakes, fuel consumption, etc.)	registration (Registration card for the vehicle)	electronic checks Monitoring of the technical specifications. Approval test Report showing that the fire fighting vehicle is in compliance with safety requirements, environmental requirements related to noise, exhaust emissions and fitted devices.					acceptance of the vehicle	
Project activity: Put the vehicle into operation								
Skill of driver on modern driving techniques and some improved performance	Municipality of Delchevo	Training records kept Review of the training records	Before official startup of running	To improve the driving techniques and to be familiar with vehicle characteristics				Municipal driver



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					Construction	Operations	Delivery and putting into operation of the vehicle	Operation of the vehicle
Costs of the new vehicle								
Good maintenance practice and repair performed by professional staff	At the service company	Review of reports from the service company	Periodically (six months min.)	To ensure minimization of the environmental and safety risks through high fuel efficiency and decrease of emissions of GHGs and other pollutants				Mayor Municipal driver
Fuel consumption trend, and CO ₂ emissions	Municipality of Delchevo	Annual Report from the municipal financing department	On annual basis reporting in front of the Mayor and Municipal Council	To monitor the air pollution and CO ₂ emissions				Driver of the vehicle Responsible person for reporting within Municipality Delchevo



IV. FINANCIAL DATA

Pursuant to the Sub-loan Agreement No.11 dated 20.08.2019 in amount of MKD 32,252,287, signed by the Municipality of Delchevo and Ministry of finance, The Municipality of Delchevo as a borrower-beneficiary of the sub-loan within the Municipal Services Improvement Project - "Reconstruction of municipal streets", the Municipality of Delchevo concluded an agreement number 08 -215 / 8 on 10.03.2020 with Trade company for construction, production, trade and catering ILINDEN AD – Struga, their contract number 08-196 / 1 from 03.03.2020, with a value in the amount of MKD 26,636,385.44 including VAT.

The Municipality of Delchevo conducted urban mapping of the poorest and most marginalized settlements in the Municipality and received the right to obtain a social inclusion grant. The draft urban audit report prepared by the Municipality and verified by the MSIP urban audit consultant was presented at the meeting of the MSIP Coordination Committee on 27.05.2020. After finalization of the urban audit report, the Council of the Municipality of Delchevo adopted the Urban Audit with decision no. 09-912 / 1 dated 20.05.2020. The Municipal Council with Decision no. 09-1134 / 1 from 29.06.2020 made a decision to use the available social inclusion grant funds, which are in the amount of MKD 7,191,824 (116,940 euros) for procurement of a firefighting vehicle.

The estimated price of the potential investment is equal to MKD 7,491,824 including VAT. Since the grant funds are not sufficient to finance the entire investment, the Municipality of Delchevo will provide its contribution in the amount of MKD 300,000, regulated according to the Council Decision no. 09-1134 / 1 dated 29.06.2020.

6. Table Cost of investment *and* financing

Value of investment	Value (MKD)	Value (EUR)	%
Procurement of firefighting vehicle	7,491,824	121,812	100
Source of Financing			
Social Inclusion Grant	7,191,824	116,940	96
Delchevo Municipality co-financing	300,000	4,872	4

Source. Own calculation

It is assumed that the procurement procedure will last approximately 2 months, while the delivery period of the goods will last approximately 6 months, meaning that all the above investments will be realized from September 2020 to March 2021.

Namely, The Municipality of Delchevo currently has two fire-fighting vehicles from the FAP brand and they were produced in 1976 and one smaller MAN vehicle produced in 1990.

Due to the age of the vehicles, TPP Delchevo and the municipality are facing large financial costs for their repair. Also, the municipality of Delchevo faces difficulties in finding spare parts due to the age of the vehicles. The old engines of the vehicles which are at the disposal of the



municipality and their non-fulfillment of environmental standards result in pollution of the environment.

The table below presents the vehicles that the municipality has at its disposal as well as the consumption of the vehicle that will be procured with this grant.

Table7 Overview of consumption per vehicle

type of vehicle	Year of production	Fuel consumption MKD	Repair and ongoing maintenance MKD	Other materials MKD	Total yearly costs per vehicle
FAP 1	1976	65.000	66.769	38.885	170.654
FAP 2	1976	65.000	59.768	4.000	128.768
MAN	1990	45.000	84.702	81.015	210.717
Vehicle in procurement	2020	30.000	n/a	n/a	30.000

Source. Financial data of the municipality

The new vehicle will be in compliance with all environmental standards and will provide timely intervention in firefighting. With the new energy efficient firefighting vehicle the fuel consumption will reduce for 50% and there will be no maintenance costs during the warranty period of 2 years.

In addition to this, there will be no problem for procurement of new parts due to the guarantee for procurement of spare parts within 5 years which will be requested by the supplier.

All four vehicles will be in use, but the old and used vehicles will be used as secondary vehicles for closer and smaller fires and the new vehicle will be used primarily for extinguishing forest fires in the 6 rural settlements listed in the urban audit and in this document.

The vehicle will be owned by the Municipality of Delchevo and its functionality and maintenance will be the responsibility of the Municipality. Therefore, the funds to cover the regular costs for annual operation and maintenance of the vehicle will be planned in each budget of the municipality of Delchevo starting from the Budget of 2021.

Although the vehicle will be owned by the Municipality, it will be given at the disposal of the firefighting unit in Delchevo which is equipped with 15 trained and specialized professionals that are fully capable to operate with this type of vehicle. Fire protection and environmental protection are the main priority of the municipality of Delchevo.

The financial, social and economic benefits from the implementation of this project will be achieved by increasing the efficiency of the municipality in providing preventive services in the field of fire protection, especially fire protection in 6 hilly and mountainous settlements, namely



in the villages: Trabolvishte, Grad Nov Istevnik , Virche, Gabrovo and Zvegor, that border with the Republic of Bulgaria, as well as in the 6 areas identified with the urban audit. The implementation of the project has indirect financial benefits for the municipality and at the moment it is not possible to predict the exact financial benefits. Also, the implementation of the project affects the population by providing fire protection and reducing the negative effects on nature and above all on the forests that are a resource and are used in industry.

The implementation of this project will have a great impact on environmental protection and 27,899 hectares of forest throughout the municipality with special reference to the most critical and poorest settlements: Razlovci, Star Istevnik, Stamer, Iliovo, Dramce and Vetren. With the procurement of the new fire fighting vehicle, the mobility of the firefighting unit will be increased, which will reduce the negative effects of fires, i.e. it will enable their rapid localization.