FONDI SHQIPTAR
I ZHVILLIMIT

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

PHASE: PROJECT IMPLEMENTATION

“IMPROVEMENT OF THE ROAD SEGMENT POÇEM – VLLAHINË”

HE & SK 11
consulting company

FORENSIC Engineering Albania SHPK

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1. INTRODUCTION

This study was created in the framework of the drafting of the project for the design of the project: "Improvement of the road segment Poçem - Vllahinë", contracted by the Albanian Development Fund.

The aim of the project: "Improvement of the road segment Poçem - Vllahinë" is to directly improve the quality of life for residents of the village Poçem, Kucul and Vllahinë, businesses in agriculture, livestock and mainly in the field of hydrocarbon extraction, facilitating livelihood of the inhabitants of these areas as well as making the area more tangible and attractive aiming to improve the quality and safety of movement.

1.1. The aim of the E.I.A report

The purpose of this E.I.A Report for the project: "Improvement of the road segment Poçem - Vllahinë", is to identify and assess the possible negative environmental consequences that will be created during the implementation of the project and operation of the activity, and to recommend measures, for a minimum impact on the environment. In this project, these measures will be an important component for the implementation of the designed project and

for the functioning of the activity in accordance with the legislation and environmental standards.

1.2. Legal basis:

-Law no. 8934, dated 05.09.2002 "On environmental protection"

- Law 8990 dated 23.01.2003 "On environmental impact assessment"

- VKM No. 228, dated 27.05.2002 "On the protection of the urban environment from pollution and damage" DCM No. 648, dt.1312.2002
- VKM Nr. 249, dated 24.4.2003 «On the approval of the documentation for the environmental permit and the elements of the environmental permit»
- VKM Nr. 805, dated 04.12.2003 "On the approval of activities with environmental impact for which an environmental permit is required"
- Instruction of the Ministry of Environment No. 3, dated 17.08.2004

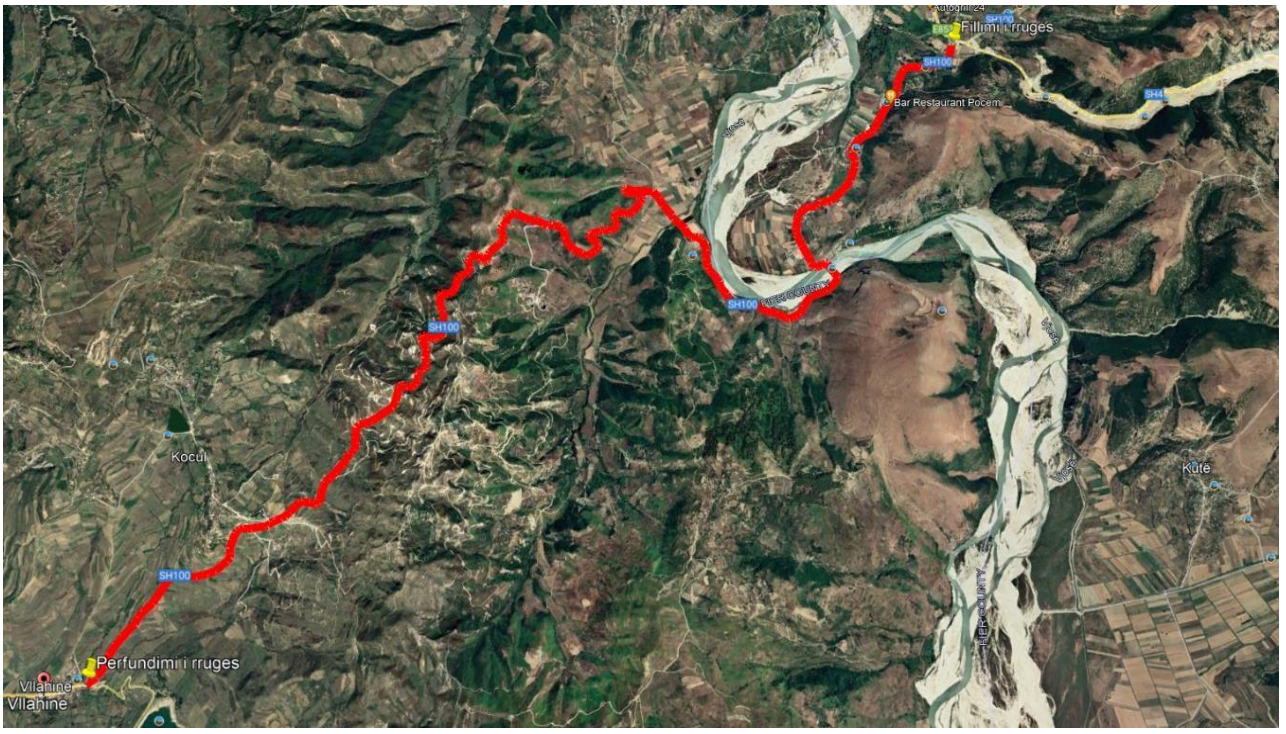
- Internal order of the Ministry of Environment No. 137 dt. 17.08.2004, Regulation No.1 dt. 17.08.2004

- Instruction of the Ministry of Environment, Forests and Water Administration, no. 3, dated 17.05.2006: "On the rehabilitation plans of areas damaged by quarries".

2. Location

he road segment "Poçem - Vllahinë" starts on the national road Levan-Tepelena and ends at the entrance of the village Vllahinë. The road passes through the village of Poçem, over the existing bridge over the Vjosa River, crosses the village of Kuçul and ends at the entrance of the village of Vllahinë. The road connects two andministartiv units belonging to Fier district and Vlora district.

This segment has a length of approximately 15.8 km and passes through generally plain-hilly terrain.



"Poçem - Vllahinë " road segment trail

CHAPTER I

PROJECT DESIGN DESCRIPTION

EXISTING CONDITIONS AND ANALYSIS

Immediately after signing the contract, the engineering staff organized visits to investigate the physical condition of the road in question, the object of study, to perform topographic measurements and analyze the object under study, conducting on-site inspection along the existing road and identify problems.

As described in the Technical Proposal, the Consultant started all the activities foreseen in the service graph provided in the Bidding phase. The following activities have been undertaken, essential for the processing of subsequent drawings:

- Collection of available documents, maps and data.
- Topographic survey of the existing trail area and in places where the trail is brand new to collect technical information on the current terrain situation.

Field investigation made by the Project Director, Geological / Geotechnical Engineering, Structure Design Engineering, Environmental Engineering, Traffic Engineering, etc. have provided important information for the assessment of the current situation in order to carry out a project as accurate and appropriate to the field as possible.

The description of the existing situation, for the purpose of the study will be presented in three separate chapters as follows:

A. General description of the existing condition of the road

B. Identification of problematic road segments

C. Description of the existing state of the artwork

For all the above elements we will present in this report the descriptive photographic material of their condition. (Annex A).

A. General description of the existing condition of the road

The road segment "Poçem - Vllahinë", which starts on the national road Levan-Tepelena and ends at the entrance of the village Vllahinë with a total length of 15,982 ml is generally located in the plain - hilly terrain.

The road which passes through the village of Poçem, over the existing bridge on the river Vjosa, crosses the village of Kocul and ends at the entrance of the village Vllahinë, is presented with an open route with a width that varies about 5 - 6 ml.

The existing condition of this road segment represents a complete lack of infrastructure without any engineering parameters. The road is paved with gravel and in separate segments it is paved with bituminous sand presenting problems with the level line.

From the point of view of the stability of the foundation, the road is generally stabilized and extends to existing routes but in certain segments, for which a detailed description will be presented in the next chapter, slips and deformations are observed in the body of the road as a result of unstable geological formation.






A. Identification of problematic road segments

From the field inspection, slips and deformations are noticed in the body of the road as a result of the unstable geological formation and specifically in the progressives:

Pk. 96 – 97 / km. 2+400 – km. 2+425;

Pk. 379 – 381 / km. 9+475 – km. 9+525;

Pk. 431 – 433 / km. 10+775 – km. 10+825;

Pk. 495 – 500 / km. 12+375 – km. 12+500;

Pk. 515-526 / km. 12+875 – km. 13+150; (segment which presents with major problems)

The total length of large slides is about 500 ml, for which engineering measures will be provided for stabilization based on the results obtained in the geological report.

The route of the road in these segments is deformed in plan and in quota, giving level reductions which have been repaired during the time with occasional filling. Also the existing structures in these landslides are displaced as a result of the weak geological formation.

Also in the slopes of these segments, cracks and landslides are observed, for which an in-depth geological study will be made on the landslide plan and engineering measures will be taken to stabilize them.

Also, the road segment behind the bridge in the progressive km. 3 + 950 - km. 4 + 175, which also serves as a river embankment, the slope on the side of the river is covered with stone material and mortar of the time, but from the field inspection it results worn out as well as in certain segments even damaged

In addition to large landslides, in certain segments, damage has been identified in the form of smaller landslides, which are partly reinforced with retaining walls and partly not. In these segments are visible cracks in the slope in the form of slip as well as slight deformations of the road body in the quota and in the plan.

These segments are:

Prog. km 2+300 – km 2+400

Prog. km 5+500 – km 5+650

Prog. km 6+975 – km 7+150

Prog. km 8+450 – km 8+525

Prog. km 9+250 – km 9+275

Prog. 10+775 km – km 10+850

Prog. 13+275 km – km 13+475

Large landslips

- Prog. km 2+400 – km 2+425







- *Prog. 9+475 – km. 9+525*




- *Prog. km 10+775 – km. 10+825*



- *Prog. km 12+375 – km 12+500*




- *Prog km 12+875 – km 13+150*







- Prog. km 3+950- km 4+175




Small landslips

- Prog. km 2+300 – km 2+400






- Prog. km 5+500 – km 5+650


- Prog. km 6+975 – km 7+150



- Prog. km 8+450 – km 8+525



- Prog. km 9+250 – km 9+275


- Prog. 10+775 km – km 10+850


- Prog. 13+275 km – km 13+475




A. Description of the existing state of the artwork

Përgjatë segmentit rrugor Pocem – Vllahine paraqiten veprat e artit si tombino dhe mure mbajtës, ku disa prejt tyre përgjithësisht paraqiten në gjendje të amortizuar dhe në varësi të gjendjes dhe funksionit të tyre do të analizohen dhe rishikohen. Along the road segment Pocem - Vllahine are presented works of art such as culverts and retaining walls, where some of them are generally presented in worn out condition and depending on their condition and function will be analyzed and reviewed.

For all the above mentioned elements we will present in this report the descriptive photographic material of their condition with the resection points of the location. (Annex A)

The culverts are mainly Ø 800 in diameter, with manholes by drainage channels and portals supported by stone retaining walls 1 m wide and with a 80 cm concrete band at the top. The condition of most of these culverts is depreciated, out of order due to filling and internal damage. The manholes which are built with stone walls are totally out of order. Also in some cases in the retaining walls of the portals, the masonry is stable, does not present visible structural damage but their connecting concrete band is totally depreciated and for this there will be a detailed analysis on the solution to be proposed.

Attached is the list of culverts that appear along the road segment:

Existing culverts				
No.	Piketa	Prog. (km)	Length (m)	Ø (mm)
1	30	0+750	6	800
2	41	1+025	6	800
3	51-52	1+275	6	800
4	58	1+450	6	800
5	62-63	1+550	6	800
6	92	2+300	6	800
7	97	2+425	6	800
8	101	2+525	6	800
9	106	2+650	6	800
10	124	3+100	6	800
11	135-136	3+375	6	800
12	165	4+125	6	800
13	185	4+625	6	800
14	189	4+725	6	800
15	194	4+850	6	800
16	211	5+275	6	800
17	225-226	5+625	6	800
18	257-258	6+425	6	800
19	269-270	6+725	6	800
20	282-283	7+050	6	800
21	296	7+400	6	800
22	310-311	7+750	6	800
23	326	8+150	6	800
24	338	8+450	6	800

25	357	8+925	6	800
26	360-361	9+000	6	800
27	380	9+500	6	800
28	396	9+900	6	800
29	405	10+125	6	800
30	409	10+225	6	800
31	420	10+500	6	800
32	440	11+000	6	800
33	455	11+37	6	800
34	463	11+575	6	800
35	548-549	13+700	6	800
36	554	13+850	6	800
37	560-561	14+000	6	800
38	574-575	14+350	6	800
39	606	15+150	6	800

Attached photographic material:

Pk. 30

Pk. 51

Pk. 58

Pk. 62

Pk. 92

Pk. 97

Pk. 101

Pk. 124

Pk. 135

Pk. 165

Pk. 185

Pk. 189

Pk. 194

Pk. 284

Pk. 420

Pk. 440

Pk. 463


Pk. 463


Pk. 549 Pk. 561


Pk. 574 Pk. 575

Retaining walls.

Retaining walls are all built of stone materials or concrete blocks and with a concrete connecting band on their head with a height ranging from 1 to 8 m. In two special cases we have a concrete retaining wall with a height of 3m. Their condition is mainly stable but their retention will be analyzed as the material used which is stone may present problems after the intervention. And for this there will be a reference photographic material (Annex A).








Bridges.

Also in this road segment there are works of art such as small bridges (type culvert / box), which are presented as follows. The foundations of these bridges are built with stone walls,

concrete blocks or aerated concrete. The supporting shoulders of the bridges are built with stone walls or concrete blocks and with a concrete connecting band on top. Depreciation consists of damage to their supporting foundations which are made of stone wall material with concrete band on top of them. The cover part is with pre-prepared reinforced concrete slabs in the form of panels which in some cases turn out to be unbound, and also corroded iron is noticed. From the ascertainment it results that these structures appear depreciated and damaged and concretely their foundations in some cases are uncovered by erosion and the masonry is damaged. There are also cases where there is a level reduction of the base. For all these structures we will present in this report the descriptive photographic material of their condition.

Attached is the list of small bridges that appear along the road segment:

No.	Piketa	Prog.
1	178	4+450
2	182	4+550
3	243	6+075
4	357	8+925
5	427-428	10+675
6	442-443	11+050
7	446-447	11+150
8	448	11+200
9	451	11+275
10	464	11+600
11	481-482	12+025

Also, along the road segment there are two large bridges and specifically bridges in km. 0 + 250 near the water treatment plant, with a length of 25 ml and Hd = 21ml. From the visual inspection this bridge, results without structural problems but the connecting walls on both sides of the bridge, entrance and exit, appear to be disconted by the body of the bridge, which will be analyzed in terms of solution. The depriciation of the concrete side railings is also noticed.

Also, the existing condition of the bridge over the Vjosa River in the progressive km.3 + 575 - km.3 + 750 is presented without structural problems but the depriciation of the concrete side railings is noticed. The bridge with Hd = 165m, has a total width of 8 m, where the passing width is 6 m and is limited by concrete pavements with a width of 1 m on both sides. The concrete layer of the pavement is consumed and it is ascertained that the iron of the pavement concrete is corroded, as well as the damages of some camps of the bridge railings, which are reinforced concrete.

Attached photos taken during the inspection:















Ura ne prog. 0+250 km.

Bridge ober Vjosa River prog. km.3+575 – km.3+750

2. PROJECT SOLUTION

GENERAL

During the drafting of the project-design, the fulfillment of the purpose of this project by improving the road segment with all the elements of the road infrastructure has been in constant attention.

Based on the Terms of Reference provided by the Albanian Development Fund, the Project - Preliminary Idea of the project for the object: "Improvement of the road segment Poçem - Vllahinë", was drafted and specifically as follows:

The results of the consulting team during the survey and factual analysis of the existing condition of the road conclude that the best and most acceptable route is that of the alternative that is closer to the existing route both in plan and altimetry, reviewing all road elements.

From the consultant's surveys along the entire road, the entire road package provided to treat the road to the last layer will be excavated in order to create permanent stability. It will also be treated with open side canals or concrete on one side almost all the way as it is an area that has waters and will be treated with culverts of different types and concrete retaining walls in segments where needed. Also, for the landslide areas, engineering measures will be foreseen for their stabilization based on the results obtained in the geological report.

In this road segment we propose the expansion of the road route to a total width of 7.0 m. Interventions will be foreseen in the body of the road by making improvements in the levels by anticipating the road layers. It is foreseen the construction of road layers for the passage of vehicles by applying a complete package from the sub-base layers for the improvement of the level to the asphalt layers. The width of the asphalt is foreseen to be applied in a width of 5.5 ml.

The problem of surface water removal is foreseen to be solved through an open soil or concrete channel in the side where it will be defined in the project, as well as it will be treated with culverts of different types. Also, since the relief is presented by sliding in certain segments, the construction of massive concrete retaining walls in the areas where it is necessary. In order not to impede the filtration of water, it is foreseen to apply filler gravel material from the back drain. Pilot protection is provided in areas of large slides (see the respective type profiles attached to this report).
Also, it is foreseen the construction of the sidewalk on one side of the road, rain water drainage, the lighting network, as well as the telephone-internet network in the road segment that crosses the residential area.
Also in Prog. 3 + 575 - km.3 + 750 where the bridge over the river Vjosa is located and in prog. 0 + 250 km where the bridge with Hd = 21ml is located, it is foreseen to rebuild the sidewalks by being treated with concrete layer while maintaining the width of the existing sidewalks of 1ml.

CHAPTER II

Environmental data in the current conditions

The entire central region of Albania experienced high rates of urbanization during the transition period

Year	Population	Incoming	Leaving	Births	Deaths	Family no.	Marrage no.
Year 2001	478,424	25,793	5,703	5,218	2,111	151,442	3,803
Year 2002	494,409	23,744	8,320	4,809	2,372	155,413	4,581
Year 2003	518,143	31,168	10,617	5,339	2,713	156,400	4,227
Year 2004	552,016	42,348	24,894	4,836	2,222	166,980	3,875
Year 2005	585,993						

Factors that have influenced.

A. Continuation of the urbanization process: It is clear that the urbanization process will continue to be a key factor in the dynamics of the region. This region continues to be the attractive magnet for the economic development of the country. It is assumed that the concentration of population around this region will continue in the coming years, despite the belief that the pace of mechanical demographics will
to come down as the process of urbanization is towards its stabilization

B. Natural growth: Albania stands out as a country with a high rate of natural growth and the presence of a young population. However, it is believed that Albania will also approximate the general European trend (despite being at softer levels) of slowing down the natural growth rates of the population. Naturally this can also lead to a decrease in the profile of a young middle-aged population. Such a phenomenon is natural and a consequence of changes in the economic format of the country Health service and education.

Impacts on the health of citizens relevant to VSM are those that arise as a result of interaction with environmental receptors (environmental components such as air, water or soil through which pollutants become potential through water transport and contact with humans. The area means, first of all, the preservation at acceptable levels of the main

environmental parameters. The high population density, the unplanned development of residential areas, the reduction of public recreational and especially green spaces undoubtedly leads to a reduction in the quality of life, deterioration of environmental parameters accepted as standards, high costs of society for further adjustments per unit area and higher costs for health protection.

Local economy and employment

The economy

The dramatic political and socio-economic transformations of Albania, since 1990, are reflected in the demographic trends of the country:

- massive urban migration, mainly to larger cities
- very high emigration, mainly of men looking for employment in other countries rapid decline in the number of births.

Urban waste.

Hazardous waste is often mixed with municipal solid waste. In general, hospitals and public health centers (with the exception of the military hospital that has an incinerator) sterilize hospital waste in special autoclaves which ensure the destruction of pathogenic microorganisms making them harmless to be deposited in the landfill of urban waste. Private hospitals have a contract with a licensed company for sterilization of hospital waste, thus enabling their treatment.

Climatic parameters

	Description	Location
1	Average annual temperature, ºC	15.1
2	Highest average temperature in summer,ºC	29.9
3	Absolute highest temperature, ºC	42.2
4	Lowest average temperature in winter, ºC	6.7
5	Absolute lowest temperature, ºC	-10.4
6	Average annual rainfall, mm	1270
7	Maximum annual rainfall, mm	1770
8	Minimum annual rainfall, mm	773
9	Average evaporation (E.T.P); (E.V), mm	880; 600

10	The predominant direction of the annual wind	N; Ë (14.6%)
11	Predominance of wind direction in summer	N: Ë (2- -5%)
12	Predominance of wind direction in winter	S.E. (17- -5%)
13	Average wind speed, m / sec	1.8
14	Basic wind pressure, kg / m2	0.281
15	Maximum snow depth, cm	15
16	Maximum depth of soil freezing in cm	10
17	Average annual relative humidity,%	70
18	Average relative humidity in summer,%	63
19	Average relative humidity in winter,%	73
20	Average number of rainy days ≥ 0.1 mm	129
21	Average number of rainy days≥ 1 mm	100
22	Average number of rainy days ≥ 5mm	64
23	Average number of rainy days ≥ 10mm	45
24	Actual duration of sunshine per hour, annual	2530
25	Maximum expected magnitude	60-70

Air Quality and Noise

Air Quality

Although there are no air quality monitors, we can say that the air quality is generally good. The only source of air pollution here may be the excavation process. During the construction activity there will be emissions of dust, which mainly contain clay particles. Given the location and terrain the impact will be negligible.

Acoustic pollution

Noise in current conditions is not a concern. The biggest generators of noise are the means of excavation and transport. Measurements for the level of these noises so far, show that their level is very low.

Water network

At the location of the facility we have no surface and groundwater sources to be affected by construction activity. Cliffs that form in case of precipitation are easily controllable as they are not high flow.

Construction activity is affected by the hydrographic network of the area. We have no specific water uses for technology.

Due to the climatic conditions and the geographical position where the study area is located, it is not very rich in diversity of fauna and flora. Below we give a brief presentation of them.

Flora and fauna

Ecosystems, habitats

The ecological value of these areas is a natural resource for the citizens and important for the country.

Habitat Types

Some of the habitats are classified as nationally protected. They are classified as follows:

- Protected natural forests;
- Artificial forests and plant associations;
- Forests with Mediterranean shrubs and trees;
- Semi-degraded drainage channels;
- Artificial lakes and water mirrors.

Use of biodiversity.

Biodiversity-related elements have not been used in a planned manner or for specific purposes by various entities, other than the use of timber and the collection of medicinal plants.

Spontaneous hunting as well as the use of trees and shrubs for heating especially after the 1990s have given their impact on the weakening of vegetation.

Architectural and historical heritage, archaeological sites

The area where the building is located is not distinguished for special architectural and historical objects as well as archeological finds. According to the geological study, geomorphological and architectural features are common, and to date do not represent any particular object to be taken into legal protection.

2. Information on the presence of water resources in the project area and around

Water network

At the location of the facility we have no surface and groundwater sources to be affected by construction activity. Torrents that form in case of precipitation are easily controllable as they are not high flow.

Construction activity is affected by the hydrographic network of the area. We have no specific water uses for technology.

This area lies in a flat terrain and is not populated by buldings. The study area has a central Mediterranean plain climate. The climate of this area is characterized by mild and wet winters and dry and hot summers. Precipitation falls in the form of rain. The snow layer is negligible and of rather short duration. The average perennial temperature is 15.1 ° C. The average perennial rainfall is 1210 mm. The height of snow in very rare cases ranges from 5 to 10 cm. The type of soils where the route of the road under study passes are gray brown soils. The geological formations where the path of the road under study passes are brittle sandy conglomerates and clays. The vegetation is composed of Mediterranean shrubs rich in water in the cold period of the year from the rainfall that falls in the watersheds and that interrupts the route of the road under study.

The road under study passes over the existing route making the extension according to the required parameters.

Hydrological conditions

on the analysis of samples taken in the area around our study site, to determine the physico-chemical qualities and hygienic-sanitary conditions of groundwater, it results that these waters are not aggressive against iron and concrete.

From the laboratory analyzes it results that these waters are odorless, tasteless and slightly brown due to the content in the fine fraction-clay-surane.

From physico-chemical analyzes it results that:

a) for example it is about 7.6

b) MH3 (ammonia), fecal contamination indicator ~ 0.0mg / l

c) NO2 (nitrate), indicator of decomposition of organic waste ~ 0.0mg / l. d) Strength, indicator of German p 9.1º salt content.

e) Mineralization ~ 701.0-724.2 mg / l

Bacteriological analysis shows that the water is non-drinkable where we have bacilli above 1100mg / l when the rate is up to 1.0mg / l. From the works performed by the authors of the study in the area around the object of study, it results that the area is rich in groundwater.

A brief description of the vegetation of the surface where the project is proposed to be implemented

The vegetation communities along the corridor are described according to their plant composition, according to quality and preservation features.

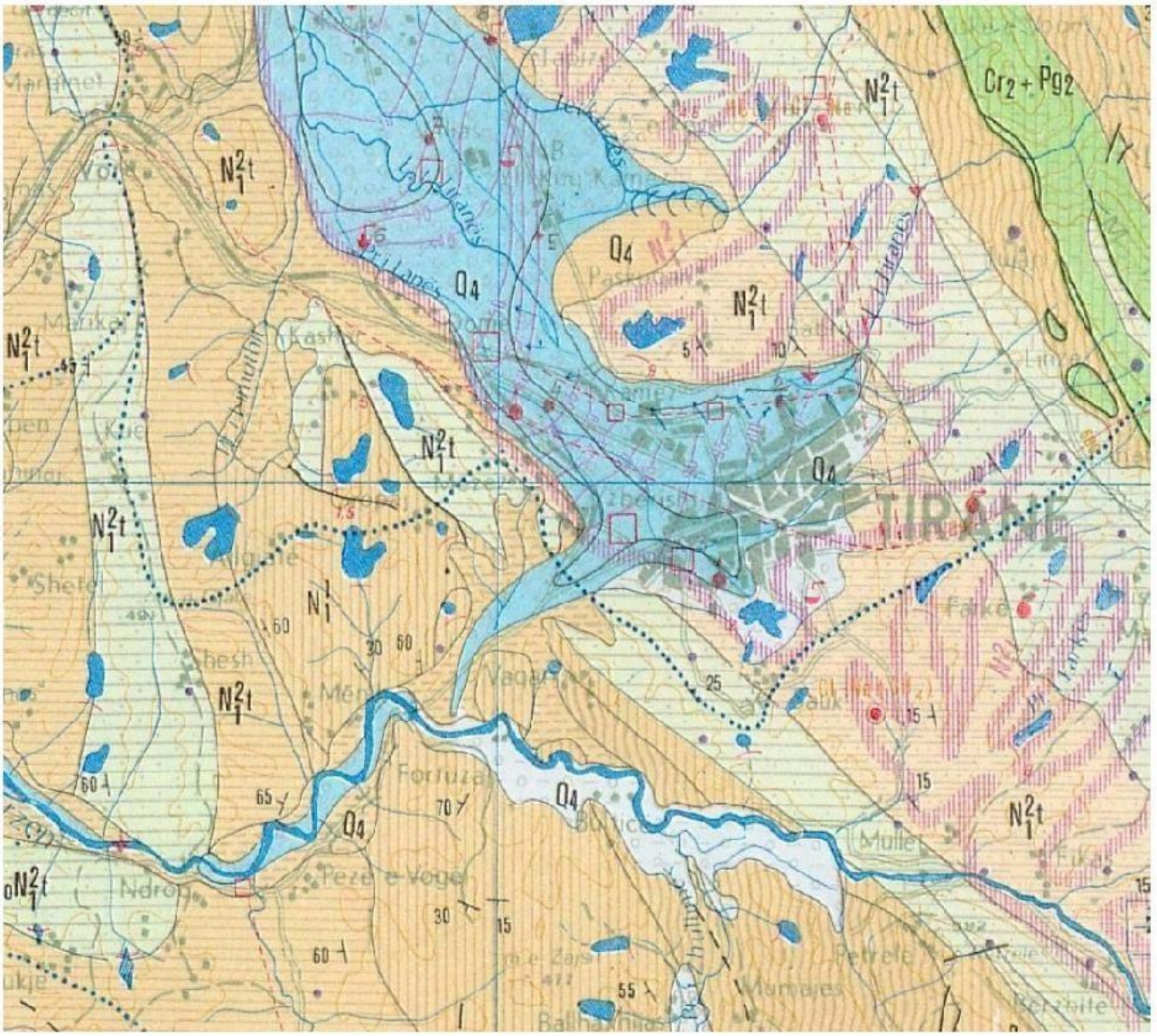
The area is rich in vegetation both in species and in extent. In it are encountered from the belt of shrubs that extends to a height of 600-800. m, oak belt 800-1200 m, broad-leaved, coniferous and mixed forests and up to alpine pastures with an altitude of over 1000m.

Most of the territory is covered with Mediterranean type shrubs with evergreen foliage. Shrubs are generally low and economically exploitable. Red juniper berries (Junipers) are used for export, heather wood (Erica arborea) is used in handicrafts for artistic products.

The flowers of marese, heather, hawthorn (Crataegus) are very popular with bees for the production of malt. Marmot fruit (Arbutus unedo) is also used for the production of brandy. The oak belt is more widespread on the ridges and slopes of the hills, but it has been intervened with indiscriminate cuts, which has brought great erosion in the area of Kuci and Kulles.

The altimetric latitude, the climatic conditions- and the vegetation of the district have favored the existence of a rather interesting fauna.

HYDROLOGICAL MAP OF THE REGION



3. An identification of potential adverse environmental impacts of the project, including impacts on biodiversity, water, soil, air and health

Data on the identification of environmental impacts during the start and operation of the project.

Humbje e tokës për kullotë Loss of land for pasture

The total area that the building will occupy during construction is not cultivable (existing road).

Waste

During the performance of works is not expected to have hazardous waste, but even if there is a contractor must take all measures for their storage and disposal based on VKM nr 371 dated

11.06.2014. Inert waste will be managed in cooperation with the municipality, waste will be deposited in the designated area. Some of this waste will be disposed of on the construction site after the completion of works. It will be used for filling the sides of the foundations, for the arrangement of the square and the green surfaces.
Solid debris from the construction works will be mainly those inerts of gravel and humus layer and plant and soil layer which will be cleaned for the construction site.

Based on VKM no. 99, dated 18.2.2005 "On the approval of the Albanian catalog of waste classification", solid waste that will be produced in this area will be waste such as: 17 02 03 plastic, 17 02 02 glass, 15 01 01 materials paper and cardboard, 17 04 07metals, 17 02 01 organic waste (wooden pallets), 17 09 04 inert materials produced by the works as well as waste included in the category of CODE 17 O5 Soil (including soil excavated from contaminated soil, stones and other clays) and its subcategory:

- Code 17 05 04: Soils and stones, other than those mentioned in 17 05 03;
- Code 17 05 08: Ballast, other than those mentioned in 17 05 07;
- Code 17 09 04: Mixed construction and demolition waste;

The amount of soil that is expected to come out during the works is 56,461.6 m3.

A portion of this amount will be used in the filling works.
Inert waste disposal to be done in the landfill based on the instructions of local authorities and in accordance with DCM No. 575, dated 24.06.2015 "On the approval of requests for inert waste management". Transport of inert waste to be done by technological means equipped with a license type III.2.B based on law no. 10463, dated 22.09.2011, "On integrated waste management" and to be accompanied by the completion of Annex 1 of DCM no. 229, dated 23.04.2014 "On the approval of the rules for the transfer of non-hazardous waste and the transfer document of non-hazardous waste". The Municipality, in the documentation for the issuance of the permit for the construction, repair, restoration or demolition project, stipulates that the natural or legal person, who has been granted the permit for the realization of the project, must prove with the necessary documentation the fulfillment of the requirements of this decision. within 30 (thirty) days from the date of completion of the project of construction, repair, restoration or demolition of the facility, which creates inert waste. Within 30 (thirty) days from the date of completion of the project implementation, the natural or legal person, who has been granted permission to implement the project, submits to the National

Environment Agency copies of documentation proving compliance with the requirements of this decision. The natural / legal entity, requesting a permit for the construction, repair, restoration or demolition of the building, before obtaining the construction permit must deposit a financial guarantee on behalf of the LGU, which will not be less than 3% of the value of the structure of the building and is determined by a decision of the Local Administrative Unit council. The financial guarantee is returned to the natural / legal entity without interest by the Local Administrative Unit, which has issued the construction permit, after proving that the inert waste has been delivered, according to points 4, 5 and 6, of this decision, to the landfill or landfill of temporarily determined by the Local Administrative Unit.

4. A brief description of possible discharges into the environment, such as: wastewater, gas and dust, noise, and waste generation

Soil pollution from solid waste

During the construction of the facility there will be temporary deposits of soil that will contaminate the entire square where it is being build. But their impact will be temporary.

Impacts on flora and fauna.

As we mentioned above, the flora and fauna in the construction area of the building is rich in shrubs and trees. However, it must be acknowledged that the impacts on the herbaceous flora in the vicinity of the construction site are to be considered.

Impacts on fauna will be less. The classes that will be most affected will be those of reptiles, fish, and birds, but the species that will be affected are insignificant and do not appear among those endangered, endemic, protected or threatened.

There will be no impacts on habitat fragmentation. So the project does not encourage the reduction of species capacity for reproduction or there are risks for population degeneration.

There are no plant species protected in this area with special status. Local flora and fauna will not be affected by exploitation.

The rehabilitation measures of the square will enable the improvement of the condition of the flora and fauna as well as of the biodiversity in general. It will also enable the improvement of the landscape and the surrounding environment. The very nature of the affected species, which are regenerative for a short period of time, also contributes to the rapid rehabilitation.

Water treatment

The construction activity of the facility is related to the construction of the rain water drainage network.

Rainwater will no longer flow according to the natural flow, but will be channeled and the construction site will be given a slope according to the project. So with the construction of the white water network there will be no accumulation of them to form ponds.

Acoustic pollution (noise)

Noise generated during work, excavation and transport vehicles will be within the allowable limits, not higher than 40 Db. Noises will have no continuity, but will be intermittent in time. These are more pronounced during the day, while at night the works are interrupted.

The noise of machines at a distance of 7 m from them is 40 dB. Considering the expression of the acoustic intensity level of a noise with the following relation:

L = 10lg (I1 / I0) by

L - Acoustic noise level to be considered.

$\mathbf{I_1}$ - Acoustic intensity of accumulated noises

$\mathbf{I_0}$- Acoustic intensity of reference

We estimate that the acoustic level of noise is lower than that of the noise of a car passing in it, practically it is 40-50 dB which corresponds to the conditions of a conversation with normal voice.

The analysis of the frequency of noise emitted by the machines and equipment that will be used in the facility, shows that they are below the average frequency of 200-2000Hz, which is acceptable to the human ear.

Dusts during the work process

The emission of dust in the air is at very low levels and is temporary. For the employees who work in the facility or even near it, protective measures will be taken by equipping them with masks with protective filters for health safety. The rules and regulations of Technical Safety at Work will also be respected.

The products of combustion of vehicle fuel or vehicles with exhaust and discharge that have the energy source with diesel engines will be in normal parameters and will not create any special environmental problems.

Impact on the health of the people working in the facility and of the residents around.

The contractor will have a workforce training plan. This will apply to all workers before starting work.

Employees who will be present at work will be protected by personal protective equipment against dust and noise which will be limited only within the area of use. Given the remoteness of the residential area, as well as taking safety measures at work, there will be no and no expected impacts on the health of the population of the area and its employees.

Risks of accidents

The activity for construction and assembly of this facility is accompanied by aspects that pose a risk in terms of working with machinery, such as excavators, vehicles, diggers, etc., as well as due to non-compliance with technical norms of relevant Regulations of Security Techniques, etc. For this purpose, the construction-assembly project is prohibited in all elements that pose a risk. The project of its use and construction is based on the Regulation on Technical Safety and Protection at Work in the Republic of Albania, legal acts and instructions for their implementation, issued by the relevant departments.

For the features of the work, the rules of technical safety in working with machinery, electricity, atmospheric discharges, etc. are defined. The project defines as a legal task for the investor, among other things, the placement in prominent places at night of advertisements with parts of technical security regulations. Providing normal working conditions and protective equipment.

In all cases, workers with work experience in this type of activity will be employed.

The technical manager of the works, before the start of the work and during it, will apply the rules and norms defined in:

Regulation of the Security Technician for the work operations that will be performed during the exercise of the activity and all other obligations related to the technical safety and protection of the health of the employees.

a. Employer responsibilities:

The employer himself or through the technical manager who he has employeed, must inform the employees:

- The technological process of operations as a whole and on the respective work.
- Equipment and machinery used.
- Causes of accidents and measures to avoid them.

• Regulations on Occupational Safety and Security Techniques in the Republic of Albania, legal acts and instructions for their implementation, issued by the relevant institutions.
• Features of work for each operation where it will be worked, rules of technical safety and safety at work to avoid accidents, especially in humid and rainy conditions, for the protection of machinery and employees.
• Technical security rules related to the work front, machinery and profession performed by the employee, for the protection of oneself and other employees who perform work activities or are visitors.
• First aid.
• Placing in the territory of the construction site and on the way of its entrance and exit, in visible places different writings with the main parts of the technical security regulations.
• Equip employees with protective equipment, such as gloves, masks, work clothes, hats, etc.
• Carry out the preliminary and periodic instruction of the employees as well as complete the documents according to the form defined in the regulation of the Security Technique.

b. Employee responsibilities:

• To know well the work process he has to perform.
• To know well the technology of use and utilization of equipment and machinery.
• Recognize and implement regulations on technical security and safety at work published by the Technical Security Inspectorate and the Labor Inspectorate.
• To know well the possible causes of accidents in the implementation of the project, for each work process.
• Provide for yourself and other employees during the work process.
• When it detects signs of a possible breakdown that is a source of accident, in the first place, takes measures to eliminate it, while notifying all employees of the danger and notifying the technical manager of the line.
• Use personal protective equipment at work.
• Have sufficient knowledge of first aid.
• To know the vertical and horizontal signalization for the directions of movement of vehicles, machinery and people

1. Negative aspects in the human environment

Dust generated during the construction and normal operation of the facility, despite being in small quantities, will negatively affect the health of employees working there. To reduce their negative effect, protective equipment such as masks, gloves, etc. as well as spraying with water in drought conditions must be used.

2. Positive aspects of the impact on the human environment.

The construction and commissioning of the above facility will have a positive impact on employment promotion. The paving and asphalting of this road, as well as the trees planted on both sides of it will have a positive impact on improving the air quality in the area.

Legal framework of policies, plans.

a. Areas designated by law.

The area where the object is implemented is not classified and is not included in any area with special protective status for natural values or with important historical and archeological objects, architectural, natural monuments, etc.
The proposed project is not affected by international agreements, conventions, etc.

5. Information on the weight, evolution over time, cumulativeness and possible duration of identified adverse impacts

Environmental impact matrices

Impacts on people, buildings and man-made structures.

Population changes

TYPE OF POPULATION IMPACT	IMPACT IDENTIFICATION			
	DURING OPERATION		AFTER FINISHING	
	Has	Does not have	Has	Does not have
Changes in the population density of the area under consideration		X		X

Nuk do të ketë ndryshime në strukturën e popullsisë së zonës apo në ndërtim banesash të reja, pasi në këtë aktivitet numri i të punësuarve është kufizuar të cilët do të jenë nga kjo zonë.

TYPE OF IMPACT ON HUMAN HEALTH	IMPACT IDENTIFICATION			
	DURING OPERATION		AFTER FINISHING	
	Has	Does not have	Has	Does not have
Creating any risk or opportunity for harm to human health (excluding psychological)		X		X

Creating relationships of people with potential risks to their health.		X		X
Construction of new housing.		X		X

The activity is such that the cleaning and clean keeping of its territory is done by specialized cleaning companies which, in addition to cleaning various waste, also perform the wetting of the main roads, which has a positive effect on reducing the discharge of dust into the air. Measures have also been taken, pursuant to the regulation of technical safety at work, that workers be provided with filter masks, which will be used throughout the working hours.
This mitigates the negative impacts in favor of protecting the health of employees and working conditions are in normal parameters, in accordance with the specifics of this activity.
Workers working with motor vehicles, such as loading and unloading diggers, will exercise caution in enforcing technical safety rules to prevent accidents at work.

Visible project impacts.

During the construction of the facility there will be small changes in the landscape that come as a result of piles of different inert product, which will be deposited in the square. Their impact on the landscape will not be significant.

TYPE OF IMPACT ON ENVIRONMENTAL AESTHETICS	IMPACT IDENTIFICATION			
	DURING OPERATION		AFTER FINISHING	
	Has	Does not have	Has	Does not have
There will be any obstacle to the view of the horizon or any public view		X		X
There will be breakdown of the existing position		X		X
There will be aesthetically unacceptable terrain degradation.		X		X

Emission levels and impacts.

Noise levels and impacts

TYPE OF NOISE IMPACT	IMPACT IDENTIFICATION			
	DURING OPERATION		AFTER OPERATION	
	Has	Does not have	Has	Does not have
Increase the existing level of noises.		X		X
Increasing the noise level as a result of car movement and activity.		X		X
Higher level of noises for people.		X		X
Higher level of noises for animals		X		X

Noises from the work of excavators, as well as other means of transport are judged at acceptable levels and without special impacts on the biological environment.
The above noises are within acceptable limits. The works will be carried out only during the day.

Impacts on rural roads and transport.

This means that the transport of construction materials does not have a significant impact on increasing the intensity of vehicle traffic in this road segment of the area.

TYPE OF IMPACT ON ROAD TRAFFIC	IMPACT IDENTIFICATION			
	DURING OPERATION		AFTER OPERATION	
	Has	Does not have	Has	Does not have
Damage to rural roads in the area		X		X
Opening of new rural roads		X		X
Changes in the way of daily circulation or movement of people		X		X

Project impacts on construction, architectural and historical heritage, archaeological features, and human works.

TYPE OF IMPACT ON CULTURAL HERITAGE	IMPACT IDENTIFICATION			
	DURING OPERATION		AFTER OPERATION	
	Has	Does not have	Has	Does not have
Alteration or damage of archaeological areas or with historical and cultural values.		X		X

In this area there are no such objects with special architectural values and there will be no other direct or indirect impacts on cultural heritage, etc.

TYPE OF ENERGY IMPACT	IMPACT IDENTIFICATION			
	DURING OPERATION		AFTER OPERATION	
	Has	Does not have	Has	Does not have
Using quantities of fuels for energy		X		X
Significant increase in demand for energy sources or demand for new types of energy		X		X

The only source of energy for the work during the construction of the facility is electricity, while the amount of fuel consumed by excavators, diggers or other tools in the excavation process is small, on the other hand there can be no need for other energy sources.

Impacts on flora, fauna and geology.

Loss of damage to habitat, plant species and geological features.

TYPE OF IMPACT	IMPACT IDENTIFICATION			
	DURING OPERATION		AFTER OPERATION	
	Ka	Does not have	Ka	Nuk ka

Loss and damage of habitats and plant and animal species		X		X
Changes in the variety and number of any animal, bird or reptile		X		X
Obstruction in animal migration		X		X
Reductions in the number of rare and endangered animals		X		X
Reducing the physical environment of hunting animals.		X		X
Other ecological consequences		X		X
Loss and damage of geological, paleontological and physiographic features		X		X

From the construction or the commissioning of this project there will be no negative impacts on the flora and fauna of the area (except for the damage of the herbaceous flora in the construction site. special ecological.

Planting forest and ornamental wood seedlings on both sides of the roads in harmony with the vegetation that is currently located around the building, will not affect the insulation of the work front, but will create opportunities to improve the landscape and biodiversity. At the same time, this will serve as a "curtain" to prevent the spread of dust.

Impact on the ground

Physical impacts

TYPE OF IMPACT	IMPACT IDENTIFICATION			
	DURING OPERATION		AFTER OPERATION	
	Has	Does not have	Has	Does not have
Loss of land and pastures	X			X
Soil erosion		X		X
Parts as unstabilized		X		X
Demolition of agricultural land		X		X
Soil contamination from leaks		X		X
Soil contamination from sludge deposition.		X		X

Soil contamination from solid leaks.		X		X

Excluding the surface of the building, which is approved as a construction site before, there will be no loss of pasture in the area around as the area has no parcels used for pasture.

From the very position and configuration of the terrain it is not expected to have erosion even in times of maximum rainfall.

There will also be no unexpected erosive impacts, due to the activity. Thus all works that can become a cause for erosion, such as in-depth excavations or other works of this nature are completely excluded. For this it is not foreseen to take measures against erosion.

Impacts of chemical emissions and deposits.

TYPE OF IMPACT	IDENTIFICATION OF IMPACT			
	DURING OPERATION		AFTER OPERATION	
	Has	Does not have	Has	Does not have
Soil contamination from leaks		X		X
Soil contamination from sludge deposition		X		X
Soil contamination by solid leaks		X		X
Various chemical emissions		X		X
Other deposits.		X		X

There will be no other waste or sludge, as the raw material used does not contain impurities and other harmful components, so no harmful technological waste is created during the construction process.

Impacts on land use

TYPE OF IMPACT	IDENTIFICATION OF IMPACT			
	DURING OPERATION		AFTER OPERATION	
	Has	Does not have	Has	Does not have
Increasing the pace of use, evaluating any physical degradation		X		X

Significant vulnerabilities everywhere in renewed physical degradation.		X		X
Significant program changes in future land use.		X		X
Destruction of dwellings or inhabited areas				X
Expropriation of land		X		X

The commissioning of this project will not cause disruption of the natural characteristics of the initial state of the environment. But since there will be no disruption of the natural characteristics of the soil, rehabilitation after the end of the activity will be easier. The part of the territory where the activity takes place, can be rehabilitated by planting plants adapted to the natural conditions of the terrain by taking other measures against erosion, thus mitigating the impacts that may occur in the landscape during the period of exploitation.
The activity is not accompanied by alienation and expropriation of land.

Impacts on water.
Impacts on drainage model, hydrographic features, etc.

TYPE OF IMPACT	IDENTIFICATION OF IMPACT			
	DURING OPERATION		AFTER OPERATION	
	Has	Does not have	Has	Does not have
Impact of the project on the soil drainage model.		X		X
Groundwater level changes.		X		X
Impacts on coastal hydrology.				X
Impacts of pollutants, residues on water quality.		X X		X

The activity is not about water discharges and impacts on the hydrographic network. Leaching from precipitation of various minerals will not have any polluting effect because the suspension from fine particles is not voluminous and is decantable.

Impacts on air and climate
Level and concentration of chemical emissions, etc.

TYPE OF IMPACT	IDENTIFICATION OF IMPACT			
	DURING OPERATION		AFTER OPERATION	
	Has	Does not have	Has	Does not have

Level and concentration of chemical emissions and their environmental effects.		X		X
Special substances.		X		X
hazardous smells		X		X
Ndikime të tjera klimatike.		X		X

During the construction process there are small emissions of dust containing clay particles, the impact of which is unthinkable. There are no emissions of chemical ingredients as they have not.

Other indirect and secondary impacts that accompany the project
Traffic impacts

Transportation is inevitably affected only by the movement of vehicles transporting the soil. But this impact is very little significant.

TYPE OF IMPACT	IDENTIFICATION OF IMPACT			
	DURING OPERATION		AFTER OPERATION	
	Has	Does not have	Has	Does not have
Significant increases in vehicle movement.		X		X
Reduction of vehicle parking or the need for other parking spaces.		X		X
Significant impact on the existing traffic system.		X		X
Influences on the daily way transportation or movement of people.		X		X

Ndikimet nga projekte të tjera.

TYPE OF IMPACT	IDENTIFICATION OF IMPACT			
	DURING OPERATION		AFTER OPERATION	
	Has	Does not have	Has	Does not have

Electric energy.		X		X
Telecommunication system.		X		X
Water supply system.		X		X
The sewerage system of white and black.		X		X
Solid waste and deposits e tire.		X		X

Electricity consumption does not pose a particular problem as energy consumption, both in terms of quantity and the fact that this energy is not related to the cost of non-renewable natural resources. The activity does not affect other infrastructure systems and there is no waste disposal.

Project accompanying impacts

Determination of potential environmental impacts

Potential positive impacts.

Asphalting system of the above road is very important for the following main reasons:
- Improves the conditions of movement of vehicles and residents of the area.
- Creates good conditions for keeping the environment clean environment.
- The conditions of environmental protection in the territory of the Zone are improved.
- Improves the landscape of the area.
- Modest employment of people.

- **Negative potential impacts.**

-Temporary removal of fauna species from the place of work, increase of noise from means of transport and equipment of the joint during working hours.

- Emission of powders containing clay particles during construction.

- Increased presence of gases as products of combustion of fuels from motor vehicles during construction.

6. Data on the possible spatial extent of the negative impact on the environment, which means the physical distance from the project location and the impact values included in it

The construction works for the project in question will last for a period of approximately 4 months. This is according to the schedule of works foreseen, and it is a normal time to complete this project. This applies if the technical, legal and climate conditions are normal, but if during the works difficulties will be encountered, the deadlines can be extended.

As a result, the impacts of the construction phase will last as long as the works of this project. Impacts on the landscape will be temporary for the construction phase which will then have a visually pleasing view to the human eye and highly functional for the area but not only. No harmful elements are released to the environment, such as water, air, soil and diversity. At the end of the construction, the construction company will carry out the rehabilitation of the surrounding area and its greenery where it is missing. Planting trees where they are missing and arranging the soil helps significantly in eliminating damage and rehabilitating the landscape.

Graph and methodology of works

The contractor after reviewing the project and the current situation in the country must prepare the work schedule and work methodology according to which he will work to meet the requirements of project implementation in a timely manner and quality. The schedule of works will present the main activities that the contractor will do for the successful completion of works under the contract. The graph of works and the breakdown of the working method should include at least the following activities:

- Mobilization
- Investigation, topography and landmarking
- Supply, transport and storage of materials
- Earthworks activities
- Concrete works activities
- Construction activities
- Protection of works, environment and public
- Laboratory control, testing and quality control of materials
- Preparation of mass booklets

- Testing and taking over the facility
- Cleaning the construction site
- Preparation of monthly and final reports on the work done

7. Possible measures to avoid and mitigate negative impacts on the environment

Mitigation measures
Measures to eliminate or mitigate environmental impacts. Area rehabilitation program.

The program is focused on the implementation of technical, aesthetic and ecological requirements of the exploitation project from which we identify:

Technical measures

- Observance of technical criteria for the organization of construction works.
- Full compliance with the technical safety regulation, which is related to the manner of technical solutions of work operations during use. This is related to the best opportunity for correct rehabilitation in case of closure of the activity.
- Training of employees and taking general measures for environmental protection.
- Transportation of the material during excavation should be done with means of transport intended for this purpose and covered to avoid accidental spills of material which pollutes the roads and the environment.
- In case of accidental spills, take immediate measures to eliminate the consequences and return to normal.

Aesthetic and ecological measures

- Coherent implementation of measures related to the use, or those of preservation of technical and legal parameters, related to the impacts on air, water, human health and the adequate configuration of the landscape and natural terrain.
- Planting of forest and ornamental trees provided on both sides of the building.
- Creating the most aesthetic and functional environment.
- Landscape conservation and improvement.
- Care for rehabilitation works will be continuous by the investor of the facility

Rehabilitation program

Rehabilitation will be achieved on the basis of continuous monitoring, and evaluation of indicators emerged during the monitoring which will guide us to take measures for

environmental impacts. Thus it will be easier to determine mitigation measures against the impacts that have occurred.

8. Potential impacts on the cross-border environment

The proposed project will not have negative impacts on the cross-border environment. The Project area is located inside the Albanian border, but the distance from international waters is very considerable. As mentioned above, the impact on the environment is very small and within the Albanian territory and has no impact on the cross-border environment.

9. Monitoring program for mitigation measures

Monitoring plans

Environmental Impact Monitoring Plan.

Nr	INDICATORS TO BE MONITORED	**Data archiving and reporting periods in ARM**											
		J	F	M	A	M	J	J	A	S	O	N	D
	Data on the use of object.												
1	Number of vehicles	0	0	0	0	0	0	0	0	0	0	0	0
2	The amount of useless material and its administration	0	0	0	0	0	0	0	0	0	0	0	0
3	Erosion problems	0	0	0	0	0	0	0	0	0	0	0	0
	Aesthetic and ecological indicators												
1	Realizations of planting seedlings according to plan												
2	Situation related to habitat creation new with vegetation												

3	Observations on biodiversity change												
	Indicators related to pollution impacts												
1	Cases of impacts on soil pollution by various downloads												
2	Data on air quality (NO2. Dust, etc.)												

Throughout the construction period, the legal framework for monitoring should be respected and, as appropriate, monitoring indicators should be specified in detail.

For the monitoring to be performed by the investor, all measures must be taken to make it continuous and the results to be kept in a special register.

The entity must periodically report to the Regional Environmental Agency. It should also occasionally communicate with stakeholders and local government representatives and inform them of the monitoring results.

10. Information on the positive impacts that the development of the proposed project may bring

RECOMMENDATIONS FOR THE IMPLEMENTATION OF WORKS

a. Carry out works only on the tracks of the proposed project.

b. Building materials should be arranged in a predetermined place taking care not to be mixed with water.

c. The level of noise during the process should be within the allowed norms and work in times when the disturbing of the inhabitants of the surrounding areas is as low as possible since we are dealing with a populated area.

d. Fence the area where the works will be carried out, to avoid unauthorized entrances.

e. During the works for the relocation of different pipelines, where necessary, care will be taken not to mix the waters with each other to avoid contamination of drinking water.

f. To check the technical conditions of the working tools periodically to prevent the leakage of lubricants and hydrocarbons in the environment, the emission of gases caused by the technical breakdown of the subject's tools.
g. Should take care of the management of waste generated by the activity, including the amount of land that will not be used by transporting them in a regular manner to landfills designated by the local unit.
h. Install warning signs along the entire segment of works in order to avoid human accidents.

KEY CONCLUSIONS

- The activity will affect the development and systematization of the area.
- Impacts on the environment are assessed as minimal and fully possible to be kept within the legally permissible parameters according to the specifics of the project.

The activity is determined to be and should be engaged in strengthening the full capacities in the management and environmental rehabilitation of the situation created by the use in accordance with all current legal standards and those that will be set in the future.

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