

# PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Object: "RECONSTRUCTION OF THE ROAD ERSEKA -  
LESKOVIK"



**INVESTOR: ALBANIAN DEVELOPMENT FUND**  
**PRELIMIARY ENVIRONMENTAL IMPACT**  
**ASSESSMENT REPORT**  
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## 1. INTRODUCTION

The Law on Environmental Impact Assessment no.10 440 dated 07.07.2011 on "Environmental Impact Assessment" amended in Albania states the preparation of environmental assessments of any development project that may cause impacts on the environment of the country.

This EIA report has been prepared in accordance with the national environmental protection and conservation requirements mentioned below as well as in accordance with EU legislation taken as a reference. The National Legislation of Albania defines the rules and ways for conducting an EIA for this kind of type, which has been confirmed by the consultants. The law has emphasized the protection and preservation of the natural environment and its resources, considering it as part of the national heritage which must be preserved and protected for the benefit of future generations. The protection of the environment and its resources is a key precursor to the sustainable development of the country.

This EIA report will identify the potential environmental impacts of the proposed works for the project "Reconstruction of the road Erseka - Leskovik", with special emphasis on the recommendations on mitigation and take the necessary measures to minimize the impacts that may arise during the project implementation period and after its completion. The EIA report will also discuss project justifiability, project component placement alternatives such as project plans and environmental considerations. The report will further provide a relief plan and a monitoring program which can be implemented during and after the completion of the proposed works.

The environmental impact report will present on the one hand the importance of the implementation of the project "Reconstruction of the road Ersekë - Leskovik", the description of this project and on the other hand the main negative impacts on the environment, mitigation measures to minimize as much as possible these negative impacts, calculating how the balance between them stands to achieve sustainable development.

To present the realization of this project and the economic development that benefits from its implementation, but always protecting the environment, taking into account the principle of "sustainable development". This document also introduces the parties that participate, benefit or are affected by its implementation.

The EIA was drafted based on qualitative and quantitative data collected by contracted experts, during on-site inspections and assessments performed. However, assessments made by various consultants in previous years have been utilized during the preparation of the report.

Long-term data on some aspects such as meteorology, area seismicity, geomorphological data and climate have been collected from calculations and studies conducted by design engineering, as well as from secondary sources through previously published reports and global databases.

Also are used web sites such as: [akm.gov.al](http://akm.gov.al); [geoportal.asig.gov.al](http://geoportal.asig.gov.al); etc. The object of this study is also to determine the characteristics of the structure and materials such as the quality of concrete (grades and granulometric compositions), reinforcement and constructive typologies of plinths, walls and foundations, sewerage network, signage, etc. The same studio also conducted geological surveys to determine the stratigraphic characteristics of the terrain where the project will take place.

## **2. INFORMATION ABOUT THE PURPOSE OF THE EIA & METHODOLOGY APPLIED**

The environmental situation and taking care of it, are among the greatest problems and challenges of humanity today. Economic development which is accompanied by a continuous increase number of operating enterprises, as a result has an increasing impact on the environment. This development cannot be sustainable if it does not provide space for environmental protection. Depending on the activity, the impact of economic operators is expressed in all components of the environment, such as air, water and soil.

Environmental protection as a dynamic system that changes from time to time physically and biologically, should be analyzed not only natural factors, but also human activity which is related to them. Studies and constructions when not managed in accordance with the laws and rules of nature, they can disturb the balance of nature around.

Urban planning as a complex, natural, engineering, climatic, biological, social and legislative activity of civilized human society, relies primarily on the geological environment and ecosystems related to it.

It has two aspects of activities:

- First, the changes that man makes to the geoenvironment and ecosystems to adapt them to his life requirements, according to the philosophy "man changes nature" to improve his life.
- Second, the impacts of these changes on the geological environment itself as well as on human life.

In order to carry out urban planning and to assess the impacts on the geosystem, knowledge on the geo-environment and the changes it undergoes over time are necessary. This knowledge is derived from complex geological, geophysical, geochemical and hydrogeological observations.

The purpose of this document is based on the planning of the territory to which the area is subject, in order to "Reconstruction of the road Erseka - Leskovik".

### **2.1 Description of the purpose and objectives of the EIA**

Preliminary Environmental Impact Assessment Report for the project "Reconstruction of the road Ersekë - Leskovik" has been drafted according to the requirements of applicable law.

The purpose of this EIA report is to assess the potential social and environmental impacts from the implementation of this project, to recommend mitigation measures to minimize the potential impacts assessed, both during the project implementation phase and in the operation phase, aiming at the ultimate goal of protection of environmental quality.

Based on the design task and the requirements of the Investor, we as a design company have prepared the necessary technical material for the project implementation of the road axis "Erseka-Leskovik".

## "Reconstruction of the Road Ersekë - Leskovik"

The main objective of the project: "Reconstruction of the road Ersekë - Leskovik" is to improve regional and cross-border connectivity and facilitate accessibility to the tourism potentials of the Përmet region, bringing the expansion of the region's tourism offer and increasing opportunities for sustainable regional economic development. The reconstruction project will aim to improve the quality and safety of traffic while maintaining the existing road trail.

Overall, the proposed interventions in the project will be:

- Construction of asphalt layers of the existing road
- Construction of substrates;
- Road drainage solution;
- Construction of retaining and retaining walls;
- Construction of culvert and works of art on the street;
- Vertical and horizontal signage;
- Engineering protection measures, etc;

### ● Placement Plan of Ersekë Leskovik road



## "Reconstruction of the Road Erseka - Leskovik"

The coordinates of the road that will be developed according to the GAUS KRUGE ZONE 4 System are as follows:

Project	Coordinates according to the coordinate system GAUS KRUGE ZONE 4		Coordinates according to the coordinate system KRGJSH	
	X	Y	X	Y
Road segment starting coordinates	4472835.79	4466523.93	557685.208	4466566.252
Road segment ending coordinates	4466220.98	4446812.82	551288.483	4446778.680
	Length L= 42.66 Km Road width =4.0 – 4.5m			

### 2.2 EIA Objectives

- To provide information on the location of the project and analyze environmental features;
- To provide information on the technical project for the preparatory phase, implementation, receipt of project results, works and tools to be used, completion and its final phase;
- To assess the potential impacts on the surrounding environment and the inhabitants of the area for the development of the project "Reconstruction of the road Erseka - Leskovik";
- To describe measures to reduce or avoid the impacts analyzed;
- To develop plans for managing the environment and accidents at the workplace;
- To develop an environmental monitoring plan to keep impacts under control;
- To inform local institutions, the community and other stakeholders about the development of the project;
- To draw conclusions and recommendations on the importance of the project in relation to its negative and positive impacts as well as its social significance.
- The objectives of the Environmental Impact Assessment include identifying, describing and assessing the expected direct and indirect environmental impacts during the implementation or non-implementation of the project.
- To minimize direct impacts on the environment and primarily on priority elements such as soil conservation, noise control, and water and air quality conservation.
- To preserve or rehabilitate the natural environment through new elements of positive intervention, special works within the project or in parallel with it, which ensure the sustainable continuity of the biological environment including fauna and flora in the environments around the area under consideration.

The environmental impacts of the project will be assessed in relation to the state of the existing

environment in the territory of implementation of this project.

### **2.3 Summary description of the environmental and institutional legal framework related to the project**

The legal framework for Environmental Protection in the Republic of Albania is in line with EU standards.

During the last ten years the government has realized the development of environmental legal acts, as a result of the environmental degradation of the country during the industrial development that took place in the 50s. The policies developed for the environment today are reflected in the Laws and Bylaws of the Environment during 2000 - 2009, as well as in some laws and DCM adopted later than these years.

Project classification: According to law no. 10440 dated 07.07.2011 "On Environmental Impact Assessment" (amended), Annex II point 10 "Infrastructure products", letter b) Urban development projects, including the construction of shopping malls and car parks; and letter d) Construction of roads, ports and installations for ports, including fishing ports (projects not included in Annex I), is subject to the Preliminary Environmental Impact Assessment Procedure.

The Preliminary EIA Decision is the document prepared by the National Environmental Agency (KTA) and signed by the General Director of the KTA, based on Law No. 10 440, dated 7.7.2011 "On Environmental Impact Assessment" (amended) and DCM no. 686, dated 29.7.2015 "On the approval of rules, responsibilities and deadlines for the development of the procedure of environmental impact assessment (EIA) and the procedure of transfer of the decision of the environmental statement" (amended).

The EIA drafting methodology has been drafted in accordance with the requirements of the relevant environmental legislation expressed in Instruction No. 3, dated 19.11.2009 "On the Environmental Impact Assessment Report Assessment Methodology". Environmental impact assessment from the project "Reconstruction of the road Ersekë - Leskovik" in the project area takes into account how these processes during the implementation of the project affect the existing state of the environment in the area and later.

Accumulative impacts that may occur may appear immediately when an environmental intervention occurs or appear indirectly and they may present various degrees of importance. These impacts can be different in duration of impact (Short-term, Medium-term and Long-term) and different in their character (temporary and permanent impact).

The drafting of this EIA report was done in accordance with law no. 10 440, dated 7.7. 2011, "On Environmental Impact Assessment" amended. Also, the drafting of this preliminary environmental impact assessment report was done in accordance with Law No. 10 431, dated 9.6.2011 "On Environmental Protection" (amended), which is fully aligned with Directive 2004/35 / EC of the European Parliament and of the Council, 21 April 2004 "On environmental liability, prevention and repair of damage to the environment".

The steps followed for the preparation of the report by the environmental expert are based on DCM no. 686, dated 29.7.2015 "On the approval of rules, responsibilities and deadlines for the

development of the procedure of environmental impact assessment (EIA) and the procedure of transfer of the decision of the environmental statement" (amended).

#### **2.4 Main Albanian legislation for drafting and classifying the EIA report:**

Law no. 10440 dated 07.07.2011 "On Environmental Impact Assessment" (amended). This law aims to provide:

- a) A high level of environmental protection, through the prevention, minimization and compensation of environmental damage, from projects proposed before their approval and development;
- b) Ensuring an open decision-making process, during the identification, description and assessment of negative impacts on the environment, in the right way and time, as well as the involvement of all stakeholders in it.

The projects that are subject to the preliminary procedure of Environmental Impact Assessment according to Chapter II, article 8 of this law, cite:

1. The following procedure for Environmental Impact Assessment are subject to:

- a) The projects listed in Annex II;

In following of Law No. 10440 "On Environmental Impact Assessment" (amended) Article 10, points "a" and "b" we cite:

Application for Environmental Impact Assessment by the developer.

For Annex II projects:

1. Preliminary EIA report
2. Technical project of the activity
3. The invoice for the payment of the service fee

Referring to Decision no. 686, dated 29.7.2015 "On the approval of the rules, responsibilities and deadlines for the development of the procedure of Environmental Impact Assessment (EIA) and the procedure of transfer of the Decision of the Environmental Declaration" (amended), Chapter I, Development of Preliminary procedure for Environmental Impact Assessment "amended, we cite:

1. The developer who intends to implement a project, which is subject to the requirements of Article 8 of Law no. 10440, dated 7.7.2011, "On environmental impact assessment", amended, in the initial stages of project planning (project idea), submits through the e-albania portal the following documentation:

<b>Documents provided by administration officials</b>	<b>Documents uploaded by the applicant</b>
1. Copy of ownership document 2. Copy of permits, authorizations and licenses available to the developer for the project 3. License III 2.A of environmental expert	1. Plan of the project location 2. Photos of water sources 3. Vegetation photos

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<p>4. Application form for approval in principle for the concession of the use of the underground water source</p> <p>5. Document certifying the distance from the forest fund</p> <p>6. Cadastral reference</p> <p>7. General Local Plan</p>	<p>4. Current photos</p> <p>5. Topographic map</p> <p>6. Copy of the technical report</p> <p>7. Copy of the fee payment invoice</p> <p>8. Agreements with third parties</p> <p>9. Agreement with the landowner</p> <p>10. Power of attorney for the authorization of the applicant when it is not the same as the developer (natural person)</p> <p>11. Preliminary EIA report electronically signed by the expert</p> <p>12. Certificate</p> <p>13. Sketches / planimeters of project facilities and structures</p> <p>14. Photos on residential centers</p> <p>15. Orthophoto</p> <p>16. Statement of the licensed designer, for the compliance of the project with the planning documents and the legislation in force, according to the online system</p> <p>17. Authorization of the applicant when he is a legal entity</p> <p>18. Map</p>
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*Table 1: Documentation required for application*

Application for the provision of Preliminary EIA and Environmental Statement pursuant to the Prime Minister's Order no. 153, dated 25.11.2019 "On taking measures and regulating legal provisions for the application of services only on-line from 1.1.2020" is carried out through the portal e-albania. Law no. 10431 dated 10.03.2011 "On Environmental Protection" amended.

This law aims protecting the environment at a high level, preserving and improving it, preventing and reducing the risks to human life and health, ensuring and improving the quality of life, for the benefit of present and future generations, as well as providing conditions for the sustainable development of the country.

Based on this law, its article 3, cite the objectives of environmental protection:

- a. prevention, control and reduction of water, air, soil and other pollution of any kind;
- b. conservation, protection and improvement of nature and biodiversity;
- c. preserving, protecting and improving environmental sustainability with public participation;
- d. prudent and rational use of nature and its resources;
- e. preservation and rehabilitation of cultural and aesthetic values of the natural landscape;
- f. protection and improvement of environmental conditions.

Principles based on Chapter II of law no. 10431, dated 09.06.2011 "On environmental protection":

- the principle of sustainable development
- the principle of care
- the principle of prevention
- "polluter pays" principle
- the principle of repairing environmental damage, renewal and rehabilitation of the damaged environment
- the principle of legal responsibility
- the principle of high-level protection
- the principle of integrating environmental protection into sectoral policies
- the principle of public awareness and participation in environmental decision-making
- the principle of transparency in environmental decision-making.

"Sustainable development" which is the development that meets the needs of the present and the future without tightening or touching the opportunities and capacities for future generations to meet their needs.

"Sustainable use" of natural and mineral resources which ensures the fulfillment of today's needs, without compromising the needs of future generations for these resources.

The "best possible techniques" represent the most advanced and high-level stage of environmental protection, of the development of an activity and which are fully applicable from a practical and economic point of view.

The "principle of prevention" is the selection and approval of the best option, from the initial stage of decision-making, to avoid harmful impacts of an activity on the environment.

The "principle of rehabilitation" is the necessity to repair the environmental damage caused by physical and legal persons themselves and to renew and rehabilitate the damaged environment.

"Polluter pays" principle means the cost that a polluter pays to improve a polluted environment and return it to an acceptable condition. This is reflected in the cost of production, consumption of goods and services that cause pollution.

## 2.5 Summary of legal and institutional framework

Environmental legislation is built to protect and prevent specific and important components of the environment. Thus, among the most specific we mention:

Legal framework	
Law No.10 431 dated 9.6.2011	On Environmental Protection, (amended)
Law no. 10440, dated 07.07.2011	For environmental impact assessment (amended)
Law no. 10448, dated 14.07.2011	For environmental permits (amended)
Law No. 9362, dated 24.03.2005	For plant protection service
Law No.162 / 2014	To protect air quality in the environment
Law No.41 / 2020	For some changes and additions to the law no.9587, dated 20.7.2006, "on the protection of biodiversity", (amended)
Law no. 57/2020	For forests
Law No.81 / 2017	For protected areas
Law no. 9115, dated 24.7.2003	For environmental treatment of wastewater
Law No. 10081, dated 23.02.2009	Licenses, authorizations and permits in the Republic of Albania amended
Law No. 7875, dated 23.11.1994	For the protection of wild fauna and hunting "Amended by: Law no. 9219 dated 08.04.2004
Law No. 9385, dated 04.05.2005	For forests and forest service", Amended by: Law no. 9791 dated 23.07.2007
Law no. 8770, dated. 19.04.2001	Updated security and physical security service
Law no. 9774, dated 12.07.2007	For environmental noise management
Law no. 152/2015, dated 21.12.2015	"On fire and explosion protection service"
Law no. 111/2012	"On integrated water resources management"
Law no. 8756, dated 26.03.2001	For civil emergencies
Law no. 7643, 09.12.1999	For the State Sanitary Inspectorate as amended
Law No. 9379, dated 28.04.2005	For energy efficiency
Law no. 9010 dated 13.02.2003	For environmental management of solid waste
Law no. 10 463, dated 22.9.2011	For integrated waste management (amended)
In the Parliament of the Republic of Albania, several laws have been approved in the framework of the inclusion of our country in various Protocols and Agreements. Among them we mention:	
Law no. 9672, dated 26.10.2000	On the ratification of the Aarhus Convention "On the right of the public to have information and involvement in decision-making, as well as to go to court for environmental issues "

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Law no. 9334, dated 16.12.2004	On the accession of the Republic of Albania to the Kyoto Protocol to the Convention on Climate Change (UNFC).
<b>Decisions of the Council of Ministers</b>	
DCM no. 395, dated 21.6.2006	"On the approval of the strategy and action plan for the development of cultural and environmental tourism"
DCM no. 123, dated 17.2.2011	On the approval of the national action plan for noise management in environment.
DCM no. 587, dated 7.07.2010	For monitoring and controlling the noise level in urban and tourist centers.
DCM no. 676, dated 20.12.2002	For the declaration of protected areas natural monument
DCM no. 804, dated 4.11.2003	For the approval of the list of species of Albanian flora that are put under protection.
DCM no. 177, dated 31.3.2005	For permitted liquid discharge rates and zoning criteria of receiving aquatic environments.
DCM no. 435, dated 12.09.2002	On the approval of air emission norms in the Republic of Albania.
DCM no. 803, dated 4.12.2003	For air quality standards.
DCM no. 247, dated 30.04.2014	For the determination of rules, requirements and procedures for informing and involving the public in environmental decision making
DCM no. 452, dated 11.7.2012	On Waste Landfills
DCM no. 389, dated 27.6.2018	For some changes and additions to Decision no. 452, dated 11.7.2012 of the Council of Ministers "On Waste Landfills"
DCM no. 575, dated 24.6.2015	For approval of inert waste management requirements
DCM no. 99, dated 18.2.2005	For the approval of the Albanian catalog of waste classification
DCM no. 798, dated 29.09.2010	On the approval of the regulation "On hospital waste management"
DCM no. 114, dated 27.01.2009	For taking emergency measures, improving the safety situation and activities in installations, which serve for storage, transportation and trade of oil, gas and their by-products.
DCM no. 686, dated 29.7.2015	For the approval of the rules, responsibilities and deadlines for the development of the

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	environmental impact assessment (EIA) procedure and the decision transfer procedure of the environmental statement (amended)
<b>Instructions and Regulations</b>	
Instruction no. 1037/1, dated 12.04.2011	For environmental noise assessment and management
Instruction no. 8, dated 27.11.2007	For noise limit levels in certain environments
Instruction no. 6527, dated 24.12.2004	On the allowable values of air pollutants in the environment from the emissions of gases and noises caused by road vehicles and ways to control them.
Order of the Council of Ministers no. 153, dated 25.11.2019	For taking measures and regulating legal provisions for the application of services only on-line from 1.1.2020
<b>Regulations</b>	
Hygienic-Sanitary Regulation dated 17.11.1997	For cleaning in urban and rural areas, waste management and treatment
Regulation, No. 1, dated 30.03.2007	For the treatment of construction waste from their creation, transportation to their disposal

*Table 2: Environmental legislation*

### International Legal Framework

Albania is a country which is already a signatory to many environmental conventions and agreements and this has helped promote the drafting of national environmental laws in line with international practices. This report should be adapted to laws and regulations at local and national level and below summarizes the main stages of European environmental policy development.

- Kiev Protocol: On strategic environmental assessment. Ratified in 2005
- Cartagena Protocol: On biosafety. Paired in 2005
- Stockholm Convention: On Persistent Organic Pollutants. Law no. 9263, dated 29.07.2004
- Cartagena Protocol: For biological safety. Ratified in 2004.
- Law no. 9279, dated 23.09.2004 On the accession of the Republic of Albania to the Cartagena Protocol on Biosafety of the Convention on Biological Diversity
- Washington Convention: On International Trade in Endangered Species of Wild Flora and Fauna. Law no. 9021, dated 06.03.2003.

### Legal Framework

The EIA report for the project, considers and tries to align part of it with EU legislation on environmental issues and beyond. Main directives:

- EC Directive 1999/30 / EC (22 April) on limit values for sulfur dioxide, nitrogen dioxide and nitrous oxide, PM and lead.

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- Directive 2000/60 / CEE of the Parliament and of the Council of Europe, Legal framework for community action in the field of water policy.
- EC Directive 42/2001 (of the Council of Europe), on EIA and SEA.
- Directive 2008/50, CE, of the Parliament and of the Council of Europe (21 May 2008) "On ambient air quality, for a cleaner air for Europe".
- Council Directive 75/442 / CEE on 14 July 1975, On waste.
- Council Directive 91/689 / CEE on 12 December 1991, On Hazardous Waste.
- Directive 2001/42 / EC of the Council and of the European Parliament on 27 June 2001, On the assessment of the effects of certain plans and programs on the environment.
- Council Directive 85/337 / CEE on 27 June 1985, On the Impact Assessment of Certain Public and Private Environmental Projects.
- Council Directive 96/62 / EC On the assessment and management of ambient air quality.
- Directive 1999/30 / CE, Regarding limit values for NO<sub>2</sub>, NO<sub>x</sub>, SO<sub>2</sub>, particulate matter and Pb in air.
- European Commission Directive CEE / CEEA / CE 78/659 on freshwater quality
- Directive 99/61 / CE On waste pits.
- Directive 91/689 / CE On Hazardous Waste.

References at the community level in the field of waste management are numerous and for our purposes it is useful to select the most important ones.

Some of the basic principles, which suggest the lines of action and objectives contained in community programs, are described below.

## 2.6 Description of the methodology applied for preparing the EIA report

The EIA methodology refers to the environmental issues suggested by the objectives set out in the Terms of Reference. The Environmental Report is prepared as detailed in the relevant national law. **Furthermore, the report is prepared in compliance with EBRD environmental and social policy.** Each of the activities of the project are assessed to comply with the following policies:

Environmental and Social Policy: Approved by the Board of Directors, at its meeting of May 7, 2014.

The European Bank for Reconstruction and Development (EBRD) is committed to promoting "sustainable and environmentally friendly development" throughout its range of investment and technical cooperation activities, pursuant to the EBRD Founding Agreement.

The Bank believes that environmental and social sustainability is a fundamental aspect of achieving results in line with its transition mandate and confirms that projects promoting environmental and social sustainability enjoy the highest priority in its activities.

Performance requirements (PR):

The projects are expected to meet good international practice regarding environmental and social sustainability. Specific performance criteria for the areas of environmental and social sustainability are as follows:

- PR 1 Assessment and Management of Environmental and Social Risks and Impacts
- PR 2 Labour and Working Conditions
- PR 3 Resource Efficiency and Pollution Prevention and Control
- PR 4 Health, Safety and Security
- PR 5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- PR 6 Biodiversity Conservation and Sustainable Management of Living Natural Resources
- PR 7 Indigenous Peoples
- PR 8 Cultural Heritage
- PR 9 Financial Intermediaries
- PR 10 Information Disclosure and Stakeholder Engagement

As per EBRD standard the projects are classified in project of category A,B or C.

Category A projects could result in potentially significant adverse future environmental and/or social impacts which cannot readily be identified or assessed and will require the client to carry out a comprehensive Environmental and Social Impact Assessment (ESIA). The ESIA process will include a scoping stage to identify the potential future environmental and social impacts associated with the project. The ESIA will include an examination of technically and financially feasible alternatives to the source of such impacts, including the non-project alternative, and document the rationale for selecting the particular course of action proposed. It will also identify potential improvement opportunities and recommend any measures needed to avoid, or where avoidance is not possible, minimize and mitigate adverse impacts.

The ESIA may need to be carried out or verified by independent experts. The ESIA process will also include a public disclosure and consultation process as specified in PR 10.

For Category B projects, where potential adverse future environmental and social impacts are typically site specific and/or readily identified and addressed through mitigation measures, the client will undertake an environmental and social assessment that is proportionate to the project's nature, size and location, as well as the characteristics of the potential impacts and risks. The assessment will characterize potential future adverse impacts associated with the project, identify potential improvement opportunities, and recommend any measures needed to avoid, or where avoidance is not possible, minimize and mitigate adverse impacts.

For Category A and B projects which involve existing facilities, an assessment of the environmental and social issues of past and current operations will be required. The purpose of this assessment is to identify potential risks, liabilities and opportunities associated with the existing facilities and operations, to confirm the current status of regulatory compliance and to assess the client's existing management systems and overall performance against the PRs. Any investigations of existing facilities must be carried out by experts that are independent from the facility that is being investigated.

For Category C projects, which are likely to have minimal or no adverse future environmental and social impacts and that are readily identified and addressed through mitigation measures, the client will implement an ESMS proportionate to the impacts and risks in accordance with paragraphs 14-22 of this PR and monitor and report on the project's compliance with the PRs as per paragraphs 23-28 of PR 1.

This project is not in the list categorized as type A projects.

Based on the technical project that will be implemented on the footprint of the existing road already built years ago, based on this project, the asphalt layer will be laid and the signage of the existing road will be installed, based on the environmental and social impacts that will have during the construction phase (of about 12 months) which are estimated to be minimal and easily addressed through mitigation measures.

Data collection methods are described in the following chapters of this report. The data were collected mainly from field inspections in the project development area by a team of inspectors and consultancies in collaboration with the road engineer. However, previously published data and available literature from similar projects were referenced during the preparation of this EIA report.

The Environmental Impact Assessment Study was guided by the special importance of the project "Reconstruction of the road Ersekë - Leskovik", in order to consolidate the structure and its realization with a strong functional connection, also took into account natural resources and human resources of the area, as well as their special values, identification of negative and positive impacts, taking mitigation measures, taking into account the protection of the economic interests of the investor and orientation measures for a sustainable development.

In this report, positive and negative impacts in nature and human environments are identified,

and the risk assessment is taken into account. The reduction of negative impacts is combined with significant positive impacts which are structured in four main phases:

1. Establishing the orientation objectives of the EIA report;
2. Collection of existing basic material and completion of the relevant form for this report as well as their selection for use;
3. Field verification of existing data and collection of possible data;
4. Drafting the EIA report as additional documentation and submission for obtaining the Construction Permit at the Local Government Unit.

The following monitoring can be performed by specialized institutions:

- i. Noise monitoring by specialists in this field at the relevant Inspectorates;
- ii. Monitoring the works, from the point of view of physical, chemical characteristics of the potential polluter, everything in the international norms and standards in order for it to really serve for the high performance of public health;
- iii. Monitoring the management of inert waste generated by the activity during the development of works;
- iv. Monitoring on biodiversity will begin after the start of rehabilitation measures and in time the focus and areas of their development will be established.

The construction company under the supervision of the supervisors will welcome, assist and facilitate any environmental monitoring initiative, which will be advised in the "Construction Permit", in the service of which this report has been carried out. Also, inspections by authorized public health and environmental specialists will be supported at all times by this company, for conducting environmental and health audits.

The EIA report includes the following data in accordance with the Albanian EIA guidance:

- ☐ Description of the project area accompanied by a map and photos of the territory
- ☐ Description of construction and constructive processes
- ☐ Type, volume, consumption and production of raw materials
- ☐ Detailed information regarding discharges into the environment
- ☐ Information regarding air and surface water quality in the project area where the discharge to the environment will take place.
- ☐ Information about the locations where the discharges will take place
- ☐ Potential risks to the environment and the need to avoid and minimize their impact on the environment
- ☐ Mitigation measures for capturing and treating discharges into the environment and pollution
- ☐ An environmental discharge monitoring program
- ☐ An inert waste management plan.

## 2.7 Methodologies applied and the way of providing information

The methodology applied for compiling the structure of the EIA report is based on the requirements of Law no. 10440, dated 07.07.2011 "On environmental impact assessment" amended.

Steps followed for drafting the EIA report

<b>Step 1</b>	Acquaintance with the technical project
<b>Step 2</b>	Consultation with the legal framework
<b>Step 3</b>	Review of the current environmental situation, to identify possible changes, evolutions or improvements through field inspections
<b>Step 4</b>	Identification of possible negative impacts during the project development
<b>Step 5</b>	Identification of potential cumulative impacts from other activities currently carried out in the project area
<b>Step 6</b>	Development of measures for mitigation of environmental impacts and environmental monitoring
<b>Step 7</b>	Konsultimet dhe përfshirja e gjithë grupeve të interesit.

*Table 3: Steps for drafting the EIA report*

The drafters of this EIA report after studying the technical project, which will be implemented and presented through this report, found and made the legal compliance, requirements and norms that must be implemented during the development of this project.

The area where the project "Reconstruction of the road Ersekë - Leskovik" will be implemented, is an area known to the drafters of this report, who have good experience and knowledge of the current state of the physical environment and its other environmental characteristics. The drafters of this report also consult with local community specialists, representatives of the administrative unit on specific issues, as well as to obtain their opinion on the project. During the drafting of this report, a detailed analysis of the entire technical project was made, in order to extract the possible impacts on the environment, to determine how important these impacts are and to predict their duration and reversibility or not.

Regarding to this, the EIA drafting team was based on contemporary literature, in analogous countries where these projects have been applied. Best work practices were also taken into account when drafting preventive, mitigation and rehabilitation measures of identified impacts.

In addition to ongoing communications with the development company to obtain project information, the EIA design team used information from various websites as well as literature. During the drafting of this EIA report, an open consultation process was guaranteed with all stakeholders who were involved through the opportunity created to give their opinions and suggestions about this project.

### ● NOTES ON THE EVALUATION OF THE EIA REPORT

The Environmental Impact Assessment, by its nature, contains assessments regarding the

impacts of the proposed project, some of which are positive and some of which are negative. A selective judgment, or out of context, may lead to erroneous conclusions as to the purpose of the report.

The author requests that the interested parties, in addition to this report, also refer to the Architectural and Constructive Relation, where the project proposals for the object under study are given.

- **CONTENT OF THE REPORT**

This Environmental Impact Assessment Report will present a summary of the project to be implemented, the description of the area and its physical environment, the positive and negative impacts on the project environment and the measures that the implementer will take to complete the project. necessary criteria for the most rational protection and administration of the environment.

### **3. PROJECT DESCRIPTION**

#### **3.1 General project data**

Based on the design task and the requirements of the Investor, we as a design company have prepared the necessary technical material for the project implementation for the road axis "Erseka-Leskovik".

The main objective of the project: "Reconstruction of Erseke - Leskovik road" is to improve regional and cross-border connectivity and facilitate accessibility to the tourism potentials of the Përmet region, bringing the expansion of the region's tourism offer and increasing opportunities for sustainable regional economic development . The reconstruction project will aim to improve the quality and safety of traffic while maintaining the existing road trail.

In total, the proposed interventions in the project will be:

- Construction of asphalt layers of the existing road
- Construction of substrates (in layers with major damage);
- Road drainage solution;
- Construction of retaining walls;
- Construction of culvert and works of art on the street;
- Vertical and horizontal signage Etc.

The Erseke-Leskovik connecting road starts in the town of Erseka and ends in the town of Leskovik. The reconstruction project will aim to improve the quality and safety of traffic while maintaining the existing road trail. Consequently, it will expand the region's tourism offer and increase the opportunity for sustainable regional economic development.

The length of the road axis is 42,660m. The width of the road asphalt varies between 4 and 4.5.

Width of asphalt road 4.0m	1. Km 10+120 – 12+394
----------------------------	-----------------------

## "Reconstruction of the Road Erseka - Leskovik"

	2. Km 15+790 – 42+660
Width of asphalt road 4.5m	1. Km 0+000 – 10+120
	2. Km 12+394 – 15+790



Figure 1: Project Horography

### 3.2 Existing Condition

The Erseka-Leskovik road starts in the town of Erseka and ends in the town of Leskovik. The starting point of this segment is in the place called the city cemetery (end of the Erseka town ring) and ends at the entrance of the town of Leskovik (at the intersection with the new road segment Leskovik-Customs 3 Bridges). The road has a length of about 42 km and is presented with strong and smooth curves throughout its length.

From the town of Erseka to Borove extends a relatively flat-hilly terrain. The curves in this area are mostly smooth. From Borova to Leskovik lies a hilly-mountainous terrain. Even the curves in this segment are relatively smooth.

The width of the asphalt, along the entire length of the road is about 4m, with a transverse slope on both sides of the road. On most of the road there are embankments and canals for surface water drainage.

From the field observations made by the group of engineers and from the measurements of the group of topographers, damages of different degrees have been noticed in this segment. Based on the condition of the layers in this road segment, we have divided the damages into 4 types:

1- No damage

## "Reconstruction of the Road Erseka - Leskovik"

The layers are in good condition and there is no need for intervention in the layers

2- Slight damage (Damage only to the asphalt layer or asphalt and binder)

The upper layers of the road are damaged or worn, but the deep layers are in good condition

3- Medium damage (In addition to the asphalt layers, the stabilizer is also damaged)

4- Deep damage (new layers are needed)

In this case the whole road package is damaged or we are displaced from the existing road trail.



*Figure 2: Existing Road Condition*

### 3.3 Implementation Project

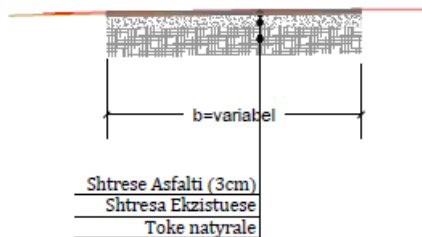
The main part of the road reconstruction project: "Erseka-Leskovik" consists of interventions in the road layers. Throughout the length, the axis trail is the same as the existing road trail. Based on the damage of the existing road, the interventions have been divided into different types of layers.

Type 1 of layers	3cm asphalt
Type 2 of layers	3cm asphalt 5cm binder
Type 3 of layers	3cm asphalt

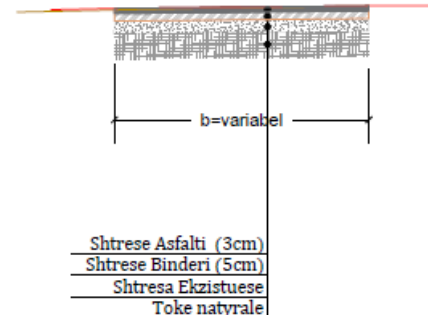
## "Reconstruction of the Road Erseka - Leskovik"

	5cm binder 20 cm stabilizer
Type 4 of layers	3cm asphalt 5cm binder 20 cm stabilizer 30 cm gravel

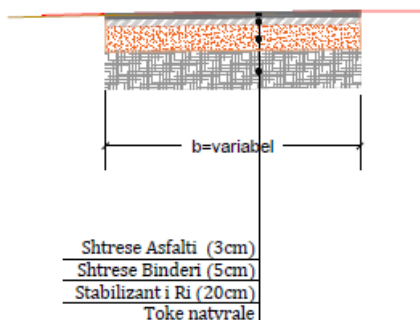
Tipi 1 i shtresave



Tipi 2 i shtresave



Tipi 3 i shtresave



Tipi 4 i shtresave

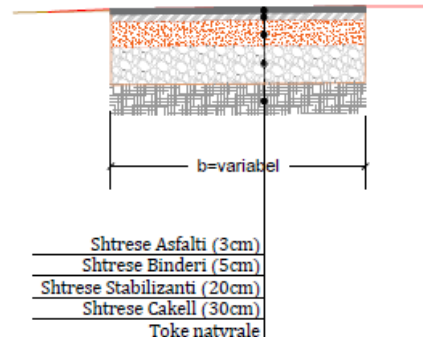


Figure 3: Types of interventions in layers

Since the road trail is built in a relatively rugged relief, it has a large length of retaining walls. The existing walls on the road are mainly stone walls.

Some of these walls are damaged. In cases where the damage is small and does not affect the bearing capacity of the structure, the measure taken is simply repairing the existing wall. In other cases we have designed new walls. The new gravity walls are C12 / 15 soft concrete. All the way, the only cases where we have designed gabion walls are in the progressive: Km 20 + 540 - 20 + 920. We thought to design gabion walls in this area and not soft / concrete walls because this area is a sliding area. The gabion wall works better than the concrete wall in the sliding area.

## "Reconstruction of the Road Erseka - Leskovik"

## PROFIL TIP 1

KM 0+000 - 10+120

KM 12+394 - 15+790

(NE BAZE TE GJERESISE SE RRUGES)

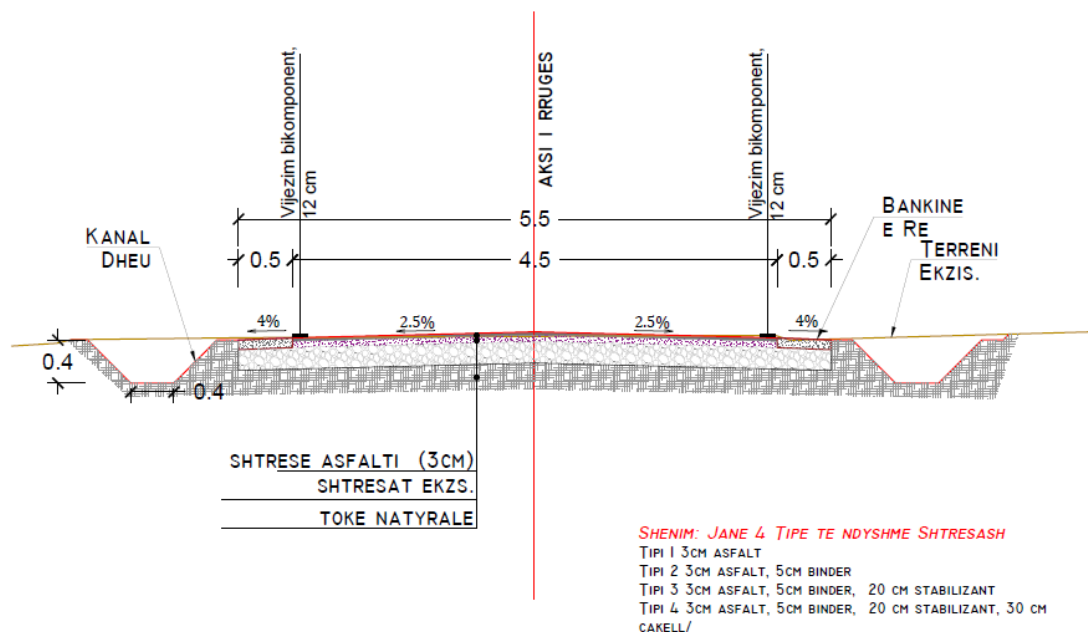


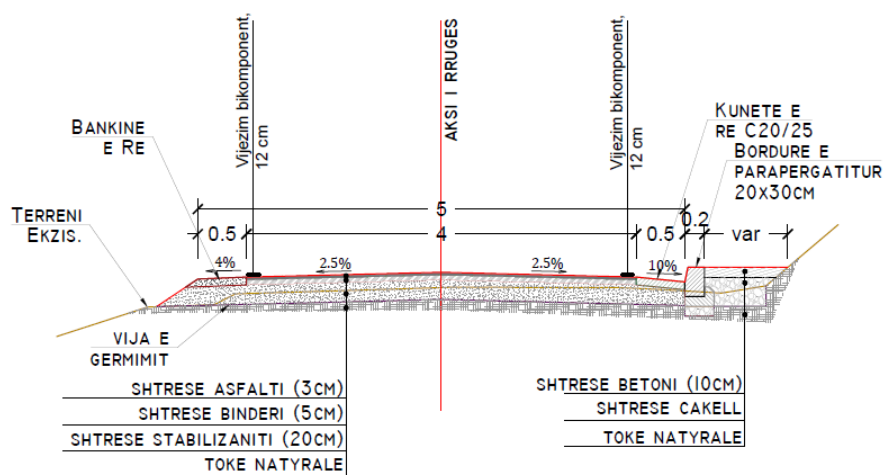
Figure 4: Profiletype 1

## PROFIL TIP 2

KM 10+120 - 12+394

KM 15+790 - 42+660

(NE BAZE TE GJERESISE SE RRUGES)



SHENIM: JANE 4 TIPE TE NDYSHME SHTRESASH

TIPI 1 3CM ASFALT  
TIPI 2 3CM ASFALT, 5CM BINDER  
TIPI 3 3CM ASFALT, 5CM BINDER, 20 CM STABILIZANT  
TIPI 4 3CM ASFALT, 5CM BINDER, 20 CM STABILIZANT, 30 CM CAKELL/

Figure 5: Profile type 2

## "Reconstruction of the Road Erseka - Leskovik"

### PROFIL TIP A

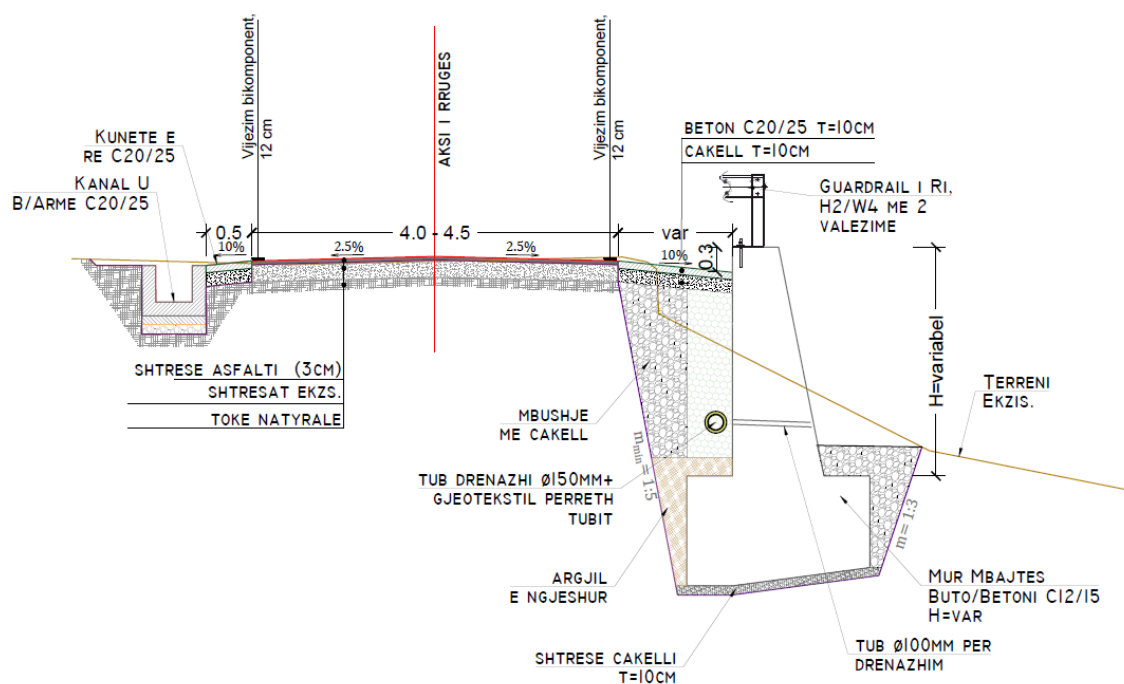


Figure 6: Profile type A

### PROFIL TIP B

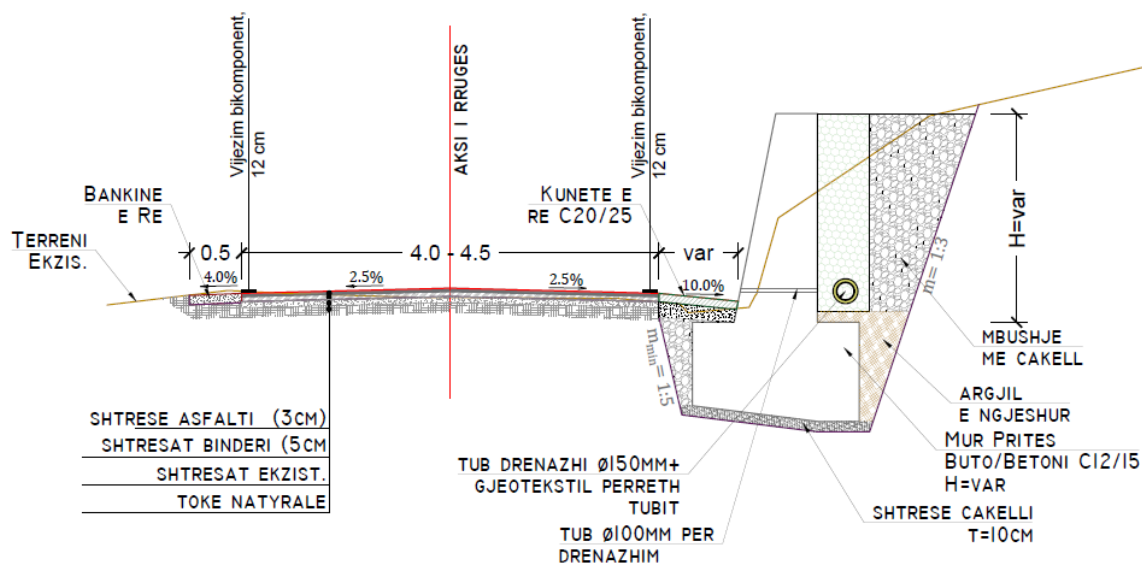


Figure 7: Profile type B

## "Reconstruction of the Road Erseka - Leskovik"

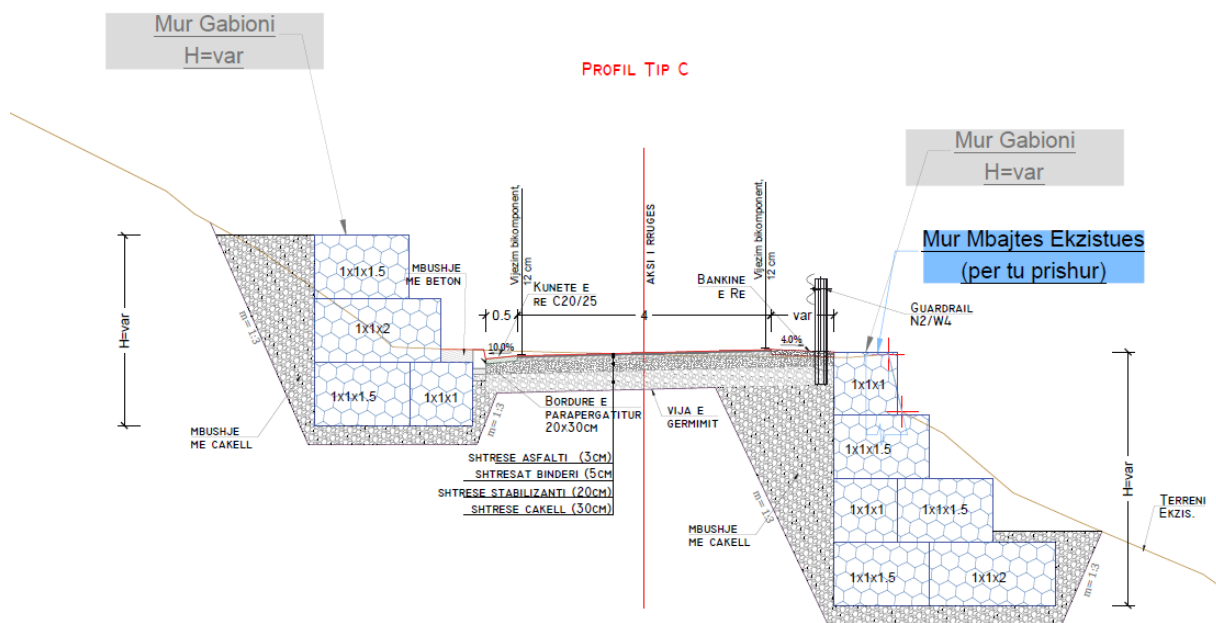


Figure 8: Profile type C

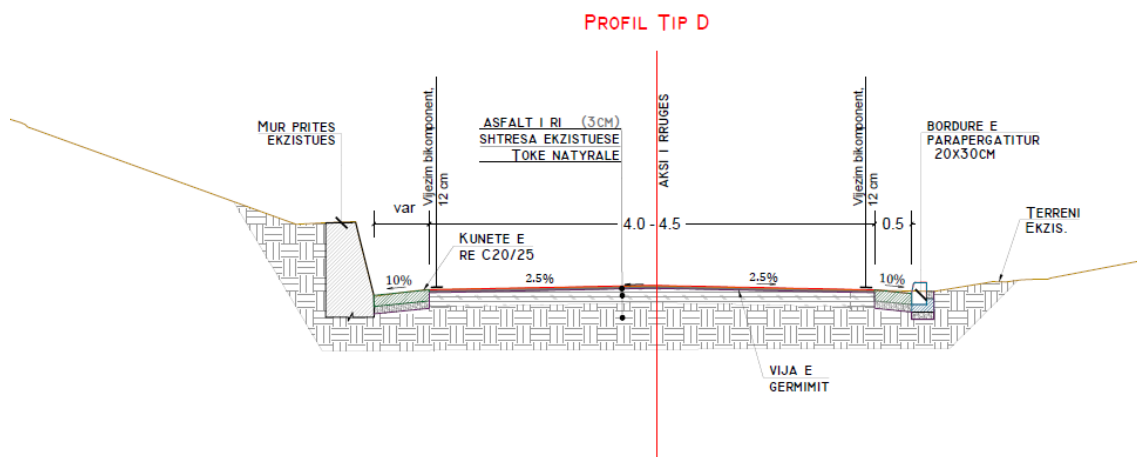


Figure 9: Profile type D

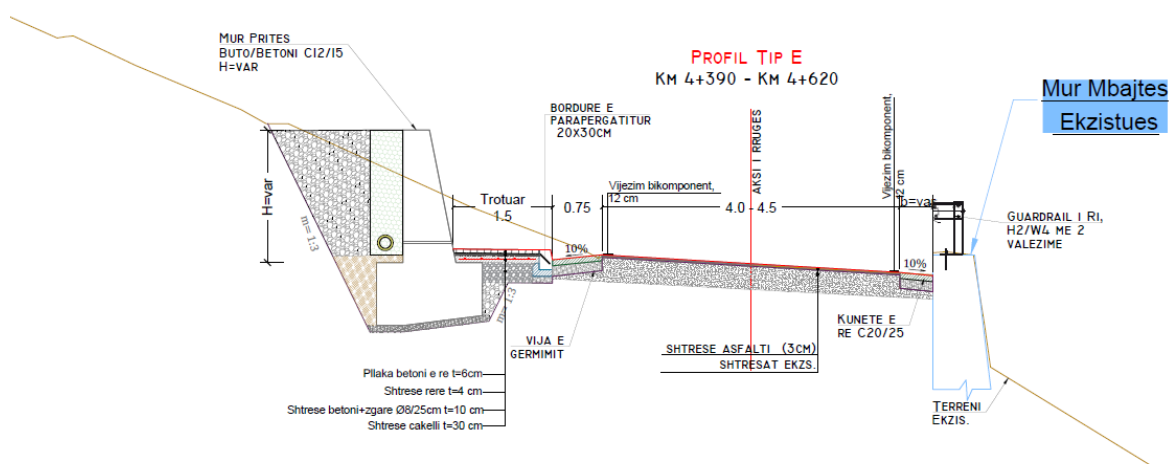


Figure 10: Profile type E

### 3.4 Drainage System

For most of the road, its transverse slope is on both sides. The sidewalks are 0.5m with a slope of 4%.

In certain positions are placed the culverts which play the main role of removing water from the road surface.

The tombino are placed based on:

- 1-The surface of the catchment area
- 2-Areas where the longitudinal profile of the axis is in the form of spoons.

As a result of damage or small size, most of the existing culvert are damaged. Therefore, new tombino will be built in the new project.

The bridges located on the existing road trail are in good condition and perform their main function. In this project, they will simply be repaired.

**TOMBINO Ø 1000**

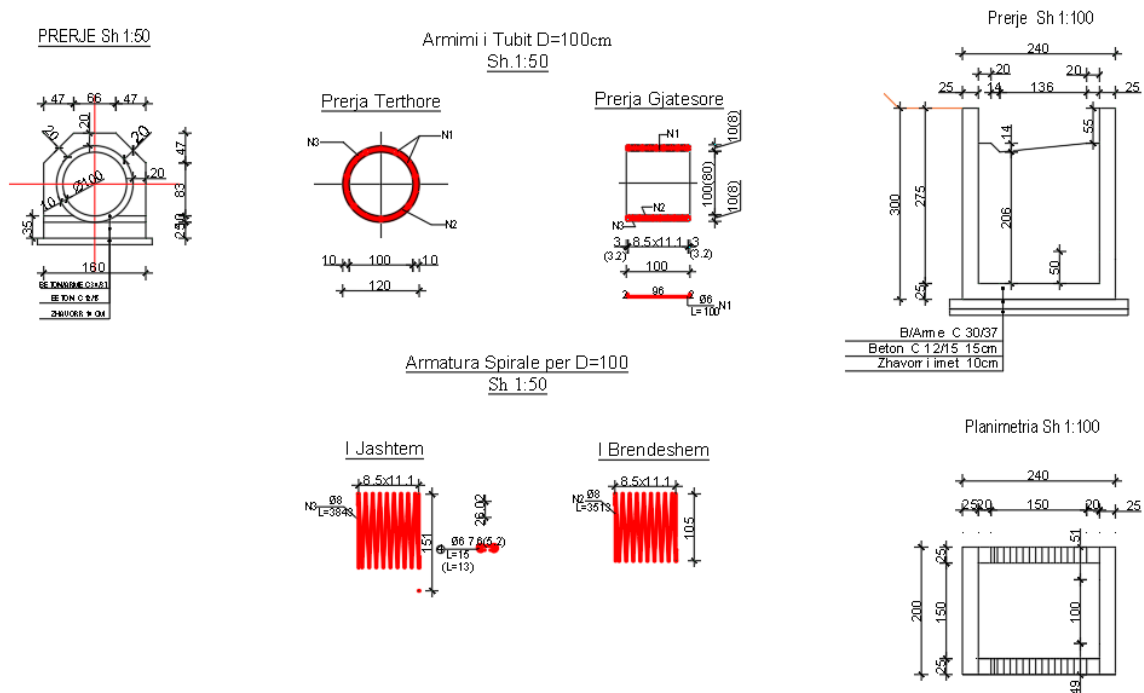


Figure 11: Profile type of tombino D1000mm

### 3.5 Signage

To avoid accidents and to enable a comfortable driving of vehicles, the role of signs and markings on the road itself and safety measures is very important in this project and is designed in accordance with the national ARDM standard and also with the help of international experience. The road safety project must be in accordance with the regulated

and approved road safety policies applied in Albania by the Albanian government, such as:

- National Strategy for Road Safety 2011-2020
- Road Safety Action Plan 2011-2015
- National Transport Strategy
- Updated National Transport Plan 2

The project is based on the Albanian Road Design Manual, Chapter no. 6, Road Signs and Markings. Based on the Manual of Road Signs of the Republic of Albania and the Albanian Road Code, the road segment is classified as a secondary interurban road class C.

Therefore, horizontal & vertical signs along with road safety measures must comply with this classification.

To be effective, markings and signs must be designed and implemented in such a way that the messages they convey are clear, distinct and legible. Maintaining signs and markings is important.

Road sign features provide all the necessary elements for a safe movement, and provide drivers with accurate and timely information so that all vehicles reach their destination safely and within the allotted time.

Vertical signs consist of danger warning signs, priority signs, stop signs, mandatory signs, directional signs and information signs. These symbols are placed at a distance that the driver can take the necessary measures to implement them and must also have the appropriate dimension and visibility in accordance with the road classification.

Horizontal signs consist of longitudinal lines, traffic islands, arrows or other road markings. The materials used for the horizontal signs must be very durable and with the necessary reflection to have high visibility, this is because the horizontal signs are in constant contact with vehicles moving at high speed. It is very important for vertical and horizontal signs to be in harmony with each other between different parts of the road in order to avoid any misunderstanding while driving the vehicle.

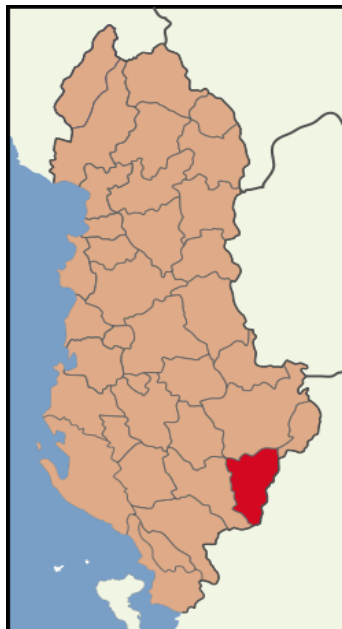
Road safety elements are guaranteed by iron guardrails placed on the side borders of the carriageway which must provide a level of safety of H2 or H3. This type of road safety is required by road classification. In addition to road safety features, aluminum luminaires have been used in the centerline of the carriageway to improve road visibility at night and on rainy days.

#### **4. DESCRIPTION OF THE REGIONAL ENVIRONMENT**

##### **4.1 Description of the Physical Environment**

###### **4.1.1 Basic data on the position and location of the project**

The Municipality of Kolonja is located in the South-Eastern part of the Republic of Albania and borders the Greek State with a border line of 51 km, with the district of Korça with a border line of 30 km, with the district of Devoll with a border line of 9 km, with Përmet district with a border line of 43 km. Total 133km. It has an area of 805km<sup>2</sup>. From East to West it is 20 km wide and from North to South 39 km long. Road network with a length of 619.8 km, of which 77 km is the national road Korça-Tre Urat, secondary urban road 6.9 km, local road 500.3 km, agricultural road 35.6 km.



###### **4.1.2 Relief**

Kolonja is located in the southeast of Albania and is a mountain district. It is located in the south of the Korça plain with which it connects through the Qarr threshold with an altitude of 1100 meters above sea level. Due to uplifting movements and the composition of loamy deposits, this pit is fragmented by the Osum River and its numerous tributaries have formed deep beds. The district of Kolonjë is crossed by the river Osum with a length of 161 km, of which 36 km are within the territory of the district. In the district there are 16 high mountains, the highest of which is Gramoz with a height of 2523 meters above sea level, which is the highest mountain in the southern part of the Eastern Range. To the south west of Gramoz rise a series of other mountains, which are interrupted by a series of rivers and streams. The area of Kolonjë district is 84000 ha of which 55310 ha are forests and pastures or 66% of the total area. Land assets include 12000 ha of agricultural land or 15% of the area.

Forest and pasture fires pose a threat to the forest economy.

#### **4.1.3 Geological characteristics**

Kolonja is characterized by massive soil instability, which is caused by mechanical action of surface and groundwater, precipitation, seismic action and indiscriminate deforestation. Land instability in Kolonjë district comes mainly after heavy rains, which damage the road network and agricultural lands. These "treacherous" streams bring volumes of alluvium and cause unpredictable damage to infrastructure, residential buildings and land erosion which goes up to 0.2% every year.

From the field studies carried out in the district of Kolonjë, types of rocks and soils have been singled out as root rock formation and Quaternary cover soil formations.

The main mass is clay and inside them meet the shells of various rock blocks, which in a situation of rain, earthquakes pose a risk to road safety, but also to residents, unstable terrain.

#### **4.1.4 Hydrological and hydrogeological characteristics**

The district of Kolonjë is crossed by the river Osum with a length of 161 km, of which 36 km are within the territory of the district. Also, the relief of Kolonja is crossed by the stream of Langarica and Lashova which enter the catchment area of the river Vjosa and occupy 35% of the territory. The relief is crossed by numerous rivers and streams that descend from both sides of the Kolonja pit. As a result of local rainfall in October-November and snowmelt in March-April pose a threat of flooding, considerable erosion on agricultural lands.

#### **4.1.5 Climatic characteristics**

In the district of Kolonje due to the high altitudes above sea level the climate is cold in winter and cool in summer. Average air temperatures in the coldest month and specifically in December-January have fluctuated 0 degrees to minus 5 degrees and in the hottest month of July it fluctuates from 19 degrees to 24 degrees. The absolute minimum temperatures reach from minus 8 degrees to minus 19.5 degrees. And the absolute maximum temperatures belong to the month of July with plus 33 degrees C.

Atmospheric precipitation occurs in all forms of precipitation. The amount of precipitation per year is 974 mm of rain. Snowfall occurs on average with a duration of 30 days, up to 100 days. In these situations, with a blockage of 30 days, is considered critical for civil emergencies. The winds blow in southeast and northeast of the district of Kolonja. Also characteristic are Gorem of Gjonci, Hasi of Shtika and Vithkuqarja. Snowfalls are a main threat for the blockage of national and local roads. Strong storms and low temperatures cause frost and can have a catastrophic effect on power lines. We may have freezing of the water supply system, freezing of sewage water, damages to agriculture and livestock. Also side effects may be seen in the spring time after a rapid thaw and rising temperatures.

## "Reconstruction of the Road Erseka - Leskovik"

*Table 4: Average monthly air temperature*

Station	Jan	Feb	Mar	April	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Average
Korca	0.5	2.2	4.9	9.2	13.9	17.6	20	20.2	16.5	11.3	6.8	2.5	10.5

Source: Albanian Hydrometeorological Institute

*Table 5: Minimum Absolute air temperature (°C)*

Station	Jan	Feb	Mar	April	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Average
Korca	-20.9	-17.3	-16.5	-10.5	0	2.6	4.9	6.6	-0.5	-7.5	-10.2	-19	-20.9

Source: Albanian Hydrometeorological Institute

*Table 6: Maximum absolute air temperature (°C)*

Station	Jan	Feb	Mar	April	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Average
Korca	17.4	21.8	26.3	26.7	31.6	34.3	38.7	36.5	33.1	27.6	25	18.1	38.7

*Table 7: Number of days with Temperature  $\leq 0^{\circ}\text{C}$*

Station	Jan	Feb	Mar	April	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Average
Korca	23.8	17	14	2.6	-	-	-	-	0.1	1.7	7.6	21.1	10.9

Source: Albanian Hydrometeorological Institute

*Table 8: Monthly and seasonal rainfall (mm)*

Station	Months											
	Jan	Feb	Mar	April	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Korca	78	73	59	60	74	43	32	31	48	85	109	98
Station	Season											
	Winter		Spring		Summer		Autum					
Korca	249		193		106		242		790			

Source: Albanian Hydrometeorological Institute

## **4.2 Description of the Biological Environment**

### **4.2.1 Biological and ecological characteristics**

The project area passes through a variety of habitats, where it is dominated by land usage with complex agricultural cultivation patterns and non-irrigated (uncultivated) fertile land. While the village of Zemblak is characterized by permanently irrigated lands and the presence of the river Devoll, which is a possible habitat of the canoe.

### **4.2.2 Flora**

Drainage canals, riparian forests and semi-natural pastures are dominated by *Populus nigra*, *Salix alba*, *Populus canadensis*, *Bromus erectus*, *Alopecurus pratensis*, *Arrhenatherum elatius*, *Poa trivialis*, *Tragopogon pratensis*, *Leucanthemum vulgare*, *Campanula patula* and *Sambucus ebulus*. The most important crops grown in these areas are wheat, corn, beans, barley and alfalfa. In the area of Korça are planted over 30 medicinal and aromatic plants, where we can mention *Ceterach officinarum*, Wild Carrot (*Daucus carota*), Black Juniper (*Juniperus communis*) and Red Juniper (*Juniperus oxycedrus*).

The diversity of aquatic plants in this part of is relatively high, with 19 species recorded. They are mainly dominated by submerged and emergent macrophytic species, which are concentrated in swampy areas and where water flow is slow. The most abundant species encountered are green algae *C. glomerata* with a coverage rate of 4%. The diversity of the benthic community is also high, with 83 species recorded. However, the value of the Diatom Trophic Index was high, which indicates eutrophic habitats, ie poor water quality. However, despite this indicator, 13 species of diatoms have been identified in the samples taken, which are part of the European Red List of diatoms, which is an indication of rare or endangered habitats.

### **4.2.3 Characteristics of fauna**

As mentioned above, agricultural areas are very widely distributed in the Korça valley. They consist of agricultural lands and abandoned arable lands, which have been turned into pastures, located near settlements (villages). Habitat is supported by a high abundance of bird species, mainly of the Order of Passeriformes. In winter the open fields are used by herds of sparrows, in the company of the little Passeriformes. While in summer, open fields are the basis for partridge breeding.

The fruit trees of the terrain are visited by redbreast birds, sparrows, hoopoe and pigeons. The most characteristic species of mammals are the House Rat (*Mus musculus Domesticus*), the Forest Rat (*Apodemus sylvaticus*) and the Ondrias Rat (*Microtus epiroticus*). Also, fruit tree plantations are widespread near the Cangonji-Zemblak area. Although established relatively late (last 10-15 years), this type of habitat is still expanding, as farmers are interested in further developing horticulture in the Devoll and Korça fields.

Apple, plum and cherry fruit tree plantations provide some ecological niches for reptiles (ie

## "Reconstruction of the Road Erseka - Leskovik"

European Green lizards and wall lizards, various Passeriformes, bee-eater, beetles. Most common mammal species are foxes (*Vulpes vulpes*), Baldosa (*Meles meles*), Nuselalja (*Mustela nivalis*), mole and rat. Predatory birds, such as hawks, are often seen hunting on fruit tree plantations. Wolf feces (*Canis lupus*) have also been found in pastures with small livestock.

The lower bed of the river consists of pebble sediments, which were partially covered by macro-vegetation, creating an attractive habitat for benthic invertebrates. It should be noted that the presence of mining activities and waste disposal (both inert and urban) is likely to have had an impact on the benthic community of this area. Five species of fish have also been recorded, which are *Cobitis ohridana*, *Alburnoides Devolli*, *Chondrostoma nasus*, *Squalius cephalus* and *Barbus prespensis*.

Of these five, all are categorized as nationally protected, except *S. cephalus*. In the European context, only (*B. prespensis*) is listed under Annexes II and V of the EU Habitats Directive.

### 4.2.4 National ecological network areas

The case study is included in an urbanized territory, with the presence of infrastructure, which is related to complex agricultural and cultivation models. So there will be no impact on Protected Areas.

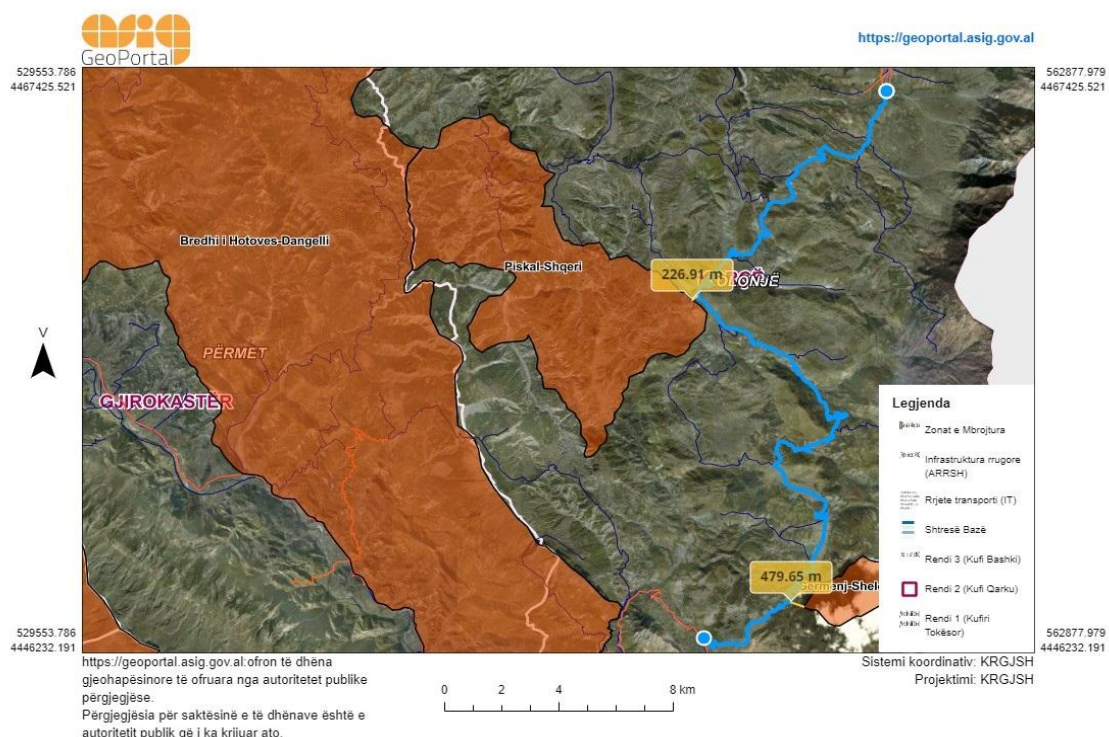


Figure: Distance from Protected Areas

The data are collected based on the ASIG/Geoportal information. According the map, close the to road is located in the distance of 221 m the Protected Area of Managed Natural Resources – **Piska Shqeri**. The Forest Unit “Piskal” is made of the watershed of the Langurica and Piskal lakes and of the Postenan, Radimisth and Pode rocks, as well as the Radum

## "Reconstruction of the Road Erseka - Leskovik"

mountain surrounded by the Dermar, Rajan, Kamnik, Mbreshtan, Piskal, Vitish and Shijan villages. The area is made of valleys that fall down by the streams creating a 'micro relief' of a wide 'basin'. According IUCN management category is categorized under Category VI. In the distance of 479 m is located the natural reserve called **Germenj-shelegur**. According IUCN management category is categorized under Category IV. The area is rich with biodiversity and endemic species.

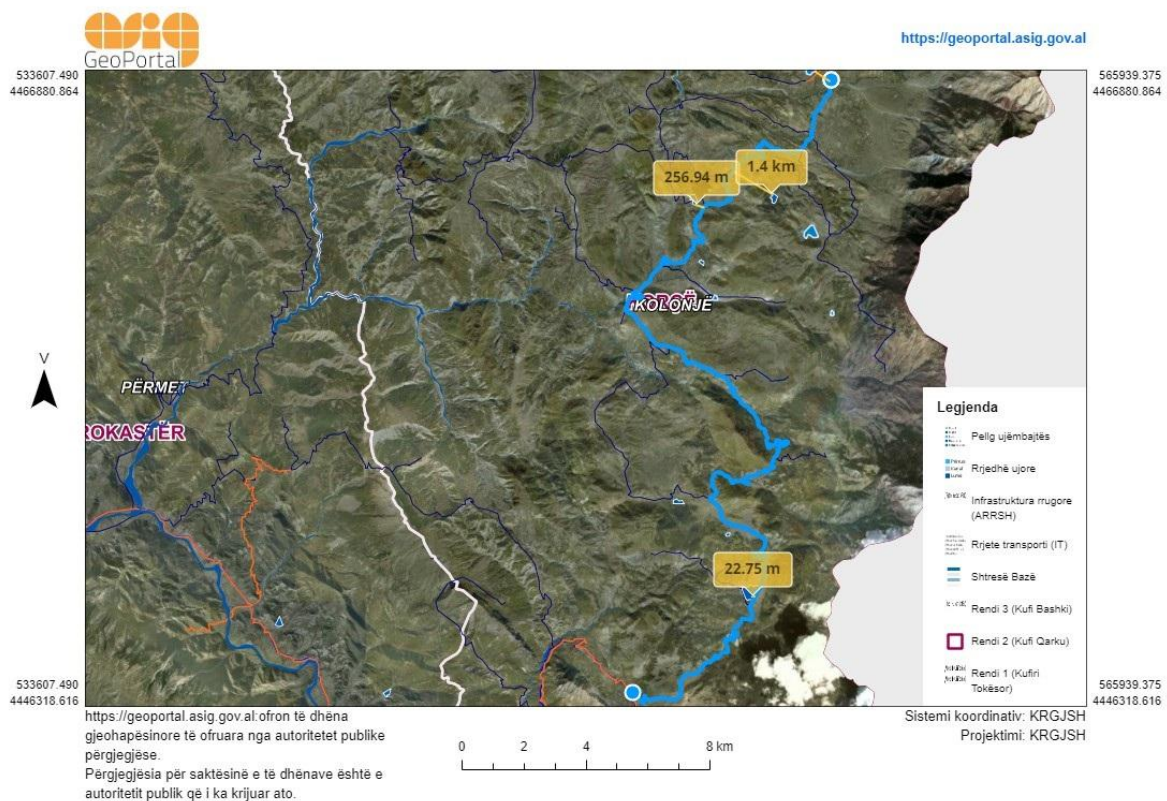


Figure 2: Distance from water resources

Along the road path are located few water reservoirs that are not negatively impacted from the road. From the map shown, the distances are different. The first reservoir is located in the distance of 1.4 km, following the second reservoir in the distance of 256 m and the last reservoir is located in the distance of 22. 75 m.

## "Reconstruction of the Road Erseka - Leskovik"

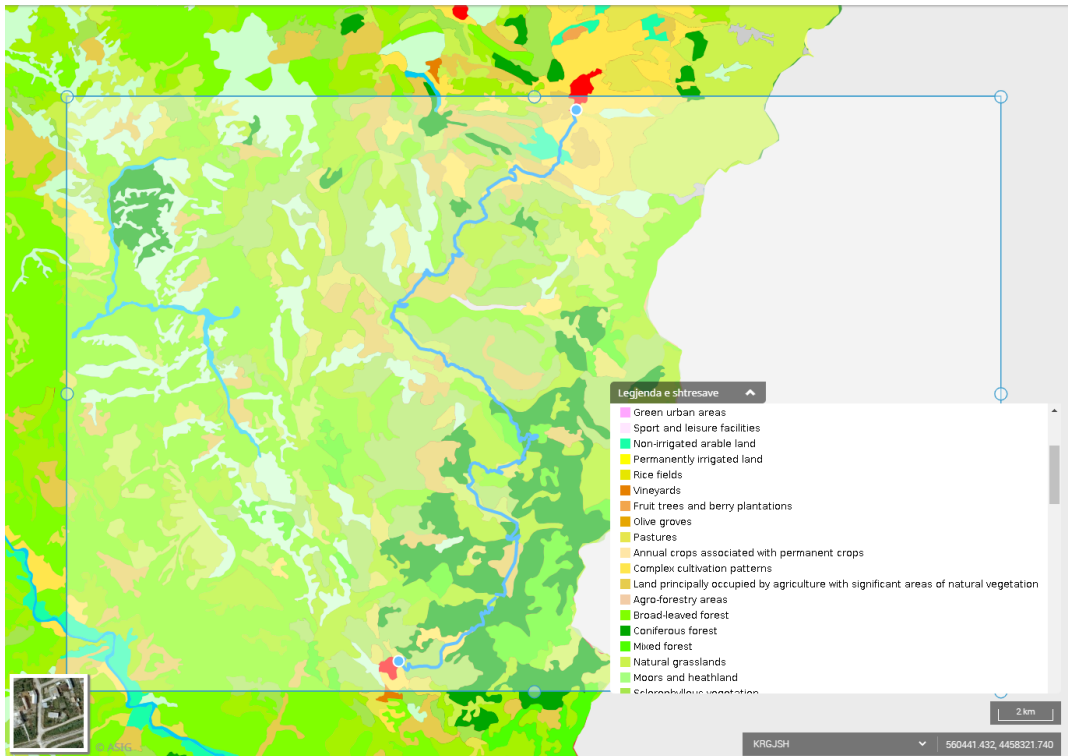


Figure 3: The composition of plants and greenery (source: arsig/geoportal)

Along the road are located different arable lands, greenery areas. From the map it is shown that are present coniferous forest (strong green), mixed forest, natural grassland and broad leaved forest.

### 4.3 Description of the Socio-Economic Environment

#### 4.3.1 Population

The municipality of Kolonja is bordered on the north by the municipalities of Devoll and Korça, on the west and south by the municipality of Përmet, and on the east by Greece. The capital of the Municipality is the city of Erseka. This municipality consists of 8 administrative units, which are: Ersekë, Qender Ersekë, Leksovik, Qender Leksovik, Novosela, Barmash, Mollas and Çlirim. The Municipality of Kolonjë has in its administration two cities: Ersekë and Leskovik, as well as 76 villages, which are included in the following administrative units:

- Ersekë Center: Starie, Bejkovë, Psar, Selenicë, Kreshovë, Gostivisht, Lëngës, Kodras, Kabash, Borovë, Taç Qëndër, Taç Poshtë, Taç Lartë, Rehovë, Gjonç, Prodan
- Leskovik Center: Pobickë, Cerckë, Radat, Radovë, Postenan, Lashovë, Peshtan, Podë, Kovaçisht, Vrepckë, Gërmenj, Radanj, Glinë, Gjirakar
- Novoselë: Novoselë, Mesiçkë, Kagjinas, Zharkan, Piskal, Vitisht, Shijan, Kaduç, Ndërmarr, Mbreshtan
- Barmash: Barmash, Leshnjë, Shalës, Gozhdorazhd, Sanjollas, Kamnik, Bënjëz, Radimisht, Arrëz, Rajan
- Mollas: Mollas, Skorovot, Qinam, Vodicë, Qafzez, Helmës, Shtikë, Pepellash, Butkë, Kozel, Milec, Bezhan, Boshanj, Blush

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– Çlirim: Çlirim, Qesarak, Kaltanj, Qytezë, Selenicë e Pishës, Luaras, Lënckë, Kurtetz, Orgockë, Qënam- Radovickë, Radovickë, Psar i Zi.



According to the 2011 Census, the municipality has 11,070 inhabitants, while according to the Civil Registry this municipality has a population of 19,919 inhabitants, in an area of 864.06 km<sup>2</sup>. The large difference between these figures can be explained by the migratory movement, which for this area has had quite large proportions, not yet reflected in the civil status registers. The Municipality of Kolonjë has a density of 7.5 inhabitants / km<sup>2</sup> (several times lower than the national average: 97.4, due to the large area with mountainous area). The current data of 2015 show for a total number of 22.2 thousand inhabitants and 6,343 families registered in the civil status, compared respectively with about 22.6 thousand inhabitants and 5005 families in 2000. The inhabited centers are located mainly at Gramoz and other surrounding mountains.

The town of Erseka lies almost in the center of the Kolonja plateau, at the foot of Gramoz mountain with a distance of 2 km from its base and has an area of 1.1 km<sup>2</sup>; 2,266 families and 6,726 inhabitants. The city of Leskovik, for 2015, numbered about 3 thousand inhabitants and 800 families. It seems that the decline in population, according to the registers, has slowed down after 2011, and there has even been an increase towards the levels before 15 years. Accurate knowledge of the dynamics of population change requires accurate field verifications, so that the forecast for the coming years is a basic variable, accurately calculated, in view of future strategic planning.

The gender ratio, according to the 2011 census data, turns out to be 104.2, slightly higher than the national average of 100.4, which can be partly explained by the higher phenomenon of female migration, mainly for further education and employment. . In the Municipality of Kolonjë, the age group 15-64 years constitutes 68.1% of the total population, being almost as much as the national average (68%), unlike the age group of children: 15.6% (national average

20%), which indicates a decline in fertility in recent decades.

The emigration of the population has been directed mainly abroad (proximity to Greece), but also to other cities of Albania (Korça, Tirana, etc.). The return of emigrants until 2011 has been negligible, about 510 people in total (0.36% of the total returned emigrants).

#### **4.3.2 Economic profile**

In the city of Erseka, business development is mainly oriented towards small business. About 350 private entities operate in this territory, of which only 15 entities have the status of a legal entity. Entities with the status of legal entity consist of 6 construction companies, while others work mainly in the field of forest use and processing for the sale of timber.

The rest of the economic activity consists of small business, mainly in the field of services and entertainment and a relatively small number consists of small production and processing entities (1 brewery; 3 bakeries; 1 dairy and 3 dairy with relatively low capacity). Also, there are entities in the field of trade and services, mainly self-employed and only 30% of them have two insured employees, including the owner.

New investments for business development are rare; There are about 35 new buildings adapted for trade and service facilities, some of them unfinished, with construction areas from 100 to 200 m<sup>2</sup>, on average 2-3 floors. What is obvious are the investments for reconstruction and adaptation of the existing premises in about 80% of the premises where private activity is performed. In recent years there has been almost a constant number of small business registered with an increase of about 2-3%. There are entities that close the activity or change the type of activity or location of the business, especially in the case of entities that operate mainly in rented premises.

The number of closed businesses each year varies from 4-5% of the total number of private entities. The area of agricultural land for the Municipality of Kolonjë is 6357 ha. For 2015, its area was 4416 ha, of which most serves for the cultivation of cereals and fodder.

The number of farms in the Municipality of Kolonjë is 2,303; of these 1420 farms have parcel sizes of 2 to 2.5 ha. In Kolonjë there are issues with irrigation infrastructure and drainage, which requires prompt intervention. It is difficult to talk about the mechanization of agriculture with this fragmentation of land with small areas and yields comparable to the region. For the future it is worth considering the focus on the utilization of the area that is infertile, increasing the area planted with arable and medicinal plants, as well as increasing the storage and processing capacity of agricultural and livestock products, increasing the output, improving the quality of breeds and increasing the number of heads in livestock.

The greatest opportunities for employment of women and people with disabilities are estimated in the field of collection and processing of medicinal plants, promotion of culinary and cultural traditions of the area, etc.

## **5. IDENTIFICATION OF NEGATIVE ENVIRONMENTAL IMPACTS**

### **5.1 Methodology for identifying negative impacts on the environment**

To predict the impacts on the environment, the design team is based on:

- Creation of a database with answers to questions related to environmental issues and their analysis
- Analysis of project implementation in the field
- Information and consultation with the community and other stakeholders

The topics of the questions that are formulated in order to identify the impacts and evaluation of this project on the environment are:

- Is the project fully compliant with the relevant laws and regulations?
- Will the project affect the socio-economic conditions of the host community and the health of the residents?
- Will they have any long-term or permanent impact on the ecological systems or natural resources of the locality or those of national or regional interest?
- Will the various components of the area ecosystem be affected?

#### **Analysis of project implementation in the field:**

This takes into account the equipment, machinery, auxiliary materials, the manner of implementation and realization of the "Reconstruction of the road Erseka - Leskovik", the time, deadlines and the necessary team for its realization.

#### **Factors and Criteria Applied to Potential Impact Assessment**

To determine whether a negative impact on the environment, during the implementation and operation of the project, should be reduced or mitigated, will be based on one or more of the following factors:

- Comparison with accepted laws, regulations or standards (national and international guidelines and standards)
- Consultation with relevant decision makers and environmental agencies, etc.
- Preference of pre-set criteria, such as protected areas or areas with high environmental sensitivity
- Compliance with government policy objectives
- Acceptability of the implementation of the program by the local community and by the residents of the area where the program will be implemented.
- Gathering as much information and knowledge related to the project topic, the highest level and a better professional judgment of the team that drafts the environmental assessment.
- Better knowledge and assessment of ecosystem values.

## **5.2 Significant impacts during construction**

### **5.2.1 Discharges to water**

During the construction phase of the project "Reconstruction of the road Ersekë - Leskovik" we will not have significant impacts on surface and groundwater.

The proposed road will run almost the entire existing road and therefore will not have adverse effects on surface and groundwater. A negative impact can occur in small drainage networks. The following possible impacts may occur during the reconstruction of the road:

- in groundwater, as a result of accidental spills of fuel and oils from construction vehicles and machinery used during the management of reconstruction activities;
- In surface waters as a result of temporary interruptions from drainage canals or indiscriminate pollution during the management of construction activities;

### **5.2.2 Impacts on air**

Emissions to the atmosphere can come from a variety of sources. Dust from vehicles and transport vehicles will be present in the project area throughout the reconstruction works. Also the release of fuel gases, coming from work tools and machinery, will affect air quality. All machines that work on fossil fuels (oil) must be regularly maintained and checked in order to minimize emissions from vehicles and machinery. During the road reconstruction phase we will have dust discharges that may have a temporary effect on air quality throughout the area that includes the road to be reconstructed.

During the construction phase, dust emission is related with various activities such as removal of arable land, excavation of soil material and filling with excavation material.

### **5.2.3 Impacts on the land**

Impacts on the ground will be minimal, this for the fact that hazardous substances that can contaminate the soil will not be used. Also the impacts on the ground will be minimal, as the reconstruction of the road will be carried out on the existing road track. During the construction phase of the project, special attention will be paid to excavation waste management in order to minimize impacts on the soil.

### **5.2.4 Noises and vibrations**

During the reconstruction works will be used various cars. However, given the nature of the works, the noise level will only be at the construction site.

The noise that will be generated will come mainly from road vehicles and the use of various transport vehicles, generators, vehicles that will be used for digging the road layers, noise created by personnel working in the area, etc.

Noise can be created by many construction actions and depends on factors such as: the type of equipment, the actions to be performed and the conditions of the machinery used. The

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predominant type of noise for most construction equipment is the engine, usually with diesel and without muffler. Noise generating machines will be calibrated and controlled according to EU standards in relation to noise caused in the environment.

Vibrations can be generated during the road layer excavation phase by used machinery.

### 5.2.5 Impacts on flora / fauna

Interventions that will be carried out for the reconstruction of the road will not affect the flora and fauna of the area. Since the road trail will cross the existing road we will not have habitat fragmentation. Movements of working machinery on construction sites will cause disturbance to fauna habitats.

### 5.2.6 Waste produced

Solid waste that will be produced from construction in this area will be inert waste as a result of "Reconstruction of the road Erseka - Leskovik".

Regarding the inert waste that will be generated during the excavations for the construction of the road, they will be managed in cooperation with the Municipality of Erseka and with a licensed operator equipped with a license of category III.2.B "Collection and transportation of inert waste ", Referring to Law no. 9010 dated 13.02.2003 "On the environmental management of solid waste" amended by: Law No. 10 137, dated 11.05.2009 and DCM no. 575, dated 24.6.2015 "On the approval of requests for inert waste management".

Waste that will be generated during the reconstruction phase, referred to Decision no. 99, dated 18.02.2005 "On the approval of the Albanian Waste Catalog" are:

17 01 01 Concrete

17 01 07 Mixtures of concrete, brick, tile and ceramic, other than those mentioned in 17 01 06

17 05 04 soil and stones other than those mentioned in 17 05 03

17 09 04 Mixed construction and demolition waste, other than those mentioned in 17 09 01, 17 09 02 and 17 09 03. We also emphasize that a part of the soil waste that will be generated during the excavation phase, will be used as filler material.

*Table 10: The volume of waste that will be generated is:*

Earthworks and demolition	Amount
Ordinary excavation	78 512 m <sup>3</sup>
Excavation of crushed rock with 0.5 m excavator, rock, on foundations width > 2 m, with unloading in the vehicle	33 648 m <sup>3</sup>
Demolition of stone structures + transport	6 310 m <sup>3</sup>

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Demolition of concrete structures + transport	570 m <sup>3</sup>
<b>TOTAL</b>	<b>119 040 m<sup>3</sup></b>

*Table 11: Use of machinery during site activity*

Nr.	Activity	Typology of used machinery
<b>1.</b>	<b>Construction site</b>	Vehicles for the transport of materials
		Working vehicles
		Excavators
		Mechanical Vehicles
		Vehicles
<b>2.</b>	<b>Foundations and supporting works for constructed buildings</b>	Drill dirver
		Concrete mixer with pumping system
		Various equipment (compressors, vibrators, saws, iron breakers, etc.)
		Vehicles
<b>3.</b>	<b>External systems</b>	Concrete mixer
		Stabilizer - leveler
		Compactor roller
<b>4.</b>	<b>Removal of the construction site</b>	Vehicles
		Mechanical Vehicles

### 5.3 Summary of potential negative impacts

For the environmental and social impact assessment, a 5-point rating scale was used (to assess the magnitude of the impact) as well as the combination with the duration of this 3-grade impact assessment (see rating scale below). For visual convenience the magnitude of the estimated impact varies according to the degree with the effect of the selected colors.

*Table 12: Impact rate*

+++++	The activity has a high positive impact
++++	The activity has a positive impact above average
+++	The activity has an average positive impact
++	The activity has a low positive impact
+	The activity has a very low positive impact
0	Activity has no impact (neutral)
-	The activity has a very low negative impact
--	The activity has a low negative impact

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---	The activity has an average negative impact
----	The activity has a negative impact above average
-----	The activity has a high negative impact

*Table 13: Duration of impact*

1	The impact is short term
2	The impact is medium-term
3	The impact is long-term

In the table above the numbers 1, 2, 3 indicate the timelines

*Table 14: Potential negative impacts without mitigation measures*

Impact Receiver	Source of Impact	Duration Physical extension, Size	Reversibility to the initial state	Impact scale	Needs for mitigation measures
<b>Soil</b>					
Soil contamination	No	1	+	-	Action plan
Negative impacts on the physical characteristics of the soil	Carpentry Concreting Asphalting Vibration	1	--	--	Rehabilitation Plan; Following the Standards of works;
<b>Biodiversity</b>					

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Vegetation Potential vegetation damage	Excavation of existing road layers; Leakage of oil from the working machinery;	1	--	--	Implementation of the regulation. Optimal technical conditions of work tools. Pollution prevention
<b>Fauna</b>					
Disturbance of species, their accidental damage	Emissions of gases and dusts Circulation of machinery needed to carry out interventions	1	---	--	Implementation of the regulation. Optimal technical conditions of work tools. Pollution prevention.
<b>Air quality</b>					
Increase of CO <sub>2</sub> , CO, NO <sub>x</sub> , SO <sub>2</sub> , LN, HC (VOC) emissions	Increase in air emissions from diesel combustion used by machinery but also by other accompanying vehicles	1	--	--	Use of covers on trucks and storage site. Transportation to be performed at free traffic schedules. Fuel to be quality. Periodic inspection of working tools for discharges. Efficient use of work tools. Wetting the object during construction works
<b>Water quality</b>					
Surface water	Interventions for road reconstruction	1	-	-	Cleaning the environment in any case of discharge of pollutants into the environment
Underground water	Interventions for road reconstruction	1	-	-	Cleaning the environment in any case of discharge of pollutants into the environment

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<b>Hydrology</b>					
Drainage / discharge system, hydrological condition, decantation, erosion	Excavations for road reconstruction; Oil leaks from working machinery;	1	--	--	Drainage system. Retaining walls.
Floods	NO	NO	NO	NO	The terrain has slopes & high waters drain into the main drainage canal.
<b>Waste</b>					
Increase of urban waste	Increase of urban waste from the human activity of the employees who will operate in this project	1	-	-	Differentiated landfills.
Inert waste	Excavation of existing road layers;	1	--	--	Landfill inside the construction site. Transport to the landfill designated by the Local Administrative Unit Reuse
<b>Landscape</b>					
Landscape alteration	During the work phase and after the completion that takes the final panorama	1	-	++	Based on the project the final landscape will increase the values of the area.
Natural and cultural monuments / Protected areas	NO	NO	-	++	Based on the final project we will have an increase in the values of the area.
<b>Noises</b>					
Increased noise level	Increased noise level from the movement of vehicles and trucks	1	--	--	Vehicles with optimal testing. Works during appropriate hours.
<b>Traffic</b>					

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Traffic	Potential increase of traffic from the movement of trucks and vehicles during the implementation of the project	1	--	--	Transportation will be carried out during the hours that avoid the peak of traffic and in those areas that avoid as many inhabited places
<b>Social Impact</b>					
Social Impact	Potential negative impacts on the community related to the identified negative impacts	1	-	-	The understanding of all residents will be required for the optimal development of the project. Residents of the area will be involved in the project.

### Potential impact factors related to the construction site phase

		C	Co	Ex	Ex	Remo	GE
		C	ns		te	val of	NE
		N	tr		rnal	the	RA
		S	uc		R	constr	L
		T	tio		eg	uction	PR
		R	n		ula	site	OC
		U	sit		tion		ESS
		C	e		n		
		T					
		I					
		C					
		N					
		A					
		C					
		T					
		I					
		V					
		I					
		T					
		I					
		E					
		S					

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<b>ENVIRONMENTAL COMPONENTS</b>							
Atmosphere	Emissions of gases						
	Dust						
Aquatic environment							
Land and subsoil							
Noises and vibrations	Noise						
	Vibrations						
Lighting							
Landscape							
Vehicle traffic							
	Fossil fuels						
Energy	Electrical energy						
	Other energy sources						
Waste	Recovered						
	Non-hazardous						
	Hazardous						

The summary table shows a more or less non-problematic framework in terms of impacts created by the construction site.

### 5.4 Impacts on the transboundary environment of the project

The project "Reconstruction of the road Ersekë - Leskovik" will not have any impact on the cross-border environment.

### 5.5 Positive impacts on the environment of the project area

Positive impacts in the project area are evidenced both in the environment and in the social aspect.

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Impact	Impact Scale
Full transparency on the implementation of this project, with stakeholders and developers of this project through a series of meetings and consultations and discussions open to all.	++++
Employment of employees in this project	+++
Additional services provided by the community to help meet the requirements of employees and other subcontractors participating in the implementation of this program.	++++
Increasing the accessibility of the areas in which the Erseka- Leskovik road passes	+++++
Improving the landscape of the area	+++++

*Table 15: Positive impacts in the project area*

### 6. POSSIBLE DURATION OF IMPACTS

The following table presents the phases in which the project "Reconstruction of the road Erseka - Leskovik" will be developed.

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	Description	Duration of Works											
Nr	Works Categories	Month - 1	Month - 2	Month - 3	Month - 4	Month - 5	Month - 6	Month - 7	Month - 8	Month - 9	Month - 10	Month - 11	Month - 12
I	EARTHWORKS AND DEMOLITION												
II	WORKS FOR THE ROAD BODY												
III	SMALL WORKS OF ART (CULVERTS, RETAINING WALLS, DRAINS)												
IV	WORKS FOR BRIDGES												
V	SIGNALING WORKS												
VI	PAVEMENT WORKS												

## 7. PROPOSED MEASURES FOR ENVIRONMENTAL PROTECTION

### 7.1 Main mitigation measures to be taken during construction

Environmental impact assessment should influence the provision of solutions to avoid pollution and protect the environment. Environmental protection is in itself a series of mitigation, preventive measures.

In general we will provide some of the measures that will be implemented by the contractors for the implementation of the project. Negative impacts on the environment during road reconstruction are at low levels. Some of the key measures to be taken are summarized as follows:

- Wetting the road during the reconstruction works, and washing the vehicles before leaving the construction site to minimize the rise of solid particles (dust) in the air.
- Municipal solid waste that will be produced in the facility to be deposited in the places determined by the Local Administrative Unit and to place sufficient bins for the number of employees that will be part of the project.
- To safely manage inert waste according to DCM no. 575 "On the approval of requirements for inert waste management".
- Surface water drainage system to be repaired from damage.
- Respect the hours of public tranquility and do not work during late hours.
- Transport vehicles will circulate at low speeds in residential areas.

*Table 16: Recommendations for Environmental Impact Mitigation*

Recommendations for mitigation of impacts	
Land	
Land Utilization	Performing the activity within the coordinates given in the report. Observance of technical requirements and standards.
Biodiversity	
Vegetation Potential damage of vegetation	Protection used while working inside the construction site, soil moisture. The border areas not to be violated in any circumstances.
Fauna	
Disturbance of species, their accidental damage	The Technical Director of Works has the task of relocating any species living within the project area as well as their treatment to the veterinarian in case of accidents.
Air quality	

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Increased emissions of CO <sub>2</sub> , SO <sub>2</sub> , NO <sub>x</sub> , PM, HC (VOC) from burning fuel of moving vehicles	Vehicle with optimal testing. Spare parts inside the construction site for emergencies. Action plan in case of leaks. Efficient use of motor vehicles. Use of quality fuel. Periodic cleaning of the construction site and work tools.
<b>Drainage system</b>	
Drainage system	Rehabilitation, systematization and discipline of the drainage system (surface water drainage)
<b>Waste</b>	
Increase of urban waste from the human activity of the employees who will operate on the construction site	Differentiated landfill. Transport to the landfill designated by the Local Administrative Unit.
<b>Noise</b>	
Increased noise level from vehicle movement	Use of work vehicles and transport during appropriate hours
<b>Road traffic</b>	
Road Traffic Increasing the flow of vehicles	Mobility will be studied to be performed at times when traffic peak is avoided.

### Design phase

The following measures will be taken during the design phase:

All sub-project phases will be carefully selected to avoid or minimize the potential impact on the environment and surrounding communities.

Construction works will be located, designed and oriented to minimize potential soil displacements and diversion of potential water resources.

### Construction phase

In view of the results of the impact assessments, the following measures will be taken to mitigate the potential impacts on the environment during the reconstruction of the Ersekë-Leskovik road:

- The existing road, where layer excavations will be carried out, will be sprayed with water periodically up to three times a day (dry days) and especially if these sites are near sensitive receptors, such as habitats.
- Tested vehicles and machinery will be used and their maintenance will be done in

accordance with the standards of the respective emissions in the designated place inside the construction site.

- Operational work on the construction site will be carefully planned and coordinated to minimize potential noise from construction machinery and vehicles.
- The operation of the construction site will be carried out according to the Labor Code and the operation schedules will be posted at the entrance of the construction site.
- The use of noisy machinery, such as piledrivers and vibrators, will be prohibited at night.
- In cooperation with the relevant authority, a traffic management plan will be drafted before the start of the foreseen interventions.
- Soil masses and inert materials generated during the excavation phase will be collected and managed in order to rehabilitate the squares / green spaces, to reduce pollution and its possible transfer from their displacement.
- Construction materials will be stored in suitable and covered places to minimize the emission of dust particles PM10.
- In the construction sites will be installed 3 containers with a volume of 200 liters each, for integrated waste management. The containers will be equipped with the appropriate code and color for municipal solid waste. The amount of waste generated will be collected by the Local Unit and / or by the Recycling Companies.
- Vehicles for transport of inert materials will be covered and tires will be cleaned before their exit to the urban infrastructure, to avoid the scattering of dust particles in the air and possible pollution of road infrastructure.
- The area where the project will be implemented will be equipped with appropriate signage, informing about the possible safety risks of employees and the public, as well as its entire perimeter will be surrounded in order to prevent unauthorized access to the construction site.
- Sensitive Areas to potential erosion will be systematized and intervened by building the necessary infrastructure.
- Employees will be trained in the rules of operation at work and will be familiar with the terms of potential impacts on the environment of the area, as well as measures to be taken to minimize the negative impacts, in order to "Environmental Protection" and the application of "The Principle of Sustainable Development".

## **8. ENVIRONMENTAL MANAGEMENT PLAN**

**The EMP for a Project component or subproject shall contain:**

- Assessment of the environmental impacts predicted in different phases, especially during construction, operation (including maintenance) and decommissioning, the

time periods during which the above phases will be performed, their scale, purpose and consequences (s).

- Determining the acceptable level of each impact, especially in relation to time period, duration over time, scale, consequence (s), cost (s), and legal permissible levels.
- Conditions and measures to be taken to mitigate these impacts, which have the potential to emerge at any stage, who will be responsible for them, if the technical design needs to be improved, or through safeguards during construction, or other methods, the costs of possible, implications for project outcomes, etc
- Resources and methods required for monitoring, measurement and implementation (what is to be measured, when and where, by whom and why); institutional responsibilities for each action; and the necessary capacity building requirements, and the respective costs of each element.
- The EMP will contain two separate documents: a Mitigation Plan, which deals with the aspects described above, and a Monitoring Plan, which deals with the aspects described above. They are expected to be prepared at the time of finalization of the technical project and must contain all the requirements specified in the Environmental Impact Assessment Report.
- The LGU or the proposers (if they are not the same) will be responsible for the preparation of the EMP. However the terms of reference of the project designer include the preparation of the EMP.

## **9. ENVIRONMENTAL IMPACT MONITORING PROGRAM DURING THE PROJECT IMPLEMENTATION**

### **9.1 Environmental monitoring purposes**

The purpose of environmental monitoring for the project "Reconstruction of the road Ersekë - Leskovik", is to provide data through which, to assess whether the development of the activity is in accordance with environmental laws and standards related to it, to assess the degree of impact (if any), as well as to assess the environmental performance of its management in the context of continuous improvement. Monitoring for the parameter we are interested in is done through repeated measurements, taken with a sufficient frequency, to make it possible to assess the state of the environment and its changes over time.

### **9.2 Monitoring Objectives**

- To compare the quality and condition of the environment before the start of the activity with that during the construction of "Reconstruction of the road Erseka - Leskovik".
- Monitor emissions (if any) at all stages of project development in accordance with the legal norms and standards of Albania and the EU.
- Determine whether potential environmental changes are as a result of developments

in activities carried out in the project region and whether there are cumulative links and impacts to the proposed project.

- To determine the effectiveness of remedial measures implemented by project development actors in the region.
- To determine long-term impacts (if any).
- To determine the duration of the return to normalcy of environmental quality in the project region, in cases where it is estimated that there are impacts and impacts on it.
- To create an environmental quality archive, a database that can be used in the future.

### 9.3 Legal framework of Monitoring

Environmental monitoring is a legal obligation, the way, frequency and elements of monitoring are different for different activities.

Legal requirements for monitoring:

- Law no. 10431 dated 09.06.2013 "On environmental protection", chapter VI "monitoring of the state of the environment";
- The entity is obliged to conduct periodic monitoring according to the requirements set out in the terms of the Preliminary Decision of the EIA.

#### Legal framework of Monitoring

Law No. 10266 dated 15.4.2010	To protect the air from pollution
Law no. 9774 dated 12.07.2007	For environmental noise assessment and management
DCM No. 1189 dated 18.11.2009	On the Rules and Procedures for the Design and Implementation of the National Environmental Monitoring Program
DCM no.103 dated 31.03.2002	"On environmental monitoring in the Republic of Albania"
DCM No. 435, dated 12.09.2002	On the approval of air emission norms in the Republic of Albania
DCM No. 803 dated 04.12.2003	For the approval of air quality norms
Instruction No.8 dated 27.11.2007	For noise limit levels in certain environments
Instruction no. 6527 dated 24.12.2004	On the allowable values of air pollutants in the environment from the emissions of gases and noises emitted by road vehicles, and how to control them. Amended by: Instruction no. 12 dated 15.06.2010

Table17: Legal framework of Monitoring

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In accordance with the characteristics of the implementation and construction of "Reconstruction of the road Erseka - Leskovik" and in accordance with the legal basis on monitoring, we recommend monitoring the following elements:

### Monitoring of environmental parameters

Nr.	Monitoring	Parameters to be monitored	Time period	Frequency	Liability
1	<b>Air Quality</b>	PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO , CO <sub>2</sub>	From the beginning of the project until its completion	Every 6 months	Environmental Expert
2	<b>Noise emission</b>	Noise level in dB	From the beginning of the project until its completion	Every 6 months	Environmental Expert
4	<b>Cases, possible incidents in the workplace</b>	Registration and reporting of treatment	From the beginning of the project until its completion	Every 3 months	Security Officer
5	<b>Malfunction or various possible defects during operation</b>	Are Registered, reported	From the beginning of the project until its completion	Every 3 months	Security Officer and Works Manager
6	<b>Damage to vegetation or crops</b>	Registered	From the beginning of the project until its completion	Every 6 months	Environmental Expert
7	<b>Monitoring the implementation of the conditions of</b>	Monitored, are registered, reported	From the beginning of the project	Every 6 months	Environmental Expert & Relevant Inspectorate

	<b>the Preliminary EIA Decision</b>		until its completion		
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*Table 18: Monitoring of environmental parameters*

Monitoring of the natural resources, air, water, land, urban discharges, etc., is performed according to some scientific criteria in terms of monitoring, collection and analysis of samples. It aims at data collection to observe and predict the role of the human and natural factor in changes in the environment in which it is active. The main objectives of monitoring are:

- To detect changes and to quantify exactly the tendencies (trends) of resource development.
- To provide information on the relationship between the conditions (conditions) of resources and their causes.
- To identify the quality of the environments where people conduct their life activity, in order to take the necessary measures to improve them.
- To evaluate the effectiveness of natural resource management policies and actions.

Monitoring is the task of the investment company at the individual level for points Ç1, Ç2, Ç5, Ç6, Ç7, Ç8 of Decision No.1189. dated 18.11.2009 "On monitoring in the Republic of Albania" The investor will monitor these indicators of environmental pressure only during the construction phase and specifically the following elements:

- For air must monitor Suspended Solid Matter (LNP) and noise (dB).
- For water, discharges during the construction of the facility from washing machines / equipment
- For land, no obligations apply

The frequency of monitoring is determined every 6 months to carry out measurements and every three months to submit a short periodic report to reflect the work done accompanied by photos.

## **10. CONCLUSIONS AND RECOMMENDATIONS**

- Implement the reconstruction project and use quality materials and elements to create an aesthetic appearance integrated with elements of the area.
- Avoid using the generator to the maximum and reduce noise in the late hours.
- Carry out wetting of excavated and inert surfaces, as well as communication roads.
- Fence the construction site during the works and place warning signs for the dangers for passers-by and employees.
- Wash vehicles before leaving the paved roads of the area.

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- Reduce traffic during peak hours, so as not to create heavy traffic in the area.
- Do not use vehicle horns in residential centers and traffic should be slow.
- To place containers for keeping the premises clean from urban waste.
- Put up awareness posters for employees and residents for a clean environment.
- The investor complies with the obligations set out in the Preliminary EIA Decision to be approved by the NEA.
- The entity to comply with all measures set out in this EIA report.
- The entity is aware of the legal framework for the environment and its changes.
- Carry out environmental monitoring according to applicable laws.
- As a result of the project implementation, significant environmental and social impacts on human health will not be absorbed. Consequently the predicted impacts can be minimized by implementing the measures mentioned above.
- The impact identification analysis shows that the impact will be direct, caused only by the reconstruction of the road.
- Impacts will be mostly temporary and not permanent.
- Appropriate measures have been proposed for the identified impacts in order to minimize and eliminate these impacts.
- It is the task of the project implementers to integrate the necessary elements proposed for the prevention, minimization and elimination of negative impacts on the environment, health and social aspect.
- It is the duty of the Local Administrative Unit to also strictly implement the obligations set out to guarantee the protection of the environment and health.
- It is the duty of all contractors and various subcontractors as during the construction phase to carefully implement the relevant obligations provided above.