ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Building Resilient Bridges (BRB) Program P174595

VIROI BRIDGE AND CULVERT

Prepared By
Albanian Road Authority (ARA)

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Executive Summary

The Government of Albania (GoA) through the Ministry of Finance and Economy (MoFE) and Ministry of Infrastructure and Energy (MoIE), seeks Funding for "Building Resilient Bridges" (BRB) Program, from the World Bank (the Bank). The proposed program is designed to enhance the overall performance of bridges in the Albanian NRN, while providing support to ARA to increase its capacity in managing road and bridge infrastructure through a robust RAMS and BMS. Bridges are identified as key-infrastructure, particularly vulnerable to climate events, and neglected due to the higher investments required for their improvement. In this context, the proposed program will finance the rehabilitation, upgrade, or reconstruction of priority bridges and structures of the NRN, to enhance their operational performance, safety and resilience to climate and geological hazards events exacerbated by climate change. In addition, to ensure sustainability of the investments, the program will finance technical assistance and capacity building activities to improve the capacity of ARA at managing the bridge and culvert assets while reducing the gender employment gap in the road construction sector. The program will have two phases (phase 1 up to 10 bridges and phase 2 up to 20 bridges) to be implemented at the overall period of the program of 8 years, and each phase will have a maximum length of 4 and 5 years respectively.

Based on ARA's 2018 inspection survey, over 30 bridges have reached or approached the end of their useful life, are at immediate risk of failure, and require major rehabilitation, upgrade or full reconstruction. Albania's bridge infrastructure is also highly vulnerable to climate change and natural disasters. Considering the long-term and complex engagement the GoA is pursuing, a Multiphase Programmatic Approach (MPA) is proposed as the most suitable vehicle for Bank support. Phasing under the MPA would provide for a structured approach, cascading through planning, prioritization, design, construction, and bridge asset management systems. It will provide a systematic approach to prioritize investments in bridge interventions and establish a methodology for planning and implementing periodic bridge maintenance that will continue to be used after the MPA closes.

The rehabilitation/reconstruction of the 2 first-year bridges Beshiri and Viroi will be financed under phase 1 and will serve as a pilot. Knowledge and lessons learned from all related activities to the implementation of the two first-year bridges, will be incorporated into the rehabilitation/reconstruction of other bridges. This will allow the implementing agency, Albanian Road Authority (ARA), to learn by doing.

Since at this stage of phase one, exact locations and scope of the works are defined just for the pilot bridges Viroi and Beshiri, the borrower prepared the site-specific E&S instruments (ESIAs, ESMP, and RAP) for the first two bridges.

The document in hand represents the Environmental and Social Management Plan (ESMP) for the subproject under the BRB Program: "Construction of the Viroi Bridge, Gjirokaster Municipality.

A study has been prepared from ARA to select the priority bridges. The first-year bridges will be Viroi Bridge part of the administrative borderlines of Gjirokastra Municipality and Beshiri bridge, part of the administrative borderlines of Ndroq.

The section of the road associated with the Viroi bridge has a length of L=~400m, and it is a part of the national road SH4 that connects Albania with Greece. In current conditions the traffic on this segment is uncomfortable and unsafe. The traffic safety issue is increased by the fact that the road before, and after, this segment is wider. Additional problem with this segment is that it is often blocked for traffic during the rainy season, due to the small discharge capacity from the culvert adjacent to the main road, and also of the span of the existing bridge. During the heavy rainfall, the lake water level even rises above the road level and blocks the traffic.

Therefore, the government is interested in the reconstruction of this bridge in order to: Increase safety and comfort on the road; Solve the problem of flooding the road and blocking it; Creating conditions for entry and exit of cars in the lake area; Possibility of using the existing axis in the function of the park of Lake Viro, creating the possibility of creating a promenade, ring road around the lake; and Landscape improvement.

The key aim of this ESMP is to provide details of the environmental and social commitments, management and monitoring requirements that will need to be carried out by the ARA and its contractors throughout the life of the Sub project "Viroi Bridge and Culvert", in order to achieve the following objectives:
1. Strive to prevent or mitigate potentially adverse environmental or social impacts that may result from Project implementation;
2. To adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimize, and, where residual impacts remain, compensate/offset for risks and impacts to workers, affected communities, and the environment;
3. Maximize beneficial impacts and minimize unavoidable negative impacts to an acceptable level for the receiving environment and communities;
4. Meet environmental and social commitments and measures as well as relevant policies and environmental management systems; and
5. Comply with national legislation as well as WB Environmental and Social Standards.

The overall Project development objective is to enhance the reliability of the bridges and associated infrastructure along Albania's National Road Network through modernization and climate resilience.

The Components of the Project are the following:

- Component 1: Bridge Infrastructure (estimated total cost: US$ 81 million)
- Component 2: Institutional capacity building (estimated total cost: US$ 12 million).
- Component 3: Project management (estimated total cost: US$ 7 million)
- Component 4: Contingency Emergency Response Component (CERC) (estimated total cost: US$0)

The relevant Albania law and regulations on environmental protection include the following:

- National Environmental Legal Framework
- Law on Environmental Protection
- Law on Protected Areas and Biodiversity
- Protection of Physical Environment Framework
- Law on Environmental Impact Assessment Procedure
- Law and Regulation in the Field of Cultural Heritage

World Bank ESF Standards ESS1, ESS2, ESS3, ESS4, ESS6, ESS8, and ESS10 will be applied in the environmental due diligence as per the project design and the resulting environmental and social aspects.

- ESS1 – Assessment and Management of Environmental and Social Risks and Impacts.
- ESS2 – Labor and Working Conditions.
- ESS3 – Resource Efficiency and Pollution Prevention and Management
- ESS4 – Community Health and Safety.
- ESS6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources.
- ESS8 – Cultural Heritage.
- ESS10 – Stakeholder Engagement.

Likely environmental issues to be encountered are mostly short-term, local, reversible and include changes in the quality river/stream water, as well as typical construction-related disturbances such as dust, air pollution, waste generation, and soil erosion, disposal of excavated mineral materials, OHS risks, etc.

However, as the project will be implemented at various (currently unknown) locations in Albania, and potential impact to nature protected areas and cultural heritage cannot be excluded at this point.

The overall responsibility for project implementation lies with the ARA. The Ministry of Infrastructure and Energy will provide oversight and guidance to the ARA PMT. The PMT will be responsible for coordinating and supervising the day-to-day implementation of the project.

The responsibility for onsite environmental monitoring of contractor activities will rest on ARA PMT with the support from the LGU. Independent consultants hired by the ARA, will be responsible for Environmental and social monitoring with oversight and guidance from the World Bank.

1. INTRODUCTION

The construction of bridges and other structures of the Albania National Road Network dates back to 1930 with different design standards. The 4,000 km of national road network (NRN) in Albania includes 730 bridges, hundreds of culvert structures and not-inventoried other related structures. Over the past nine decades (since 1930), those structures were constructed at different stages of Albania's road system development based on different bridge and structures design standards (BDS), including the Soviet's, Italian's and Albanian standards. Following the ongoing reforms, the country is gradually aligning its road and structures design and construction (including bridges) standards with the European Eurocodes standards.

Several bridges (over 30 bridges[1]) have reached or approached the end of their useful life, are at immediate risk of failure, and require major rehabilitation, upgrade or full reconstruction**.** A survey carried by ARA in 2018 on key backbone corridors and connecting roads on the NRN has shown the worrisome condition of significant number of bridges, and levels of structural deterioration, particularly on the secondary roads**.** While only a few recently constructed bridges are in reasonably good condition, the rest are in extremely poor condition requiring either major upgrades or full reconstruction. Their design traffic volumes and/or bearing capacity has been reached, requiring widening/dualling and/or structural strengthening to accommodate increased traffic volumes and changing loads induced by the country's actual and future growth. This because the bridges have already passed their design life span several decades ago and received only limited maintenance during the last decades. The bridge equipment and road safety furniture are either inexistent or deteriorated due to insufficient maintenance, resulting in increased frequency and severity of crashes occurring within and in the vicinity of those bridges. The resilience of existing bridges is also compromised due to the poor condition of erosion protection around abutments and riverbanks, and poor maintenance of the water-way areas.

Albania's bridge infrastructure is highly vulnerable to climate change and natural disasters. The "Climate resilient road assets in Albania" study carried out by the World Bank in 2019 concludes that bridges on the NRN corridors are among the most vulnerable infrastructure assets in Albania to flood hazards and landslides, and to a lesser extent to earthquakes. In Albania, floods frequently affect the north and southeast of the country, and climate change is expected to result in more intense and frequent rainfall events, exacerbating flood risk. Damage from the 2002 floods exceeded US$23 million, while the 2010 floods on the Drin River resulted in at least US$30 million in damages. Floods pose a significant risk to the transportation and trade network, more than 85% of roads losses are from service interruptions. It is estimated that average annual losses from floods along the two most critical road corridors (Tirana to Durrës and Durrës to Vlore) are as high as US$15 million. Bridges and culverts along the primary road network are estimated to suffer over US$20 million in annual flood losses. Primary roads face €22.5 million annual losses from floods, landslides and earthquakes, while other critical infrastructure is also at risk. Figure 1 highlights these vulnerable road corridors, and the likely costs of road closure should one of these corridors be affected. The map shows the expected yearly repair costs and losses from road disruption due to natural hazards or climate change events' damages, if no intervention is made. The costs are expressed as Annual Expected Damages (AED)[2] in Euros/km for each of the country's fifteen primary road corridors (backbone)[3].
Recent events, the earthquake in 2019 and the floods of 2020 exhibited the vulnerability of the road and bridge network and the whole economy to natural hazards. The devastating earthquake in November 2019 affected some 1.9 million people (about 66 percent of total population) and the country economy, and also damaged several road infrastructures (embankments and retaining walls due to landslides).

[1] Based on ARA's 2018 inspection survey.

[2] Total Annual Expected Damage (AED) from the hazards for the different corridors depends on the repair costs, and / or from economic losses from an interruption of services. The losses from an interruption of services are the result of consequential delays or additional travel time from needed alternative diversions

[3] Climate Resilient Road Assets in Albania. Jing Xiong and Xavier Espinet Alegre. The World Bank. February 2019.

According to Albania's 2019 earthquake Post-Disaster Needs Assessment[4] damages from road infrastructure assets accounted for a total of 30.41 million euros and losses for 3.01 million euros[5]. In addition, the intense rainfalls in November 2020 and January 2021 resulted in floods and landslides, substantial disruption to traffic and damage to the road and bridge infrastructure[6] and also have left several parts of the country stranded and vulnerable communities isolated. Those events highlighted the high vulnerability of the Albanian road and bridge assets to natural disasters and climate change (including earthquakes, intense floods and landslides, intense windstorms, extreme temperature, etc.), and their potential heavy impacts on the economy and the populations' livelihood.

The above findings confirm the urgency for interventions to enhance the resilience of Albania's road and bridge infrastructure to climate change and natural disasters. This requires a detailed risk-based assessment of the physical condition of the existing bridges, adjacent structures (access roads, abutments, retaining walls, gabions, river training measures, etc.) and other structures or protection methods to stabilize the course of the rivers and embankments, and their resilience to the expected higher climate change impacts and natural disasters (rock fall nets, debris flow retention actuations, slope stabilization solutions, etc).

The proposed program is designed to enhance the overall performance of bridges in the Albanian NRN, while providing support to ARA to increase its capacity in managing road and bridge infrastructure through a robust RAMS and BMS. Bridges are identified as key-infrastructure, particularly vulnerable to climate events, and neglected due to the higher investments required for their improvement. In this context, the proposed program will finance the rehabilitation, upgrade, or reconstruction of priority bridges and structures of the NRN, to enhance their operational performance, safety and resilience to climate and geological hazards events exacerbated by climate change. In addition, to ensure sustainability of the investments, the program will finance technical assistance and capacity building activities to improve the capacity of ARA at managing the bridge and culvert assets while reducing the gender employment gap in the road construction sector. The program will have two phases (phase 1 up to 10 bridges and phase 2 up to 20 bridges) to be implemented at the overall period of the program of 8 years, and each phase will have a maximum length of 4 and 5 years respectively.

Albanian Road Authority will use this Environmental and Social Management Plan (ESMP) to manage the environmental and social risks derived from the reconstruction of the "Viroi Bridge and Culvert". Specifically, ARA will require contractors undertaking bridge reconstruction works to adapt and implement this ESMP, which will be included in the bidding documents and the works contract with contractors. The "Viroi Bridge and Culvert" will be executed during the implementation of the phase one of Building Resilient Bridges Program (BRB).

The Albanian Road Authority (ARA) will be the Implementing Agency for the project, and the preparation of site-specific instruments has been covered under the environmental consultant hired from the Project Management Unit (PMT).

Part of the Project, under the proposed first year bridges is also the subproject of "Viroi Bridge and culvert", for which is being prepared the ESMP document in hand.

This bridge and road section is very important to the national network because of the connection with

[4] Albania Post-Disaster Needs Assessment. Volume A Report. Tirana, February. Source link: https://www.preventionweb.net/publication/albania-post-disaster-needs-assessment-volume-report-february-2020

[5] Damages are defined as costs to repair or reconstruct the partially or fully destroyed infrastructures or physical assets. Losses are the changes in economic flows, expressed as the value of production of goods and services (income or in-kind losses) as well as changes in the costs of production (such as a decline in production and the higher-than-normal cost of production) as well as unexpected additional costs.

[6] According to ARA, over thirty-five bridges and culverts were affected by the flash floods, resulting in erosion of the foundations and abutments as well as water levels dangerously high.

the Kakavija border crossing point, which is the main road connection corridor to Greece. A considerable amount of goods is traded through Kakavija and crosses this particular road section. From the experience of previous years, the area is flooded very frequently (sometimes twice a year) due to heavy rain, causing the blockage of the traffic for several hours, which translates into significant additional charges and financial costs. Despite this, being one of the busiest segments in the national network (approx. 5000 vpd), the interventions will result in a huge impact to road users and the transport of goods.

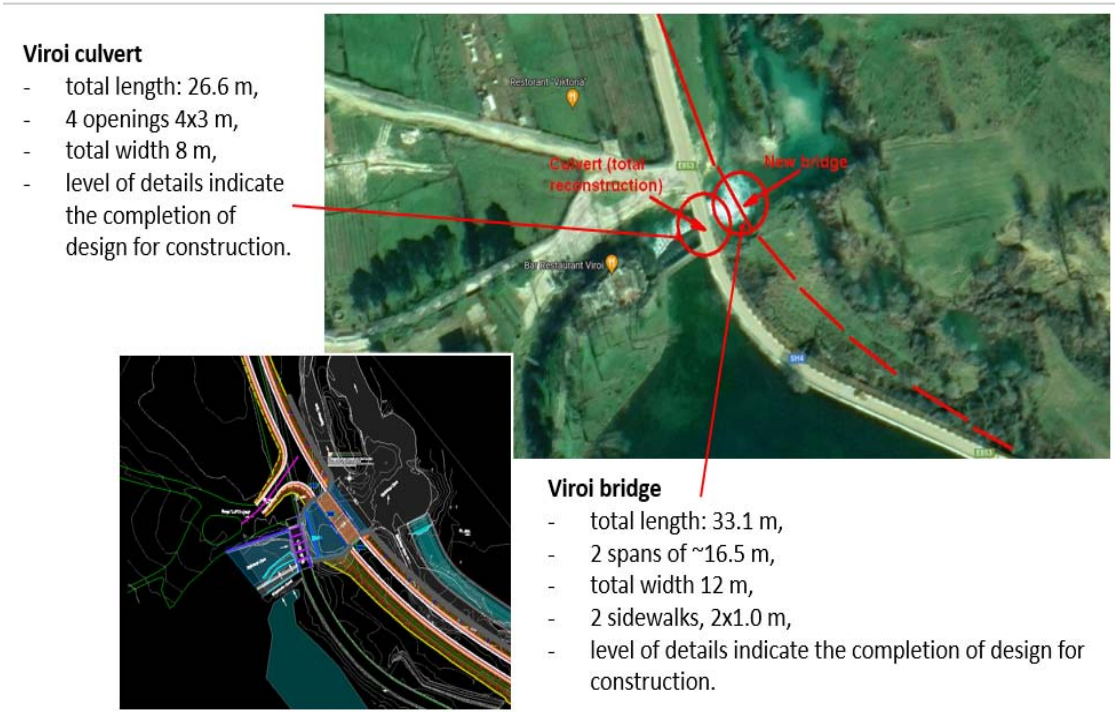

Figure 1: Technical Details of Viroi Bridge

Figure 2: Illustration of Viroi Bridge

2. DESCRIPTION OF THE PROJECT

Viroi is an artificial lake near Gjirokastra where the national road of Tepelene – Gjirokaster – Kakavije crosses. The road follows the crown of the dam that created the lake and one of the greatest problems this section presents is the elevation of the dam crown.

Due to harsh climate changes across all region and major changes in the amount of rain / snow in the area this section of 350 m every year is subject to flooding. One of the flooding reasons despite the elevation of the dam is also the discharge capacity of the existing culvert and bridge.

This bridge and road section is very important to the national network because of the connection with Kakavija border crossing point which is the main road connection corridor to Greece. A very considerable amount of goods is traded through Kakavija and crosses in this particular road section. From the experience of the previous years the blockage of the traffic consisted in several hours due to heavy rain / snowfall, what is translated to significant delays in transport of goods and passengers resulting in extra charges and financial costs. Despite this, being one of the busiest segments in the national network (approx. 5000 cars/24h) will result in huge impact for the road users and transport of goods.

ARA has taken measures to complete the design for a proper solution to the situation, which involves creating a new alignment in this road section by constructing one new box culvert battery (4x4m) and one new bridge (2x17m).

The current proposal includes:

- The existing culvert/bridge is planned for total reconstruction,
- The existing road is straightened and a new bridge is planned for this purpose.

The objectives of the works according to the ARA's FS and Designs are:

- to reconstruct approx. 400 m of road while creating engineering measures to protect the new road from the river floods;
- to increase the width of the road to 2x3.5m of asphalt pavements, 2x1.5 paved shoulders and 2x1.5 unpaved shoulders;

- to increase traffic safety and divert non motorized traffic, pedestrians and cyclists to the existing road section;
- to create better conditions for people to visit the lake.

Viroi bridge

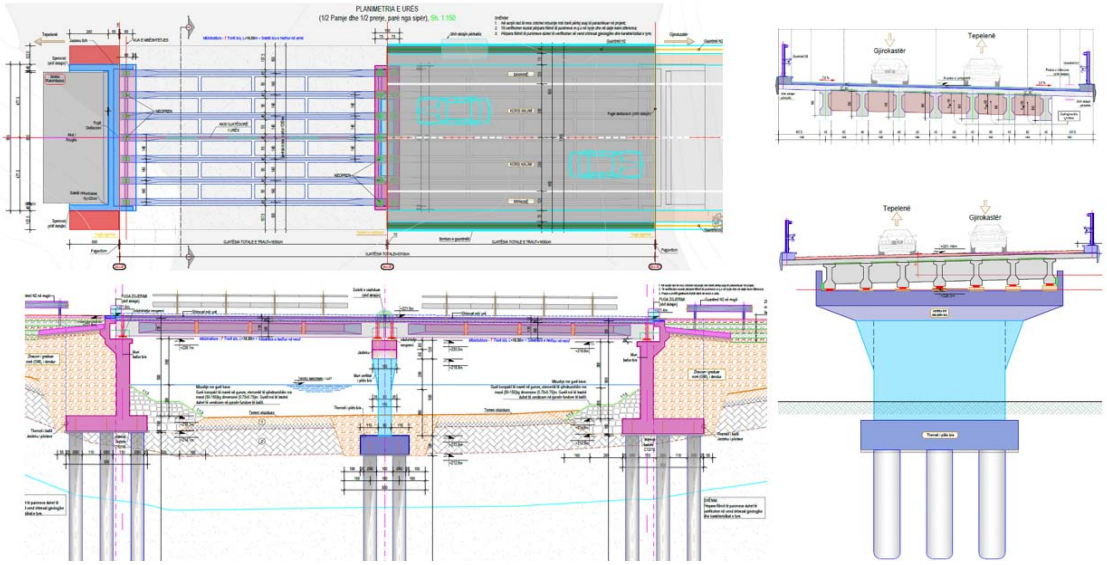

Figure 3: Technical design of Viroi Bridge

Viroi culvert

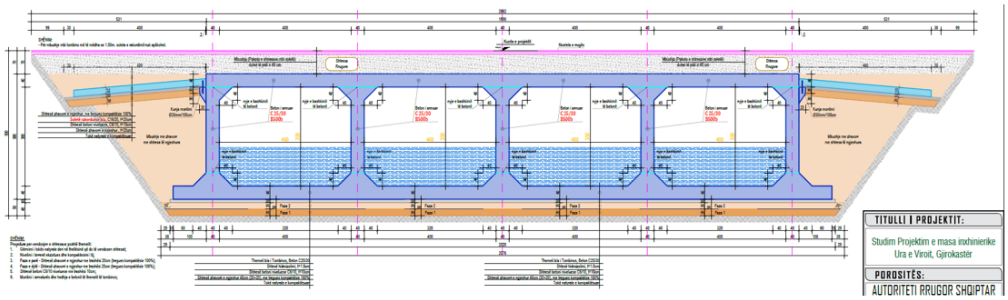

Figure 4: Technical design of Viroi Culvert

Bridge Structure

The new bridge is designed as concrete structure with 2 spans of 2x16.50m and the width of 12.0, Figure 5-8. All of the designs are completed and conducted according to the Eurocode, taking into account the investor requirement and also environmental requirements, and design lifetime of 100 years.

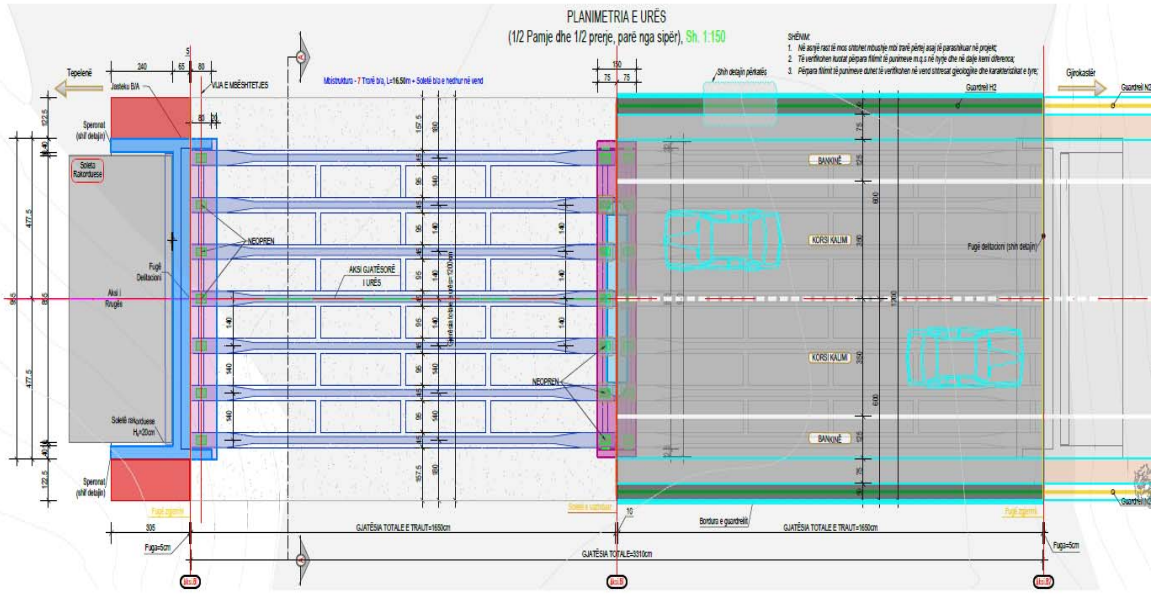

Figure 5. Top view of the new bridge

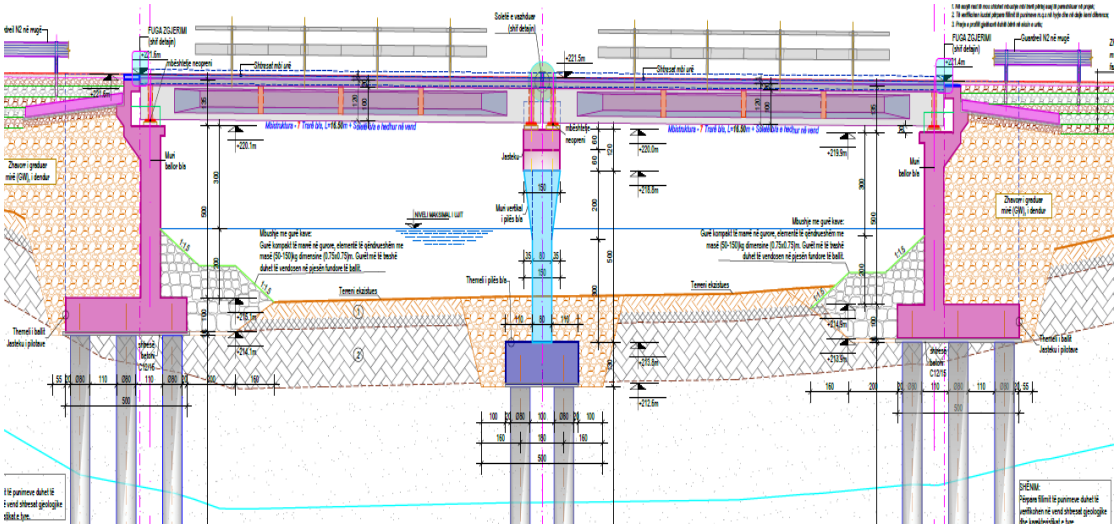

Figure 6. Longitudinal cross section of the new bridge

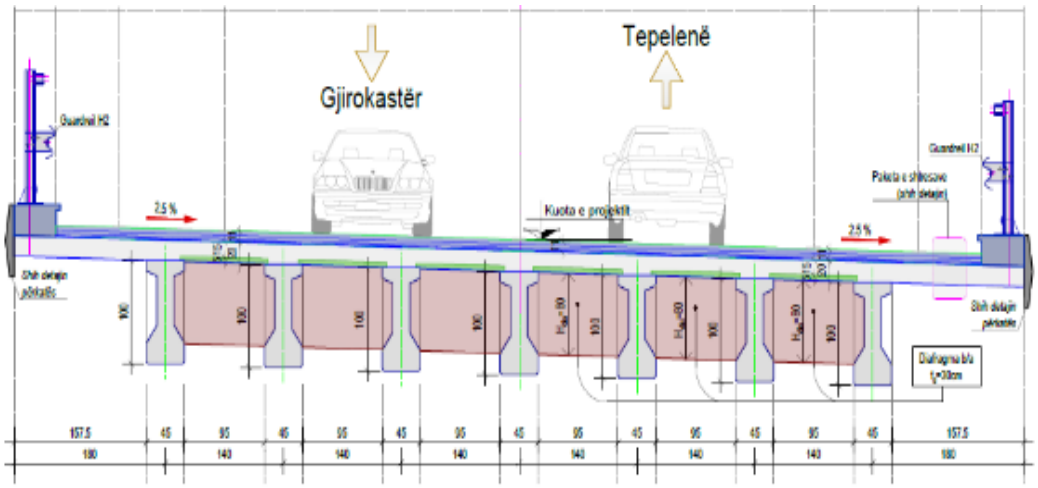

Figure 7. Cross section of the new bridge - span

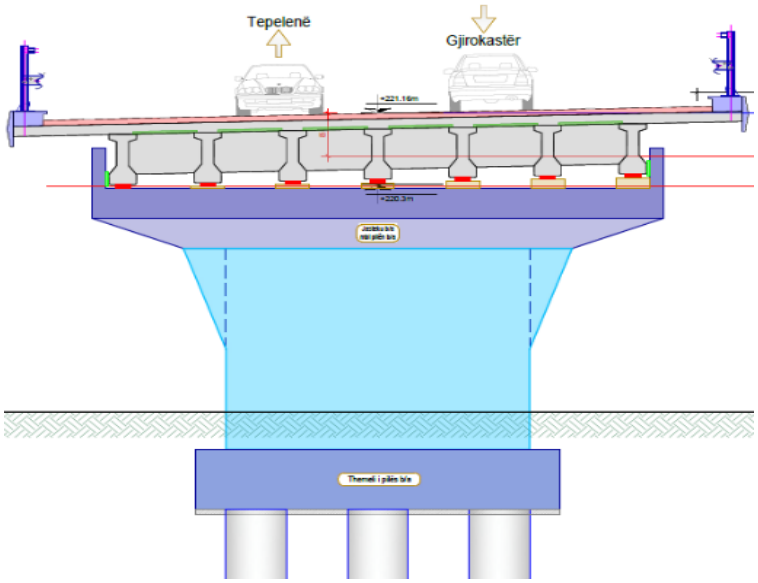

Figure 8. Cross section of the new bridge - pier

Culvert Structure

The new culvert structure is designed as concrete culvert structure with rectangular openings 4x(4x3)m, Figure 9. All of the designs are completed and conducted according to the Eurocode, taking into account the investor requirement and also environmental requirements, and design lifetime of 100 years.

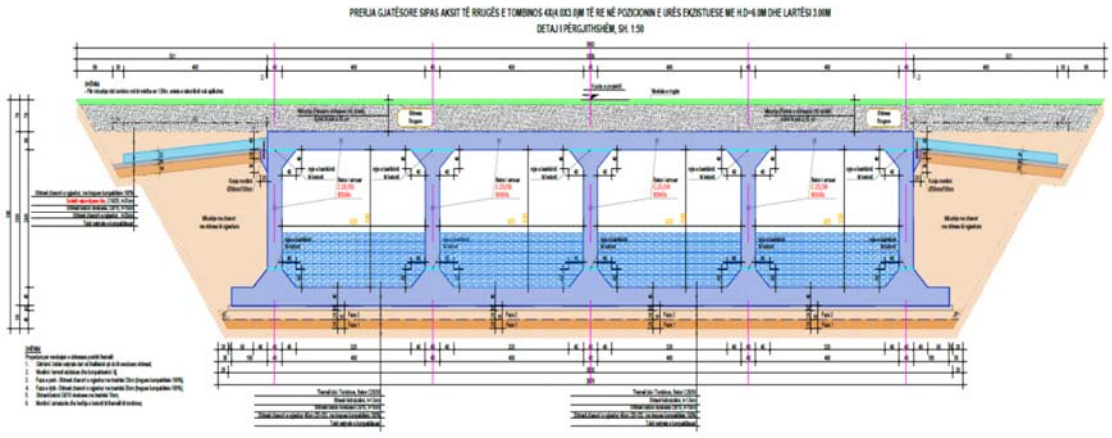

Figure 9. Longitudinal cross section of the culvert

1.2. Description of the existing Bridge

Viroi is an artificial lake near Gjirokastra where the national road of Tepelene – Gjirokaster – Kakavije crosses. The road follows the crown of the dam that created the lake and one of the greatest problems this section presents is the elevation of the dam crown. Due to harsh climate changes across all the region and major changes in the amount of rain / snow in the area, this 350-m section is subject to flooding every year. One of the causes of the floods, despite the elevation of the dam, is also the discharge capacity of the existing culvert and bridge.

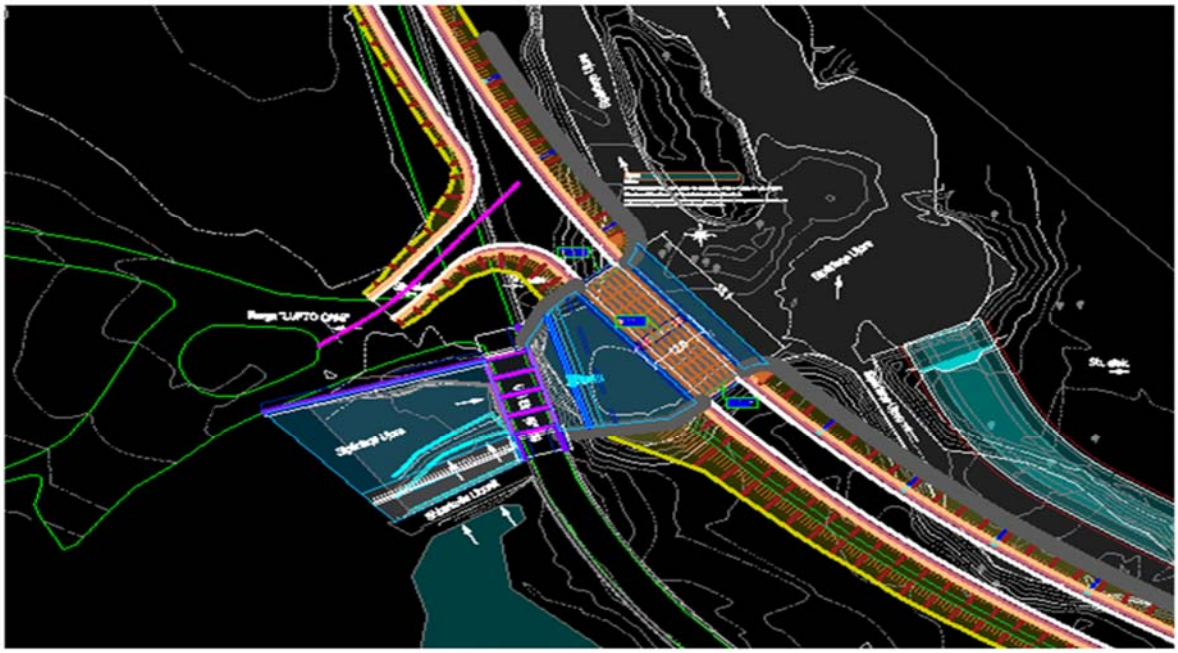

Figure 10: Traffic and Connections

Figure 11: Images of Viroi Bridge

In current state, the section of the road associated with the Viroi bridge has a length of L=~400m, and it is a part of the national road SH4 that connects Albania with Greece. This segment has two consecutive horizontal curves, the road cross section is narrow -its width is 2x3m (6m in total), with no pedestrian pathways and parapet walls on each side. All of these properties make the traffic on this segment uncomfortable and unsafe. The traffic safety issue is increased by the fact that the road before, and after, this segment is wider.

Figure 12: Existing and the new segment of the road.

Figure 13: Location of the existing and the new bridge and culvert.

Additional problem with this segment is that it is often blocked for traffic during the rainy season, due to the small discharge capacity from the culvert adjacent to the main road, and also of the span of the existing bridge. During the heavy rainfall, the lake water level even rises above the road level and blocks the traffic.

Figure 14: Lake Viroi water level over the road segment and the bridge

Figure 15: Damages to the structures and the lake bed after the high water levels.

3. Policy, Legal and Regulatory Framework

3.1 National Environmental Legal Framework

In general terms, the Albanian Constitution that was adopted by Albanian Parliament in 1998 requires institutions to maintain a healthy environment, ecologically suitable for present and future generations. In the last decade and especially since 2001, number of laws and other legal acts on the environment have been drafted and approved. The Albania national legal framework is largely harmonized with EU legislation. The Albanian legal framework regarding environmental and socioeconomic issues is based on the Constitution of the Republic of Albania and consists of laws and regulatory acts, such as Decisions of the Council of Ministers (DCM), ministerial acts, regulations, guidelines and standards.

3.2 Law on Environmental Protection

Environmental legislation is governed by the Law on Environmental Protection No. 10431, dated June 9, 20113. This Law sets out principles, requirements, responsibilities, rules and procedures to ensure a higher level of environmental protection and includes dispositions for environmental impact assessment as a tool for environmental protection, aiming to identify and define the possible direct and indirect effects on the environment mainly to prevent these effects.

Article 5 defines the principle of sustainable development:" Public authorities, through the development, adoption and implementation of normative acts, strategies, plans, programs and projects within their competence, promote sustainable economic and social development, using natural resources in order to meet current needs and preserve the environment, without prejudice the possibility of future generations to meet their own needs".

The Law on Environmental Protection establishes national and local policies on environmental protection, requirements for the preparation of environmental impact assessments and strategic environmental assessments, requirements for permitting activities that affect the environment, prevention and reduction of environmental pollution, environmental norms and standards, environmental monitoring and control, duties of the state bodies in relation to environmental issues, role of the public and sanctions imposed for violation of the Law.

3.3 Law on Protected Areas and Biodiversity protection

The law No. 8906, dated 06.06.2002 "on the Protected Areas" laid down the framework for the proclamation, administration, management and sustainable use of protected zones and natural biological resources. The law also provides the basis for the development and mitigation of environmental tourism‟ and other economic benefits and for the provision of information and education to the general public. The primary goal of the law is to provide special protection of the most important components of natural reserves, biodiversity and in general nature, through the implementation of a protected areas network based on the International Union for Conservation of Nature (IUCN)4 categories system. Furthermore, the law defines the priorities and strategic objectives for the management of each category of protected areas.

Protected Areas in Albania have been for the most part considered as forest areas and they have historically been administered by the Directorate General of Forestry and Pastures (GDFP) within the Ministry of Agriculture and Forestry. Within the law no 8906 /2002 "For the Protected Areas", the Ministry of Environment has been given the primary supervisory role for protected areas in Albania and is responsible for:

- Proposing areas to be protected.
- Preparing the legal and managerial procedures to propose and declare a protected area.
- Compile management plans for protected areas.
- On-going monitoring / regulation of management.

The law "For the Protected Areas" states that whilst the primary administrative role lies with the Ministry of Tourism and Environment and GDFP, the interests of other ministries should be considered. The protected areas of Albania include 15 National Parks, 5 Protected Landscape Areas, 4 Strict Nature Reserves, 26 Managed Nature Reserves, and other protected areas. Main protected areas are being equipped with trail markings, while reforms in administration such as the building of information centers are being gradually implemented5. National Agency of Protected Areas (NAPA) is created by the Council of Ministers decision. No. 102, dated 04.02.2015, aimed management, protection, development, expansion and operation of the surfaces of protected areas, which today account about 16% of the territory of Albania. NAPA manages the network of protected areas and other natural networks as Natura 2000.

The Ministry of Environment, through the Directorate of Biodiversity and Protected Areas within the General Directorate of Environmental Policy and Delivery of Priorities, covers issues related to the drafting of policies on nature protection as well as strategic documents development in this field. Cooperation is extended with other departments of the Ministry and with the following implementing institutions:

- National Agency of Protected Areas (NAPA);
- National Environmental Agency (NEA);
- The Regional Forestry Service Directorates;
- State Inspectorate of the Environment and Forestry.

Albanian legislation for the protection of biodiversity relevant to the Project is summarized in Table 1 below.

Table 1: Albanian Legislation on Biodiversity Relevant to the Project

Legislation	Overview
Law No. 9587 (20.07.2006)	"On the Protection of Biodiversity" (as amended) – This law establishes requirements for the preservation and protection of biological diversity, including protected areas, sensitive habitats and species. The law requires a biological assessment as part of the environmental assessment and collection of all relevant data for the decision-making process.
Law No. 81/2017, dated 04.07.2017	"On Protected Areas" – This law governs all matters related to Protected Areas in Albania. It determines the categories of the protected areas in Albania, management rules and roles on the decision-making process. It requires compliance with the specific rules when accessing, working and performing any other related activities nearby and/or within the protected areas.
Ordinance No. 1280, dated 20.11.2013	"On the approval of the Red List of Wild Flora and Fauna" (as amended) - This ordinance lists the status of the conservation of flora and fauna species in Albania.

Law No. 81/2017 "On Protected Areas" defines the different categories of the PA's in Albania, and their management prescriptions. Albanian Law No. 81/2017 on PA's defines 7 categories of PA, each with varying degrees of protection that have been found to be present in the study area:

- Strict Nature Reserve (Category I)
- National Park (Category II)
- Natural Monument (Category III)
- Municipal Natural Park (Category IV)
- Protected Landscape (Category V)
- Protected Area of Managed Resource (Category VI)
- Protected areas of international interest (no specific protection category).

Key laws related to the protection of the environment and protected areas include

- Law No. 5/2016 dated 4.2.2016 On the announcement of the moratorium on forests in the Republic of Albania.
- Law No. 11/2015 dated 19.2.2015 On the accession of the Republic of Albania in the multilateral agreement among Eastern Europe countries for the implementation of the Convention "On Environmental Impact Assessment in a Transboundary Context".
- Law No 68/2014 for some amendments to the Law 9587, dated 20.07.2006 "On the protection of the biodiversity"
- Law No 7/2014 "On the announcement of the moratorium on hunting in the Republic of Albania"
- Law No.10234, dated 18.2.2010 on the accession of the Republic of Albania in the Protocol "On integrated management of coastal zone in the Mediterranean", the Barcelona Convention "On the Protection of the Mediterranean Sea Against Pollution".
- Law No. 9867 dated 31.01.2008 "On establishing the rules and procedures for the international trading of endangered wildlife species"
- Law No. 10 006 dated 23.10.2008 "On the protection of the wildlife"
- Law No. 9587 dated 20.07.2006 "On the protection of the biodiversity"

- Law No 8905 dated 06.06.2002 "On the protection of marine environment from pollution and damage" • Law No. 8906 dated 06.06.2002 "On protected Areas"
- Law No. 8294 dated 02.03.1998 On the ratification of Bern Convention "On the conservation of European wildlife and Natural Habitats"
- DCM No. 31, dated 20.1.2016 "On the approval of the Strategic Policy Document for Biodiversity Protection".
- DCM No. 102, dated 4.2 2015 "On the establishment and the organization and functioning of the National Agency of Protected Areas".

3.4 Protection of Physical Environment Framework

Albania has developed legislation for the protection of the physical environment, including guidelines, thresholds and limits for emissions. Legislation related to water, air, noise, vehicle and equipment emissions, fuel quality, waste and wastewater is summarized in the Table below.

Table 2: Legislation related to protection of the physical environment

Legislation	Overview
Law No. 111/2012, amended with Law No. 6/2018	"On integrated management of water resources" amended with Law No. 6/2018 "On integrated management of water resources" based on Directive 2000/60/EC Water Framework. The aim of the law focuses on: (i) environmental protection and improvement of water, surface water, either temporary or permanent, internal sea waters, territorial waters, exclusive economic zones, continental shelf, trans-boundary waters, groundwater, and their status; (ii) security, protection, development and rational utilization of water resources, protection of water resources from pollution etc. This law provides the definition of water bodies and sets some protection and usage restrictions, and requires others to be approved by several by-laws. The law defines the banks of the water resources, restriction of certain harmful construction activities on the banks[7]/ shores and water protection areas.
DCM No. 177 (31.3.2005)	"On the allowed norms of liquid discharges and host water environmental criteria" - provides the allowed norms for effluent discharges on the environment, for the protection water resources.
DCM No. 379 (25.5.2016)	"On the approval of the regulation[8] on Drinking Water Quality" - Its objective is to protect human health from the adverse effects of any contamination of water intended for human consumption, by ensuring that it is wholesome and clean. Regulates several issues related to testing of drinking water and protection zones around the water well or community ground water deposit. The regulation sets three protection zones (buffer zones) from ground water well or water deposit places on the ground. The immediate zone of protection ranges from 15 to 100 m from the axe of the well or the deposit. The precise distance is set based on the evaluation of the geological formations by the hydrogeological expert. The second and third buffer zone are circling the first one. For those zones, the regulation does not set any distance criteria, but restricts the activities that can impact the water quality such as disposal or burial of waste, mining, etc.

7 Banks" are strips of land adjoining seas, lakes, reservoirs, lagoons, ponds, rivers and streams which comprise a minimum of two areas of land: i. 5 meters at a right angle upper edge of the natural banks on steep banks and 20 meters from the maximum water level over a period of 25 years on flat banks, which can be used, on the basis of special provisions, for public purposes, ii. 100 meters at a right angle from the upper edge of the natural banks on the steep banks, and 200 meters from the maximum water level over a period of 25 years on flat banks, where every activity undertaken will be determined by the water authorities.

8 Based on Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption) concerns the quality of water intended for human consumption.

Legislation	Overview
DCM 416 dated 15/03/2015 (ANNEX C)	"On the approval of general and special conditions, accompanying documents, validity period, application forms for authorization and permit, review and decision-making procedures and authorization and permit formats for the use of water resources"
Law No. 162 (04.12.2014 enforced by the January 2018)	"On protection of ambient air quality", fully transpose Directive 2008/50/EC on ambient air quality and cleaner air for Europe, as well as Directive 2004/107/EC relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air. This Law entered into force on 1st of January 2018 and provides the institutional framework, regulations, roles and penalties to ensure compliance. The law stipulates that natural and legal persons, public or private, native or foreign, have a duty to keep the air clean and protect it from pollution caused by the activities they conduct in the territory of the Republic of Albania.
Guideline No. 6527 (24.12.2004)	Minister of Environment and Minister of Transport "Over the permissible values of the elements of air pollutants from the environment and noise emissions caused through road vehicles and methods to control them" amended by Guideline No. 12, dated 15.6.2010 "On amendments and addenda to Guidelines No. 6527, of 24.12.2004 accompanied by the Manual of Vehicles Control.
Order of Minister of Transport and Infrastructure No. 149 (07.04.2014)	"On the approval of the rules for implementing the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organizations", fully aligned with the EU Regulation No. 748/2012 of 3rd August 2012, laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organizations.
Instruction No. 6527 (24.12.2004)	"On allowed vehicle air emission, noise generation levels, and control methods" amended - This instruction includes requirements for annual vehicle inspections and allowed air emissions. All vehicles must comply with these norms.
DCM No. 613 (07.9.2011)	"Approval of the technical rules for the assessment of the noise conformity for the equipment installed in open spaces or environment". Sets noise release norms for certain equipment generating noise, such as electricity generators, tractors, compressors, etc. The regulation lists set thresholds.
Guidance No.10 (30.5.2015)	"Relating to the type-approval of agricultural or forestry tractors, their trailers and interchangeable towed machinery, together with their systems, components and separate technical units" based on EU Directive 2003/37/EC dated 26.05.2003.
Law No. 9774, dated 12.07.2007, amended by Law No. 39/2013	"On the assessment and administration of ambient noise" – defines the requirements for environmental protection from noise, how to avoid and prevent, reduce and eliminate the harmful effects of exposure to them, including inconvenience from noise. This Law aims to protect human health and the environment from adverse effects caused by noise emissions and sets general rules, authorities, inspection etc.
DCM No. 587, dated 07.07.2010	"On monitoring and control of noise levels in urban and touristic areas" – sets the rules and regulations on the protection from noise generation and noise level administration in urban and touristic areas.
DCM No. 1063 (23.12.2015)	"On the Approval of the technical rules for the assessment of the noise conformity for the equipment installed in open spaces or environment" sets the noise release norms for certain equipment noise generation such as electricity generators, tractors, compressors etc.
Instruction No. 8 (27.11.2007)	Ministry of Environment and Ministry of Health on "Noise levels in different media", sets the numerical values of noise in specific zones and aims to ensure adequate noise exposure protection for human health.

Legislation	Overview
Instruction No. 6527 (24.12.2004)	"On allowed vehicle air emission, noise generation levels, and control methods" amended - This includes requirements for annual vehicle inspections and allowed air emissions. All vehicles must comply with these norms.
DCM No. 147 (21.03.2007)	"On the quality of petrol and diesel fuels".
DCM No. 781 (14.11.2012)	"On the quality of certain liquid fuels for thermal, civil, industrial and water transport use (sea, river and lake)".
Law No. 10463 (22.09.2011) amended	"On the integrated waste management" (as amended) - aims to protect human health and the environment, and to ensure environmental sound management of waste through integrated management.
DMC No. 99 (18.02.2005) amended	"Albanian waste catalogue" (as amended) - which makes the classification of the waste, based on industry types, and the criteria to assess the hazardousness of the waste. The regulation codifies the waste types based on the European Waste Catalogue.
DCM No. 229 (23.04.2014)	"On the approval of the rules for non-hazardous waste transfer and the data to register in the transferring document" - The newly enforced regulation requires transferring the waste at licensed companies and ensuring final disposal in approved facilities. This act requires documenting the waste transfers and providing the final disposal certificate to the NEA. The regulation requires for all waste generating companies to be registered at NEA and obtain a personal waste generation number.
DCM No. 371 (11.06.2014)	"On the approval of the rules for transferring the hazardous waste and the data to register in the transferring document" - The newly enforced regulation requires transferring the waste at the licensed company and ensuring final disposal in approved facilities. This act requires documenting the waste transfer and delivering the final disposal certificate at the NEA. The regulation requires for all waste generating companies to be registered at NEA and obtain a personal waste generation number.
Law No. 9115/2003 (24/07/2003)	"On the Treatment of polluted water" provides regulations that state the need for treatment of polluted water before it is discharged. Article 6 sets the obligations of physical and legal entities that discharge polluted waters. Physical and legal entities, the activity of which discharges polluted waters, are obligated to take measures to: a) Continuously reduce the amount of used waters they discharge in the receiving environment; b) reduce the degree of pollution in discharging waters, especially such pollution as caused by hazardous substances and waste; c) manage and treat polluted waters. To comply with these obligations, the physical and legal entities whose activities discharge polluted waters must design a program of technical, technological and organizational measures. This program is subject to control by the Environmental Inspectorate, the licensing authority and the local government structures.

3.5 Law on Environmental Impact Assessment and EIA procedure

All projects associated with potential impacts on the environment, shall be subjected to an EIA prior to starting the implementation. The EIA report and other necessary documents will be submitted to the Ministry of Tourism and Environment (MoTE) who will transfer the project files to the NEA for review. The project shall be approved with Environmental Decision/ Declaration of the NEA and MoTE. The procedure of EIA is detailed in the DCM No. 686 dated 29.07.2015 "On the rules, responsibilities, timelines for the EIA procedure and the transfer procedure of the decision for the environmental declaration" amended.

The EIA procedure flowchart is illustrated in Figure 1 below. Based on the legal requirements of Law No.10440/ 2011, "On Environmental Impact Assessment" amended, Annex II Point 10. Infrastructure Projects, b) Urban development projects, including the construction of shopping centers and car parks.

According to Law No.10440/ 2011 (Article 11), at the conclusion of the EIA process, NEA will decide if an Environmental Declaration will be issued or if further studies are required (i.e. and 'in depth' EIA is required). It has been anticipated that at the end of the EIA process, an Environmental Declaration will be issued by the MoTE, through an online application process; hence an application to MoTE will be made for an Environmental Declaration. The main documents required by the legal framework to be submitted to MTE to obtain the Environmental Declaration consist of:

- Preliminary EIA report (digitally Signed from a licensed Environmental Expert)
- Technical Summary and DWG (Digitally signed from the licensed Architect);
- Legal documentation regarding the property status of the project area
- Full dossier of official documents of the licensed Environmental Expert engaged to conduct the procedure of EIA
- A scanned copy of the service fee, as defined in the respective legislation.

National, Regional and Municipal unit and agencies representing a role during the EIA process consist of:

- The Ministry of Tourism and Environment
- The National Environmental Agency
- Regional Directory of Environment
- National Agency of Protected Areas (NAPA)
- Regional Administration of Protected Areas
- Municipalities

In addition to the legislation specifically pertaining to the need for an EIA, there are national policies, laws, and regulations applicable to the proposed Project and its environmental and social aspects. Furthermore, Albania has developed environmental standards that are mainly based on the European Commission Directives. Existing standards include protection of the biodiversity, cultural heritage, air emissions, noise levels, water quality and discharge, and waste management.

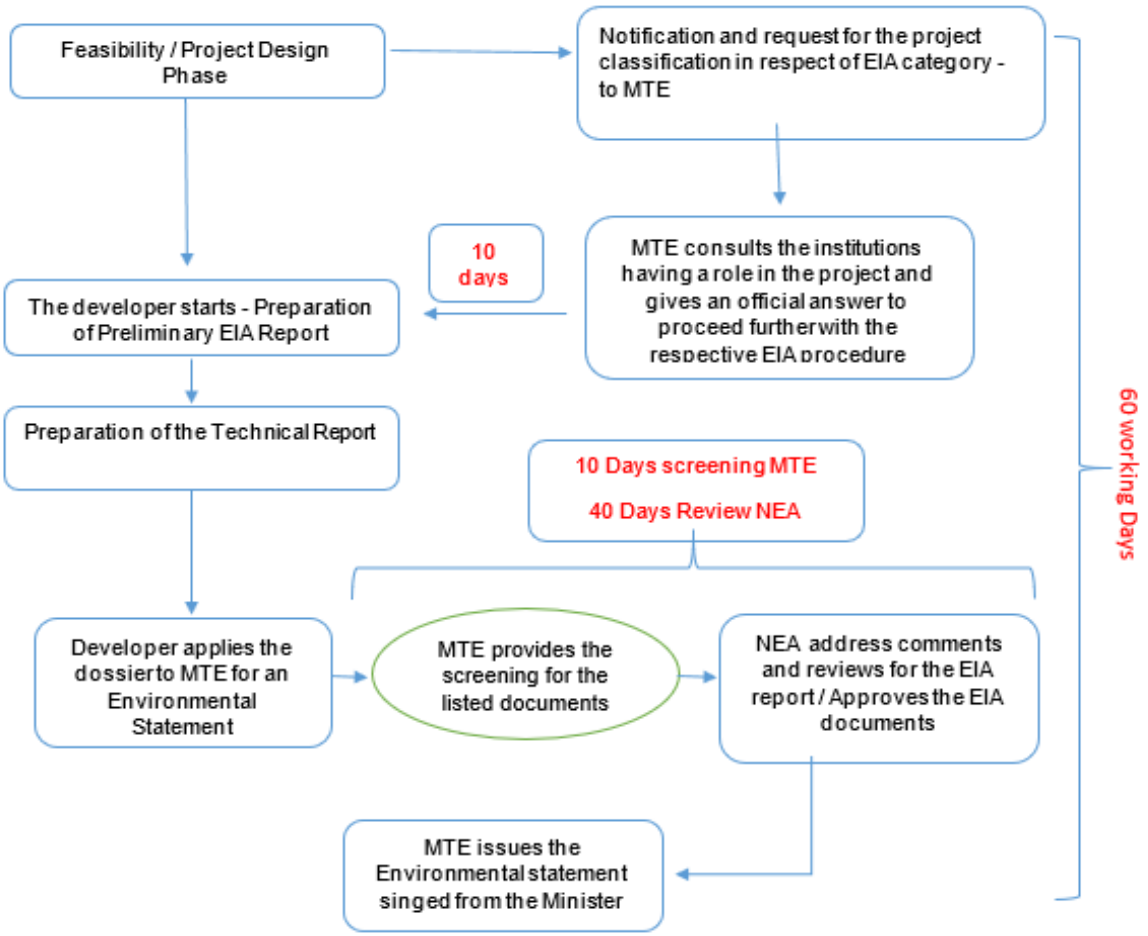

Figure 16: **EIA Procedure and Timeline according to Albanian Legislation**

3.6 Laws and Regulations in the Field of Cultural Heritage and Chance Finds

Projects for all types of building above ground and underground and engineering infrastructure projects across the entire country are based on standards and technical requirements of legal acts in force. Law No. 10119/09 "On Territory Planning," amended by Law No. 10258, dated 21.04.2010 and Law No. 10315 dated 16.09.2010, is the main legislative tool in Albania relating to urban planning, and aims to integrate the urban planning legislative framework into a single law.

Law No. 10119/09 entered into force on 30 September 2011. The main purpose of this law is to provide a sustainable development of the territory through the rational use of land and natural resources. This law includes the concepts of natural and cultural heritage protection and of the community's health and safety protection. Additionally, the law mentions integrated planning instruments to be designed for Coastal areas, for cultural, natural and environmental heritage and landscapes, as well as for other areas of common importance or interest.

The protection of cultural heritage in Albania is addressed by the Ministry of Tourism, Culture, Youth and Sports and several specialized institutions within the Ministry of Education and Science. Within the Ministry, the Department of Cultural Heritage oversees the Institute of Monuments, the nine National Museums, and the Centre of Registration of Cultural Property. Cultural heritage includes archaeological sites, historic buildings (isolated and in districts), graveyards and places invested with traditional meaning

of a historical, cultural or religious nature.

Law 9048 ("Cultural Heritage Act") approved on April 7th, 2003 (as amended by Law No. 9592, dated 27.07.2006; Law No. 9882, dated 28.02.2008) is the primary legal framework governing the management of tangible and intangible cultural heritage in Albania. Law 9048 represents the first effort to extend legal protection to material within the field of intangible cultural heritage. Its contents include: Categories of Albanian cultural heritage to be protected (i.e. tangible, intangible, movable, immovable); definitions and examples of tangible and intangible heritage; responsibilities of relevant institutions and government bodies; penalties for those who damage cultural heritage; and mitigation procedures.

Article 4 lists the tangible, immovable values that are to be protected, which include, but are not limited to: Archaeological sites; Historic structures (including places of worship); Historic towns and neighborhoods; Cemeteries and graves; and Historic landscapes. Law 9048 was amended by Law 9592 dated 27.07.2006. Amendments included 1) the introduction of the National Committee of National Heritage as an advisory body and 2) the creation of the National Committee for Intangible Heritage (NCIH). Law 9048 was amended again by Law No. 9882, dated 28.02.2008. The 2008 amendments incorporated articles reconstructing the network of specialized cultural heritage institutions and articles dealing with the creation of the National Council of Archaeology and specialized institutions such as the Albanian Archaeological Service.

According to the law, if anything unusual will be found during the digging and excavation process the contractor must stop works immediately, urgently inform the local authorities, the Culture Monuments Institute and, also the Ministry of Culture. They will send archaeologists and field specialists in order to check and evaluate the supposed archaeological objects and the works will restart only after the official permit given by the Culture Monuments Institute. Also, Albanian respects the international obligations provided under international conventions and agreements ratified by Albania in the framework of cultural heritage.

Table 3 . Legislation for the protection of cultural heritage

Legislation	Overview
Cultural Heritage	
Law 27/2018 (17.05.2018)	"On Cultural Heritage and Museums" - All matters relating to cultural heritage in Albania are governed by this law". The law defines the preservation and chance finds procedures (archaeological objects or items of cultural heritage value which are discovered by chance) to be used during Project implementation.
Article 146	Requires and obliges any person who discovers or excavates objects of cultural heritage value, by chance during construction works, to suspend work immediately and inform the relevant local authorities within three days. The relevant local authorities consist of the local government office (municipality), the Police Department and the Regional Directory of Cultural Heritage (RDCH). The RDCH verifies the situation/findings and reports to the Institute of Cultural Monuments (IoCM). These institutions are responsible for assessing the archaeological value of the objects found, and determining whether

	work may continue or whether it must remain suspended until further ground investigations have been undertaken.
Article 5, paragraph 64 and article 31	Defines the conservation of non-material cultural heritage by measures that aim of long-lasting preservation of such cultural assets.

Table 4. Laws adopted after the ratification of international conventions by the Republic of Albania

Convention name	Ratified by Albania
Law no. 9490, dated 13.03.2006 "On the Ratification of the Convention for the Safeguarding of the Intangible Cultural Heritage", Paris 2003	2006
Law nr.9806, dated 17.09.2007 On the Ratification of the European Convention "On Protection of the Archaeological Heritage"	2007
Law No. 10 027, dated 11.12.2008 "On accession of the Republic of Albania to the Convention on the Protection of Underwater Cultural Heritage", Paris 2001	2008

Source: http://www.kultura.gov.al/al/baza-ligjore

3.7 Health and Safety Framework

Law No. 10237/2010 "On safety and health at work" ensures the security and protection of health through prevention of professional risks, eliminating the factors that constitute risk and accidents, inform, advice, balanced participation, in accordance with the law. The present law applies the following:

- The Directive of the European Council 89/391/EEC, dated 12 July 1989 "On the introduction of measures to encourage improvements in the safety and health of workers at work";
- The Directive of the European Council 94/33 EEC, dated 22 July 1994 "On the protection of young people at work," article 6; and
- The Directive of the European Council 92/85 EEC "On the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding".

Albanian legislation on health and safety and the relevance to the project are highlighted in the table below.

Table 5: Legislation on health and safety

Legislation	Overview
Law No. 10237/2010 (18/02/2010)	"On Safety and Health at Work" - This law regulates the framework of health and safety in the workplace and determines the roles of each party subject to the law.
	The State Sanitary Inspectorate aims to protect workers from the impacts of adverse

Legislation	Overview
Law No. 9863/2008	working conditions, such as exposure to toxic substances, radiation, unworkable noise, vibrations, unfavorable microclimate, and controls the level of occupational diseases and accidents as a result of adverse conditions.
Law No. 9863/2008 (28/01/2008)	"On food" specifies the rules of food safety in Albania
Law No. 10433/2011 (16/06/2011)	"On Inspection in the Republic of Albania"
DCM No. 562/2013 (3/07/2013)	Decision of the Council of Ministers concerning the approval of the regulation on minimum safety and health requirements for the workplace.
DCM No. 312/2010 (5/5/2010)	"On safety in site construction" sets the rules of safety for construction activities.
Decision No. 692/2001 (13/12/2001)	"On special measures on safety and health protection at work"
DCM No. 842/2014 (3/12/2014)	"For the health and safety and protection of the employee from noise risks in the working places" requires the employer to assess the noise levels at the working place and ensure the protection of its workers

3.8 Other relevant legislation

Other national regulations relevant to the BRB is presented in Table 6 below.

Table 6. Other Relevant National Legislation

Legislation	Overview
Law No. 107/2014	"On Territory Planning and Development" - The law aims to integrate the urban planning legislative framework into a single law, and includes the concept of the protection of natural and cultural heritage, and community's health and safety for territory planning.
DCM No. 408 (13.5.2015 amended by DCM 231/2017)	The regulation for territorial development.
Law No. 8752/2001 (26/03/2001) amended several times	"On the establishment and functioning of the structures for land administration and protection", amended by Law No. 10257/2010 regulates land uses issues, and their compatibility with Regional Planning.

3.9 International Convention and agreements

Albania is signatory to several international conventions and agreements on biodiversity conservation, environmental protection, and sustainable development. The major conventions and agreements that are relevant to the project are the following:

Table 7: International Conventions and Agreements Signed/Ratified in Albania

Convention/Agreement	Overview	Ratified
Aarhus Convention on Access to Information, Public Participation in decision-making and Access to Justice in Environmental Matters (1998)	The Convention establishes a number of rights to the public, with regard to the environment; including access to environmental information; public participation in environmental decision-making and access to justice9.	26 October 2000
UN Framework Convention on Climate Change (UNFCCC) (1992) entered into force in 1994	The United Nations Framework Convention on Climate Change (UNFCCC) has been crucial in addressing climate change and the need for a reduction of emissions of greenhouse gases. The ultimate objective of the Convention is to stabilize greenhouse gas (GHG) concentrations in the atmosphere at a level that would prevent dangerous human interference with the climate system.	01 December 1994
Paris Agreement at the COP21 in Paris on 12 December 2015, entered into force on 4 November 2016	The Paris Agreement builds on the Climate Change Convention to combat climate change10.	21 September 2016
Kyoto Protocol	The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change; signatories commit to setting internationally binding emission reduction targets11.	01 April 2005
Convention on the Protection and Use of Trans boundary Watercourses and International Lakes (1992)	Avoid or minimize adverse effects on water resources and water quality.	5 January 1994
Convention on Biological Diversity (CBD) (1992)	Avoid or minimize adverse effects on important habitats and species, internationally and naturally designated nature conservation sites; conservation, sustainable and equitable use of biodiversity.	5 April 1994
Convention on the Protection of Wild Flora and Fauna and Natural	The Convention aims to ensure the conservation of wild flora and fauna species and their habitats. Special attention is given to endangered and	2 March 1998

9 http://ec.europa.eu/environment/aarhus/index.htm

10 http://unfccc.int/files/paris_agreement/application/pdf/qa_paris_agreement_entry_into_force.pdf

11 https://unfccc.int/process-and-meetings/the-kyoto-protocol/what-is-the-kyoto-protocol

Convention/Agreement	Overview	Ratified
Habitats in Europe (Bern Convention) (1976)	vulnerable species, including endangered and vulnerable migratory species12; to avoid or minimize adverse effects upon important habitats and species, internationally and naturally designated nature conservation sites.	
Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) (1979)	Avoid or minimize adverse effects upon migratory species	1 September 2001
Agreement on the Conservation of African-Eurasian Migratory Water birds (1995)	African-Eurasian Migratory Water birds Agreement (AEWA) covers 254 species of birds ecologically dependent on wetlands for at least part of their annual cycle. All AEWA species cross international boundaries during their migrations and require good quality habitat for breeding as well as a network of suitable sites to support their annual journeys13. Avoid or minimize adverse effects upon migratory water bird species.	1 September 2001
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1975)	CITES is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival14.	27 June 2003
Convention on the Protection of the World Cultural and Natural Heritage (1989)	Avoid adverse effects upon Albanian and World Cultural Heritage sites; minimize adverse effects on unknown and intangible cultural heritage sites, material assets and other infrastructure.	10 July 1989
ILO Convention 29 Forced Labour Convention (1930) and ILO 105 Abolition of Forced Labour Convention (1957))	Its object and purpose are to suppress the use of forced labour in all its forms, irrespective of the nature of the work or the sector of activity in which it may be performed.	25 June 1957 27 February 1997
ILO Convention 87 Freedom of Association and Protection of the Right to Organize (1948)	Protects the rights of workers and employers to join organizations of their own choosing without previous authorization.	3 June 1957
ILO Convention 98 Right to Organize and Collective Bargaining	The convention provides for workers to be able to join unions and engage in collective bargaining.	3 June 1957
ILO Convention 100 Equal Remuneration Convention (1951)	Each member shall, by means appropriate to the methods in operation for determining rates of remuneration, promote and, in so far as is consistent with such methods, ensure the application to all workers of the principle of equal remuneration for men and women workers for work of equal value.	03 Jun 1957

12 https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/104

13 https://www.cms.int/en/legalinstrument/aewa

14 https://www.cites.org/eng/disc/what.php

3.10 World Bank Environmental and Social Framework

As a condition of WB financing the BRB Program, ARA has committed to implementing the Program in a manner consistent with the WB Environmental and Social Framework 2018 (ESF). Matters to be addressed include environmental, health and safety, gender, labor, social, land and cultural heritage laws and policies as a minimum.

Based on the present evaluation, these are the ESF Standards which are considered relevant: ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS8, and ESS10

- ESS1 – Assessment and Management of Environmental and Social Risks and Impacts.
- ESS2 – Labor and Working Conditions.
- ESS3 – Resource Efficiency and Pollution Prevention and Management
- ESS4 – Community Health and Safety.
- ESS5 – Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- ESS6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources.
- ESS8 – Cultural Heritage.
- ESS10 – Stakeholder Engagement.

ESS1 Assessment and Management of Environmental and Social Risks and Impacts
Overview of the relevance of the Standard for the Program:
The Program supports the rehabilitation of bridges and culverts while a smaller portion of the financing will be invested in significant upgrade/replacement of bridges (with changed design and dimensions) and new supporting infrastructure (for protection of bridges). The program will have two phases (phase 1 up to 10 bridges and phase 2 up to 20 bridges) to be implemented at the overall period of the program of 8 years, and each phase will have a maximum length of 4 and 5 years respectively. The rehabilitation/reconstruction of two priority bridges to be funded under phase 1, will serve as a pilot and knowledge and lessons learned will be incorporated into the rehabilitation/reconstruction of other bridges.
The nature of rehabilitation interventions is as such that heavy machinery will be used and thus about 10 to 20 workers per working site for each sub-project will be needed. In rare cases, approximately two to three proposed bridges from the long list of 100 bridges, the number of workers on the site could be up to 50-100. The proposed locations are both outside and inside inhabited rural and urban areas all over Albania.
The rehabilitation types of works likely to be financed will be e.g. road/bridge widening for the sidewalks, bridge replacement, culvert replacement, removal of the road surface, waterproofing the superstructure, removal of the loose concrete surface, reprofiling the structural concrete, construction of the parapet and/or traffic barriers, rainwater drainage etc.

As exact locations and scope of the works are not yet defined for all the bridges with certainty, the Borrower prepared a draft Environmental and Social Management Framework (ESMF). Draft ESMF is prepared and is publicly consulted prior to the appraisal and will be finalized before the conclusion of appraisal.

Proportional to the site-specific risks, the borrower will prepare the:

- ESMP Checklists for typical rehabilitation activities
- ESMP for reconstruction
- ESIA - full-fledged or partial will be required for significant upgrades/replacements of bridges, with changes in design and dimensions as well as for the construction of new bridges and supporting infrastructure.
- Stand-alone Cultural Heritage Management Plan (CHMP) or annexed to ESA, will be prepared for site-specific works that might have an impact on cultural heritage.

- Biodiversity protection measures will be carried out as a part of site-specific ESIA and ESMP.
- Site-specific management plans for waste management, hazardous materials management, and pollution prevention as a part of the contractor ESMP, ESMP Checklist, or ESIA
- Traffic Management Plan prior to work commencement
- Community health and safety impacts will be addressed in site-specific ESIAs and ESMPs

Management of E&S impacts will take into, the WBG Environmental Health and Safety Guidelines (EHSG) and Good International Industry Practice (GIIP) and relevant Albanian regulations.

At this stage, the specific E&S instruments (ESIAs, ESMP, and RAP) are prepared for the two bridges (Viroi and Beshiri) selected as priorities from GoA, and the feasibility studies are under preparation for the other bridges (up to 8) to be rehabilitated/reconstructed in the first phase. In parallel during the implementation of the first phase the Borrower will do the selection and preparation of the E&S instruments for part of the bridges (up to 20) to be reconstructed/rehabilitated in the second phase of the Program.

Potential environmental impacts will be mostly substantial for the upgrade/replacement of the bridges but with local impacts and for the others moderate, local, typical for civil works such as (e.g. generation of significant amounts of construction waste, smaller amounts of hazardous waste, emission of dust and noise, Occupation Health and Safety (OHS) and traffic safety-related risks, water quality, etc.). All impacts are expected to be addressed in the Environmental & Social due diligence appropriate to the project and site-specific risks. High-risk activities, as defined in the WB E&S Directive and ESF, will not be financed under the Program, this will be set forth in a detailed procedure and exclusion criteria/list within the ESMF (list of activities as ineligible for financing under the Program are included in the Annex 8). Given the scale and geographic scope of the program, contractor/subcontractor performance management could present a significant challenge (e.g. with regards to waste management, community safety, OHS...) therefore the borrower will engage the third-party monitoring/supervision engineers to support the implementation of the works and environmental and social risk management aspects of the program.

The most probable social risks for the program will be potential disruptions to community (ESS4) in the traffic due to rehabilitation of the bridges, which will be managed through the social sections of the ESMPs/ESIA by proposing temporary alternative routes or temporary new regimes of the traffic. Social risks related to labor and working conditions (ESS2) will be managed by applying the requirements of Labor-Management Procedures (LMP). Draft LMP has been prepared, consulted, and disclosed before the appraisal. For the majority of the bridges, for which the precise location of works that may require land acquisition, resettlement, or lead to livelihood disruption, will not be known prior to the appraisal, but will be identified during the implementation of the project, a draft Resettlement Policy Framework (RPF) is prepared consulted and in country disclosed prior to the appraisal. While, for Beshiri bridge, selected by the Government as one of the priority bridges for the first year of implementation, during the ESA was identified, that will have the social impact on economic displacement, therefore the draft ESMP and draft ARAP are prepared satisfactory to the Bank, consulted, and disclosed prior to the appraisal. Following the identification of specific sites during implementation, the project will screen out the site-specific works that will require significant land acquisition and significant resettlement. However, if the minor acquisition or minor amounts of land and land affixed assets will be required, the Resettlement Plans (RPs) will be prepared as required in compliance with the national requirements and ESSs of the Bank's ESF. However, land acquisition is expected to be limited, because the program focusses mainly on rehabilitation works.

ESS2 Labor and Working Conditions

The standard is relevant. Most of the works would be done with heavy machinery, with about 10 to 20 workers per working site and, in a maximum of two cases, there might be labor-intensive works with about 50-100 workers per site. There would be no cases of labor influx situations in the localities, as the project

is engaging local workers. Albanian OHS legislation is harmonized with ILO conventions, while the country is making continuous efforts to align with the relevant EU requirements and standards. Nevertheless, given moderate to substantial OHS risks (including working at height, working under water, working with heavy machinery, etc.), in addition to national regulation, OHS impacts will be mitigated by the application of relevant provisions in the ESIAs, as defined in ESF, WB Environmental, Health and Safety Guidelines, and good international industry practice. The project workers will be both direct project workers and contracted workers. Direct project workers will be PIU employees and consultants, whereas contracted workers are going to be hired by the contractors and subcontractors to carry out the rehabilitation of the selected bridges. The draft Labor-Management Procedures (LMP) is prepared and will be part of the consultation package before the Appraisal and address the envisaged risks, including Grievance Mechanisms for Project Workers, and define other principles on the employment of Project Workers, so that all requirements of the ESS2 are adequately reflected in tender documents. LMP will manage and oversee the compliance of the project works. The Project Workers GRM will be separate from the project-related GRM. The LMP will also address working terms and conditions, equality of opportunity, workers' associations, and grievance redress. The project will not engage forced or child labor. The LMP will include robust measures to address OHS and SEA/SH risks (though the latter are expected to be low).

ESS3 Resource Efficiency and Pollution Prevention and Management

The program implementation phases, will produce a significant amount of construction waste from the removal of asphalt, works on superstructure and substructure, removal of deposits, earthworks, etc. Waste management will focus on seeking options for reuse and recycling of removed materials while waste disposal will be considered the last resort. Waste streams, quantities, management procedures, and final disposal/processing will be identified in Waste Management Plans which will be integral parts of ESAs. All envisaged infrastructure works (bridge construction and reconstruction that may require dredging and underwater works, painting, and rehabilitation, works on the substructure, installation, and repair of culverts, etc.) can cause impacts to water such as turbidity, water quality degradation, etc. as well as soil erosion, changes in deposition patterns, etc. Ideally, impacts to water will be avoided/minimized through sub-project design and design of works, while the remaining risks addressed by the application of WBG EHSG and GIIPs. Each sub-project site with bridge or culvert rehabilitation will develop site-specific management plans for waste management, hazardous materials management, and pollution prevention as a part of ESMP, ESMP Checklist, or ESIA.

Extensive consumption of energy and water is not expected under this program. A large amount of mineral resources (sand, gravel, etc.) may be used in construction. While there will be no quarrying at sites, and sourcing of such materials often raises significant environmental and/or social risks, therefore the ESMF will provide specific requirements for avoiding and mitigating impacts associated with excavation from riverbeds/riverbanks. As part of preparing the Program/ESMF will also be reviewed the adequacy and effectiveness/enforcement of the licensing procedures for quarries/suppliers in Albania.

ESS4 Community Health and Safety

The Standard is relevant. The Project designs will include necessary measures for the adaptation of climate changes and natural hazards considering safety risks to the community. The community health and safety impacts will be addressed in site-specific ESIAs and ESMPs, in line with the guidelines provided in the ESMF. Project implementation will require the use of heavy vehicles, machinery, frequent transport of people and goods, which can create risks to road safety and pedestrian safety. Mitigation of resulting potential impacts will be defined in the ESMF General Traffic Management Plan. Site-specific Traffic Management Plans (TMP) will be developed based on the General TMP making an integral part of E&S due diligence. As many of the activities are likely to be carried out in populated areas, the ESMF will require contractors' ESMPs and OHS plans to include specific measures for properly restricting public access from work sites. All waste management activities need to also include adequate mitigation and rehabilitation practices, as appropriate. Application and relevance of the standard for the security personnel will be defined during the implementation. Other relevant issues in addition to project-related traffic are 1)

interruption of the passage over the bridge because of the rehabilitation activities 2) potential for SEA/SH, though there is a low-level risk of this, and 3) community awareness and safety including for children. For 1), once the sub-project is defined, the bridge to be rehabilitated will be selected; part of the preparation activities between concept designs and the final designs will be analysis, consultation, and selection of the most optimal alternative for passing over the bridge (or rerouting) during the rehabilitation works. This will be especially important if for the selected bridge the rehabilitation works are as such that there should be a temporary closure of the bridge. For 2), to address the potential SEA/SH issues the contractors will be required to ask the employees to sign the code of conduct; the project will also strengthen the project related GRM to process in a confidential and sensitive manner any SEA/SH complaints from the communities using the bridge or the nearby areas. For 3), the project will have ongoing stakeholder engagement to ensure there is community awareness, especially by children using the bridge.

ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
Although most of the works will be done on the respective bridges, In case there is a need for land acquisition the implementing agency will prepare an RPF which will guide potential Land Acquisition, Restriction on Land Use, and Involuntary Resettlement during project implementation. The RPF will cover also situations of potential impacts of resettlement of illegal structures. If for a particular sub-project, there will be a need for land acquisition, site-specific Resettlement Action Plans will be prepared.

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources
ESS6 is likely to be relevant given that there will be work in and around rivers, which typically involves risks of disturbing natural habitats in riverbeds and riverbanks, runoff/ increased sedimentation which can affect fish and aquatic invertebrates. Therefore, the ESMF should call for preliminary baseline studies particularly of aquatic habitats and species for any such sub-projects, so that appropriate measures can be taken in project design and implementation to avoid and minimize impacts to the extent possible. Likewise, it can already be noted that while some activities may take place in the protected areas, therefore any subprojects located in or near a protected area or sensitive natural habitat will require the preparation of a Biodiversity Management Plan. Depending upon the bridge site locations minor implications on the existing vegetation cover (limited to the bridge abutments locations) need to be given due attention from the natural environmental perspective. The ESMF will integrate provisions of this standard in the development of site-specific due diligence to address particular risks to biodiversity, habitats, and species. Site restoration will also be very important. All construction zones and facilities and any other area used/affected due to the project operations will be left clean and tidy, as per the site restoration plan required by site-specific ESMP.

ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities
The standard is not relevant. There are no Indigenous Peoples, as defined by ESS 7, in Albania.

ESS8 Cultural Heritage
The relevance of this ESS will be further assessed during Project preparation as part of the ESA process. In any case, the ESMF and the site-specific ESIA/ESMPs will include precautionary provisions for chance finds.

ESS9 Financial Intermediaries
The standard is not relevant. No intermediary financing will be used.

ESS10 Stakeholder Engagement and Information Disclosure
The SEP will be prepared by the implementing agency, proportionate to the nature and scale of the Project and its potential risks and impacts. It will describe the different interested and affected parties but also those who are vulnerable. The SEP will provide a strategic framework for the engagement of different stakeholders for each particular bridge and it will propose concrete action plans for stakeholder engagement

in Project activities. For every category of the stakeholders, an appropriate method of engagement will be developed. Important issues that will be communicated and for which feedback is sought will be: (i) informing the wider public about the works, timing, forecasts for rehabilitation works for each bridge; (ii) engagement with the stakeholders, from concept design to final technical designs, in the analysis and selection of alternatives for temporary use of the bridge (or other routes) during the rehabilitation of each bridge. The most important stakeholders in the project are the particular users (passengers) of each bridge. The users would be analyzed, according to car users and public transport. Other stakeholders would be institutions in charge of maintenance (depending on the size of the bridge, different institutions would be in charge of bridge maintenance). The SEP also will pay particular attention to community level awareness of traffic and safety, including for schoolchildren using the bridges to walk to school.

- **World Bank Group EHS Guidelines**

The Environmental, Health, and Safety (EHS) Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). When one or more members of the World Bank Group are involved in a project, these EHS Guidelines are applied as required by their respective policies and standards. These General EHS Guidelines are designed to be used together with the relevant Industry Sector EHS Guidelines which provide guidance to users on EHS issues in specific industry sectors. For complex projects, use of multiple industry-sector guidelines may be necessary. The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs. Some relevant World Bank Group Environmental Health and Safety Guidelines that are applicable to this project are Air Emissions and Ambient Air Quality, Hazardous Materials Management, Waste Management, Noise, Worker Health and Safety, Community Health and Safety, Construction Materials Extraction.

4. Environmental and social baseline information

4.1 Sub-Project location.

The sub-project is located under the administrative borders of Gjirokastra Municipality and part of the national road SH4. The municipality of Gjirokastra is located in southern Albania.

The Municipality was formed in 2015 according to the local government reform (Law 115/2014 “On Territorial and Administrative Division of Local Government Units in the Republic of Albania”). by merging the previous Municipality of Gjirokastra and the communes of Cepo, Lazarat, Picar, Lunxhëri, Odrie and Antigonea. The area of the Municipality is 469.25 km² and 38 villages are part of it.

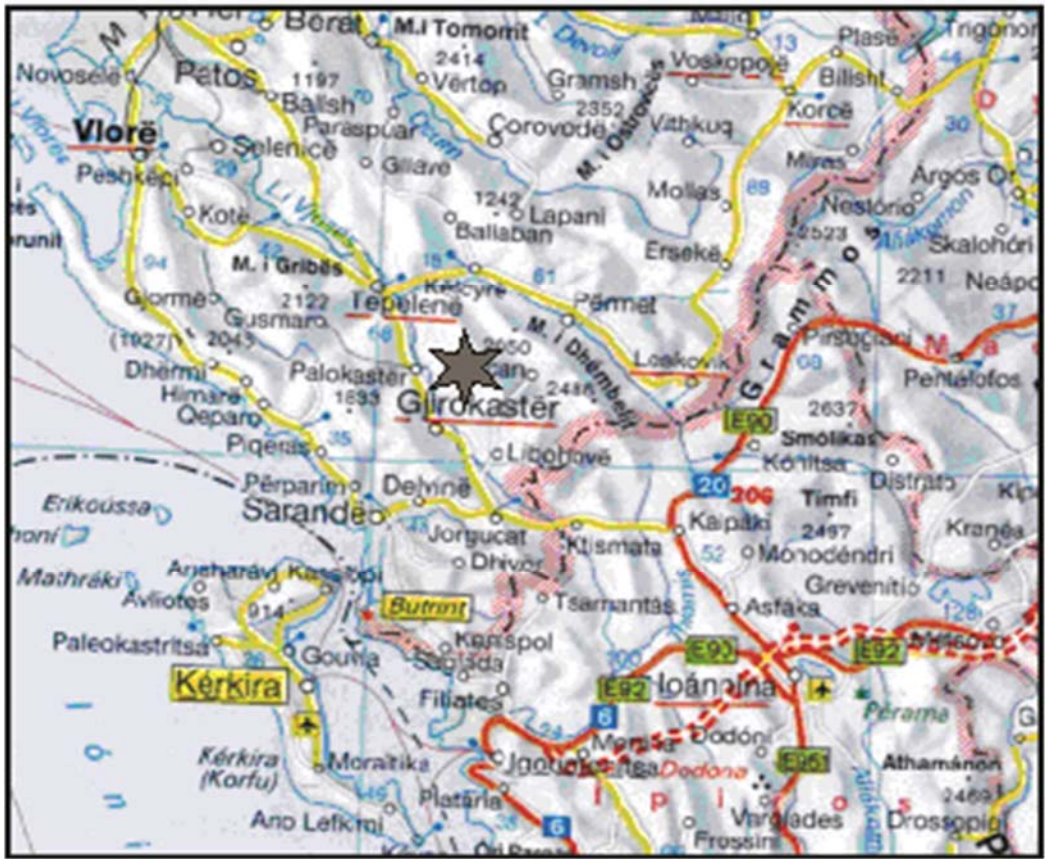

Figure 17: Map of Gjirokastra Region

4.2 Population

Gjirokastër by the population is the largest municipality in the Gjirokastër District (Prefercture). According to INSTAT, based on the 2011 Census, Gjirokastër Municipality was estimated to have 28,673 residents (a density of 53.91 persons/km2) living in 6,919 housing units, while the county as a whole has a total of 72,176 inhabitants. The population of the municipality includes the urban and rural population in its Administrative Units such as: Antigonë; Cepo; Lazarat; Lunxhëri; Odrie and Picar.

The city of Gjirokastër itself has a resident population of 19,836 inhabitants which are a predominantly urban population. In the municipality, the population was spread out with 16.76% from the age 0 to 14, 69.24% from 15 to 64, and 13.98% who were 65 years of age or older. As far as the city itself is concerned, the population was spread out with 16.93% from the age 0 to 14, 70.27% from 15 to 64, and 12.78% who were 65 years of age or older.

4.3 Cultural Heritage Considerations

The Viroi bridge is located in the vicinity of the town Gjirokastër which is included in the UNESCO World Heritage List in 2005, as one of the few surviving examples in the Balkans of Ottoman-style trading cities. This city has rich historical background which is mostly related to the Ottoman-time, but also from the Byzantium and Roman time. The city is known for many rulers and inspired many poets, writers and artists. The city and the municipality have a total of ~30,000 inhabitants, and it is the economic and the administrative centre of the Gjirokastër district.
The Viroi Lake represents an important tourist destination of the region and, due to the fact that disruption

to the traffic will be minimized, this will also be the case with the tourist capacities.

4.4 Infrastructure

Gjirokastra is accessible only by national road. The main access road to Gjirokastra town, linking it also with neighboring municipalities of Tepelene, Libohove and Dropull as well as the local settlements, is made from the highway SH4. This national highway links the Municipality from north with the road SH8 coming from Tirana, from the south with the road towards Saranda and more in south with border-cross point of Kakavia with Greece.

The distance from Tirana Airport to Gjirokastra is 218 km, from Saranda to Gjirokastra 55 km, from Vlora to Gjirokastra 126 km and from Permet to Gjirokastra 59.4 km, while the distance from Gjirokastra to Ioannina Airport (Greece) is 83.3 km.

4.5 Climate

The location belongs to the south-eastern hilly Mediterranean climatic zone, which is mostly affected by the Adriatic Sea and less by the Ionian Sea.

Gjirokastra lies on 233m above sea level. The climate is classified as Csa (Hot Mediterranean Summer) by the Köppen-Geiger system. The temperature here averages 14.3 °C. The warmest month of the year is August, with an average temperature of 23.4 °C. January has the lowest average temperature of the year. It is 5.5 °C.

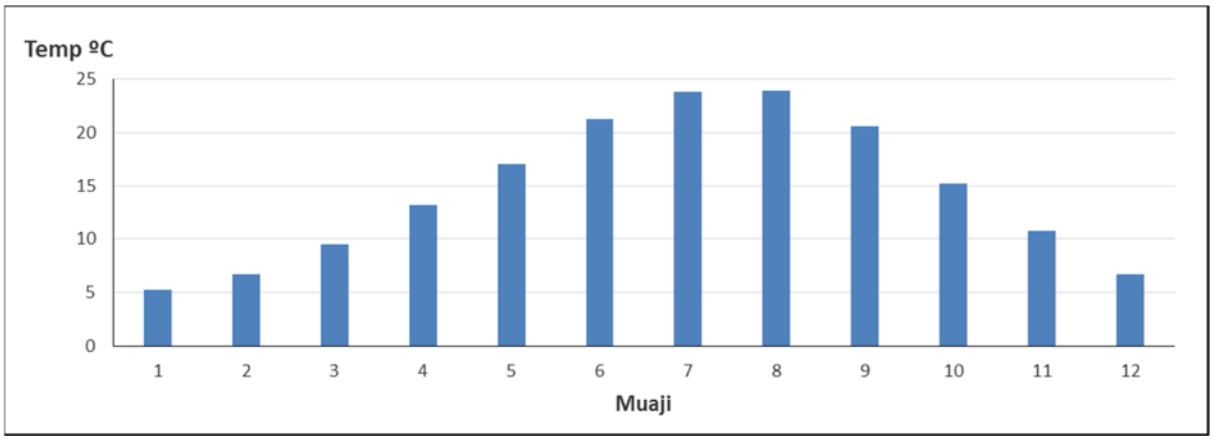

Figure 18: Average Annual Temperature for Gjirokastra

The driest month is July, with 20 mm of rainfall. With an average of 286 mm, the most precipitation falls in December. The annual rainfall is 1593 mm.

4.6 Geological Overview of Gjirokastra area

The region of Gjirokastra is located south of the Shkoda-Peja fault, which divides the Dinaric Mountains from the Hellenides Montains, within the territory of which the region falls. The Hellenides Mountains, which in turn can be divided in internal and external, are part of the Dinaric-Albanian-Hellenic thrustbelt, which was formed during the Alpine orogeny. The external Hellenides, in particular, include the tectonic-sedimentary domains Krasta-Cukali, Kruja, Ionian, Sazani and Durres.

The Viroi lake is located in the south of Albania, north from the Gjirokastër, on the north eastern slopes of the Malit të Gjerë mountain, on the left bank of the Drino River. The mountain slopes have almost no vegetation what enables significant runoff of the rainfall water towards the river. Overall orientation of the location is north-west to south-east direction, with the elevation of ~200m ASL.

The lake has a karstic water source, which is full of water in winter and spring, but dries up in summer.

This is explained by the siphon phenomenon, when groundwater collects in a reservoir below the source. The source of the cave is about 6 ÷ 8 meters long, and 3 ÷ 4 meters wide, with a depth of up to H = 22 meters.
Geology of the location is the terrace of the Drino River, with alluvial deposits intertwined with river deposits. Deposits of fine fractions are also present in the Lake Viroi area, which are unconsolidated with organic material content. Below these deposits, there is a layer of Lower Oligocene rocks consisting of clays and sandstones. Neogene deposits have a thickness of 100-250m.
Since, currently the waters of the Drino River are very active, and they actively erode the riverbed and structures within, or near, the river, like bridges and culverts, the new foundations will be made on concrete piles which will protest the bridge from the erosion from the Drino River.

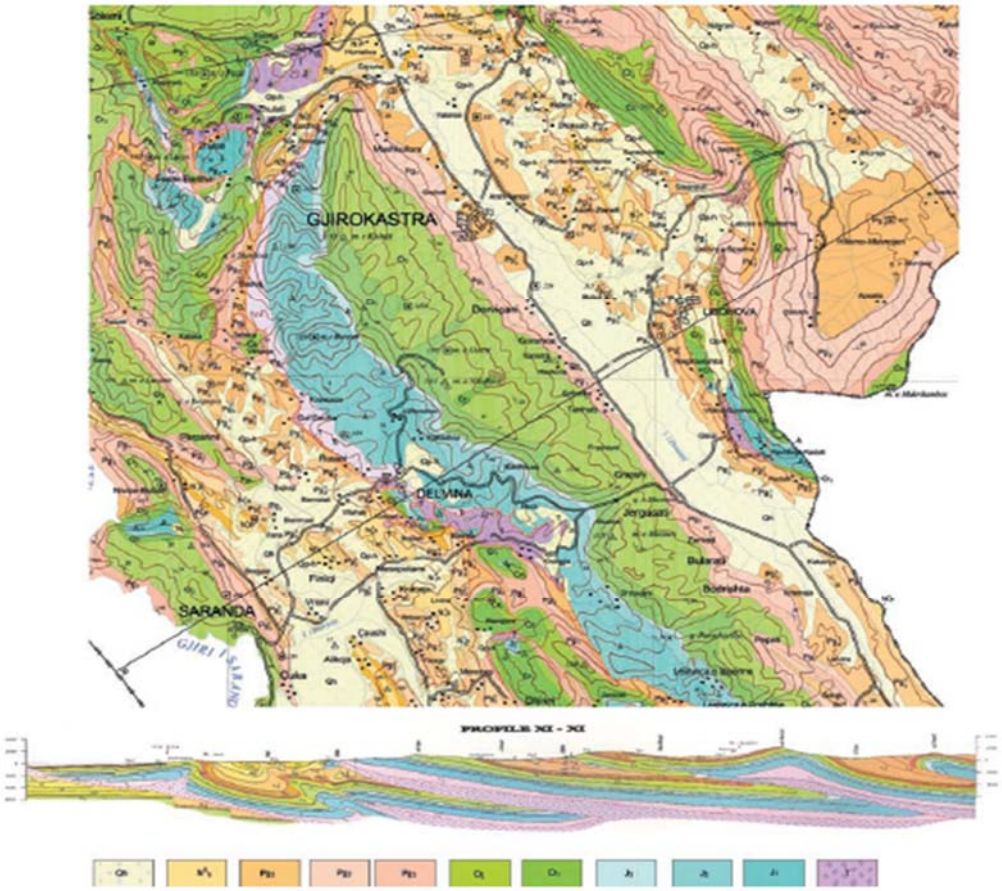

Figure 19: Geological Map of Gjirokastra and Geological Cross section (Source: Jigyasu et al, 2014)

4.7 Hydrogeology

The Mali Gjere karst massif is located in south Albania on the border with Greece (Figure 20); its total surface area is 440 km², mostly located in Albanian territory (54 km² in Greek territory). The highest point of the massif is at 1798 m a.s.l., whereas the mean altitude is about 900 m a.s.l. The crest of the Mali Gjere Mountain is the natural water divide between the Drinos River basin located on the east, and the Bistrica River basin located on the west. Some sulphate springs recharge the Drinos River in Greek territory; the biggest of them is Rogozi Spring with the mean discharge of about 0.5 m³/s and with the sulphate ion concentration of about 700 mg/l.
Most of the karst water drains to the western side of the Mali Gjere massif where the Blue Eye Spring (mean discharge 18.4 m3/s) issues at an elevation of about 45 m lower than that of the Drinos Valley. Also some

springs, each with a discharge of less than 0.1 m3/s, issue from this side of the massif. The biggest spring of the eastern side of the massif is the Viroi ephemeral spring (maximal discharge more than 40 m3/s). The total discharge of all the springs of Mali Gjere karst massif results about 743*106 m³/year, (23.6 m³/s). By the balance calculations results that the total discharge of the springs of studied karst massif is about 30-35 % bigger than the calculated mean efficient precipitation of the massif, which corresponds to a water quantity of about 226*106 m³/year (7.17 m³/s).

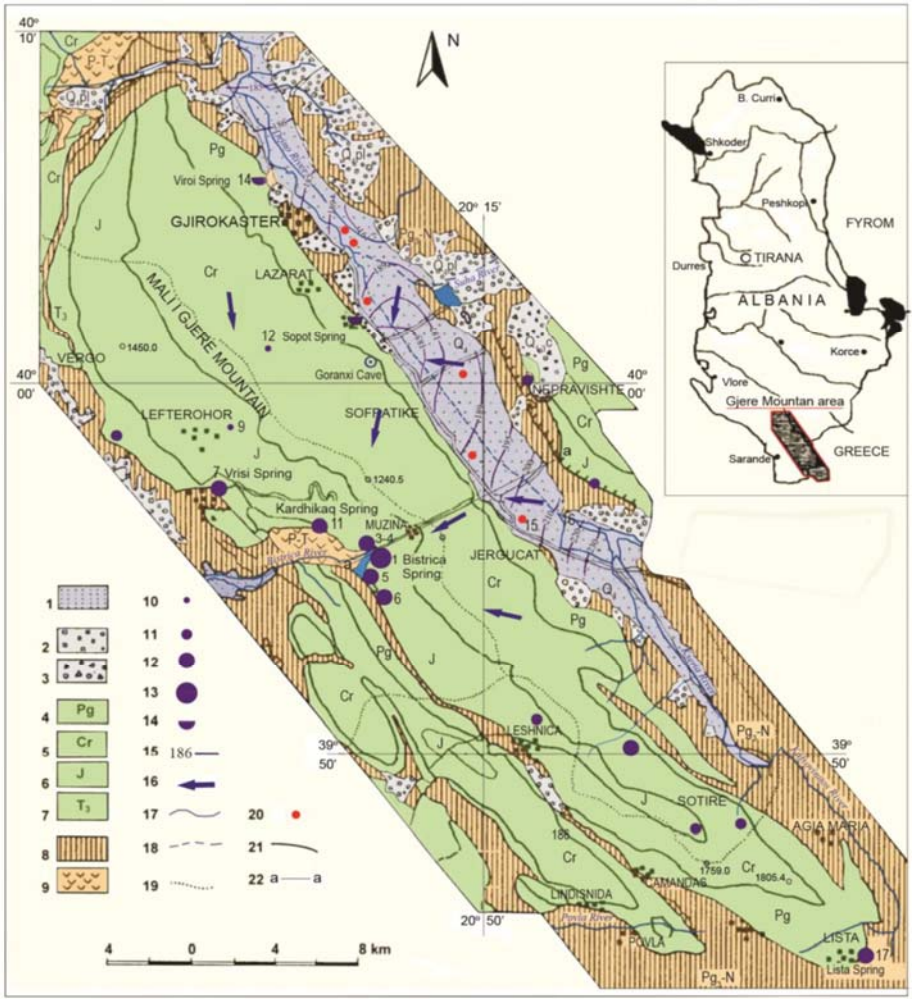

Figure 20: Hydrogeological map of the project area (Source: Efthimi et al., 2007)

4.8 Seismic Hazardous in Gjirokastra

Albania is characterized by shallow crustal seismicity. The different present-day tectonic regime in eastern and western Albania requires the use of separate strong motion relations. The extensional region, into which the normal faulting earthquakes are generated, is located in eastern Albania. The compressional region, into

which mainly thrust faulting and much rare strike-slip faulting earthquakes are generated, is located in western part of it.

According to seismic regionalization map, the municipality of Gjirokastra is included in the zone where within the next 100 years, for the average land conditions, earthquakes with intensity I0 = 7 degree (MSK-64) can be expected.

4.9 Biodiversity and Natural Habitats

Biodiversity is a very important component of the natural resources of a country, area or region. The origins of this diversity lie in the geographic position, geological, pedologic, hydrological, relieve and climate factors.

The geographic position, geological construction, climatic conditions, water resources and the soil in the territories of Gjirokastra have created habitats suitable for the living plant and animal world.

4.10 Protected areas

In phyto-geographic terms, the territory of the district of Gjirokastra lies in the Mediterranean Region. The whole territory of this district is located between three mountain ranges: Trebeshine – Dhembel –Nemercke, Shëndëlli-Lunxhëri-Bureto and Murganë-Mali i Gjerë-Mali i Lucës, which are part of the South Mountaneous Region. The direction of the mountain ranges, which run almost parallel to each other, is South-East/North-West. It is this direction of the mountain ranges that creates specific climatic and terrain conditions for the growth and development of a varied, spontaneous flora. (Malo & Shuka, 2007). These mountain ranges create two deep valleys: the Drino Valley and the Zagoria Valley with altitudes ranging from 200 m to 2400 m a.s.l. and energy up to 700 m/km^2. From the records over the past years, it turns out that in the district of Gjirokastra there are 719 naturally growing plant taxa constituting almost 22 % of the flora of our country.

There are several nature monuments and one protected area within the territory of Gjirokastra.Of particular interest is Kardhiqi, which has the status of "Strict natural reserves \ scientific reserves (Category I of protected areas based on the International Union for Conservation of Nature (IUCN) categorisation. The current surface is 1,800.00 ha. Represents a rugged slope, with steep cliffs, steep cliffs and canyons. The combination of rocky, forest and pasture landscape gives this region a special beauty. The area represent high biodiversity of both habitats and species. The existence of virgin or almost virgin forests significantly increases its natural values. Area is covered mainly with oak forests accompanied by other trees such as *Fraxinus ornus, Acer campestre, Acer obturatum,* rare trees of *Tilia platyphyllos* and *Tilia tomentosa*. The most important and best-preserved forest formation remains that of *Abies borisii-regis,* which occupies even the steepest terrains. Pure forest of *Acer pseudoplatanus*, a rare phenomenon in Albanian forest, adds even more the values of this territory. Some of the endangered plants species listed at Albanian Red List book, such as: *Aesculus hippocastanum, Taxus baccata, Achillea grandifolia,* etc. are also found in the area. There are bird and mammal communities associated with forest, aquatic and rocky environments.

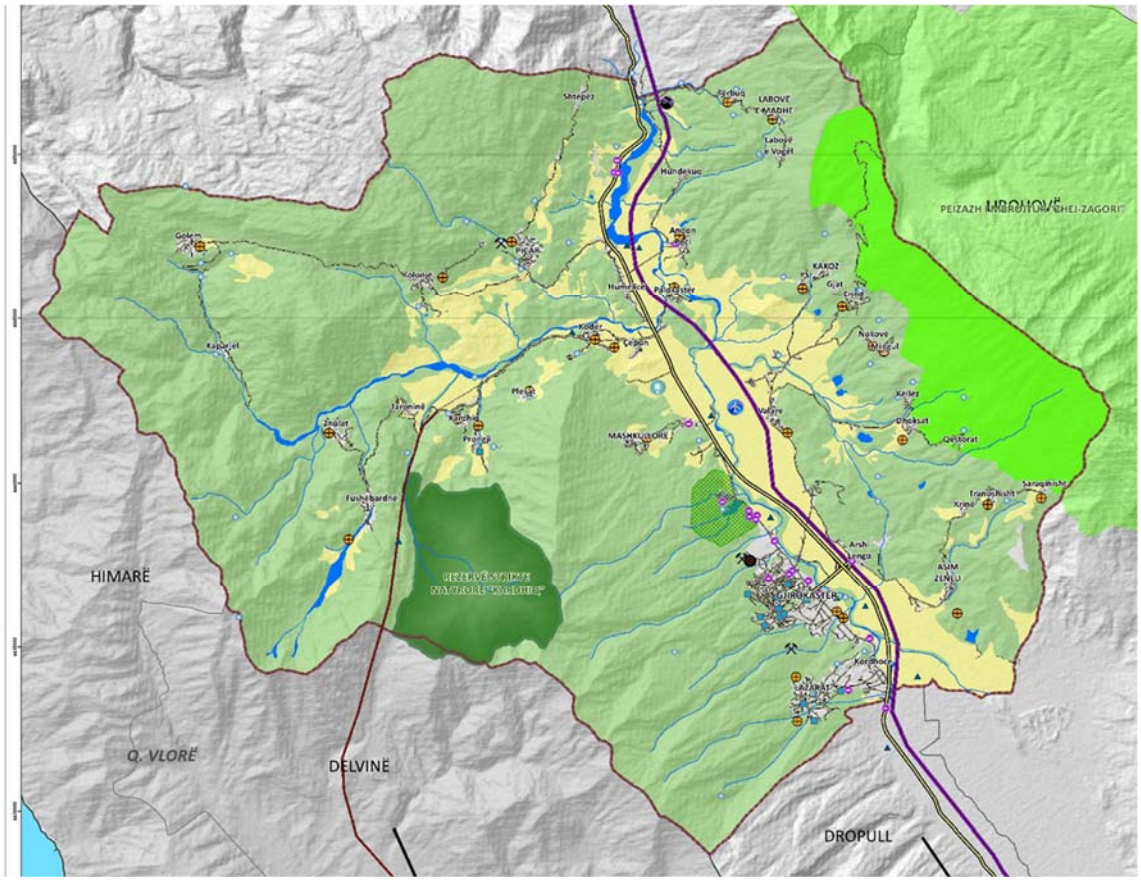

Figure 21: Map of Protected area Municipality of Gjirokastra (Source: GLP Gjirokaster)

The municipality of Gjirokastra has a large number of nature monuments (Category III of Protected area as per IUCN Categorization). The list includes: Viroi (Mema e ujit), Plane tree of Fushë-Bardha; Plane tree of Zhulati; Plane trees of School in Sheper; Oak trees of Çarroku – Sheper; Oak trees of Monastery – Nivan; Plane trees of Nivani; Plane tree of Ndëranit; Oak trees of Skoresë; Plane trees of Çatista; Cypress trees of Hllomo; Plane tree of Poliçani; Oak trees of Poliçani; Plane trees of Koshovica; Oak tree of Tërbuqi: Plane trees of Selo; Pine trees of Kërre; Oak tree of Bodrishtë; Chestnut tree of Nepravishtë; Plane trees of Tranoshishtë; Plane trees of Monastery- Stegopul; Plane tree of Dhoksati; Plane trees of Këllezi; Plane tree of Mashkullorë (No longer exists); Plane tree of Libohovë; Plane tree of Derviciani; Vënjat of Konckë; Plane tree of Topovë; Canyon of Piksi; Terrace of Ndërani; Stone "forest" of Ndëran; Pass of Çajupi; Stone of Zheji; "Naked" stones of Muzinë; Magmatic rocks on Karst substrates near Picari; Shembja e Zhulalit; Landslides of Këllezi; Landslides of Kaparieli mountain; Vithimat e Buretos; Holes of Konckë; Cave of Vanistrë (Skotinia); Gorge of Selckë; Circus of Lunxhërisë; long stones in Fushë-Bardhe; Pass of Dhëmbeli, etc.

Only the nature monument Viroi (Mema e ujit) is related to the project Area. Anyway, based on the preliminary evaluation and assessment of the distance between the water source which owns the status of nature monument and the proposed project footprint, it results that the project doesn't affect the water source due to its distance and elevation. Apart the ARA expert's evaluation, this will be also officially checked with responsible authorities (NAPA), during the national process of EIA application to obtain the environmental consent for project implementation.

4.11 Flora and Fauna

The sub-project area is not rich in fauna species. Common insects, birds and small mammals' species are frequently found, which populate the scattered vegetation of the area.
There are no endangered or protected species of flora and fauna at the subproject site. However, there isa variety of species but not near the project site.
Four Albanian endemic taxa are reported in Gjirokastra municipality, in altitudes from 300 m to 2480 m above sea level. Three of these endemic species do not have any conservation status, mainly because of their late discovery and limited knowledge about their distribution. One of these species is included in the Albanian species red list.
Noccaea cikaea F.K.Meyer. Endemic species of Southwestern Albania. Usually its population are small and limited.
Hypericum haplophylloides Halascy et Baldacci subsp. haplophylloides. Endemic species of Southwestern Albania. It grows mainly on limestone substrates or karst conglomerates. It is considered endangered species with the status R (rare species).
Viola acrocerauniensis Erben. Endemic species of Southern Albania which grows mainly on limestone substrates or karst conglomerates in altitudes above 800 m above sea level.
Stachys sericophylla Halacsy grows in karstic environment in altitudes from 1800 m to 2300 m above sea level in Nemërçka Mountain

The project area, is not characterized by pristine or natural habitats, landscapes with important scenic values or biodiversity (flora and fauna) of conservation interest. There are several trees and shrubs growing. Most important tree and shrubs growing in the area are: Sorb tree (*Sorbus domestica),* black locust (*Robinia pseudoacacia*), Tree of heaven (*Ailanthus altissima*); Ilex aquifolium (*common holly*), oak species etc. Among the shrubs in the territory of project area are found: common myrtle (*Myrtus communis* L.), tree heaather (*Erica arborea* L.), Mastic tree (*Pistacia lentiscus* L.); Smoke bush (*Cotinus coggygria*, syn. Rhus cotinus).
Grasses (annual or bianuall) are represented by *Viola alba* bess, *Cyclamen hederifolium* Ait, *Linum bienne* Miller, *Briza maxima* L. etj.Erica herbacea L.), *Melica uniflora* Retz, *Brachypodium sylvaticum* Beauv, *Helleborus odorus* waldst. Kit, *Digitalis grandiflora* Miller, *Rhamnus fallax* Boiss etj. On the walls of the Castle there are several climbing plants such a European ivy (*Hedera helix*) and (*Pyrostegia venusta*),).
In addition several fruit trees such as common fig (Ficus carica), grape vine (Vitis vinifera) etc. can be found in the yards of many families.
The fauna at the site included butterflies, birds of different species and which are not endangered species. Among the birds found in the area, there are species of genus *Alauda,* species of sparrows (*order Passeriformes*); ducks and geese from the order *Anseriformes*); some birds from the order of wild pigeons (*Columbiformes*); whistles (*Lucinia megarhyncha),* species of genus *Sylyvia,* etc. None of the birds found nest on site, rather use the area for feeding and resting.

4.12 Air Quality

Air quality improved greatly in the course of the last 10 years. Since 2005, emissions of sulphur oxides decreased some 35 per cent, and emissions of ammonia around 10 per cent, while emissions of NOx, NMVOC and PM10 increased slightly. Albania reduced the use of fossil fuels in energy production and industrial processes and introduced European standards for fuel quality. The negative impact of transport on air quality has increased, due to the higher number of vehicles (e.g. the number of passenger cars increased by 94 per cent in the period 2009–2014). Intensive urbanization that is not followed by adequate development of infrastructure (e.g., district heating systems and sustainable public transport) poses a major threat to air quality. The current network for air quality monitoring does not allow for providing a correct

picture of air quality. The number of monitoring stations is limited and the macro- and microlocations of existing monitoring stations are not accurate. There is no monitoring station in Fier where exceedances of air quality standards were recorded in the past. Monitoring in Elbasan is affected by the microlocation of the station. The current composition of the network does not cover air quality assessment in rural or rural background locations. The health impact of air pollution is not assessed. In the absence of such an assessment, Albania is not able to measure its progress towards Sustainable Development Goals (SDG) target 3.9 (by 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination) in relation to air. The population, especially vulnerable groups, is not provided with sufficient and timely data on air quality accompanied by recommendations on health protection. The legal framework on air quality has been improved through the process of accession to the EU and is complemented by an adequate national policy framework. Further efforts are needed to build capacity for development of air protection policies on the regional and local levels. Due to high fragmentation of the arable land, only a limited numbers of farms practise more intensive agriculture that allows them to produce for the market. Organic farming, which can contribute not only to production of healthy organic food but also to the protection of air quality and other aspects of the environment, is not well promoted.[15]

The project area is located near the town, which is impacted by traffic, causing an increased air pollution within the project site, especially during spring-autumn. Sources of air pollution in Gjirokastra include greenhouse gases released by vehicle engines, few petrol processing units outside of town that release volatile organic substances, dust and suspended particles from vehicles and engineering works.

There is an increase in vehicle emissions (consumption of fuels) due to increased number of vehicles and large number of old vehicles used.

The air pollution in Gjirokastra, is due to the presence of industry, greater human activities and the greater number of cars and machinery along the length of roads which are generally not properly maintained. In the other area of the Municipality the problem is not of concern because this area is mainly with mountains, forested and agricultural areas without major sources of environmental pollution.

There is no analytical data on gas emissions due to the lack of a monitoring station. However, it is estimated that along the road axis SH4 as well as around the city, constant pressure is exerted, given that in this area are concentrated resources main (congested traffic, industry, housing, etc.). Combustion of wood for heating constitutes another factor of pollution through the emission of microparticles, but without a full assessment of the impacts being possible. Therefore, monitoring of air pollution is necessary. In the western part of the Municipality they are quite limited due to the small population, low consumption of household energy and the traffic load and limited professional activities.

4.13 Waste

Waste management in Albania is generally at a low level. The collection of municipal solid waste (MSW) is provided in most cities and towns but rarely in rural areas. The waste is mainly disposed of at municipal dumpsites. There are some managed landfill sites at Sharra, Bushat, Bajkaj, Maliq and Elbasan. In Elbasan there is also an incinerator near the landfill. The Sharra landfill is currently being rehabilitated because there is a plan to construct an incinerator nearby. There are no data available for industrial waste. Also, people perceive an imbalance between the new legal framework that complies with EU standards and the limited human and financial resources and waste management practices available.

The portion of mismanaged solid waste is alarmingly high, reaching 73%, making Albania one of the most polluting countries of the Mediterranean. Marine litter, 90% of which is plastic, is a threat to the health of the marine and coastal ecosystems and causes significant economic losses to fisheries, the fishing fleet, and costs millions of euros each year in cleaning efforts.

[15] https://unece.org/DAM/env/epr/epr_studies/Synopsis/Albania_ECE.CEP.183_Synopsis.pdf

Pollution from material waste often pollute rivers, beaches and coastal waters affecting the amenity value of coastal environment and ecosystems. Valuable and reusable materials instead of being pumped back into the economy are dumped in landfills or incinerated.
Conscientious of the issue and long-term damage causing to the economy, Albania set itself a goal of being the first European plastic-free country. To achieve this goal, the government has approved a single use plastics policy and is aiming to align it with and EU-standard waste policy and legislation. Albania is also a party to environmental regional and international conventions. The implementation of all these policies is not yielding sufficient results. The country's investments in solid waste management focus on downstream facilities (landfills, incinerators, etc.) and large portions of the national territory remain underserved.

Local government is direct responsible for management of urban waste and construction and demolition waste in Gjirokastra, Tepelena and Permet, all this municipalities in the project area. In this municipalities waste is collected and transported through municipality service companies to, or private companies contracted by municipalities. The generated waste is collected without any preliminary separation. There is no recycling process for the different waste categories, as e-waste, hazardous waste, C&D, plastics, and the medical waste, so all waste collected goes to the same municipal landfill. Each municipality have their landfill, and therefore it is expected that the waste generated by the project will need to manage at the designated municipal landfill.
Gjirokastra municipality has a non-sanitary landfill, located in the north-west of the town, easily accessible (1.6 km away), used for urban waste disposal.
The non-sanitary landfill is also the Municipal dumping location for construction waste, but the contractor will remain in continuous communication with the Municipality for viable solutions of this issue. We hope that a large quantity of the material will be used for other purposes by the municipality or private citizens.

The urban waste issue along the segment and nearby, falls under the jurisdiction of the Municipality of Gjirokastra.
Currently, the management of waste along the segment by the Municipality consists of periodical picking up waste from existing bins. During site visits, the situation of urban waste was not found to be problematic.

Prior to start of works, the contractor must clean up the existing track along the segment from urban anddomestic waste.

5. Analysis of Possible Environmental Impacts

This section presents the anticipated environmental and social impacts of proposed subproject and also provides generic mitigation measures to minimize if not eliminate the potentially negative impacts, in order to ensure that the interventions under the proposed project do not cause environmental and/or social impacts beyond the acceptable level.

Positive Impacts of the Project

Overall environmental impacts are expected to be positive, as the Project activities will help to counter the risks of future hazards, will enhance the Viroi bridge safety and resilience to future Climate Change and Geological hazard events and to increase social and economic benefits through improved and more resilient infrastructure.

Anticipated Impacts of the Project

This ESMP has been prepared to mitigate potential environmental and social impacts due to "Viroi Bridge and Culvert" sub-project, during execution stage. The following are the possible environmental and social impacts of proposed project activities:

- **Soil Erosion and Contamination**

The following impacts on soil quality are envisaged due to proposed project interventions:

- Excavation of earth/cutting operations, clearing of vegetation and land levelling activities can destabilize the surrounding land surface.
- The unspent materials and debris produced from consumed up materials, if left as such and allowed to mix with soil underneath, can degrade the quality of receiving soils.
- Leakages of oils, lubricants, chemicals, and other similar substances from their storage sites and from engines of the generators, machines, equipment and vehicles can spoil the receiving soils and may undermine ability of the spoiled soils to support growth of vegetation and plants.

Mitigations

- The excavations should be kept limited as per approved engineering drawings and the top fertile layer of soil should be separated and reploughed after the completion of tasks.
- All spoils will be disposed of at designated site and the site will be restored back to its original conditions.
- Avoid use of heavy machinery on wet soil to prevent damage to soil structure.
- Oils, lubricants, chemicals, and other listed hazardous materials should be stored safely at their designated spots, enclosures or storerooms, which should be safe from rainfall and away from any potential source of fire. The WB EHS guideline on Chemical Hazards should be followed.
- All the unspent and left-over materials be completely removed offsite upon completion of construction and the site be restored to original or near to original condition.

- **Air Pollution**

- Air quality will be affected by fugitive emissions from construction site through machinery, asphalt plants, rough tracks, quarry areas and vehicular traffic etc.
- Emissions may be carried over longer distances depending upon the wind speed, direction, temperature of surrounding air and atmospheric stability. Air pollution can cause respiratory diseases.

Mitigations:

- Emissions and ambient air quality will be managed as national and WB EHS Guidelines for Air Emissions and Ambient Air Quality.
- Dust suppression techniques i.e. regular water sprinkling should be carried out to suppress excessive dust emissions.
- Vehicles used for construction should be tuned properly and regularly to control emission of exhaust gases.
- Construction workers should be provided with masks for protection against the inhalation of dust.
- Vehicle speed in the project area should be prescribed not more than 20 km/ hr and controlled accordingly.

- **Noise Pollution**

- Noise is envisaged to be generated from construction camps, heavy machinery such as bulldozers, excavators, stabilizers, concrete mixing plant, pneumatic drills and other

equipment.
- Noise generated by construction machinery is likely to affect sensitive receptors located within 500 meters of the project area.
- Health risks associated with exposure to continuous noise levels includes increase in blood pressure, hypertension, annoyance and sleep disturbances etc.

Mitigations
- Provide construction workers with suitable hearing protection like ear cap, or earmuffs and training workers in their use.
- Use equipment with lower sound power levels
- Install silencers for fans
- Installing suitable mufflers on engine exhausts and compressor components
- Limit the hours of operation for specific pieces of equipment or operations, especially mobile sources operating through community areas
- Locate the concrete mixing, and materials shipment yards at least 2 km from residential areas, particularly schools and health centers.
- Selection of up-to-date and well-maintained plant or equipment with reduced noise levels ensured by suitable in-built damping techniques or appropriate muffling devices;
- Heavy machinery like percussion hammers and pneumatic drills should not be used during the night
- Follow WB EHS Guideline on Noise management

➢ **Contamination of Surface Water Resources**
- The activities involved in this project may damage and contaminate water streams close the bridge. The sources of surface water pollution include run-off from construction sites with heavy sediments loads, spillage of fuels, chemicals & lubricants and construction wastewater.
- However, the impact will be temporary and restricted to the duration of construction and rehabilitation.

Mitigations:
- Avoid disposal of construction wastewater into water bodies
- Soil erosion should be avoided in watershed areas to protect water resources
- Surface run off from construction site should be diverted to contained area.
- Provision of septic tanks for construction camps.
- Prevent dumping of hazardous materials especially near Rivers and seasonal nullah.
- Contractor to prepare Emergency Response Plan to address the accidental spillage of fuels and hazardous goods.
- Follow WB EHS Guideline for any effluent generated from the project related activities

➢ **Removal of Vegetation/Tree Cutting**
- Some aspects of the subprojects may require trees to be cut, affecting the aesthetics of the areas and reducing the carbon sinks.
- Cutting of trees may lead to loss of habitats for some of the wildlife species. Some of the trees in the area may be of ecological importance and the identification of that particular ecosystem.

Mitigations:
- Alignments and site design to minimize the cutting of trees.

- The critical areas of animal breeding should be avoided.
- Compensatory number of trees should be planted of same species, in lieu of 1 affected tree.

➢ **Disturbance to Natural Habitat**

The project interventions will be undertaken in areas with presence of biodiversity and natural habitats. Project activities might create disturbance to these natural habitats during construction and operations. Care must be taken to protect the key natural features including trees and plants.

Mitigations:

- Site specific management plan of any protected area should be developed

➢ **Occupational Health and Safety**

- Worksite related accidents can result in injuries and casualties.
- Workers may be exposed to unsafe and/or unfavorable working environment due to storage, handling and transport of hazardous construction material.
- The construction activities and vehicular movement at construction sites and access service roads may also result in roadside accidents particularly inflicting local communities who are not familiar with presence of heavy equipment and machinery.

Mitigations:

- Contractor should strictly follow WB EHS Guidelines
- Provide OHS services (first aid, eye-wash station)
- Written emergency procedure for remote site
- Provide basic OHS training to workers
- Use of PPEs by workers must be ensured by the contractors.
- Timely public notification on planned construction works.

➢ **Fire Hazards**

- Fires may be resulted from bonfires and other sources or activities and this can lead to serious health and safety hazards.

Mitigations:

➢ Set up a mustering point in event of fire
➢ Designated bonfire place at the construction camp
➢ Contractor should develop an emergency preparedness and response plan (EPRP) following the WB EHS Guidelines

➢ **Traffic Issues**

- Traffic disruption during construction activity

Mitigations

- Follow WB EHS guidelines
- Traffic management plan has to be provided from the consultancy

➢ **Natural Hazards**

- Weather and climate change
- Flooding hazard
- Seismic Hazard
- Landslide hazard

Mitigations:

- Project Implementation Unit should develop an emergency preparedness and response plan (EPRP) following the WB EHS Guideline. The EPRP should at a minimum contain information specified in the WB EHS Guideline.
- Disaster management arrangements should be made for disaster prone areas identified measures for flooding hazard

➢ **Land Acquisition and Resettlement**

- The subproject interventions don't require land acquisition, since the project footprint will lay within public land.

- **Indirect Impacts**
- The project may have some indirect impacts on the sensitive environmental and social features of the project area.

Mitigations

- Due to the project activity location close to Viroi lake/streams waterbody, a management plan should be developed to protect the lake

The implementation of the subproject "Viroi Bridge and Culvert", is not expected to cause significantenvironmental impacts and those that are likely to occur should be easily mitigated through good construction practices and adequate environmental mitigation measures, described in the Environmental Management (Mitigation) Plan below.

The environmental impacts associated with this project are presented during the construction phase aswell as the operational phase.

5.1 Construction phase:

Project activities: The rehabilitation types of works will be road/bridge widening for the sidewalks, bridge replacement, culvert replacement, removal of the road surface, waterproofing the superstructure, removal of the loose concrete surface, reprofiling the structural concrete, construction of the parapet and/or traffic barriers, rainwater drainage etc.

Air quality and noise generation

Construction activities including general construction and transport to and from the site may cause dust emissions, temporarily reducing air quality in the area during the construction works.

Noise during construction will be caused as a result of loading and discharging of vehicles and material transport. Heavy machinery are expected to be used during construction for excavation, opening of canals for installation of drainage pipes. These will be expected to be manageable by applying measures and actions as presented in more details in the table 8

Geology and soils

Bridge construction interventions do not anticipate significant soil movement, thus limiting the potential for potential erosion hazards to the facility and activities to be deployed in the area. Earthworks will have no noticeable effect, modifying only one small part the current site.
Effects on land use and anthropic activities

The necessary works for the realization of the object do not carry any modification of the destination land use and area organization. All work will be carried out with due care, and in case they will be discovered archaeological elements, the relevant authorities will be notified.

Generation of construction waste

During the implementation of the works a certain amount of waste will be generated. The waste will be generated during works for site clearance, removal of inert materials, dirt, and concrete. The used asphalt will be handed over to the Municipality of Gjirokastra, which is the final beneficiary of this proposed segment. The Municipality will recycle and reuse it for small village roads rehabilitation.
This waste will have a negative visual impact if not managed or disposed of properly at a site assigned by the municipality of Gjirokastra. These will be expected to be manageable by applying measures and actions as presented in more details in the table 8.

Hydrology, surface and ground waters

The activities involved in this project may damage and contaminate water streams close the bridge or important water resources in the project areas. The sources of surface water pollution include

- run-off from construction sites with heavy sediments loads, spillage of fuels, chemicals & lubricants and construction wastewater.
- However, the impact will be temporary and restricted to the duration of construction and rehabilitation.

Habitat and biodiversity

No specific positive or negative effects on vegetation are expected.
The area does not present such features that it can constitute a place where the fauna can find ideal conditions for life and reproduction. This is mainly due to the extent and anthropic activities. The occasional presence of any wildlife (mainly insects, reptiles or rodents) is not considered significant in terms of effects as the area is an unnatural habitat for their life.

5.2 Operation phase:

During the operation phase, minor environmental impacts are foreseen.

All impacts foreseen to occur during the operation phase are detailed in the Environmental and SocialManagement Plan. Impact will mainly consist in noise disturbance to local population and workers caused by regular and scheduled maintenance works on the road.

6. Summary of recommended mitigation measures for the "Viroi Bridge and Culvert"

In addition to the impacts identified in the ESMP table and detailed corresponding mitigation measures, below are highlighted the mitigation measures that are considered most important due to the specificities of this project, based on the detailed design

6.1 Waste (recycling and disposal)

- ✓ Designation of temporary site for construction waste or arrangements for transportation need to be provided and in place before works commence as this will have impact on communities around

the road and the local transportation mode;
- ✓ Prior to start of works, all urban and domestic waste along the segment, including slopes,must be cleaned up by the contractor.

6.2 Chance finds items of cultural and historical interest

- ✓ According to the Albanian law, in case of any chance findings during excavation and general works, the works will cease immediately, the area will be secured and the relevant authorities will be informed within three days of said finds. The authorities will have fifteen days to respond and indicate what measures need to be taken to proceed with the works. Excavations during the construction phase will be supervised by archaeologists of the Institute of Cultural Monuments.

6.3 Water contamination

- ✓ Avoid disposal of construction wastewater into water bodies
- ✓ Soil erosion should be avoided in watershed areas to protect water resources
- ✓ Surface run off from construction site should be diverted to contained area.
- ✓ Provision of septic tanks for construction camps.
- ✓ Prevent dumping of hazardous materials especially near Rivers and seasonal nullah.
- ✓ Contractor to prepare Emergency Response Plan to address the accidental spillage of fuels and hazardous goods.
- ✓ Follow WB EHS Guideline for any effluent generated from the project related activities

6.4 Other concerns

Health and safety issues for the work force and the community are part of the Environmental and Social Management Plan for this subproject, tackling the issues identified and mitigation measures, as follows:

- ✓ Labour and working condition issues
- ✓ Disease prevention and health examinations
- ✓ Creation of additional workplaces
- ✓ Workforce accommodation
- ✓ Workers safety on site

Mitigation measures for labour and working conditions include:

- Preventative health examinations for workers, training on disease prevention, provision of education/ information and health related to reduce sexually related disease.
- Informing of local population on vacancies. Maximum possible involvement of local labour
- Accommodation needs will be assessed in all worker camps. Ensure standard for accommodation
- provide workers with safety instructions and protective equipment (glasses, masks, helmets, boots, etc);
- Provision of construction workers training
- Organization of bypassing traffic warning signs installed, number of accidents

recorded, regarding vehicle and pedestrian safety when there is no construction activity

The terrain for the road construction is in the vicinity of water presence and will require specific Occupational Health and Safety aspects to be covered/implemented by the contractor and monitored by ARA).

The Environmental and Social Management Plan also includes a monitoring plan, which details monitoring indicators specifically for health and safety, in addition to environmental issues.

The generic impact and the proposed mitigation guidelines to address significant impact are presented in table below.

Table 8: Environmental and Social Impact and Mitigation

Environmental, Social and Health Impact	**Proposed Mitigation Measures**
Air Quality	Construction stage • Soil/sand and cement loads in transit to be well covered to reduce dust levels rising above acceptable levels. • Stockpiles of exposed soil and unpaved access roads to be sprinkled with water to regulate dust levels. • Use of good quality fuel and lubricants in vehicles, equipment and machinery. • Ensure that heaped sand delivered for construction works is covered with tarpaulin to prevent wind and water transport of soil particles • Engines of vehicles, machinery, and other equipment to be switched off when not in use. • Regular scheduled maintenance and servicing to be carried out on all vehicles and equipment to minimize exhaust emissions. • Construction and civil works to be phased out or controlled to reduce emissions from equipment and machinery in use. Operational stage • Adequate road signs to be planted on dust roads to limit vehicular speeds • Properly designed and constructed speed ramps on access roads
Vibration and Noise	Construction phase • Excavation and construction activities to be carried out during daylight hours. • Concrete mixer and other construction machines and equipment to be located away from sensitive environmental receptors. • Construction equipment and machinery to be regularly maintained and serviced to reduce noise generation when in use. • Engines of vehicles, equipment and machinery to be turned off when not in use. • Earthworks and other construction activities to be phased out or controlled to reduce noise generation during construction • Neighboring residents and commercial activities to be notified in

	advance of the project before contractor mobilizes to site • Work will not be carried out during sensitive times/ periods of day/ year to avoid disturbance to fauna or water regime. Operational phase • Visible signs to be provided at suitable locations to warn of excessive noise which may disturb fauna or other activities
Visual Intrusion	• Public to be well informed of upcoming project using appropriate signages and display boards prior to contractor accessing sites; • Construction activities to be done in sections to reduce impacts of change and visual intrusions to the general public. • The construction sites to be hoarded off from public view. • Good housekeeping measures, such as regular cleaning, to be maintained at the construction site. • Ensure an acceptable post-construction site as per provisions in the contract. • Associated facilities will be properly designed and constructed to blend with the natural environment
Water Resources Pollution	Construction stage • Works not to be executed under aggressive weather conditions such as rains or stormy conditions • No solid waste, fuels, or oils to be discharged into any section of a waterway. • Construction to be done in sections to minimize impacts and exposure of soil. • Excavated materials and silt, which cannot be used will be disposed of at appropriate sites as per the Waste Management Plan prepared by contractor and approved by the municipality. • Temporary sediment barriers to be installed on slopes to prevent silt from entering water courses. • Maintenance, fueling and cleaning of vehicles and equipment to take place at off-site workshop with adequate leakage prevention measures Operational stage • Adequate sanitary facilities to be provided at sites to avoid discharge of waste into water bodies • Host communities to be provided with sufficient toilet facilities and sensitized to use these to discourage open defecation
Generation and disposal of waste	Apply the principles of Reduce, Recycle, Reuse and Recover for waste management through the following actions: Construction phase • Excavated earth materials will, as much as possible, be re-used for back filling purposes to reduce waste • Excavated solid waste from the drain channel that are unsuitable for backfilling will be collected onsite, allowed to drain and collected for disposal at approved landfill sites. • Ensure that the required amounts of construction materials are delivered to site to reduce the possibility of the occurrence of excess material • Provide bins on site for temporary storage of garbage such as lubricant containers, drinking water sachets and carrier bags/packaging materials. • Ensure judicious use of construction materials such as pipes, laterites,

	sand, etc. to reduce waste. • Contractor to work according to a prepared and agreed Solid Waste Management Plan. Operational phase • Waste collection bins to be sited at vantage points to serve the general public • Warning signs to be posted at suitable locations against littering with possible sanctions • Proper arrangement with waste collection companies through the municipality to regularly collect and dispose of solid waste
Public Health, Safety and Security	Construction phase • Works on exposed trenches and earth materials will, as much as possible, be completed before new earth dug and trenches are created. • Work areas to be hoarded off adequately to avoid inquisitive trespassers especially children. • Warning signs to be posted around work areas to discourage trespassers • Contractors to maintain adequate security at construction sites to avoid pilfering or vandalizing of property • Visibility to be ensured in the night-time by providing adequate lighting Operational phase • Encourage community leadership to form watch committees to improve security • First aid facilities to be available at all sites with suitable arrangements with local health facilities to deal with emergencies
Occupational Health and Safety	Construction phase • Engage experienced artisans for construction works. • All workers should be given proper induction/orientation on safety. • The contractors will have a Health & Safety Policy and procedures to guide the construction activities. • Regularly service all equipment and machinery to ensure they are in good working condition. • Ensure there are first aid kits on site and a trained person to administer first aid provide and enforce the use of appropriate personal protective equipment (PPE) such as safety boots, reflective jackets, hard hats, hand gloves, earplugs, nose masks, etc. • Proof of competence for all equipment/machine operators will be required and established through inspection of valid drivers or operator's license or documents. • Comply with all site rules and regulations • Apply sanctions where safety procedures are not adhered to. ✓ Site meetings should create awareness on OHS. Operational phase • First aid facilities to be available at all sites with suitable arrangements with local health facilities to deal with emergencies
Land acquisition and compensation issues.	• Will not take place under the subproject
Maintaining livelihood	• Ensure appropriate compensations are paid to PAPs as defined in the RPF • Employment and other opportunities to be given to local communities as

	much as possible.
Natural Hazard such as: Weather and climate change Flooding hazard Seismic Hazard Landslide hazard	• PMT/Contractor should develop an emergency preparedness and response plan (EPRP) following the WB EHS Guideline. The EPRP should at a minimum contain information specified in the WB EHS Guideline. • Disaster management arrangements should be made for disaster prone areas
Fire Hazard	• Set up a mustering point in event of fire • Designated bonfire place at the construction camp • Contractor should develop an emergency preparedness and response plan (EPRP) following the WB EHS Guidelines • Fire extinguishers should be installed at different locations in the project area

7. Implementation arrangements for ESMP

All mitigation measures listed in the ESMP table at the end of this document will be monitored during implementation of works.

This ESMP will be part of bidding documents and an annex to the works contract. The measures foreseen in the ESMP will be implemented by the contractor and will be frequentlychecked and reported to ARA by the supervisor.

The Albanian Road Authority will be the contracting authority for the implementation of this subproject, which will be funded by the World Bank. The responsibilities of ARA during implementation include, among others, the fulfillment of the criteria set out in the Environmental and Social Management Plan. The PMT unit consisting of dedicated environmental and social specialists will monitor the work site monthly and provide a check list for each site visit on the fulfillment of criteria as set out in the ESMP plan. The ARA environmental unit will prepare monthly environmental reports, tackling all problems noted during the site visits and providing recommendations and measures to be taken.

An environmental statement is required by Albanian Law and therefore periodical monitoring and reporting must be prepared and submitted to the National Environmental Agency, as specified in the statement.

Construction works will be supervised by a licensed supervisor for this type of works, as well as by the Municipality of Gjirokastra. The supervisor's staff will include also an environmental, health and safety specialist who will check the implementation of the ESMP, weekly.

However, since environmental and social instruments are considered an integral and important component during implementation of World Bank financed projects, monitoring and reporting will be performed as requested.

7.1 ESMP Capacity building

The construction operator and/or supervisor must be fully aware of the ESMP provisions and trained

regarding its implementation. The ARA staff will provide training on ESMP implementation and reporting, in line with the World Bank guidelines and the Environmental and Social Management Framework.

8. Reporting and monitoring

Monitoring plans are developed to track E&S progress at subproject activity level. The proposed plans are presented in the respective table under Annex 2. The table confirms the verifiable indicators as well as responsibilities for the various monitoring actions. The monitoring issues at the ESMP level include confirmation of the dissemination of the ESMP document as well as capacity building and training activities.

The responsibilities for monitoring and evaluation are shared between the ARA and the MoIE. ARA is responsible for record-keeping, management and internal monitoring of the GRM as the committee will report directly to the Head of ARA or to an assigned specialist. The MoIE is responsible for external monitoring and evaluation of the project implementation through the creation of an Independent Monitoring Unit.

The supervising engineer/contractor will report on the implementation of the ESMP to the ARA monthly as well as on the implementation of works. The report must include a chapter on environmental performance, based on ESMP items. The content of the report will be agreed with ARA In case of accident or negative impact on the environment (not predicted by the ESMP) the supervising engineer will report to ARA immediately.

- **Internal monitoring**

- **Environmental Monitoring**

The physical environmental monitoring will be carried out at different stages of project to ensure compliance with physical environmental standards and to avoid any damage to the physical environment due to project activities. The monitoring plan attached to Annex 2 has identified any discrepancies with the environmental standards and urge the responsible institutions/authorities to take necessary actions to control/avoid environmental damage.

The responsibility for onsite environmental monitoring of contractor activities will be the beneficiary (LGUs) and the ARA. The LGUs and ARA PMT designated responsible person will conduct regular monthly on- site monitoring of civil works to verify contractors' adherence to the requirements set out in the specific documents, EIA/ ESMP, to identify any outstanding environmental issues or risks, and to ensure proper application of the prescribed remedial actions. In case of recorded non-compliance with ESMP, the ARA will instruct contractors on the corrective measures and closely monitor their further progress.
Where in addition, there will be a supervision consultancy firm appointed for overall supervision of project construction activities on ground, the recruitment of environment and social experts will be a requirement under the contract of the supervision consultant. The supervision consultants will be responsible for all aspects of the project including environment and social compliance and reporting to the ARA PMT, while the overarching monitoring responsibility and reporting to the World Bank will remain with the ARA PMT. The ARA PMT team will confirm the performance of the supervision consultants by regularly visiting the project site during the implementation stage and providing guidance on corrective measures on any lapses as required.

The municipalities/ regional environmental agencies, will also monitor that the environmental conditionality during implementation is met, based on the legislative requirements arising from the

environmental statement. They will need to report to the Ministry of Environment and Tourism/National Environmental Agency as requested in the statement as well to ARA.

The World Bank team will oversee the implementation of the environmental and social standards for the overall project and each subproject. They will perform periodic monitoring missions as well as ad-hoc site visit as necessary. The World Bank teams will approve Environmental and Social Management Plan (ESMP) and follow up on its implementation.

The Ministry of Tourism and Environment role as the national authority partnering this project with regards to environmental issues, will be to monitor the implementation of the environmental statement for each subproject when it is needed.

- **Social Monitoring**

The ARA will be charged with the task of monitoring and evaluation of the PAPs, procedures related to their needs and grievance. ARA/PMT will be final responsible for two procedures:

- ✓ Monitoring the Grievance Committee

Internal Monitoring Actions are not limited, and they can include participation in the processes etc. Reports of internal monitoring will be prepared and submitted to ARA representative and shared with other specialists and partners.

9. Public information and disclosure

Consultation with Affected Populations

Consultation is the process by which information is gathered to make decisions that impact the community. Community members are informed, connected and participated in services and activities relevant to them, and feel they have a role to play. For effective consultation to occur, communities need to be informed and engaged. This occurs when there is equal access to information, good ongoing information flow, consultation and participation among the stakeholders.

Inform: The project will provide information to the community with balanced and objective information to assist them in their understanding of the BRB Program alternatives and opportunities.

Consult: The project implementation unit will obtain feedback from the community on analysis, alternatives and decisions. Usually involves developing a preliminary or preferred position before releasing it for community input.

Involve: This may involve the community in various stages of the project in seeking specific answers to issues as opposed to broad general feedback sessions. Methods may include focus groups, workshops, advisory committees and online consultations.

Collaborate: Community collaboration may be fostered through steering committees, negotiation tables, online consultations, policy roundtables, citizen panels, search conferences and formal and informal partnerships.

Communication with the affected persons, as well as with other community members who will express interest in the project, will be maintained throughout the process from project design, implementation to closure. The community will be informed of grievance management

arrangements and given contacts of persons assigned to manage issues and grievances. Also, an up-to-date information needed to ensure public awareness and engagement on project activities will be provided through the ARA website and social media

Consultation Process on the ESMP

The objectives of the public consultations are:

- To inform the public and stakeholders about the objectives and project developments and the expected of environmental and social effects.
- To collect information and data from the public and/or the communities that will be affected by the project
- To ensure participation of the public and local communities in process and support for the project

The right of the public to be informed is a mandatory process requested by the Aarhus convention, of which Albania is a signatory party.
This project requires an environmental approval, but public consultation for EIA is not mandatory by Albanian law. However, in line with the World Bank ESF, the draft ESMP will be disclosed in local language in Gjirokastra also (Gjirokastra municipality and ARA website). Feedback that is gathered based on the public consultation, will be taken into account in the latest version of the ESMP.
Affected communities will be consulted within a structured and culturally appropriate manner according to the Stakeholder Engagement Plan (SEP). All PAPs will be consulted as a means to establish whether those activities have adequately incorporated affected communities' concerns. In order to accomplish this, all E&S instruments will be made available to the public for a reasonable minimum period, with active efforts made to reach out to and engage the stakeholders in sub-project preparation and implementation process.
The Borrower will engage with stakeholders as an integral part of the project's environmental and social assessment and project design and implementation, as outlined in ESS1.
The site specific ESMP and/or EIA prepared for the "Viroi Bridge and Culvert"will be disclosed.

The Borrower will maintain and disclose as part of the environmental and social assessment, a documented record of stakeholder engagement, including a description of the stakeholders consulted, a summary of the feedback received and a brief explanation of how the feedback was taken into account, or the reasons why it was not.

The public consultation meeting minutes will be published on ARA website, but also other electronic and printed media are used to ensure wide participation of stakeholders, including local newspapers, ARA official email, etc.

Grievance Redress Mechanisms
Grievance Redress Mechanism (GRM) provides a mechanism to address concerns and grievances, mediate conflicts and cut down lengthy litigations which delays such infrastructural projects. This mechanism serves as a way to meet requirements, prevent and address community concerns, reduce risks, and assist larger processes that create positive social change. The major objective of GRM is to implement and maintain a procedure for handling environmental and social concerns of the project stakeholders. This procedure will include a redress mechanism scaled to the project's identified risks and adverse impacts, focusing on stakeholders.

Registration/receipt of Complaint. The PMT will establish a GRM center at the community/town as part of the consultation undertaken for the project. The GRM center will be accessible to project affected persons and tourists and other stakeholders. The GRM will outline clear roles, timelines,

procedures and responsibilities. It will have an in-built monitoring mechanism to check on responsiveness to complaints or grievances lodged. The different forms of receiving complaints will be clearly described together with the different stages of going through the process. The GRM will work with Local Grievance Committee (LGC) to resolve solutions.

Determining and implementing the redress action. When a grievance/dispute is recorded, the Grievance Redress Committee (GRC) will be called into action, and mediation meetings will be organized with interested parties. Minutes of meetings will be recorded. The GRC will first investigate the foundation of the grievance and then determine the redress action in consultation with the complainant and concerned party if necessary. Otherwise, the grievance redress team will communicate to the complainant on the acknowledgement of the grievance, the redress action proposed and the timeframe for implementation

Verifying the redress action. The grievance redress team will visit the affected property site or get in touch with the complainant to confirm that the redress action is carried out. If the complainant is dissatisfied with the outcome of the redress proposal or action, additional steps may be taken to resolve the issue or reach an amicable agreement. Verification should be completed within one week of execution of the redress action.

The GRC will maintain a record of grievances received and the result of attempts to resolve the grievances and include this information in the monitoring and evaluation report. The Expropriation Law provides for an appeals process against the proposed award for compensation. In addition, the Urban Planning and Construction Police laws allow for administrative appeals against a decision for demolitions of illegal construction. Further appeals can be made to the district courts. The Office of the Ombudsman in Tirana receives complaints from citizens against government actions that affect their rights. The project staff will also play a role in resolving grievances. Albania has passed a transition period in its local government, due to the changes coming from the Administrative-Territorial Reform, which brought radical changes to the functioning of the LGUs. Considering the changes of the local government and the steps explained above, the grievance committee will be created within the Relevant Municipality or any other chosen local institution.

In conclusion, this subproject falls under Category B projects, since its environmental and social impacts can be managed through implementation of adequate mitigation measures described in the following Environmental and Social Mitigation Plans and Monitoring Plans.

Annex 1:

10. Environmental and Social Management Plan

A. Environmental and Social Mitigation Plan

Phase	Issue	Mitigating measure	Cost (in EUR)		Institutional responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
Design Phase	*Protection of trees*	Carefully plan design to avoid tree cutting. In the case it is necessary obtain a permission from the competent authority.	Designer contract		Designer/ARA	Designer/ARA	No trees will be cut
Design phase	*Increase of traffic, access difficulties*	Prepare traffic management plan. The plan is to be approved by the competent authority (e.g. Ministry of Interior or local traffic police)	Designer contract		Designer/ARA	Designer/ARA	
Pre-construction	*Involuntary resettlement*	Preparation of Resettlement Action Plan in case involuntary resettlement is needed	Included in the project cost		ARA/Designer/municipality		ARA/designer to prepare resettlement plan and municipality to follow up
Pre-construction	*Accidental situations*	Prepare an Emergency Preparedness Plan (that includes procedures in the case of spills)	Included in the project cost		ARA/Designer/municipality		ARA/designer to prepare resettlement plan and municipality to follow up
Pre-construction	*Waste management*	Identifying licensed landfills for major waste streams – hazardous and nonhazardous waste	Included in the project cost.		ARA/Designer/municipality		ARA/designer to prepare resettlement plan and municipality to follow up
Pre-construction	*Cleaning up of the work site from inert materials, dirt, concrete, old asphalt, etc*	In consultation with the Municipality of Gjirokastra, provide an appropriate method forrecycling construction materials and scrap metal materials. Waste from cleaning of site will be separated and transported and processed/disposed on the licensed landfills.	NA		ARA/Municipality of Gjirokastra	Contractor	As provided in BOQ
Design	*Permits*	All legally required permits (construction, environmental and other) have been obtained before works commence. Contractors and subcontractors have valid operating licenses.	NA	Included to project cost	ARA, Municipality and contractor		

Phase	Issue	Mitigating measure	Cost (in EUR)		Institutional responsibility		Comments
			Install	Operate	Install	Operate	(e.g. secondary impacts)
Design	*Organization of traffic during construction*	Traffic has been organized through the temporary Traffic Management Plan so that there is minimal interference and maximized safety of participants. Traffic signalization and safety measures are prepared. Safe pedestrian passages are provided.	NA		ARA, Municipality and contractor		
Design	*Notification of public and relevant institutions*	All relevant institutions (e.g. traffic police, construction, environmental and H&S inspectorate, etc.) has been notified on the upcoming works. The public has received timely and relevant information through appropriate means and its geographical and temporal scope.	NA	Included to project cost	ARA, Municipality and contractor		
Design	*Materials supplied* from illegal or unauthorized sites may exert pressure on the natural resources	use existing and licensed stones quarries; requirement for official approval, environmental permit and/or valid operating license (whichever is required within the national regulation)	NA	NA	stone quarry	Contractor to obtain all permits	As required in the environmental permit To be specified in bid documents.
Design	*Landscape and nature protection*	No trees are foreseen to be cut. Special permission from ARA/WB will be required in case of unavoidable tree- cutting	Included to project cost	Included to project cost	Contractor	Contractor	
Design	*Water and soil protection, accidents*	Emergency Preparedness Plan that includes spill/leak control action plan and procedures for accidents and accidental spilling/leaking.	Included to project cost	Included to project cost	Contractor	Contractor	
Design	*Biodiversity protection*	Arrange for works to occur outside breeding season of vulnerable or endangered species. Road does not enter marshland. AdviseMoTE and other competent authorities if any specific measures need to be included e.g. construction of animal passages.	Included to project cost	Included to project cost	Contractor	ARA	
Design	*Public participation*	The relevant comments from (i) preliminary design and (ii) ESIA public consultations	Included to project	Included to	ARA, designer	ARA	

Phase	Issue	Mitigating measure	Cost (in EUR)		Institutional responsibility		Comments
			Install	Operate	Install	Operate	(e.g. secondary impacts)
		will be addressed in the final design and revised ESIA.	cost	project cost			
Design/Construction	*Damage to infrastructure*	The works on sections transecting utility infrastructure will be coordinated with utility services providers (electricity, sewerage, water supply, telecommunications, etc.). Precise positions of present infrastructure/installations will be determined before works on a particular section commence.	Included to project cost	Included to project cost	Contractor	Contractor	
Design/Construction	*Soil stability*	Appropriate geotechnical studies are carried out.	Included to project cost	Included to project cost	Contractor	Contractor	
Construction Phase							
Construction	*Dust generated* during transport of stone, aggregate or other materials	wet or covered truck load. Unload trucks while preventing dusting, e.g. avoid free-falling and use dust protection sheets. Sites must be maintained in tidy condition, Keep drop height to the minimum.	NA	NA	Construction Contractor	Construction Contractor	As required in the environmental permit To be specified in bid documents.
Construction	*Dust* generated during construction works	Water construction site and material storage sites as appropriate. Use dust screens if needed. Adjust the speed During pneumatic drilling/compaction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at the site. The surrounding environment (at last one road line) shall be kept free of debris to minimize dust. Speed of vehicles is limited to 40km/h. Road is kept clean.	NA	NA	Construction Contractor	Construction Contractor	As required in the environmental permit To be specified in bid documents.
Construction	*Air pollution and noise* from machinery on site, transport and	Do not allow vehicles or machinery to idle on site.	Minimal, included in	Minimal, included in the	Construction Contractor	Construction Contractor	

Phase	Issue	Mitigating measure	Cost (in EUR)		Institutional responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
	combustion on site	Use attested and proper equipment only. No open burning or combustion of any sort is allowed on site.	the project cost	project cost			
Construction	*Noise disturbance* to humans and animals	Check that noise emitted during rehabilitation of the road does not exceed the national norms set out in regulations (85 dB for urban environment, outside as defined in the national legislation). During operations, the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed at site camp. No night work will be carried out unless with a special permission from competent authorities and for a limited period of time. Night works in protected areas need permission from the NAPA. Works will be avoided during the tourist peak season (July-August)	minimal, included in the project cost	Minimal, included in the project cost	Construction Contractor	Construction Contractor	To be specified in bid documents.
Construction	*Traffic* that may create noise, vehicle exhaust, road congestion on and around the site	Arrange for material transport at hours of minimum traffic. Use alternative routes to minimize traffic congestion. Works to be performed alternatively on half of the road length or in batches in order to allow access to pass	NA	minimal, included in the project cost	Construction Contractor: Transport manager and Truck operator	Construction Contractor: Transport manager and Truck operator	
Construction	*Traffic disruption* during construction activity	Traffic management plan with appropriate measures to redirect traffic and is easy to follow (signs and signaling); in cooperation with the local authorities, include traffic police. Regularly inform the local communities and traffic informational agencies of traffic disruptions. Ensure alternative access to the key locations (schools, hospitalists.)	as specified in bidding documents, included in the project cost	minimal, included in the project cost	Construction Contractor	Construction Contractor	Measures to be included in the Traffic management Plan (Bid documents)
Construction	*Vehicle and pedestrian safety*	Appropriate lighting and well defined safety signs. Timely announcement in the media when construction will take place. Safety passages for pedestrians are ensured if needed.	as specified in bidding documents, included in the project	minimal, included in the project cost	Construction Contractor	Construction Contractor	

Phase	Issue	Mitigating measure	Cost (in EUR)		Institutional responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
			cost				
Construction	*Depletion in non-renewable resources and producing stress to the environment*	Use raw materials (sand, gravel, stone) only from suppliers that have valid licenses and concessions issued by the competent authorities.	Included to project cost	Included to project cost	Contractor	Contractor	
Construction	*Risk from surface soil erosion and landslides*	Inspect the site for potential landslides and surface erosion. Topsoil from the work's area will be stripped and stockpiled for later use in landscaping the site; The surface runoff management will be applied in the entire length of the road; Cleaning the channels, culverts/ box culverts and having a good maintenance of drainage system will ensure effective protection of the road from erosion and sedimentation; Slope's systematization will be carried out in a way that will not affect the effectiveness and efficiency of protection from erosion. Where works are necessary, they will be undertaken in such a way to minimize the occurrence of soil erosion, even for short periods. They will be rehabilitated (greened) as soon as possible. Stockpiles will not be placed on these lands. During the works necessary measures preventing erosion and landslides will be taken (use of silt fences, hay bales and other appropriate). Vehicles and machinery manipulation and movement space will be defined in advance and clearly marked. In the case of risk form landslides, apply adequate measures, such as geotechnical	Included to project cost	Included to project cost	Contractor	Contractor	

Phase	Issue	Mitigating measure	Cost (in EUR)		Institutional responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
		assessment and design, installation of gabions, reinforcement measures, etc.					
Construction	*Water and soil pollution* from works, management and usage of construction machines	Isolate all works from the watercourses. Where necessary use water pumps, filters and other equipment to prevent turbidity. Working site run-offs with possible charge with suspended matter should be filtered before discharging to natural flows. Care is taken not to mix topsoil and subsoil during stripping. Topsoil must be reused where possible. Soil stripping is carried out only in necessary areas. Install leak control equipment Have a leak control mechanism in place (bunds, leak proof containers, containment systems, etc.) and emergency interventions/procedures to control spills. The site will establish appropriate water and sediment control measures such as e.g. silt fences to prevent water sediment from moving off site and causing excessive turbidity in the channel. Collectors will be temporary adapted to avoid surface water dispersion in case of watering of sand or gravel to control the dusts. Construction equipment and vehicles (regular maintenance and checkups of oil and gas tanks, machinery and vehicles will be performed) can be parked (manipulated) and washed only on asphalted or concrete surfaces with surface runoff water collecting and treatment system. There will be no discharge of wastewaters to natural recipients without a prior treatment and it nth water protected area,	as specified in bid documents, , included in the project cost	50 / month, included in the project cost	Construction Contractor	Construction Contractor	It is recommended that stones and other materials that will be removed, to be reused and recycled at the advice of the Institute of Cultural Monuments and the municipality.

Phase	Issue	Mitigating measure	Cost (in EUR)		Institutional responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
		there will be none. On site painting or applying protection coatings should be done in the way that annuls the risk of leaking or spilling to waters (e.g. using trays). Sanitary facilities will be provided for workers and no wastewater will be discharged to the natural recipient without an appropriate treatment. There will be no unauthorized use of water resources. The exploitation will require obtaining a special permit from the competent authorities.					
Construction	*Pollution* from improper disposal of waste materials	Temporarily dispose earth and mineral waste material at appropriate designated location protected from runoff, in cooperation with the municipality of Gjirokastra. The mineral waste (topsoil andother) should be reused or landfilled/processed in the licensed locations/plants. No waste can remain on temporary or working site upon the completion of works. For temporary, short storage of wastes, select an area on impermeable surface with the runoff collection system, away from any potential leaking into the watercourse. Sufficient number of waste containers for separate collection and of adequate volumes/capacity is provided. All waste, including construction debris and excavated materials will be regularly and timely transported off site and managed through a licensed agency/company and disposed of at a licensed landfill/processing plant for the type of waste.	minimal, included in the project cost	As specified in BOQ, included in the project cost	Construction Contractor	Construction Contractor	Most of the waste generated can be recycled.

Phase	Issue	Mitigating measure	Cost (in EUR)		Institutional responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
		Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. General refuse, recyclables, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. Whenever feasible, the contractor will reuse and recycle appropriate and viable materials All hazardous and toxic wastes (e.g. oil and oiled materials) will be separately collected, in bins which are leak-proof, and will be handled over to the authorized management and disposal to the licensed landfill/processing company, receipts for which shall be kept. Waste manifests/records that inform on disposal/processing location, amounts, waste type and other will be kept. All waste types will be separately collected and not mixed (hazardous with non-hazardous and different hazardous waste types). Disposing any type of liquid or solid waste to the natural surrounding (water particularly) is strictly forbidden.					

Phase	Issue	Mitigating measure	Cost (in EUR)		Institutional responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
Construction	*Potential contamination of soil and water* from improper maintenance, improper material storage, and fueling of equipment	Organize and cover material storage areas; Proper handling of lubricants, fuel and solvents by secured storage; ensure proper loading of fuel and maintenance of equipment; collect all waste and dispose to permitted waste recovery facility or licensed landfills. In the case of leakage, the contaminated soil should be collected and as hazardous waste disposed as hazardous waste. The waste should be collected in separate and leak proof containers. Have a leak control mechanism, procedures and equipment (e.g. absorbents, impermeable bags, spill fences, etc.) in place and emergency interventions to control spills. Store all materials in original containers in adequate locations, which allow for leak-proof storage (e.g. use of bunds). Ensure workers are familiar with safety regulations and storage requirements for each product. Hazardous substances (including hazardous waste) must be kept in appropriately labelled leak-proof containers during temporary storage. Either the container or the storage room must be equipped with the secondary containment system. No large amounts of fuel will be kept on the site. In the case of re-fuelling on site, precautionary measures will be taken to prevent accidental spilling (e.g. use of trays). In the case of any run-off coming from works area possibly contaminated by hazardous substances, it shall be collected on site to a temporary retention basin and transported to an adequate treatment plant. Soil work and management will take into	minimal, included in the project cost	minimal, included in the project cost	Construction Contractor	Construction Contractor	The municipality of Gjirokastra mustprovide a written permission for an appropriate waste landfill before theconstruction works may commence.The selected landfill must be licensed in lien with the national regulation and hold all required permits (construction, environmental, etc.).

Phase	Issue	Mitigating measure	Cost (in EUR)		Institutional responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
		account metrological data and conditions when planned and carried out (e.g. avoid works during heavy rains). No water can be discharged to the surrounding nature without prior treatment.					
Construction	Protection from flooding	Clean culverts, ditches and other drainage elements to ensure sufficient uptake capacity. If possible, in cooperation with other relevant agencies and institutions remove other causes for flooding (e.g. clogged canals).	minimal, included in the project cost	minimal, included in the project cost	Construction Contractor	Construction Contractor	
Construction	Interruption of surface and underground drainage patterns during construction, creating of standing water.	In line with approved design, maintain natural drainage pattern.	minimal, included in the project cost	minimal, included in the project cost	Construction Contractor	Construction Contractor	
Construction	Workers health and occupational safety	Provide workers with safety instructions and protective equipment (glasses, masks, helmets, boots, et complying with the H&S international best practices. The protective equipment is worn at all times. Workers are adequately trained/certified and experienced in using dangerous equipment and for higher risk positions/work. All work will be carried out in the safe and disciplined manner designed to minimize the impacts and risks for workers, surrounding communities and the	minimal, included in the project cost	minimal, included in the project cost	Construction Contractor	Construction Contractor	

Phase	Issue	Mitigating measure	Cost (in EUR)		Institutional responsibility		Comments
			Install	Operate	Install	Operate	(e.g. secondary impacts)
		environment. In case of accidental disruption, immediately stop all works and remove the cause of accident (e.g. stop the leakage), notify proper authorities and emergency remediation of damaged network in line with the requirements of Law on civil emergencies. Any incident will be reported to the project manager immediately and regularly to supervising engineer. During cleaning, ensure workers are equipped with protective equipment. Workers will avoid direct contact with contaminated sites.In the case of soil of water pollution, the contaminated soil or water should be collected and taken for the appropriate treatment/disposal (as hazardous waste).					
Construction	Works site organization	Construction sites are fenced off or protected by barriers, tape-marks and informational posts and warnings. Construction site is equipped with proper sanitary facilities (chemical toilets) and resting areas for workers; medical kit and fire equipment is present at the site with use trained employees. The site and construction camp remain inaccessible to public. Appropriate sign postage is in place informing workers of key rules and procedures to follow. Potentially hazardous areas (trenches, manholes, excavations and other) must be protected/covered and clearly marked.	Included in the project cost	Included in the project cost	Construction Contractor	Construction Contractor	
Construction	Impacts on flora and fauna	The working zone must be reduced to space that is necessary. The clearing of vegetation shall be kept to a minimum, with replacement planting planned and conducted, and shall be done in coordination with the measures for	NA	, included in the project cost	Construction Contractor; Forestry Directorate, Municipality of Gjirokastra		As specified in the environmental permit and technical specifications According to the national environmental regulations, for 1 tree that is cut, 3 must be planted

Phase	Issue	Mitigating measure	Cost (in EUR)		Institutional responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
		protection of habitats and river banks. Project activities will not include use of pesticides. There will be no disturbance of any kind of animals. Collection of timber, firewood, herbs, forest products and poaching is strictly forbidden. Hunting is strictly forbidden. Only native species are used in greening and site rehabilitation; Site is restored to previous condition.					
Construction	Chance finds items of cultural/historical interest.	In the case of chance findings, ensure all works are stopped, the area will be secured and the relevant authorities (Ministry of Culture/Regional Cultural Directorate) will be informed within three days of said finds. The authorities will have fifteen days to respond and indicate what measures need to be taken to proceed with the works.	NA	In case of chance finds, the project owner will pay for all required investigations	Construction Contractor, ARA, municipality of Gjirokastra		Albanian legislation details necessary actions in case of chance find items.
Construction	**Labor and working conditions** a) Disease prevention and health examinations b) Creation of additional workplaces c)Workforce accommodation	a) Preventative health examinations for workers, training on disease prevention, provision of education/ information and health related to reduce sexually related disease. b) Informing of local population on vacancies. Maximum possible involvement of local labor. c) Accommodation needs will be assessed in all worker camps. Ensure standard for	As specified in BOQ, included in the project cost	minimal, included in the project cost	Contractor, ARA	Contractor	It is a legal requirement to provide protective equipment for safety at work

Phase	Issue	Mitigating measure	Cost (in EUR)		Institutional responsibility		Comments (e.g. secondary impacts)
			Install	Operate	Install	Operate	
	d)Workers safety on site	accommodation. d) provide workers with safety instructions and protective equipment (glasses, masks, helmets, boots, etc); b) Provision of construction workers training. c) Grievance mechanism for workers to raise reasonable workplace concerns (comments or complaints).					
Construction	*Grievance issues*	Establishment of a grievance redress mechanism			ARA	Municipality	
Construction	*Damage to electricity, water, sewerage and other infrastructure*	During works near and on utilities' installations (e.g. electricity, water supply, sewerage, etc.) the services may be shut down or limited. Local population will be informed and, in the case of longer periods of shutdown, alternative supply will be ensured. When working in vicinity of electrical and other installation, to avoid damages, the works will be manual with light equipment and using no machinery and in consultations with the owner of utilities (e.g. water company, electricity company, IT, etc.).	Included to project cost	Included to project cost	Contractor	Contractor	
Operation / Maintenance/	*Noise disturbance to local population* and workers caused by regular and scheduled maintenance works on the road	Limit activities to daylight working hours (as agreed with local authorities.)	Minimal, included in the project cost	minimal, included in the project cost	Maintenance Contractor/LGU	Maintenance Contractor/LGU	to be specified in maintenance contract documents-Technical Specifications for realization of maintenance works

Annex 2:

11. Environmental and Social Monitoring Plan

Phase	What activity/impact *is to be monitored?*	Where *will be monitored?*	How is to be monitored? / type of monitoring equipment	When is to be monitored? (frequency of measurement or continuous)	Why is the parameter to be monitored? (optional)	Indicators	Cost		Institutional responsibility	
							Install	operate	Install	Operate
Pre-Construction	All permits are obtained before works start. Possession of official approval or valid operating license for stone quarries and other material supply subjects (e.g. gravel and sand exploitation companies).	on location of stone quarry, minerals exploitation companies	inspection of all necessary documents	before work begins	to ensure sustainable use of materials	possession of official approval or valid operating license and concession	NA	NA	Quarry Operator	Quarry Operator
Pre-Construction	Public and relevant institutions are notified of works.	Contractor's premises	inspection of all necessary documents	before work begins	To ensure public awareness	Announcements in the media and direct information dissemination	Included to project cost	Included to project cost	Supervising engineer, ARA	Supervising engineer, ARA
Pre-Construction	Emergency Preparedness Plan and traffic organization plan have been prepared. Position of existing infrastructure at relevant sections has been determined. Traffic Management Plan is prepared	Contractor's premises	inspection of all necessary documents	before work begins	To reduce risks and impacts of accidental situations and damage to the infrastructure.	Plans and blueprints in place	Included to project cost	Included to project cost	Supervising engineer, ARA	Supervising engineer, ARA
Pre-Construction	Works organized and scheduled to avoid disturbance of animals in important lifecycle periods.	Contractor's premises	inspection of all necessary documents	Once before work begins	To reduce risks and impacts to biodiversity	Plans in place	Included to project cost	Included to project cost	Supervising engineer, ARA	Supervising engineer, ARA
Construction	Covering or wetting down transported materials that can generate dust, such as stone, sand or gravel, keeping the site wet and protected form dust spreading.	job site – each vehicle	supervision	continuously	ensure minimal disruption to air quality	Covered truck load Report from the supervising engineer	NA	minimal, included in the project cost	ARA	Supervision Contractor Supervision Contractor

	Protection from dust while unloading. There is no burring at the									

	site.									
Construction	Congestion on site, disruptions to traffic patterns, complaints on traffic management. Safe passages for pedestrians are provided.	On the site	Visual supervision	regularly by supervision	To ensure minimal disruptions to the local traffic, prevent accidents and ensure safety	Number of complaints received		mini mal, inclu ded in the proje ct cost	a) ARA	Supervision Contractor
Construction	Damage to soil structure, landslides and slips, embankments. Soil erosion and landslides prevention measures in place (e.g. silt fences, hay bales, geotechnical studies, reinforcement and other measures needed).	work site	supervision	unannounced inspections during work, after heavy raining; regularly before and during earth works on a particular section	To ensure minimal impacts on soil	land slips, erosion, damaged embankme nts, measures in place, studies completed before the works on the affected area	NA	mini mal, inclu ded in the proje ct cost	ARA	Minimal
Construction	Noise disturbance to human and animal population, and workers on site	job site; nearest homes	noise meter and analyzer, inspection	once for each machine and equipment when works start. In the case of incompliance - regularly. oncomplaintor negative inspection finding	assure compliance of performance with environment, health and safety regulation and standards	Incomplian ce (>85dB), complaint, negative inspection finding	minimal, included in the project cost	mini mal, inclu ded in the proje ct cost	ARA	Supervision Contractor
Construction	Air pollution parameters of dust, particulate matter	At and near job site	Sampling by authorized agency	Upon complaint or negative inspection finding	To ensure no excessive emissions during works	Incomplian ce, complaint, negative inspection finding , reports of REA	minimal, included in the project cost	100/ mont h	ARA	Supervision Contractor

Construction	water and soil quality (suspended solids, oil and grease)	At and near work site (upstream and downstream)	Sampling by authorized agency Visual inspection of leaks, turbidity and contamination	Upon complaint or noticed spill/leak/spill/turbidity into the river/water body or soil near the water body.	To ensure no excessive emissions during works	Incompliance, No of grievances recorded, reports of REA	Minimal, included in the project cost	minimal, included in the project cost	ARA	Supervision Contractor
Construction	Traffic safety, signaling and accessibility	In the wider area of the working site	Visual inspection, consultations with the traffic police, consultation with the local residents	Upon the start of works on a particular section, upon complaints.	To prevent accidents and ensure access to services and livelihood	No of grievances recorded	Included to the project cost	Included to the project cost	Supervising engineer, ARA	ARA
Construction	Safety signage and procedures in place. Fence is in place. Warning signs in place.	At and near work site	Visually by supervisor	Regularly	To ensure clear posting of safety signs	Number of signs	Minimal, included in the project cost	ARA	Supervision Contractor	ARA
Construction	Disposal of waste materials at licensed landfills/process plants, transported by the licensed transport companies.	On site for timely collection and disposal on final disposal site	Documents check (licences, waste records), site visit,, visually	Before start of works and regularly	To ensure proper waste management thus prevent contamination	Licenses issued by the competent bodies, amounts of waste removed	, included in the project cost	ARA	Supervision Contractor	ARA
Construction/*waste*	Separate waste collection	On site	Visually, number, labelling and capacity of containers, waste mix, containers safety	Regularly	Prevent pollution	No of containers, waste mix, labelling, procedures	included in the project cost	included in the project cost	Supervision Contractor	ARA
Construction / *hazardous substances (including waste) management*	Containers are leak-proof and with secondary containment system. Containers are accessible only to authorized personnel. During use, spill protection systems are in place.	On site	Visual	Regularly	Prevent pollution	No. and size of spills, amount of contaminated soil or water, leaks	included in the project cost	included in the project cost	Supervision Contractor	ARA

	Containers are adequately labeled. Check tanks, machinery and vehicles for leaks.									
Construction / *Workers safety*	Protective equipment (glasses, masks, helmets, boots, et) warn at all times, safety warning and instruction are on site; organization of bypassing traffic, other Health and Safety (H&S) measures. Workers are adequately trained and certified for positions and work they perform. Emergency Preparedness Plan and emergency procedures are available on site and communicated to all workers through H&S training.	job site	inspection	unannounced inspections during work	Prevent accidents	number of on-job accidents recorded, procedure available, protective equipment available	NA	mini mal, inclu ded in the proje ct cost	Supervision, ARA	NA
Construction / *Site organization*	Site is well organized: fences, warnings, sign postage in place. Dangerous areas fenced and marked. Sanitary facilities available in sufficient number. Camp inaccessible for public.	Work site, camp	inspection	unannounced inspections during work	Prevent accidents	number of on-job accidents recorded	NA	mini mal, inclu ded in the proje ct cost	Supervision, ARA	NA
Construction/ *Destruction of crops, trees meadows etc*	loss of/impact on vegetation	job site	Supervision, photographic reports	during material delivery and construction	Landscape value protection	Reports of frequent visits on site by the Env. Expert	NA NA	mini mal, inclu ded in the proje ct cost	Supervision Contractor, ARA	ARA

Construction*/impact to biodiversity and nature*	Only native species are used in greening and site rehabilitation; Site is restored to previous condition. Disturbance of animals and collection/destruction of flora is not present.	Working site	Visual inspection of a site, inspection of documents;	Regularly; permissions before works commence.	Landscape value and nature protection.	Complaints	minimal, included in the project cost	mini mal, inclu ded in the proje ct cost	Supervision Contractor, ARA	ARA
Construction*/* *Chance find items*	Cultural properties. chance findings clause is applied	Job site, documentation	Expert visits from Institute for Cultural Monuments, regular supervision	Continuous, in the case of findings	Cultural heritage preservation	Catalogue of items found, including photograph ic and textual documentat ion; chance findings report	Should be part of the regularly scheduled activities	mini mal, inclu ded in the proje ct cost	Supervision Contractor, ARA, ICM	Supervision Contractor, Cultural Directorate, ARA
Construction*/* *a)Disease prevention and health examinations* *b) Creation of additional workplaces* *c) Workforce accommodation* *d) Workers safety on site*	1) Health examinations for workers, 2) training on disease prevention, including STD 1)Informing of local population on vacancies 2)Involvement of local labour 1)Accommodation needs will be assessed 2)standard for accomodation 1)safety instructions and protective equipment (glasses, masks, helmets, boots, etc); safe 2)organization of bypassing traffic 3)Availability of grievance mechanism and grievance	At or near job site	visits on site and communication with workers and community	Once a week by ARA	To ensure proper implementation of health and safety requirements	Knowledge able workforce on procedures, Equipped with safety equipment	Should be part of the regularly scheduled activities	Mini mal, inclu ded in the proje ct cost	ARA, supervisor, contractor	supervisor, contractor

	focal point									
Operation/ *Vehicle and pedestrian safety*	visibility and appropriateness of signage	at and near job site	observation	once per week in the evening	Safety	Number of warning signs installed, appropriateness, number of accidents recorded	minimal	minimal, included in the project cost	ARA	maintenacne Contractor, ARA
Operation/ *Increase of domestic solid waste due to increased number of visitors to the site*	Visual impact	At and near job site	visits on site and communication with local authorities	Once per every two days by the LGU for maintenance reasons	For aesthetical reasons	Lack of waste on the ground, empty waste bins	Should be part of the regularly scheduled activities by the LGU		LGU	LGU