ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

Objects: "RECONSTRUCTION OF THE FUSHE LURE-ARRAS ROAD "

November, 2021

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List of abbreviations

ADF	ALBANIAN DEVELOPMENT FUND
ARAP	ABBREVIATED RESETTLEMENT ACTION PLAN
BID	BUSINESS IMPROVEMENT DISTRICT (BERATD)
CHP	CULTURE HERITAGE MANGEMENT PLAN
CHS	COMMUNITY HEALTH AND SAFETY
EBRD	EUROPEAN BANK FOR RECONSTRUCTION AND DEVELOPMENT
ESIA	ENVIRONEMNTAL AND SOCIAL IMPACT ASSESSMENT
ESMP	ENVIRONEMNTAL AND SOCIAL MANAGEMENT PLAN
GHG	GREENHOUSE GASES
GIIP	GOOD INTERNATIONAL INDUSTRY PRACTICE
GIS	GEOGRAPHIC INFORMATION SYSTEM
GLP -	GENERAL LOCAL PLAN
GoA	GOVERNMENT OF ALBANIA
ILO	INTERNATIONAL LABOUR ORGANISATION
MIE	MINISTRY OF INFRASTRUCTURE AND ENERGY
MTE	MINISTRY OF TOURISM AND ENVIRONMENT OF ALBANIA
NCA	NATIONAL CADASTRE AGENCY
OHS	OCCUPATIONAL HEALTH AND SAFETY
PPE	PERSONAL PROTECTION EQUIPMENT
RAP	RESETTLEMENT ACTION PLAN
RWS	RAIN WATER SYSTEM
SEP	STAKEHOLDER ENGAGEMENT PLAN
ToR	TERMS OF REFERENCES
VOC	VOLATILE ORGANIC COMPOUNDS
WWS	WASTE WATER SYSTEM

INTRODUCTION

The great resources in water resources and the wonderful landscape of Albania, combined with the climatic, hydrographic, and geomorphological conditions suitable for the creation of natural flows with large inflows and downfalls, make possible the use of hydropower with considerable economic interest. Albania is ranked in the Balkans as a country with considerable water resources, with a hydrographic extension distributed almost throughout the territory. With its area of 28 748 km2, it is generally a mountainous place, where 70% of it is occupied by mountains, hills, lakes and riverbeds. The hydrographic territory of Albania has a catchment area of about 68,000 km2, or 57% more than the state territory. In the hydrographic territory of Albania it rains on average about 1400 mm of rain per year. At an altitude of over 1000 m there is snowfall, where in the deep mountainous areas it stays for several months, thus ensuring the water supply of rivers and their branches for the period of spring and to some extent summer. Due to the non-uniform distribution of precipitation during the seasons of the year, the inflows of rivers and their tributaries also have large changes. In the winter period, the inflows are very large, while in the summer period, they are small. This is the reason that in winter, the flow makes up 70% of it, while in summer and autumn 30%. The preservation of the environment, as a dynamic system, must be seen in the totality of natural factors and human activity exercised on it having a vital importance for the population and are a very important element for the economic development of the region. The goal of Diber municipality and Kukes municipality is the growth and sustainable development of the economy as well as the increase of investments. But this can not be achieved without ensuring a balance between business development, with economic, social and ecological factors so that future generations will have the same development alternatives.

The district of Dibra is part of the north-eastern region with a generally hilly-mountainous relief. So it lies in the Northeast of Albania on both sides of the Drini i Zi valley, being bordered on the east by the Korab mountain range and on the west by the Lura mountain ranges. The center of the district is the city of Peshkopi. The center of the district (Peshkopia) lies 185 km from the capital and 21 km from the customs point of Blata in Maqellara. This circle is located in the following geographical coordinates: 41ş 53 '20 ", and 41ş 33' 40" north latitude and 20ş 34 '50 "and 20ş 07' 00" east longitude. It is bordered by conventional borders to the east with the Republic of Kosovo and Macedonia with a border length of 90 km, of which 19 km are rivers. In the north it borders the district of Kukes with 75 km of border line. To the west with Mirdita 13 km border line and with the district of Mat with 60 km border line. To the south with Bulqiza 27.8 km border line. This district has a complicated geological construction that has been captured from time to time by rising neotectonic movements that important role in relief formation. The district of Dibra has a hilly-mountainous relief that varies from 350 m (Drini i Zi valley) to 2751 at the top of Korab. It is part of the Mediterranean mountainous and Mediterranean pre-mountainous climate zone as it is an integral part of the Drini i Zi basin. There is a rich hydrography with aboveground and underground springs where the main branch is the Black Drini. This circle has a complicated

geological construction that has been captured time and time again by uplifting neotectonic movements that has played an important role in relief formation. The district of Dibra has a hilly-mountainous relief that varies from 350 m (Drini i Zi valley) to 2751 at the top of Korab. It is part of the Mediterranean mountainous and Mediterranean pre-mountainous climate zone as it is an integral part of the Drini i Zi basin. There is a rich hydrography with aboveground and underground springs where the main branch is the Black Drini. This circle has a complicated geological construction that has been captured time and time again by uplifting neotectonic movements that has played an important role in relief formation. The district of Dibra has a hilly-mountainous relief that varies from 350 m (Drini i Zi valley) to 2751 at the top of Korab. It is part of the Mediterranean mountainous and Mediterranean pre-mountainous climate zone as it is an integral part of the Drini i Zi basin. There is a rich hydrography with aboveground and underground springs where the main branch is the Black Drini.

Dibra is distinguished for the variety of lands which due to the mountainous relief are clearly expressed. We find the belt of alluvial soils around the river Drini i Zi, brown, brown forest and mountain meadows. In this we meet plant belts such as: belt of oaks, beech and conifers and alpine pastures. This district has a population of 75000 inhabitants located in 1088 km mainly in rare and rural settlements. From the administrative point of view, this district consists of 1 municipality (Peshkopi municipality) and 14 communes.

Peshkopi, photographed from the air

The position of this district has played an important role in the development of this area which has been both positive and negative times during different historical periods and under the influence of social and economic factors that have left traces. Its positive role it has had when has served as a bridge to the territories of our country from the west to the interior of the Albanian territories. Since antiquity has operated the road DURRËS-FUSHA e TIRANËS-DIBËR which connected the coast with other eastern regions. socio-economic, as in 1911 Dibra was an important center of handicrafts, trade, construction, etc .;But the role of this position fades with the establishment of

arbitrary borders in 1913 where outside remained large commercial and urban centers for the time as (Great Dibra). After 1913 this area continued to play this role but with a weaker intensity. in the years 1945-1990 this connection was completely severed and became a hindering and isolating factor for it. After the 1990s this area regains its connecting role but with a smaller intensity but which is still worth mentioning as the project of The construction of the Highway that will pass through the old road and its connection with an artery with the district of Kukes would restore the importance of the geographical position of this district together with the resources it contains and would turn this district into a center of a cross-border eurozone. causing position to become a factor of development.After 1913 this area continued to play this role but with a weaker intensity. Until in the years 1945-1990 this connection was completely severed and became a hindering and isolating factor for it. After the 1990s this area regains the role of its connection but with a lower intensity but which is still worth mentioning as the construction project of the Highway that will pass through the old road and its connection with an artery with the district of Kukes would restore the importance of the geographical position of this district together with the resources it contains and would turn this district into a center of a cross-border eurozone making the position a factor of development.After 1913 this area continued to play this role but with a weaker intensity. Until in the years 1945-1990 this connection was completely severed and became a hindering and isolating factor for it. After the 1990s this area regains the role of its connection but with a lower intensity but which is still worth mentioning as the construction project of the Highway that will pass through the old road and its connection with an artery with the district of Kukes would restore the importance of the geographical position of this district together with the resources it contains and would turn this district into a center of a cross-border eurozone making the position a factor of development.After the 1990s, this area regains its connecting role, but with a smaller intensity, but which is still worth mentioning as the project of construction of the Highway that will pass through the old road and its connection with an artery with the district of Kukes. would restore the importance of the geographical position of this district together with the resources it contains and would turn this district into a center of a cross-border eurozone making the position a factor of development.After the 1990s, this area regains its connecting role, but with a smaller intensity, but which is still worth mentioning as the project of construction of the Highway that will pass through the old road and its connection with an artery with the district of Kukes. would restore the importance of the geographical position of this district together with the resources it contains and would turn this district into a center of a cross-border eurozone making the position a factor of development.

The environment is the foundation on which the process of economic and social development in a certain territory is realized. Its protection and sustainable management of natural resources and resources, found in this environment, is a key element in creating a good standard of living for the current population and a guarantee for future generations. The basic purpose of the project is the clean generation of electricity using energy from free water fall and the main purpose of the EIA is to determine and assess the impacts that will have on the environment the development of the project for. This report has been drafted in accordance with the requirements of Albanian

Legislation and European Union Directives on Environmental Impact Assessment, with specific legal acts and bylaws that regulate the exercise of investment activity and also legal acts related to environmental protection. Environmental Impact Assessment is a systematic process that aims to ensure that all environmental and socio-economic consequences of the development of activity proposals have been identified and taken into account, both during the preparation phase and after implementation. The main purpose of preparing the Environmental Impact Assessment Report is to identify possible interactions of the project with the physical and social environment and environmental protection policies for the areas where the project will take place. Environmental Impact Assessment is a systematic process that aims to ensure that all environmental and socio-economic consequences of the development of activity proposals have been identified and taken into account, both during the preparation phase and after implementation. The main purpose of preparing the Environmental Impact Assessment Report is to identify possible interactions of the project with the physical and social environment and environmental protection policies for the areas where the project will take place. Environmental Impact Assessment is a systematic process that aims to ensure that all environmental and socio-economic consequences of the development of activity proposals have been identified and taken into account, both during the preparation phase and after implementation. The main purpose of preparing the Environmental Impact Assessment Report is to identify possible interactions of the project with the physical and social environment and environmental protection policies for the areas where the project will take place.

The district of Dibra has a diverse geological structure. Plio-Quaternary molasses. Flysch and other formations such as magmatic and Quaternary deposits near the valley. of the Mesozoic which are also the oldest formations of our country. While the effusive rocks and fliches build the southern end of the Korab range we also find carbonate and ultra-basic formations. Tomin hills, marble inMuhurras well as numerous inert properties such as clay.

Topographic survey of the area

The relief of the area is mountainous and is distinguished for the complex character in the composition of the relief we find: mountain ridges, plateaus, pits, karst plains as well as mountains and valleys. This highland extends from 380-2751 m at the eastern end, so the hypsonometric amplitude is large, dominated by highlands above 700-900m that gradually decrease towards the west. The horizontal fragmentation of the relief in this area is large and very large in the old and new terrigenous and small and very small in the limestone. The relief energy is average in the terrigenous rocks in the central part and in the circle they go to the maximum values 400-500m / km˛ . In this highland there are types of structural-erosive relief, erosive-deductive, karstic, glacial. The erosive structural relief is found in the whole area, Karst relief is also very widespread here, it should be noted that the climate has been affected by rainfall and its variety and pronounced changes in parameters. We find various forms such as: gorges, furrows, ridges, outcrops, plains and valleys and karstic valleys, we also find underground forms such as caves, voids and underground valleys, various Glacial relief has an extension which we find only in high parts such as peaks of mountains that have a limestone composition. We also find lawns with picturesque

landscapes such as the Korab plain, the Shehu mountains which are rare in terms of economic values. Glacial relief has an extension which we find only in high parts such as mountain peaks that have a limestone composition. We also find lawns with picturesque landscapes such as the Korab plain, the Shehu mountains which are rare in terms of economic values. Glacial relief has an extension which we find only in high parts such as mountain peaks that have a limestone composition. We also find lawns with picturesque landscapes such as the Korab plain, the Shehu mountains which are rare in terms of economic values.

The geological construction in this area enables the development as this area is rich in minerals, building materials and marbles. This geological construction has made the settlements mainly located in limestone compositions and in contacts with other layers due to water sources. The composition with clays and limestone has made the offer very rich for them.

It should be noted that in terms of relief in the settlement and its impact on socio-economic development it has influenced the character of a closed economy and direction in the livestock sector as the supply of fertile agricultural land is limited. Relief has also been decisive in the architecture of buildings and living space in isolated areas. This relief has also determined the placement of inhabited properties away from each other, leaving free the productive lands. This region has great opportunities for the development of tourism, with picturesque landscapes offered by the Lura National Park, the numerous forests and lakes of Lura.

1 – Introduction to the project

"Construction of Lura Road (Arras - Fushë-Lurë) ”

Beginning of the Road, in the village of Arras, NJA Fushe Alie, completion of the Road in Qender Lure (Fushe Lure), NJA Lure; Diber Municipality

According to INSTAT data, 75262 inhabitants in 15394 families with about 4.9 members per family live in the retińí of Dibra. It has a density of 70 b / km¸. Analyzing the data, it turns out that 24,106 inhabitants have left the Dibër district since 1990, since in 1990 this district had about 99,368 inhabitants. This population is located in Tirana 67%, Durres 21% and districts such as: Lushnje, Fier, Lezha, Kavaja, up to Saranda and Shkodra.

1.2 GEOGRAPHICAL EXTENSION

Lure Administrative Unit is an administrative unit under the jurisdiction of the Municipality of Diber, Diber County.

The district of Dibra is part of the north-eastern region with a generally hilly-mountainous relief. So it lies in the Northeast of Albania on both sides of the Drini i Zi valley, being bordered on the east by the Korab mountain range and on the west by the Lura mountain ranges.

The Lura Mountains or as they are otherwise called the Central Mountains lie between the valley ofDrini te Ziin the east, the Mati basin in the west, the Serriqe valley in the north and the Zallit Bulqiza valley in the south. These boundaries are mainly morphological. They extend in a north-south direction, at a length of about 75 km and a width ranging from 20 km (south) to 30 km (center).

The Lura Ranges consist of two parallel ranges between them, which in the northern part turn towards the northeast. The highest altitudes are reached in the central part with the mountain of Deja 2246 m and the Crown of Lura 2121 m. From this height they descend to the north and south below 2000 m.

Lura National Parklies in the highlands of Lura and occupies an area of about 1300 ha.

The territory of Lura park is very rugged by a series of mountain streams where the most famous are Seta, Uraka, Malla e Lura. The park lies around the mountain Kurona e Lura (2121 m). Lura forest consists of deciduous and coniferous trees. the largest is beech, which forms dense forests

with an extension to a height of 1600–1700 m. Above the beech grows robe, black pine, white pine. Above the height of 1700 m grows black arneni and white arneni.

The beauty of this area are its lakes. In total in this area there are 12 Lakes that are known throughout Albania as,Lura LakesAmong them we mention the Great Lake, the Black Lake, the Lake of the Cows, the Lake of Flowers, etc.

The lakes lie on the eastern slope, on the threshold of Nezhdë e Lura. Their position on the Eastern slope has played a role in the formation and preservation of these lakes.

A vegetation grows above the lakeshygrophylic, such as the water lily with large white flowers, which in summer occupy their entire surface giving them a rare beauty. The botanical and ecological value of the forest park of Lura is related to the richness, variety and age of the trees, many of which are centuries old, as well as to the glacial lakes, which are among the most beautiful ofAlbaniaë with rugged and varied relief.

1.3 NATURAL CONDITIONS

The district of Dibra has a diverse geological structure. Plio-Quaternary molasses. Flysch and other formations such as magmatic and Quaternary deposits near the valley. of the Mesozoic which are also the oldest formations of our country. While the effusive rocks and fliches build the southern end of the Korab range we also find carbonate and ultra-basic formations. Tomin hills, marble in Muhur as well as numerous inert properties such as clay.

1.4 RELIEF

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1.5 CLIMATE

The district of Dibra is part of the Mediterranean mountainous and pre-mountainous Mediterranean climatic zone since it is part of the Drini river basins. It is distinguished for visible changes from one sector to another, especially in the vertical direction. The formation of this climate has been influenced by factors such as: altitude and relief of the territory, the great influence of the continental climate through winds coming from the gorges and necks from the interior of the Balkans .as a result this climate is distinguished for harsh climate, long winters and heavy snowfalls and cool summers but without precipitation. The average temperature ranges from 6 şc on Korab mountain to 11 şc near the valley. If we compare it with the average temperature of our country it ranges from 4şc-8ş it is understood that the main cause is the altitude above sea level and its eastern position which conditions an impact from the interior of the Balkans. In April-September the average temperature is 16şC in the vicinity of the city For July the average temperature ranges from 7 şC in high parts and 16 şC, near the valley. January is the coldest month of the year where the average goes from 0şC to -3şC. The annual temperature amplitude takes not small values that go around 17şC-18şC. While the daily amplitude goes up to 10-15şC the maximum temperature of the area was recorded in July 1996 in the city 39.5şC while the minimum was recorded in 1959 when it reached -20ş the amplitude between the values is relatively not small which goes 60şC. For snowfall we can say that they start on average on November 1 and the end date is March 20. The average number of snowy days goes 38 days and creates an average layer of 30-35 cm. The maximum layer goes 1.5m to the mountain slopes. Regarding the negative phenomena of climate, we can say that it has a capricious character, so it has dictated the location and manner of construction in this area. Also, this climate, which is also very healthy but does not

allow the cultivation of all kinds of plants and with phenomena such as: long and late frosts, early hands, heavy snowfall and hail, has often destroyed crops. agricultural and has given the wrong direction to economic development. but this climate also has its advantages as it allows the development of some types of tourism, as well as some other sectors of the economy.

1.6 SURVEYOR

This district has a very rich hydrographic network consisting of rivers, streams, underground and above ground springs. The main branch is the river Drini të ziqë that takes with it some other branches such as: Malla, Seta, Veleshica, Murra etc. These branches have a rapid character and with large inflows at the time of snowmelt. Which makes them very harmful and destroy everything that comes their way by bringing in a lot of solid material causing flooding of the surrounding lands.

The lengths are respectively

Malla	18126	km
Seta	13137	km
Veleshica	1584 km	

Among the many assets it is worth mentioning the very beautiful lakes of Lura, the source of spas as well as some small springs near the city, water resources have helped a lot in the economic development of this district in terms of energy, irrigation, fishing, industry, etc. but these resources also serve to attract tourists such as seaside tourism, entertainment, leisure, eco tourism, etc.

1.7 LANDS

The extension from 380m to the height of Korab has made us find many belts and sub-belts of soil, affecting directly the vegetation of the area. The variety of natural pedogenetic conditions has conditioned the diversity of soils. In this regard are distinguished: Brown soils have a small extent and occupy 20% of the territory lies at altitudes 600-1000 m above sea level especially in the northern part along valleys of oxhtun, brook brood, brodan etc. They are formed on limestone and less magmatic and cold climate and abundant rainfall. In dimmer there is leaching of salts and in summer their accumulation occurs. granular structure and very deep that goes 1.2-1.5 m contains humus that goes 4-9% on the surface and 1% in depth.

1.7-a LUNCH FOREST LAND

Or beech and pine forests that lie at altitudes 1000-1200 m above sea level occupying most of this mountain about 40% We find them spread in the southern, southern and eastern part. Having a development on sediments and magmatics. Formed in a fragmented and eroded relief cold climate that conditions the rinsing of salts under the beech and conifers. They have a thick profile that goes 80-120 cm consisting of a black layer about 5 cm. We find sub-types such as: black forest brown soils. Typical brown mulberries, reddish washed brown mulberries, arterial carbonates, etc.

1.7-b MEADOW-MOUNTAIN LAND

These lands also occupy 40% of the territory of this highland and lie at altitudes above 1700 m above sea level. precipitation, while their relief is heterogeneous and is distinguished for fragmentation and large slopes. The profile goes about 100 cm with a thickened humus horizon and a layer permeable to the surface from the roots which forms a spongy layer. black to dark brown. There are several subtypes such as: typical mountain meadow soils, black meadow soils, barren soils and steppe soils.

The geographical position of the area, its natural conditions, the geological construction, the large fragmentation of the relief accompanied by a very diverse climate has conditioned a lot of diversity of the plant world of this mountain. The above-mentioned factors have made the vegetation of this area stand out for the predominance of European and northern Balkan plants that are very variable from the Mediterranean vegetation that grows in the west of the country. A vertical slope appears where the main species are represented by these types of plants: Mediterranean shrubs, oaks. Beech and pine and alpine pastures.

1.7-c MOUNTAIN BUSHS

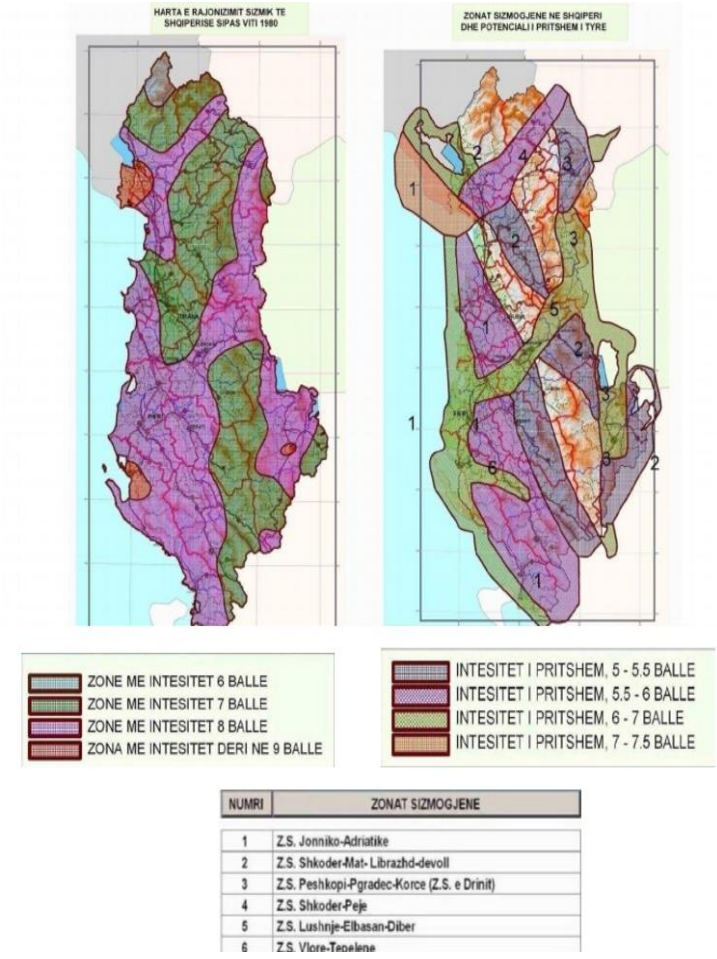
This plant floor extends from 380-600 m above sea level taken in total this vegetation occupies 31% so it occupies a small area of all vegetation in the area. It develops under a milder climate than other generations. In this belt the subtype appears Shitblik composed of plants that shed their leaves.
It should be noted that this floor is quite damaged by human hands and replaced by arable land, therefore in many sectors of this generation degradation occurs. This plant floor is used for pastures and firewood. It should be noted that this floor also has many plants with medicinal and miljmatian values.

Oak floor, this plant floor extends from 600-1000 m, is spread throughout the area and occupies 17% of the total vegetation of Malesia. The main types of plants are: Oak, maple, hazelnut, oak,

etc. This floor is also very damaged as its media is used for heating in the cold season. Beech and coniferous floor: this floor extends from 1000-1700 m above sea level. The entire surface of this floor occupies 23% of the vegetation of the area. It is most widespread in the south-eastern and eastern part. The main type of dominant plant is Beech, from which the floor is named.

In the composition of this floor participate also fir, pine, which are less open, but also meet maple, Frasheri, meshtegna, etc. THIS plant floor has the largest floristic assets composed of beech and pine forests, this vegetation conditions the development of the forest economy which is one of the main activities of the population of this municipality. Alpine pastures, in the Korab Mountains, with high relief, there is a considerable extent of alpine pastures. It should be noted that in the pastures of this municipality graze about 15 head of small cattle and 1500 heads of harsh and rainy climate. abundant snow has conditioned the development of this plant floor. This type of vegetation is of the graminace type and has a spread over 1700 m, specifically in the mountains, ravines and other heights.

The region where the territory of the Municipality of Lura lies is located in the northern part of the Tirana Lowlands. It is located at an average distance of 18 km from the city of Tirana and 28 km from the city of Durres and as such is included mainly in the territories affected by the same earthquakes that have affected these two cities and the surrounding areas.



NUMRI	ZONAT SIZMOGJENE
1	Z.S. Jonniko-Adriatike
2	Z.S. Shkoder-Mat- Librazhd-devoll
3	Z.S. Peshkopi-Pgradec-Korce (Z.S. e Drinit)
4	Z.S. Shkoder-Peje
5	Z.S. Lushnje-Elbasan-Diber
6	Z.S. Vlore-Tepelene

The Ionian-Adriatic area of detachments above the ridges is the longest area and with the strongest seismic activity of our country from which are generated the largest earthquakes that have affected our country. It is followed for several hundred km along the Adriatic and Ionian coasts outside our territory and through two cross-sections, Shkodra-Peja and Vlora-Tepelena, is divided into three segments as:

a) The northern segment with PVP extension characterized by pre-Pliocene detachment of the overlying type of Kruja area; is followed over 200 km from Lezhana to Ulcinj and further along the coast and is active even today.

b) The southern segment with VP extension that is followed for over 250 km, from Vlora to Konispol and further to Greece, along the Ionian coast and is characterized by pre-Pliocene overlying divisions of the Ionian zone.

c) The central segment with extension V to VP which consists of post-Pliocene detachment over five active parts of the Pre-Adriatic Lowland and is followed around 130 km from Vlora to Lezha. This includes the area where the territories of the Municipality of Fushë Krujë are located.

This segment is still active today. According to the map of maximum expected earthquakes in this area can be generated earthquakes with maximum expected magnitude up to M max = 6.5-6.9

Geologically, the Kruja region is mainly included in the Ionian outer tectonic zone, which is also the orogenic front in the Adriatic ecolysis zone.

Lures area

The Lura area represents a ridge that borders on the east with the tectonic zone of Kraste-Cukali while on the west with the Ionian zone and the area of the Southern Adriatic. Throughout the eastern tectonic boundary, there is branching of flysch and rarely the globotruncan limestone of the Krasta subzone over the oligocene flysch of the Kruja area. Contact with the Southern Adriatic area and the Ionian area is not clear and definite everywhere. This border is debatable especially for the southern part (from the Tomorri anticline to the south).

The tectonic zone of Kruja, in all studies conducted so far, has been treated as a single area from Leskovik in the south, to Shkodra in the north. Some researchers (Misha, etc. 1982, etc.) based on the presence of planktonic foraminifera in the Cretaceous pelagic deposits in the Melesin anticline, have treated the latter as a unit of the Ionian zone. The thematic study for the biostratigraphic decoding of the carbonate deposits of the Kruja area (Koroveshi, etc. 1999) brought important biostratigraphic data which show significant changes of the carbonate facies from north to south. In the northern part, in all stratigraphic cuts carried out in carbonate deposits,

only benthic foraminifera, which are typical for the neritic facies, result. The exception to this is the more western structure, that of Ishm, where from the analyzes performed on the samples taken at the well Ish.1. has resulted mixed fauna, which is interpreted as transient to the Ionian area (Nakuçi et al. 2001). In the south, in the Tomorri anticline, in the Upper Cretaceous deposits, planktonic mini-foraminifera have been found alongside the benthic ones, as well as in Kulmake and Qeshibesh (see ch. Stratigraphy) and especially in Meles where only planktonic foraminifera meet.

Analyzing the time of rudhaformation, the facies of carbonate deposits and the tectonic style, a noticeable difference is clearly noticed between the structures in the regions from Elbasan and further north from those further south. In the north of Elbasan the structures are linear, mainly isoclinic, with neritic facies, characterized by the presence of benthic foraminifera, with age of orogenesis at the end of the early Oligocene. While the structures in the southern part are of anticline or brahianticline nature with mixed facies, with paleogeographical phenomena and with later age of orogenesis (at the end of the Middle Oligocene). This essential difference is interpreted as the effect of the impact of the Vlora - Elbasan - Diber crossroads, in the south of which the tectonic construction is conditioned by the presence of other secondary cross faults and salt tectonics.

1.8 OBJECT POSITION

Objects: “Construction of Lura Road (Arras ÷ Fushë-Lurë) ”. This road connects the city of Peshkopi with the tourist area of Dibra, Luren, which is located at a distance of over 35 km from the city of Peshkopi.

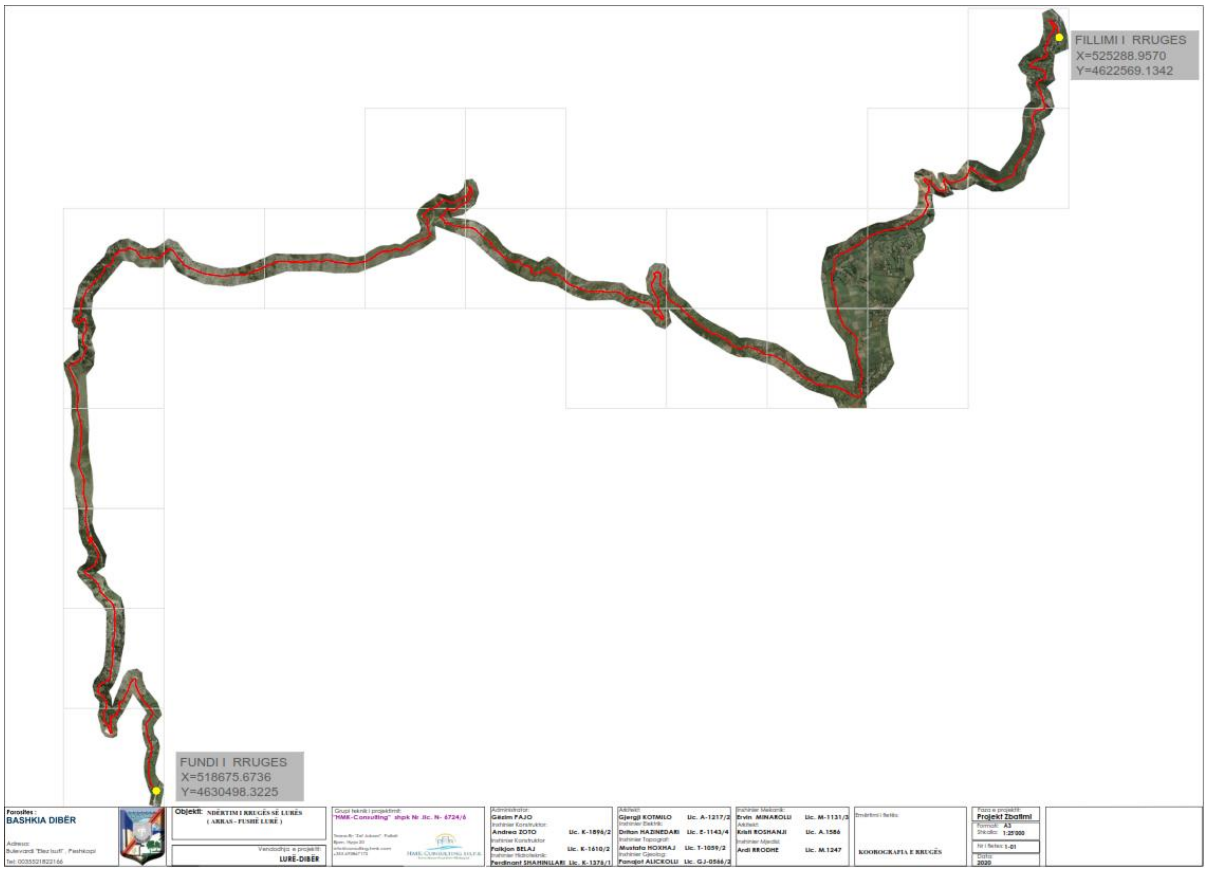
The project starts in the village of Arras of NJA Arras up to Fushe Lure, of NJA Lure, a road which has a length of about 21,396 m.

The road from the city of Peshkopi to Arras has been paved for years, and is in very good condition.

Road “Construction of Lura Road (Arras ÷ Fushë-Lurë)” is a road axis that starts about 2 km away from the asphalt road, in the national axis Peshkopi-Reç-Kukes (or Rruga e Rinise).

Where the national axis, from Arras to Rec is unpaved

From a geodetic point of view,
the beginning of the road is with coordinates: X 525288.9570; Y 4622569.1342,
while the end of the road has coordinates: X 518675.6736; Y 4630498.3225.



2. - EXISTING CONDITION AND PROJECT SOLUTION

2.1 - Existing Condition

This road axis has lacked for many years serious intervention to improve the conditions of road infrastructure. Due to the geographical position, located in a deep area, as well as for the low population of this area as a whole, investments have been lacking not only in terms of infrastructure, but also in terms of social, economic, etc.

As a result, NJA Lure today has a very narrow road, unpaved, completely depreciated, with serious problems that affect the safety of traffic in this segment. The rugged terrain in this area causes great difficulties in the circulation of vehicles, increasing the risk of accidents.

Lura Road (Arras-Fushe Lure Segment), Starts in Arras, (Peshkopi-Reç National Road), passes through the village of Çidhen, ascends to Lane-Lure, from where we descend to Fushe-Lure, where the administrative center of Lures.

Occurring in these conditions, was judged as a necessity for the realization of the project "Construction of Lura Road (Arras ÷ Fushë-Lurë)".

The total length of this axis is about 21 + 396.50 m, lying in a generally mountainous and rugged relief, with slopes at levels above average, where it reaches up to 15.68%.

Throughout its length, the road is characterized by some turns with slight curvatures, with the exception of some strong turns, which pose a high risk to vehicle traffic.

Below are some photos that illustrate the current damaged condition of this road:

2.2 - Photo of Existing Condition






Due to the fact that the road has a longitudinal slope and the missing side channels, the atmospheric water crosses the road, damaging and destroying the body of the road.

During the reconnaissance, all works of art were identified and the level of their intervention. The works of art are in relatively bad condition, damaged and a large part of them damaged or demolished. The works of art are up to the village of Arras, then there are almost no works of art, walls and tombino.

Along the road axis it is noticed that we do not have any existing network to cross it.
Generally the study area is a clean environmental area, without the presence of pollution from industrial facilities or businesses, as these are almost absent.

2.2 - PROJECT SOLUTION

2.2.1 - GENERAL DATA ON ROAD INTERVENTIONS

"Construction of Lura Road (Arras ÷ Fushë-Lurë) ”

Considering the current condition of the road, its positioning in relation to the urban situation of the area, the physical-geological conditions and the requirements of the Terms of Reference, the design team has prepared the project implementation.

In the solution of the project were taken into account: Solution on the Planimetric side and Solution on the Altimetric side.

In the Planimetric solution, the creation of a road segment has been taken into account, which will serve to withstand the traffic flows of the area.

The road is designed in accordance with the requirements set by the Municipality of Diber.

It will have a total width of 5.0 m, and will consist of:
road body 5.00 m wide
asphalted part with two transverse or one-sided slopes, 4.00 m
and on both sides of the embankment with a width of 2x0.50 m

In the excavation section along the road there will be a side channel for rainwater.

The designed road generally preserves the axis of the existing road by making possible geometric improvements of the road.

Layers on the body of the road

The complete package of road layers determined by the study conducted will contain the following layers:

- asphalt concrete 4 cm
- binder 6 cm
- stabilizers 15 cm
- natural gravel 20 cm
- stabilizer on the bank 10 cm

This package of road layers will be built after the excavation-filling works of the road level have been done, and after the road body (foundation) has been rolled.

The first layer will also serve as a profiled layer of the road.

In some areas of the road, due to the pronounced disparity, the construction of retaining walls is foreseen (see relevant profiles). The walls will be concrete walls, M-250.

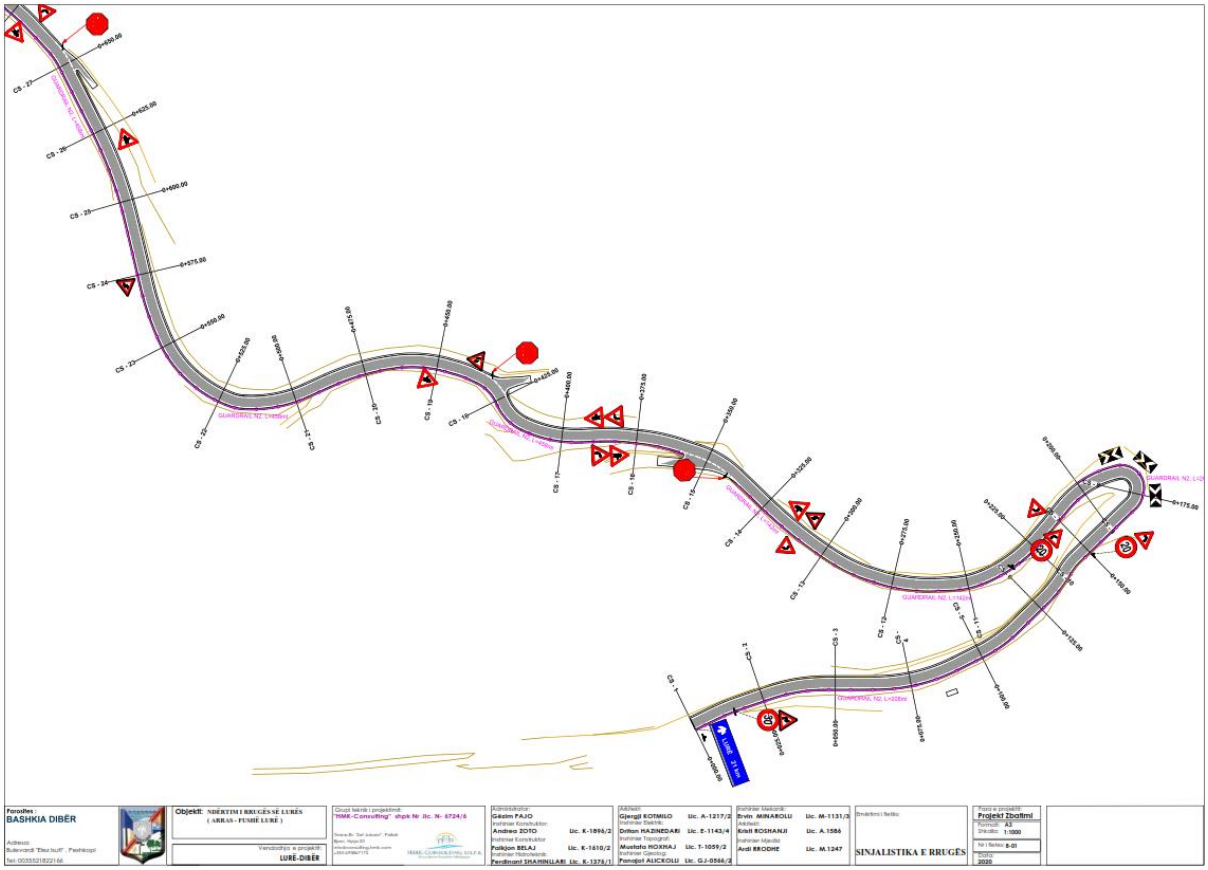
Retaining walls will serve to hold the road layers.

In the excavated parts, where the slopes are high and unstable, concrete retaining walls, M-250, will be built, with height according to the respective profiles.
For all the walls, care must be taken to leave drainage holes, which will be made with PVC pipes dia = 75 mm, placed in the shape of a chessboard every 1 ml. The level of their placement will be the same as that of the terrain, in order to ensure drainage of water.

As the road passes through very rugged terrain, with a slope (levels) above 10%, concrete canals will be honored to remove water, which are necessary.

In some segments, concrete curbs and ditches will be built.

In one segment (Lane-Lure), we also have the construction of two gabion walls, where the body of the road is filled.
Excerpt from the road plan

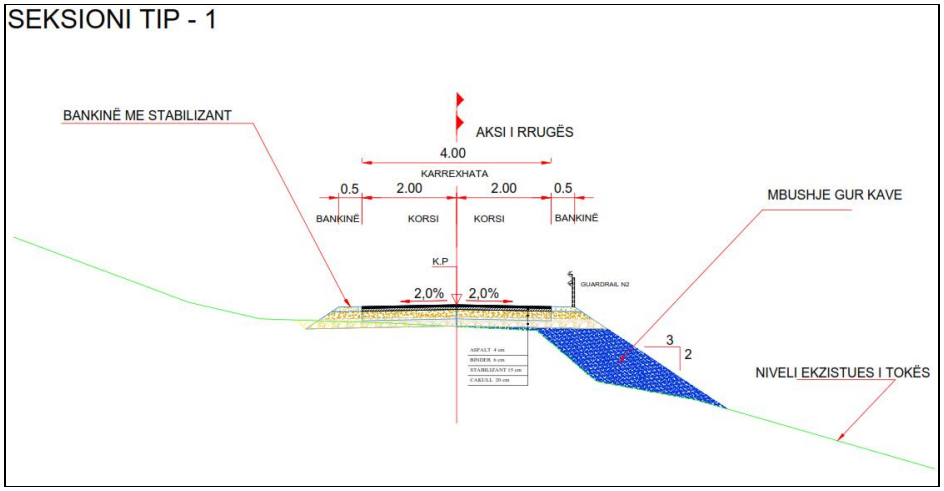


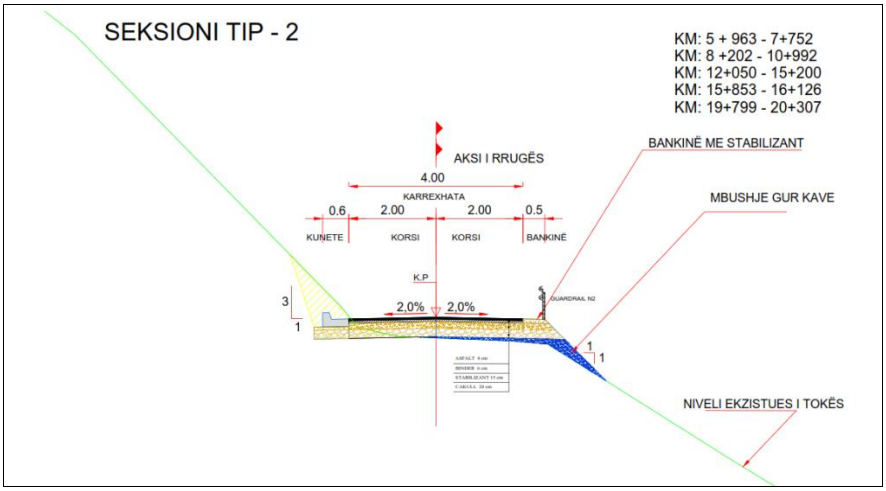
Altimetrically the actual relief is generally mountainous with a slope above average values. It is intended that their levels be as close as possible to that ideal. Quota reconciliation with existing roads has also been done.

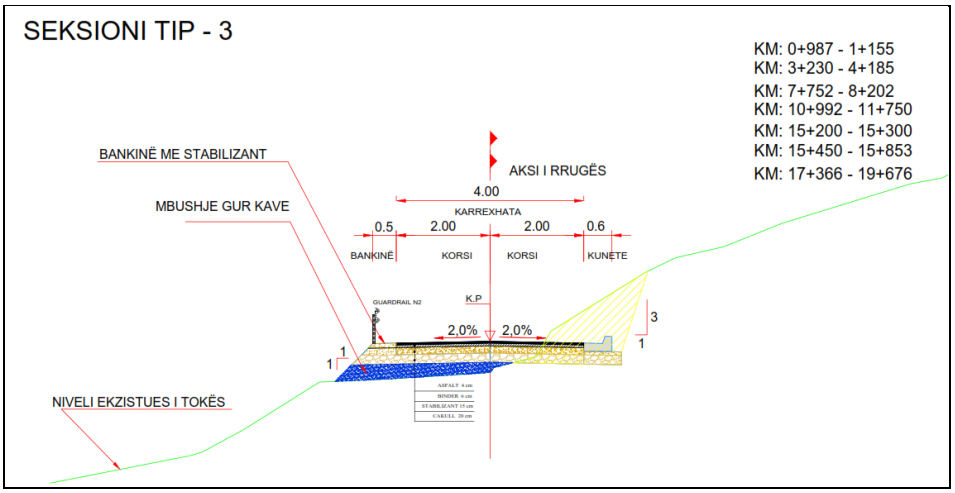
"Construction of Lura Road (Arras ÷ Fushë-Lurë)"has a length of about 21 + 396.50 m from Picket 1 to Picket 856, where sroad start teastarts about 15 km away from the city of Peshkopi.

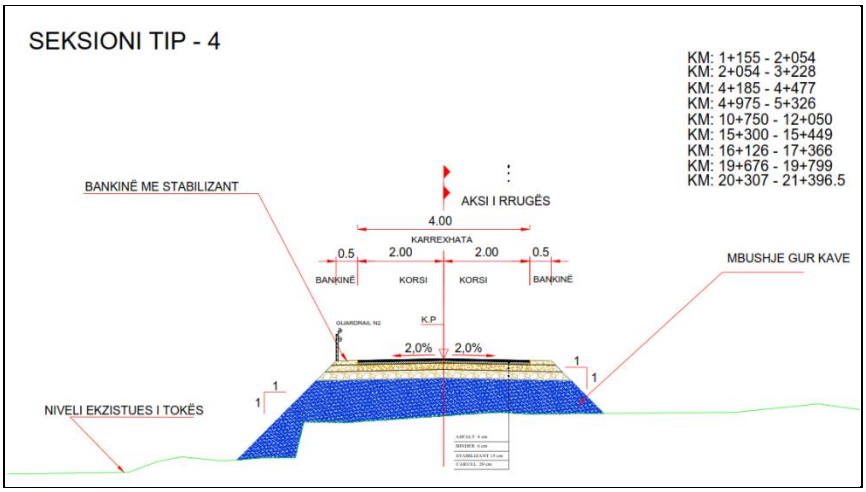
The road trail is created by referring to the existing road trail, the relief of the area as well as the Type Profiles.

Profile Tip of the Road








SEKSIONI TIP - 4
KM: 1+155 - 2+054
KM: 2+054 - 3+228
KM: 4+185 - 4+477
KM: 4+975 - 5+326
KM: 10+750 - 12+050
KM: 15+300 - 15+449
KM: 16+126 - 17+366
KM: 19+676 - 19+799
KM: 20+307 - 21+396.5
BANKINË ME STABILIZANT
AKSI I RRUGËS
4.00
KARREXHATA
0.5
2.00
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BANKINË
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MBUSHJE GUR KAVE
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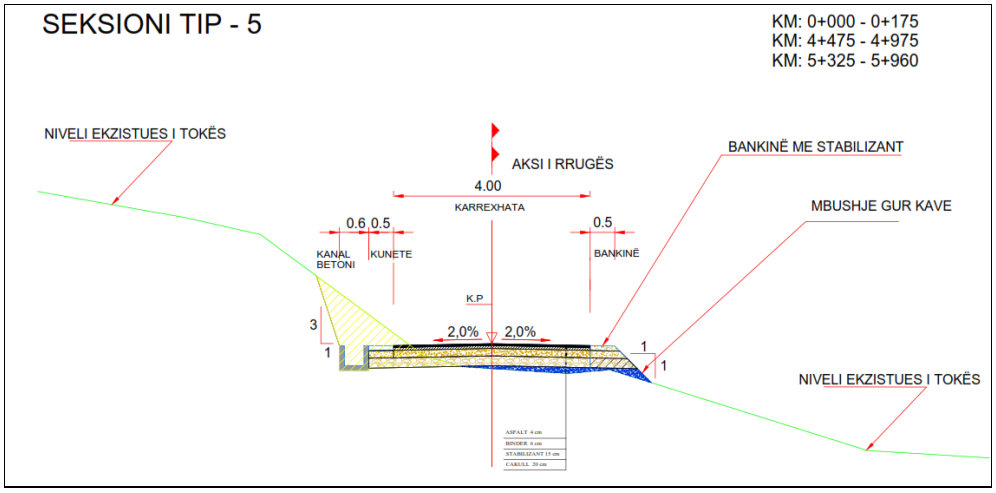
SEKSIONI TIP - 5
KM: 0+000 - 0+175
KM: 4+475 - 4+975
KM: 5+325 - 5+960
NIVELI EKZISTUES I TOKËS
AKSI I RRUGËS
BANKINË ME STABILIZANT
4.00
KARREXHATA
MBUSHJE GUR KAVE
0.6
0.5
0.5
KANAL BETONI
KUNETE
BANKINË
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3
1
2,0%
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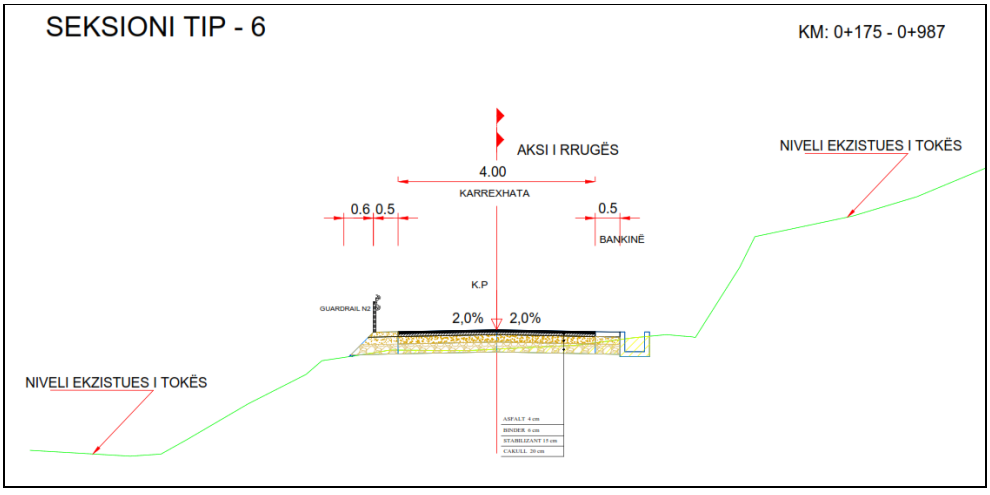
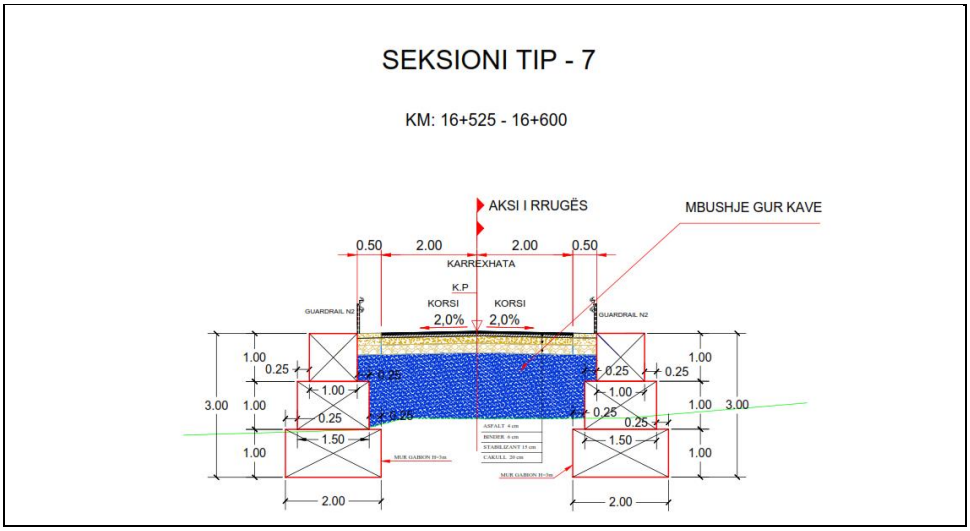
1
NIVELI EKZISTUES I TOKËS


SEKSIONI TIP - 6
KM: 0+175 - 0+987
AKSI I RRUGËS
NIVELI EKZISTUES I TOKËS
4.00
KARREXHATA
0.6
0.5
0.5
BANKINË
K.P
GUARDRAIL N2
2,0%
2,0%
NIVELI EKZISTUES I TOKËS



From its beginning to its end, the road lies in an area with relatively sloping relief, with some fluctuations in height. During this part, in certain segments presented in the planimetry and in the longitudinal profile, the body of the road is protected by retaining and retaining walls respectively of concrete. These walls make possible the stability of the slopes and the body of the road, since due to the expansion, it is necessary to guarantee the protection of the road body. The presence of these walls continues along the entire length of the road, in those positions where the road is more dangerous.

Generally in this part, the road is straight except for a few small turns.

In certain positions in the planimetry, pockets are made in the body of the road, in order to facilitate the circulation of vehicles.

Along the entire length of the road, in certain positions according to the planimetry, tombinos of dimensions d = 1000mm and d = 1500mm are placed, depending on the amount of water they can withstand, so that the road is not damaged by atmospheric water; while in works of artTip Box.

Cllverts

Tombino D = 1000mm are 24 pieces with a length of 6 m.

Tombino D = 1500mm are 7 pieces with a length of 6 m.

BOX-e

BOX 4x2 Prog. 4 + 275

BOX 2x2 Prog.16 + 525

BOX 2x2 Prog.20 + 300

2.2.2-TRAFFIC MEASUREMENT AND ROAD LAYERS

Traffic Load Assessment

Traffic is one of the main elements for dimensioning road layers. The analysis was done in both phases between the time of entry into use of the road and the end of the valid time of the infrastructure.

Many aspects have been taken into consideration such as: Number and composition of loading cycles, daily and stationary fluctuations, composition of axes of different vehicles, speed of circulation, etc.

The stresses determine the damage of the superstructure, when it is repeated too much, when the passage of vehicles is focused on a canalized trajectory, although in reality there are displacements in function of the average trajectory that depend on subjective and geometric factors (width of the track area, width of the lane, etc. .) and by vehicle flow characteristics (traffic volume, percentage of heavy vehicles, speed, etc.).

In the calculation of road layers, those vehicles that have a total weight of more than 3t are taken into account. To make the calculation simpler there are various methods that transform n axes into standard ones. Currently the standard reference axle is a single axle of the same wheels weighing 12t.

16 vehicle classes are considered, each characterized by a single type vehicle and the number of well-defined axles and wheels, with forces for each axle.

Legend of vehicle classifications:

1. bicycle
2. Vehicles
3. With two axes
4. buses
5. Two boxes with 6 tires
6. 3 Akse Teke
7. 4 Akse Teke
8. > 5 Double axles
9. 5 Axis Double
10. > 6 Axis Teke
11. <6 Akse Teke
12. 6 Axis Multi
13. > Multi Axial
14. Special
15. Unclassified
16. Toal

• ***Data and traffic factors for dimensioning of road infrastructure.***

The general data available to perform traffic analysis is TMD (average daily traffic), which represents the number of vehicles, including vehicles, that cross a road section in one day (average representative of the whole year).
From this value it is possible to determine the average number of commercial assets, their percentage (p), estimated, in the section considered for calculation.

From this value thus determined, the number of heavy axes known as the average number of axes of a commercial vehicle is determined.

This results in a variable value depending on the type of road and the function it solves for the transport of goods. The average number of axes varies from a minimum of 2 (local urban roads, traversed by commercial vehicles with reduced weight and load) to 3t in the case of industrial areas.These average values given in the table below are observed.

Road Type	Average number of axes
Extra-urban highway	2.65 - 2.75
Main and secondary extra-urban roads with heavy traffic	2.35 - 2.68
Common secondary and tourist extra-urban road	2.08 - 2.12
Urban roads (highways, urban art roads, urban neighborhoods and local urban)	2.00 - 2.05

Table - Average number of axes of commercial vehicles

All calculation methods refer to the number of heavy vehicles in standard axes. These can refer to the daily, annual or more often the number accumulated (cumulative) during the road use cycle time.

The critical element such as fracture verification and aging of bituminous layers must be considered several times in infrastructure. In the simplified hypothesis it is estimated that traffic increases homogeneously and these are distributed in all networks where for developed countries it deals with a value of 2-3%, while for developing countries 5 to 6% per year. In our case the traffic increase is taken 6%.

Thus if (n) is the number of years since the road was opened and (r) is the growth rate, the number of axes accumulated will be:

$$N = 365N_g \frac{(1+r)^n - 1}{r}$$

Where: Ng is the number of axes estimated on a day of the first year of road use. The number of axes accumulated per year (n) is:

$$Nn = 365Ng\ (1+r)\ n$$

Based on the above formulas for a period of 25 years N n =17,872,572

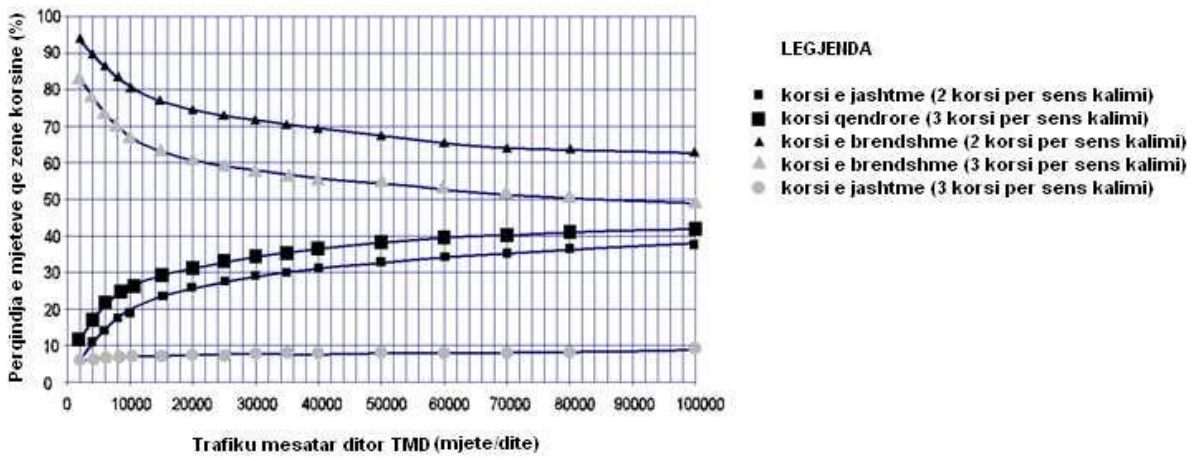
The calculation refers to the concept of standard axes. This allows a simplification of the calculation procedures, but introduces uncertainties related to the confrontation between the axes that are different not only for the overall weight, but also in the configuration, (pressures, speed of movement) etc.
Among other things, the value of the equivalence coefficient is related to the structural reaction of the superstructure to external loads which, as noted, varies as a function of temperature change, humidity degree, degree of fatigue of materials and their mechanical resistance.

Table 1.25 shows the distributions in road networks for real conditions.

Sometimes it may be necessary to differentiate traffic loads in different directions of movement: It is more common to estimate the different distribution of commercial traffic in carriageways consisting of more than one lane for a sense of motion. In fact not all so-called commercial vehicles move in the normal lane; their parts, especially those with lower axle loads, reach higher speed values and pass into other lanes of motion. Thus it is taken into account to reduce the number of axes occupying the busiest lane according to a factor that varies as a function of the number of lanes and the volume of traffic, according to graph 1.106

		Extraurban Highway (%)	Urban highway (%)	High metropolitan extra-urban road	Extraurban secondary road (%)	Secondary tourist extra-urban road (%)	Urban traffic roads (%)	Neighborhood and local streets (%)	Selected lanes (%)
Tool class	1	12.2	18.2	0.0	0.0	24.5	18.2	80.0	0.0
	2	0.0	18.2	13.1	0.0	0.0	18.2	0.0	0.0
	3	24.4	16.5	39.5	58.8	40.8	16.5	0.0	0.0
	4	14.6	0.0	10.5	29.4	16.3	0.0	0.0	0.0
	5	2.4	0.0	7.9	0.0	0.0	0.0	0.0	0.0
	6	12.2	0.0	2.6	5.9	4.2	0.0	0.0	0.0
	7	2.4	0.0	2.6	0.0	0.0	0.0	0.0	0.0
	8	4.9	0.0	2.5	2.8	2.0	0.0	0.0	0.0
	9	2.4	0.0	2.6	0.0	0.0	0.0	0.0	0.0
	10	4.9	0.0	2.5	0.0	0.0	0.0	0.0	0.0
	11	2.4	0.0	2.6	0.0	0.0	0.0	0.0	0.0
	12	4.9	0.0	2.6	0.0	0.0	0.0	0.0	0.0
	13	0.1	1.6	0.5	0.2	0.1	1.6	0.0	0.0
	14	0.0	18.2	0.0	0.0	0.0	18.2	20.0	47.0
	15	0.0	27.3	0.0	0.0	0.0	27.3	0.0	53.0
	16	12.2	0.0	10.5	2.9	12.2	0.0	0.0	0.0

Percentage of commercial vehicles provided by the Italian Catalog of Road Layers



• Distribution of lane traffic in function of TMD

Factor to be considered is the distribution of vehicle trajectories. The wheels do not follow exactly the same trajectory, but there is a distribution around an average value according to a typical Gaussian distribution. between the wheels.

Since heavy vehicles do not have the same axle loads, the equivalent axis is used to make their number consistent and comparable. Exponential law is one that explains the relationship between the general and standard axles.

Yoder has proposed a relation, a function of the axis weight in the study (x) and the equivalent standard weight (y).

$$C_{eq} = 2^{0.78(x-y)} \qquad (1.75)$$

Studied for the standard 8t axis (internationally recognized).

Recent research shows that: $C_{eq} = \left(\frac{x}{y}\right)^4$

The N number of axes accumulated at the end (term of use) of the road can be determined by multiplying the TMD by the above factors:

$$N = 365 \cdot TMD \cdot p_d \cdot p \cdot p_l \cdot d \cdot C_{eq} \cdot n_a \cdot \frac{(1+r)^n - 1}{r}$$

Whereas the number of axes that pass in one day in the last year of useful life (at the end of the exploitation time) will be:

$$N_d = TMD \cdot p_d \cdot p \cdot p_l \cdot d \cdot C_{eq} \cdot n_a \cdot (1+r)^n$$

2.2.3 ROAD LAYERS

Road layers in the construction of a road occupy a relatively high cost as a percentage of the total cost of building a road. This sets the task for the designer to solve and judge correctly in the dimensioning of road layers.

The above traffic calculations are made for the road ""Construction of Lura Road (Arras ÷ Fushë-Lurë) "" will be designed as category F and is classified as Local Roads.

For this reason, the package of asphalt layers will be calculated taking into account the traffic for category F of the road, in which TDMV is <1000 vehicles / 24h.

- **Road foundations**

Classification of soils as road foundations

Basement soils are the platform on which the road is placed. To play or fulfill this role the road platform must have several qualities:

It must provide a suitable layer for the compaction of road layers, ie be quite rigid. This rigidity should not be broken during the period between the excavation works and the completion of the road.

In its rigidity it participates in the dimensioning of the road layers, so the more rigid it is, the thinner the road layers will be and the cheaper the road construction will be.
It should have good qualities during freezing so that the frost front does not affect the body of the road.

Modeling of basement soils. For the dimensioning of a road we consider the earth as a homogeneous and isotropic elastic half space that is characterized by a modulus of elasticity "Es" (resilient module). This environment undergoes residual deformations under the repeated action of loads from vehicles. Practice shows that this hypothesis is far from reality and that the characteristics of the soil vary at every step or degree of loading as well as by climatic conditions. Therefore, it is very important to create a more accurate picture of the behavior of the soil and especially to determine a more realistic value of this module, which enters directly into the dimensioning of road layers. The characteristics of the soil depend a lot on its composition, humidity, etc. Humidity and the presence of water can significantly modify the soil's response to external loads. Therefore, protection measures against water and moisture must be taken during the use of the road. Also the behavior of the soil changes greatly under the effects of low and high temperatures creating buffer pressures during the rise and fall of the bearing capacity during the melting of ice.

These works are conditioned:
By the type of road to be built
Areas with poor and very poor soils.
The lowest points of the relief.

Areas with the presence of water or with too much moisture to be drained.
Climatic conditions of the area.
Groundwater level, their movement, direction of movement, inflows by seasons.

- ## Qualities that soils that serve as road foundations should have

Parameters that characterize the behavior of basement soils.

Basement soils are the material that occurs on site or brought (in case of fillings) that must contain the road structure and traffic in all types of climatic conditions. Their bearing capacity directly determines the thickness of road layers for a given traffic. for this purpose some mechanical parameters are defined such as:
Resistance or bearing capacity of soil R in Kpa.
Soil deformation modulus Md in Kpa.
CBR ratio of California carrying capacity in%.
The modulus of elasticity of the Eel soil is in Kpa (when modeled as an elastic half-space).
Spring coefficient Ks in KN / m3 (when soil is modeled as spring).
Dynamic modulus Ed in Kpa (when there are very powerful dynamic actions such as earthquake case).

a - Bearing capacity of the plinth

It can be defined in several ways:

Through the physical condition of the soils given by: ε, Irj, Ip for bound soils and by: ID, G, granulometry, for loamy soils in the form of [σ].
Through static and dynamic penetrometer.
Through data on soil shear strength which are the internal friction angle Φ and the cohesion C in the form of Rn.
By pressing an axial with lateral expansion from which Cu and R are extracted.

In order for the soil to serve as a road foundation it must have a bearing capacity $R \geq 150$Kpa. Otherwise a part of it is replaced with another material that provides this bearing capacity or the soil is treated with different materials and in this case it is called artificial foundation .

b - Soil deformation module.

It is the most important parameter because the design of the road layers and the normal operation of the road for the calculated period depend on the deformation properties of the foundation (Md).

For the soil to serve as a road foundation there must be a certain value of the deformation modulus that depends on the drainage conditions and the category of the road or the intensity of the traffic. The minimum value accepted is:
$Md \geq 1.5 \cdot 104$ Kpa.

c - California Holding Capacity Report CBR

CBR is a very important parameter because:

- Through it we judge whether the soil can be used as a road foundation.
- Thus if:

CBR = 2 ÷ 5% -it is a very weak foundation
CBR = 5 ÷ 8% -it is a weak foundation
CBR = 8 ÷ 20% -it is the average base
CBR = 20 ÷ 30% -it is a very good foundation

With the help of CBR we judge whether the compacted layer when under water will maintain its strength or not (tests are done after the sample has been under water for 4 days or 96 hours) and how much it has the ability to swell in the presence of water .
There is a good correlation between the CBR and the deformation modulus, the modulus of elasticity and the spring coefficient.
So by doing a single test such as CBR we can judge the other deformation parameters we need when modeling the soil as a porous (plastic) Md material, and as a half-elastic space Eel or as a Ks spring.

The following links are derived between CBR and the above parameters:

- Eel = A.CBR in MPa A = 8-10
- Ks = 4.1+ 51.3 log CBR in MPa for CBR = 2 - 30%
- Ks = 314.7 + 266.7 logCBR in MPa for CBR = 20 –100%
- Md = CBR / 0.2 in MPa

For soils to serve as road foundation must have a minimum CBR CBR = 8%

d - Spring coefficient

The spring coefficient or modulus of the soil reaction (when it is modeled as a spring) is derived from the strain-deformation relationship p - s.

$$K_s = \frac{\Delta P}{\Delta S} = \frac{KN}{m^3} \text{ose } \frac{kg}{cm^3} \quad (1.79)$$

According to K_s we have:

- Ks <40 kg / m3 very poor soil
- Ks = 60 -80 kg / m3 good soil
- Ks = 40 -60 kg / m3 poor soil
- Ks> 80 kg / m3 very good soil

Main physical-mechanical characteristics of materials.

(1) The characteristics of the aggregates that need to be adapted are those given in the CNR norms for the traffic categories PP, P, M and L individualized in function of commercial traffic.

Granulometric mixture for use layer, bonding and for base layer

(2) Traffic T in number of commercial vehicles in the busiest lane:

PP (very heavy) T> 22,000,000

P (heavy) 8,000,000 <T <22,000,000

M (average) 3,500,000 <T <8,000,000

L (light) T <3,500,000

Table -Physical-mechanical characteristics of materials

For the consumer layer (asphalt concrete)						
Traffic	Granulometry	Bitumen	Marshall Stability (75 strokes)		Marshall hardness	The rest Marshall
(1)	(2)	(%)	(Kg)	(daN)	(Kg / mm)	(%)
PP	Figure 8.3	4.5 -6	≥1100	≥1080	300-450	4 -6
P		4.5 -6	≥1100	≥1080	300-450	4 -6
M		4.5 -6	0001000	≥980	> 300	3 -6
L		4.5 -6	0001000	≥980	> 300	3 -6
Density in work (according to Marshall density) ≥97%						
For the binder layer (Binder)						
Traffic	Granulometry	Bitumen	Marshall Stability (75 strokes)		Marshall hardness	The rest Marshall
(1)	(2)	(%)	(Kg)	(daN)	(Kg / mm)	(%)
PP	Figure 8.4	4.5 -5.5	0001000	≥980	300-450	3 -6
P		4.5 -5.5	0001000	≥980	300-450	3 -6
M		4.5 -5.5	≥900	80880	> 300	3 -7
L		4.5 -5.5	≥900	80880	> 300	3 -7
Density in work (according to Marshall density) ≥98%						
Bituminous conglomerates for the base layer						
Traffic	Granulometry	Bitumen	Marshall Stability (75 strokes)		Marshall hardness	The rest Marshall
(1)	(2)	(%)	(Kg)	(daN)	(Kg / mm)	(%)
PP	Figure 8.5	4 -5	≥800	≥780	> 250	4 -7
P		4 -5	≥800	≥780	> 250	4 -7
M		3.5 -4.5	≥700	≥690	> 250	4 -7
L		3.5 -4.5	≥700	≥690	> 250	4 -7

Density in work (according to Marshall density) ≥98%	
Unbound granular mix	
CBR (after 4 days of immersion in water)	CBR≥30%
Density (according to AASHTO density modified)	%98%

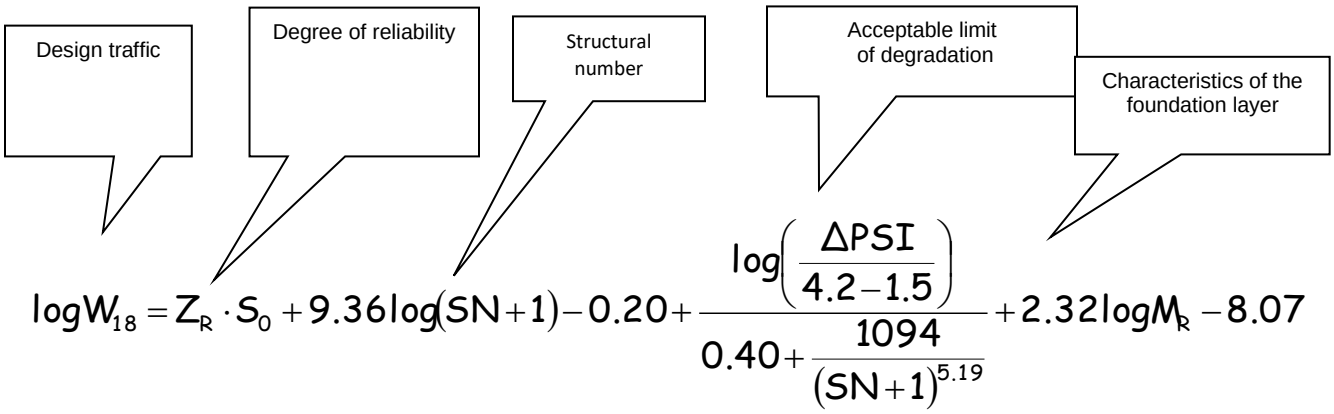
2.2.4 CALCULATION OF ROAD LAYERS

The calculation of the layers in the Catalog is done with the methods of dimensioning, empirical-theoretical and rational, which is valid in the design of the project idea, while in the design of the project implementation will be made frequency calculations depending on the bearing capacity of land and traffic using (recommended) AASHTO method of designing road structures.

The empirical-theoretical method used is that brought by the "AASHTO Guide for Design of Pavement Structures".

Below is a brief summary of the design criteria of the layers according to AASHTO after the empirical-theoretical method used in the tables for the calculation of road layers was brought by (AASHTO). The dimensioning method (AASHTO Guide for Design of Pavement Structures) is based on the contribution of 4 factors that consist of the following points:

1 Design traffic
2 Coefficient of sizing process reliability;
3 Layer characteristics (structural number SN).
4 Acceptable limit of superstructure degradation;



TRAFFIC

In the methodology proposed by AASHTO the traffic loads are represented by the multiple number (W18) according to the standard axes (ESAL1) from 8.16 t (18 kip). Distribution of traffic for each sense of motion (pd)Percentage of commercial vehicles (p), Percentage of commercial traffic moving in the slow lane (pl), Distribution of trajectories (d).

ESAL = Equivalent standard axle load. Represents the standard axis equivalent to AASHTO equal to 18 kip (ChiloPound). Since 1 Pound = 0.4536 Kg it is equal to 18,000 x 0.4536 kg = 8164.8 kg)

Confidentiality

This design factor takes into account uncertainty conditions, which may affect traffic forecasting and layer performance. The reliability of an asphalt design process is the probability that the design section can maintain it in acceptable conditions, function satisfactorily, in traffic and environmental conditions throughout its useful life.

Definition of reliability and development of design safety factor.

In the AASHTO method the reliability R is introduced through the coefficients S0 and ZR.

Where S0 represents the standard deviation in traffic forecasting and layer behavior towards it.

ZR is the absurdity of reduced standard distribution.

Reliability R represents the probability that an event cited above occurs.

Reliability R = 95% means that in 95 cases out of one hundred forecasts made during the design (traffic, paving performance) will be verified at the required time of predetermined utilization. On the other hand 5% of cases this does not happen.For every value of R there is a well-defined reduced deviation.

The analytical procedure of Reliability is long, but for practical simplicity in table 1.28 its values are given for different types of roads.

Permitted limit of demolition (degradation) of the superstructure.

The index introduced by AASHTO for the assessment of superstructure demolition is (Present Service ability Index) PSI. characteristics referred to in the surface unit:

$PSI = 5.03 - 1.91\log(1+SV) - 0.01\sqrt{C+P} - 1.38RD$ Where: SV = average of longitudinal profile slope variations, C = area of potholes per unit area, P = area cracked or damaged with special characteristics, per unit area, RD = average depth of footprint dimensions.

Values vary from the best values equal to 5 at the beginning of useful life to values 0 when bedding efficiency is nothing. The maximum permissible values depend on the importance of the road connection: the larger it is, the higher the PSI allowance limit should be. However for values less than 1 to 1.5 are not allowed as this will compromise both the level of service and road safety.

Layer characteristics (Structural Number SN).

In the method for each layer (expressed in inches with thickness Hi) a structural coefficient is

assigned, which represents the contribution of the layer to the overall work of the layers. A further factor is introduced to take into account the drainage effects. The contribution of each layer to the overall performance of the layers is a product of two coefficients he knows its thickness H_{of}.

$$SN_i = a_i H_i d_i$$

- SNi = number of i-layer structure (inch)
- ai = Coefficient of deformation of the 1st layer (without dimensions)
- Hi = Layer thickness i (inch)
- di = Drainage coefficient of the i-th layer.

The thickness coefficients it can be derived, for unrelated layers, depending on the CBR measures through the ratios:

$$a_i = 0.00645 \cdot CBR^3 - 0.1977 \cdot CBR^2 + 29.14 \cdot CBR \qquad baza$$

$$a_i = 0.01 + 0.065 \cdot \log CBR \qquad themeli$$

Alternatively it can be calculated according to a ratio of elastic coefficients:

$$a_i = a_g \sqrt[3]{\frac{E_i}{E_g}}$$

where: ag: = standard thickness coefficient according to AASHTO Road Test
Ei: = the elastic coefficient of the layer
Eg: = elastic coefficient of standard material according to AASHTO Road Test.

The values of (ag, Eg) are presented in the table below.

Layer type	Thickness coefficient a_g	Elastic modulus of material E_g [MPa]
Bituminous conglomerates for surface layers	0.42	3100
Stabilized base	0.17	207
foundation	0.11	104

Table - Values of ag, Eg For more, we have considered the contribution given by SNSG (structural number of the foundation)

The value of SN is last estimated with the following expression:

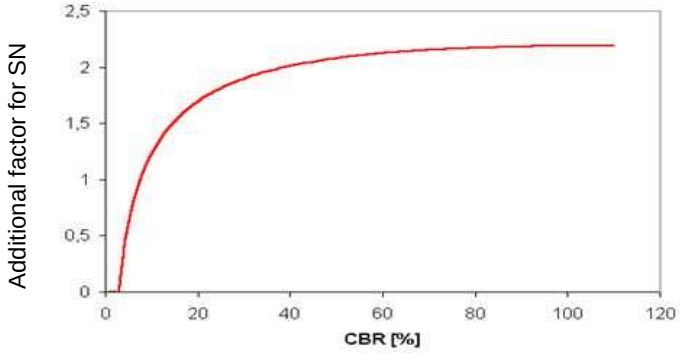
$$SN = \sum_{i=1}^{n_{strati}} a_i H_i d_i + SNSG \text{ [Inch]}$$

Basement characteristics

The characteristics of the plinth are considered in the definition formula proposed by AASHTO through the MR Elastic Module expressed in psi (pound square inch) 3.

Basement contribution enters through its CBR carrying capacity:

$$SNSG = 3.51\log_{10} CBR - 0.85(\log_{10} CBR)^2 - 1.43 \quad \text{per CBR} \geq 3$$
$$SNSG = 0 \text{ për CBR} < 3$$



CBR = California Bearing Ratio [%].

The estimation of SN can be done indirectly through correlations with other parameters that describe the structural characteristics of the superstructure. Among these, a particularly useful connection is the one between SN and the elastic coefficient of the MR foundation.

$$CBR = \frac{M_R}{10}$$

MR = elastic coefficient of the MPa base
CBR = bearing capacity indicator CBR (California Bearing Ratio) [%] .MR considering the cases: -most unfavorable MR = 30MPa-average MR = 50MPa-best MR> 70MPa

di-Coefficient of drainage of the i-th layer.

In AASHTO (Design Instructions, Drainage Coefficients, (know) are used to change the value of the thickness coefficient (ai) of any unstabilized layer above the foundation to a flexible layer. The effect of an efficient drainage is what we will have value high SN, and moreover in the reduction of cracks, traces and irregularities of the road surface. humidity levels close to saturation.

Drainage quality	Water removal time
Excellent	2 hours
Good	1 day

Average	1 week
Weak	1 month
Very weak	Untouched

	Percentage of time in which unbound layers are at saturation approximations			conditions of
Drainage quality	<1%	From 1% to 5%	From 5% to 25%	> 25%
Excellent	1.40-1.35	1.35-1.30	1.30-1.20	1.20
Good	1.35-1.25	1.25-1.15	1.15-1.00	1.00
Average	1.25-1.15	1.15-1.05	1.00-0.80	0.80
Weak	1.15-1.05	1.05-0.80	0.80-0.60	0.60
Very weak	1.05-0.95	0.95-0.75	0.75-0.40	0.40

Drainage coefficient know

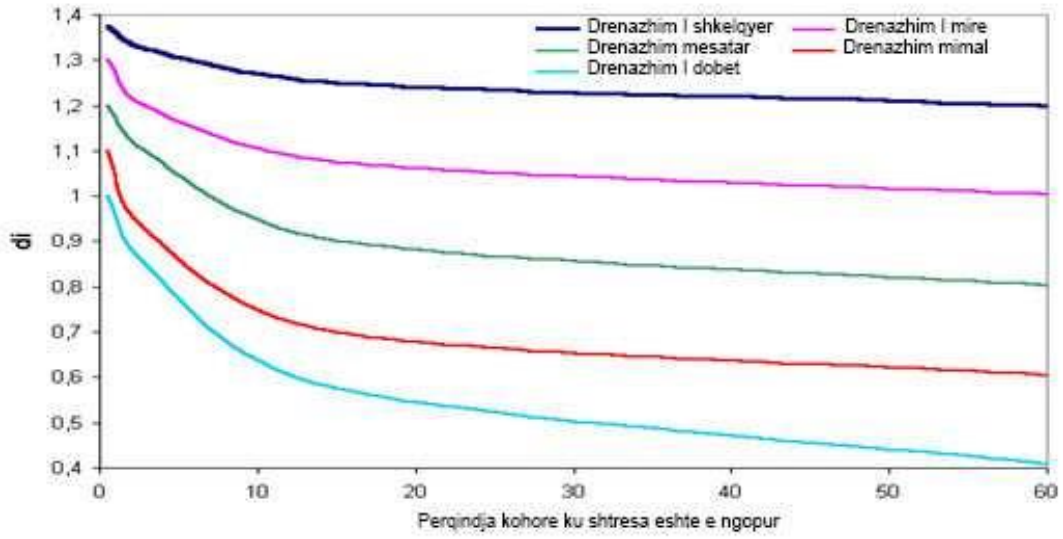


Table -Determination of drainage coefficient Table gives reliability and PSI

Road Type	Reliability (%)	PSI
1) Extra urban highway	90	3
2) Urban highway	95	3
3) Main and secondary extra-urban roads with heavy traffic	90	2.5
4) Ordinary secondary extra-urban roads	85	2.5
5) Extraurban secondary tourist roads	80	2.5
6) Urban roads	95	2.5
7) Urban neighborhood and local roads	90	2
8) Preferential lanes	95	2.5

Table - Reliability and PSI

It is noted that the highest values of reliability have been observed for roads in urban areas. In terms of the PSI index, higher values have been adopted for highways to guarantee, throughout the useful time span, high safety standards and comfort for circulation.

Rational calculations are performed following specific structural analysis procedures and specific criteria for verification of fatigue destruction. The adapted structural model is for flexible layers schematized according to the finite element method. Rational calculations take into account reliability by opportunistically increasing thicknesses found with corrective factors to fit the dimensions of AASHTO.

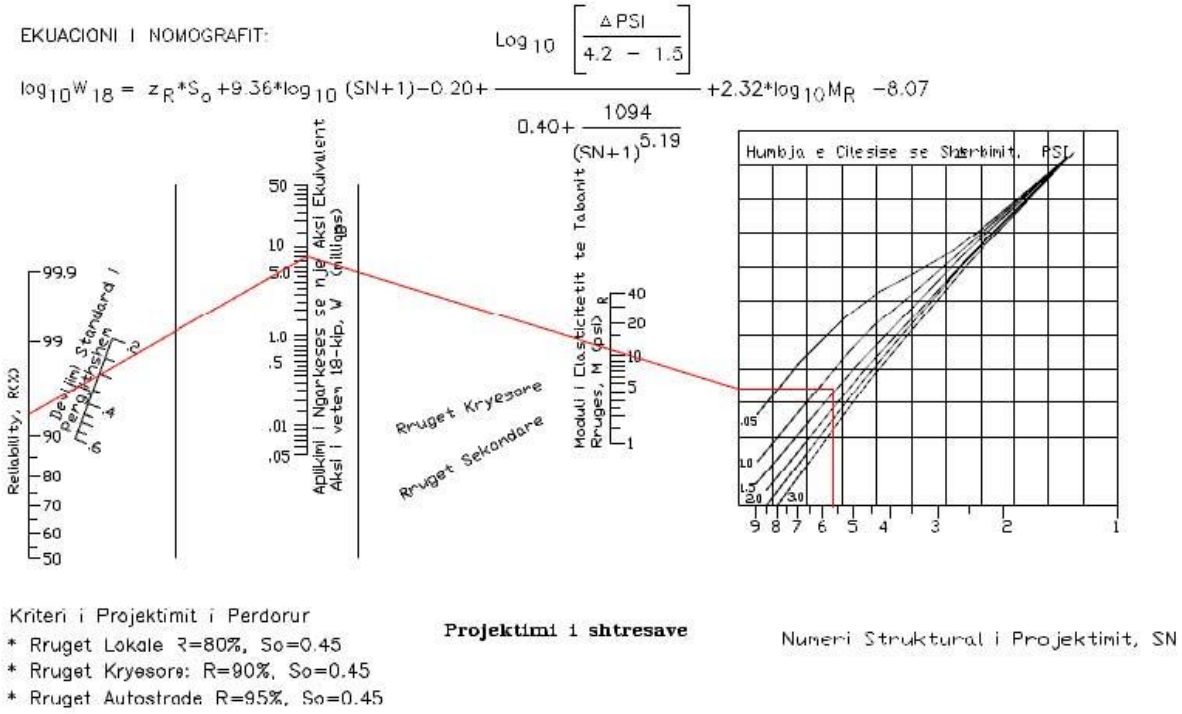


Figure 1. Projektimi i Shtresave Fleksibile

Structural design of road layers

Values of design variables with reference to data and referenced by AASHTO Guide and Highway Design Manual.

Main data

Traffic load with standard axis lifespan W80 = 1.49x10ESAL20years
Security R = 95%
*General deviation standards SO = 0.45*PSI = (4.2-2.2) = 2 PSI = 2
Drainage coefficients for stabilizers = 1.10Drainage coefficient for Sub-base layer = 1.0Mr

*= 1.5 * CBR (%) = 1.5 * 4 = 6psiCoating coefficient for binder + binder a1 = 0.42*
Coefficients for bituminous conglomerate a2 = 0.40
Coefficients for stabilizers a3 = 0.17 *Coefficient for granular base a4 = 0.11Coe for gravel a5 = 0.11*

Based on the above data, graphically is this solution:

Graphic method derives the value SN = 3.8 (Inch) = 3.8 * 2.54 = 9.65

Based on the data, we propose a package of layers as follows:

LAYER DESIGN AASHTO:	
coating	*Thickness (mm)*
Asphalt concrete layer	*30*
Binder layer	*50*
Stabilizer layer	*150*
ballast	*300*

Calculation table

Δ *Now that the structural design number (SN) for the structure of the initial layers has been determined and it is necessary to identify a "series of layer thicknesses", which when combined will give the corresponding bearing capacity of the designed (SN).*

Δ *The following equation provides the basis for converting SN to a real thickness of circulating layer, base layer, granular base layer*
• SN = a1D1 + a2D2 + a3D3 + anDn Δ where D1, etc. is in mm. It should be noted that the above equation does not have a single solution ie it does *many combinations of layer thicknesses that provide satisfactory solutions.*

Δ *However in choosing the right values for the thickness of the layers, it is important to consider their cost-effectiveness, along with construction and cost constraints, in order to avoid the possibility of giving an impractical design.*
Δ *Asphalt concrete layers have been selected 40mm and binder layer 60mm. 100 mm bituminous conglomerate given a base thickness of 100mm (Stabilizer), granular base 300mm.*

Δ *We compose the road layers:*

Δ SN = (0.42 x3) + (0.42 x 5) + (0.4x15) + (0.17 x 30)

Parap Preliminary calculation derives the value SN = 16.7

We see that the value derived from the graphical method is less than the preliminary calculation obtained:

14.46 *<16.7*

Based on this conclusion we can say that the package of road layers considered are well dimensioned.

2.3 - TECHNICAL DATA ON ROAD SIGNALING

The realization of horizontal and vertical signage is foreseen.

Horizontal Signage which will consist of:

1. lineament

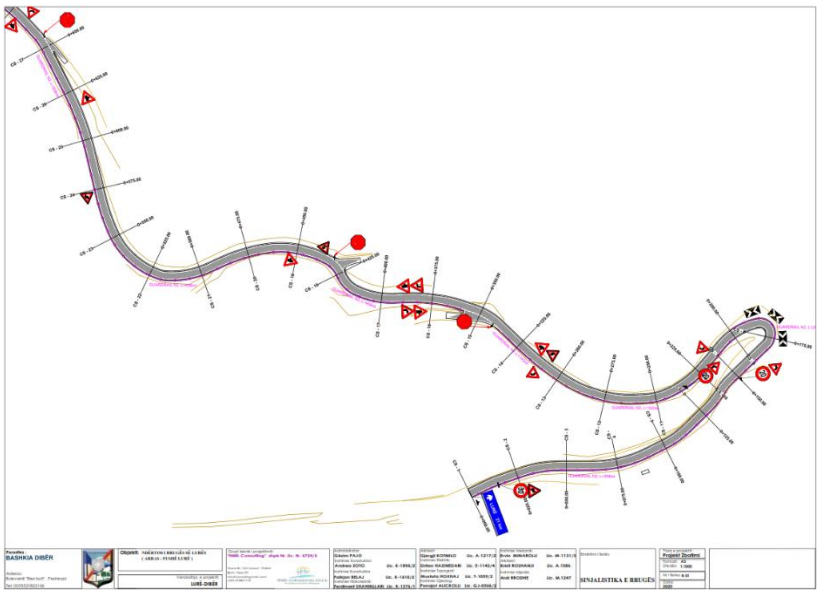
a) The road axis will be marked with a dashed line. This line will separate the two directions of movement.
b) In the areas near the branches and road junctions, the axis will be lined with a continuous line.

2. Directional arrows, which are placed repeatedly in front of the intersections.
3. Pedestrian movement lines, which are provided at intersections.

Vertical Signage will consist of

1. Binding Tables.
2. Indicative Tables.
3. Warning Signs.

Excerpt from Road Signage Planimetry



2.5–EXCLUDING VOLUMES-FILLING

Volume in Germim

Project "Construction of Arras-Lure Road

Excavation volumes

Start Axis: 0 + 000.00

Completion Axis: 21 + 396.50

Sec Nr	Station	distances	Sip Germimi (m2)	Average Size (m2)	Volume Germimi (m3)	Progressive Volume (m3)
1	0 + 000.00	0	0.26		0.00	
2	0 + 025.00	25	0.12	0.19	4.69	4.69
3	0 + 050.00	25	5.24	2.68	66.95	71.64
4	0 + 075.00	25	0.71	2.98	74.38	146.01
5	0 + 100.00	25	0.77	0.74	18.50	164.51
6	0 + 125.00	25	3.90	2.34	58.38	222.89
7	0 + 150.00	25	0.56	2.23	55.80	278.69
8	0 + 175.00	25	0.01	0.28	7.11	285.80
9	0 + 200.00	25	0.00	0.00	0.06	285.86
10	0 + 225.00	25	0.00	0.00	0.00	285.86
11	0 + 250.00	25	2.70	1.35	33.75	319.61
12	0 + 275.00	25	3.07	2.89	72.14	391.75
13	0 + 300.00	25	1.34	2.21	55.15	446.90
14	0 + 325.00	25	0.41	0.88	21.90	468.80
15	0 + 350.00	25	0.20	0.31	7.64	476.44
16	0 + 375.00	25	0.28	0.24	6.03	482.46
17	0 + 400.00	25	2.13	1.21	30.19	512.65

18	0 + 425.00	25	3.53	2.83	70.79	583.44
19	0 + 450.00	25	0.00	1.77	44.13	627.56
20	0 + 475.00	25	0.03	0.01	0.34	627.90
21	0 + 500.00	25	0.00	0.01	0.34	628.24
22	0 + 525.00	25	0.00	0.00	0.00	628.24
23	0 + 550.00	25	0.47	0.24	5.91	634.15
24	0 + 575.00	25	5.98	3.22	80.61	714.76
25	0 + 600.00	25	4.37	5.17	129.33	844.09
26	0 + 625.00	25	2.00	3.19	79.68	923.76
27	0 + 650.00	25	5.63	3.82	95.45	1019.21
28	0 + 675.00	25	0.78	3.21	80.15	1099.36
29	0 + 700.00	25	0.30	0.54	13.50	1112.86
30	0 + 725.00	25	2.35	1.33	33.18	1146.04
31	0 + 750.00	25	0.72	1.54	38.40	1184.44
32	0 + 775.00	25	0.70	0.71	17.73	1202.16
33	0 + 800.00	25	0.14	0.42	10.45	1212.61
34	0 + 825.00	25	4.05	2.10	52.38	1264.99
35	0 + 850.00	25	3.74	3.90	97.44	1362.43
36	0 + 875.00	25	2.83	3.28	82.09	1444.51
37	0 + 900.00	25	0.83	1.83	45.70	1490.21
38	0 + 925.00	25	1.60	1.22	30.38	1520.59
39	0 + 950.00	25	0.01	0.80	20.08	1540.66
40	0 + 975.00	25	0.00	0.00	0.08	1540.74
41	1 + 000.00	25	0.00	0.00	0.00	1540.74
42	1 + 025.00	25	0.00	0.00	0.00	1540.74
43	1 + 050.00	25	3.28	1.64	41.00	1581.74
44	1 + 075.00	25	2.84	3.06	76.50	1658.24
45	1 + 100.00	25	9.70	6.27	156.75	1814.99

46	1 + 125.00	25	0.00	4.85	121.25	1936.24
47	1 + 150.00	25	3.58	1.79	44.75	1980.99
48	1 + 175.00	25	0.95	2.27	56.63	2037.61
49	1 + 200.00	25	3.75	2.35	58.75	2096.36
50	1 + 225.00	25	2.22	2.99	74.63	2170.99
51	1 + 250.00	25	0.00	1.11	27.75	2198.74
52	1 + 275.00	25	0.00	0.00	0.00	2198.74
53	1 + 300.00	25	0.00	0.00	0.00	2198.74
54	1 + 325.00	25	0.66	0.33	8.23	2206.96
55	1 + 350.00	25	0.54	0.60	14.98	2221.94
56	1 + 375.00	25	0.00	0.27	6.75	2228.69
57	1 + 400.00	25	0.00	0.00	0.00	2228.69
58	1 + 425.00	25	0.00	0.00	0.00	2228.69
59	1 + 450.00	25	0.99	0.50	12.38	2241.06
60	1 + 475.00	25	2.16	1.58	39.38	2280.44
61	1 + 500.00	25	0.83	1.50	37.38	2317.81
62	1 + 525.00	25	0.62	0.73	18.13	2335.94
63	1 + 550.00	25	1.70	1.16	28.99	2364.93
64	1 + 575.00	25	1.55	1.63	40.65	2405.58
65	1 + 600.00	25	0.30	0.93	23.16	2428.74
66	1 + 625.00	25	0.72	0.51	12.75	2441.49
67	1 + 650.00	25	2.40	1.56	39.00	2480.49
68	1 + 675.00	25	0.91	1.66	41.38	2521.86
69	1 + 700.00	25	0.06	0.49	12.13	2533.99
70	1 + 725.00	25	0.04	0.05	1.20	2535.19
71	1 + 750.00	25	0.02	0.03	0.68	2535.86
72	1 + 775.00	25	0.03	0.02	0.60	2536.46
73	1 + 800.00	25	2.97	1.50	37.54	2574.00

74	1 + 825.00	25	1.16	2.07	51.66	2625.66
75	1 + 850.00	25	1.20	1.18	29.50	2655.16
76	1 + 875.00	25	1.32	1.26	31.46	2686.63
77	1 + 900.00	25	0.00	0.66	16.46	2703.09
78	1 + 925.00	25	0.00	0.00	0.00	2703.09
79	1 + 950.00	25	0.48	0.24	6.00	2709.09
80	1 + 975.00	25	0.82	0.65	16.25	2725.34
81	2 + 000.00	25	2.67	1.75	43.63	2768.96
82	2 + 025.00	25	5.50	4.09	102.13	2871.09
83	2 + 050.00	25	0.36	2.93	73.25	2944.34
84	2 + 075.00	25	0.00	0.18	4.50	2948.84
85	2 + 100.00	25	0.00	0.00	0.00	2948.84
86	2 + 125.00	25	0.00	0.00	0.00	2948.84
87	2 + 150.00	25	0.00	0.00	0.00	2948.84
88	2 + 175.00	25	0.00	0.00	0.00	2948.84
89	2 + 200.00	25	2.71	1.36	33.88	2982.71
90	2 + 225.00	25	2.92	2.82	70.38	3053.09
91	2 + 250.00	25	0.00	1.46	36.50	3089.59
92	2 + 275.00	25	0.22	0.11	2.75	3092.34
93	2 + 300.00	25	2.44	1.33	33.25	3125.59
94	2 + 325.00	25	0.00	1.22	30.50	3156.09
95	2 + 350.00	25	0.00	0.00	0.04	3156.13
96	2 + 375.00	25	0.00	0.00	0.04	3156.16
97	2 + 400.00	25	0.00	0.00	0.00	3156.16
98	2 + 425.00	25	1.68	0.84	21.00	3177.16
99	2 + 450.00	25	4.78	3.23	80.71	3257.88
100	2 + 475.00	25	0.71	2.74	68.59	3326.46
101	2 + 500.00	25	0.08	0.40	9.88	3336.34

102	2 + 525.00	25	0.00	0.04	1.00	3337.34
103	2 + 550.00	25	0.00	0.00	0.00	3337.34
104	2 + 575.00	25	8.37	4.19	104.65	3441.99
105	2 + 600.00	25	4.20	6.29	157.15	3599.14
106	2 + 625.00	25	3.24	3.72	93.00	3692.14
107	2 + 650.00	25	1.03	2.14	53.38	3745.51
108	2 + 675.00	25	0.00	0.52	12.90	3758.41
109	2 + 700.00	25	0.00	0.00	0.03	3758.44
110	2 + 725.00	25	0.00	0.00	0.00	3758.44
111	2 + 750.00	25	0.00	0.00	0.00	3758.44
112	2 + 775.00	25	1.35	0.68	16.88	3775.31
113	2 + 800.00	25	0.00	0.68	16.88	3792.19
114	2 + 825.00	25	1.00	0.50	12.50	3804.69
115	2 + 850.00	25	1.36	1.18	29.50	3834.19
116	2 + 875.00	25	5.53	3.45	86.13	3920.31
117	2 + 900.00	25	1.54	3.54	88.38	4008.69
118	2 + 925.00	25	0.00	0.77	19.25	4027.94
119	2 + 950.00	25	1.35	0.68	16.88	4044.81
120	2 + 975.00	25	1.08	1.22	30.38	4075.19
121	3 + 000.00	25	0.00	0.54	13.50	4088.69
122	3 + 025.00	25	6.01	3.00	75.11	4163.80
123	3 + 050.00	25	0.06	3.03	75.86	4239.66
124	3 + 075.00	25	1.30	0.68	17.00	4256.66
125	3 + 100.00	25	7.05	4.18	104.41	4361.08
126	3 + 125.00	25	8.12	7.59	189.66	4550.74
127	3 + 150.00	25	7.64	7.88	197.00	4747.74
128	3 + 175.00	25	0.63	4.14	103.38	4851.11
129	3 + 200.00	25	1.84	1.24	30.88	4881.99

130	3 + 225.00	25	2.10	1.97	49.25	4931.24
131	3 + 250.00	25	1.11	1.61	40.13	4971.36
132	3 + 275.00	25	1.43	1.27	31.75	5003.11
133	3 + 300.00	25	0.60	1.02	25.38	5028.49
134	3 + 325.00	25	0.41	0.51	12.63	5041.11
135	3 + 350.00	25	2.33	1.37	34.25	5075.36
136	3 + 375.00	25	3.24	2.79	69.63	5144.99
137	3 + 400.00	25	5.97	4.61	115.13	5260.11
138	3 + 425.00	25	9.05	7.51	187.75	5447.86
139	3 + 450.00	25	0.93	4.99	124.75	5572.61
140	3 + 475.00	25	0.11	0.52	13.00	5585.61
141	3 + 500.00	25	0.06	0.09	2.13	5587.74
142	3 + 525.00	25	0.53	0.30	7.38	5595.11
143	3 + 550.00	25	0.19	0.36	9.00	5604.11
144	3 + 575.00	25	0.67	0.43	10.75	5614.86
145	3 + 600.00	25	3.08	1.88	46.88	5661.74
146	3 + 625.00	25	1.63	2.36	58.88	5720.61
147	3 + 650.00	25	0.82	1.23	30.63	5751.24
148	3 + 675.00	25	0.28	0.55	13.76	5765.00
149	3 + 700.00	25	2.06	1.17	29.26	5794.26
150	3 + 725.00	25	1.06	1.56	39.00	5833.26
151	3 + 750.00	25	0.92	0.99	24.75	5858.01
152	3 + 775.00	25	1.13	1.03	25.63	5883.64
153	3 + 800.00	25	1.98	1.56	38.88	5922.51
154	3 + 825.00	25	0.86	1.42	35.50	5958.01
155	3 + 850.00	25	2.76	1.81	45.25	6003.26
156	3 + 875.00	25	1.06	1.91	47.75	6051.01
157	3 + 900.00	25	2.28	1.67	41.75	6092.76

158	3 + 925.00	25	2.52	2.40	60.00	6152.76
159	3 + 950.00	25	1.18	1.85	46.25	6199.01
160	3 + 975.00	25	1.82	1.50	37.50	6236.51
161	4 + 000.00	25	2.25	2.04	50.88	6287.39
162	4 + 025.00	25	1.00	1.63	40.63	6328.01
163	4 + 050.00	25	0.93	0.97	24.13	6352.14
164	4 + 075.00	25	4.98	2.96	73.88	6426.01
165	4 + 100.00	25	5.44	5.21	130.25	6556.26
166	4 + 125.00	25	2.93	4.19	104.63	6660.89
167	4 + 150.00	25	5.46	4.20	104.88	6765.76
168	4 + 175.00	25	4.05	4.76	118.88	6884.64
169	4 + 200.00	25	0.04	2.04	51.10	6935.74
170	4 + 225.00	25	0.00	0.02	0.48	6936.21
171	4 + 250.00	25	0.00	0.00	0.00	6936.21
172	4 + 275.00	25	0.00	0.00	0.00	6936.21
173	4 + 300.00	25	0.83	0.42	10.38	6946.59
174	4 + 325.00	25	2.51	1.67	41.79	6988.38
175	4 + 350.00	25	3.80	3.16	78.91	7067.29
176	4 + 375.00	25	1.37	2.58	64.58	7131.86
177	4 + 400.00	25	2.14	1.76	43.88	7175.74
178	4 + 425.00	25	1.78	1.96	49.05	7224.79
179	4 + 450.00	25	1.52	1.65	41.25	7266.04
180	4 + 475.00	25	2.90	2.21	55.20	7321.24
181	4 + 500.00	25	0.94	1.92	47.99	7369.23
182	4 + 525.00	25	1.11	1.03	25.68	7394.90
183	4 + 550.00	25	2.64	1.88	46.88	7441.78
184	4 + 575.00	25	2.34	2.49	62.21	7503.99
185	4 + 600.00	25	1.75	2.04	51.08	7555.06

186	4 + 625.00	25	0.83	1.29	32.21	7587.28
187	4 + 650.00	25	1.61	1.22	30.45	7617.73
188	4 + 675.00	25	1.09	1.35	33.69	7651.41
189	4 + 700.00	25	0.22	0.65	16.35	7667.76
190	4 + 725.00	25	0.00	0.11	2.75	7670.51
191	4 + 750.00	25	0.00	0.00	0.00	7670.51
192	4 + 775.00	25	0.00	0.00	0.00	7670.51
193	4 + 800.00	25	0.91	0.46	11.43	7681.94
194	4 + 825.00	25	1.73	1.32	33.08	7715.01
195	4 + 850.00	25	1.07	1.40	35.08	7750.09
196	4 + 875.00	25	0.38	0.73	18.20	7768.29
197	4 + 900.00	25	2.60	1.49	37.31	7805.60
198	4 + 925.00	25	1.10	1.85	46.30	7851.90
199	4 + 950.00	25	0.08	0.59	14.81	7866.71
200	4 + 975.00	25	0.66	0.37	9.30	7876.01
201	5 + 000.00	25	1.72	1.19	29.75	7905.76
202	5 + 025.00	25	1.56	1.64	41.00	7946.76
203	5 + 050.00	25	2.26	1.91	47.75	7994.51
204	5 + 075.00	25	1.80	2.03	50.75	8045.26
205	5 + 100.00	25	0.57	1.18	29.60	8074.86
206	5 + 125.00	25	0.47	0.52	12.98	8087.84
207	5 + 150.00	25	1.93	1.20	30.00	8117.84
208	5 + 175.00	25	1.15	1.54	38.50	8156.34
209	5 + 200.00	25	0.00	0.58	14.41	8170.75
210	5 + 225.00	25	0.00	0.00	0.04	8170.79
211	5 + 250.00	25	0.00	0.00	0.00	8170.79
212	5 + 275.00	25	0.00	0.00	0.00	8170.79
213	5 + 300.00	25	6.34	3.17	79.25	8250.04

214	5 + 325.00	25	1.59	3.97	99.13	8349.16
215	5 + 350.00	25	0.08	0.83	20.83	8369.99
216	5 + 375.00	25	0.00	0.04	0.95	8370.94
217	5 + 400.00	25	0.01	0.00	0.09	8371.03
218	5 + 425.00	25	0.63	0.32	7.94	8378.96
219	5 + 450.00	25	2.65	1.64	41.01	8419.98
220	5 + 475.00	25	6.14	4.40	109.95	8529.93
221	5 + 500.00	25	5.12	5.63	140.84	8670.76
222	5 + 525.00	25	1.81	3.47	86.68	8757.44
223	5 + 550.00	25	0.00	0.91	22.63	8780.06
224	5 + 575.00	25	0.16	0.08	2.00	8782.06
225	5 + 600.00	25	0.64	0.40	10.03	8792.09
226	5 + 625.00	25	0.38	0.51	12.73	8804.81
227	5 + 650.00	25	3.86	2.12	52.95	8857.76
228	5 + 675.00	25	6.83	5.34	133.60	8991.36
229	5 + 700.00	25	5.83	6.33	158.23	9149.59
230	5 + 725.00	25	5.94	5.89	147.13	9296.71
231	5 + 750.00	25	0.43	3.19	79.68	9376.39
232	5 + 775.00	25	0.08	0.26	6.39	9382.78
233	5 + 800.00	25	0.05	0.06	1.55	9384.33
234	5 + 825.00	25	1.20	0.62	15.61	9399.94
235	5 + 850.00	25	5.79	3.50	87.40	9487.34
236	5 + 875.00	25	6.09	5.94	148.53	9635.86
237	5 + 900.00	25	3.83	4.96	123.99	9759.85
238	5 + 925.00	25	6.00	4.91	122.84	9882.69
239	5 + 950.00	25	0.09	3.04	76.09	9958.78
240	5 + 975.00	25	0.00	0.04	1.09	9959.86
241	6 + 000.00	25	2.91	1.46	36.39	9996.25

242	6 + 025.00	25	2.31	2.61	65.26	10061.51
243	6 + 050.00	25	0.27	1.29	32.25	10093.76
244	6 + 075.00	25	0.41	0.34	8.50	10102.26
245	6 + 100.00	25	1.12	0.77	19.13	10121.39
246	6 + 125.00	25	0.69	0.91	22.63	10144.01
247	6 + 150.00	25	0.25	0.47	11.76	10155.78
248	6 + 175.00	25	0.24	0.25	6.14	10161.91
249	6 + 200.00	25	1.04	0.64	16.00	10177.91
250	6 + 225.00	25	1.49	1.27	31.63	10209.54
251	6 + 250.00	25	0.83	1.16	29.00	10238.54
252	6 + 275.00	25	0.57	0.70	17.50	10256.04
253	6 + 300.00	25	0.59	0.58	14.50	10270.54
254	6 + 325.00	25	0.45	0.52	13.00	10283.54
255	6 + 350.00	25	0.85	0.65	16.25	10299.79
256	6 + 375.00	25	0.84	0.85	21.13	10320.91
257	6 + 400.00	25	0.78	0.81	20.25	10341.16
258	6 + 425.00	25	2.65	1.72	42.88	10384.04
259	6 + 450.00	25	1.71	2.18	54.50	10438.54
260	6 + 475.00	25	2.99	2.35	58.75	10497.29
261	6 + 500.00	25	2.96	2.98	74.38	10571.66
262	6 + 525.00	25	1.41	2.19	54.63	10626.29
263	6 + 550.00	25	1.30	1.36	33.88	10660.16
264	6 + 575.00	25	1.53	1.42	35.38	10695.54
265	6 + 600.00	25	1.98	1.76	43.88	10739.41
266	6 + 625.00	25	1.27	1.63	40.63	10780.04
267	6 + 650.00	25	4.75	3.01	75.25	10855.29
268	6 + 675.00	25	4.05	4.40	110.00	10965.29
269	6 + 700.00	25	3.70	3.88	96.88	11062.16

270	6 + 725.00	25	3.42	3.56	89.00	11151.16
271	6 + 750.00	25	2.81	3.12	77.88	11229.04
272	6 + 775.00	25	1.56	2.19	54.63	11283.66
273	6 + 800.00	25	0.17	0.87	21.63	11305.29
274	6 + 825.00	25	0.42	0.30	7.38	11312.66
275	6 + 850.00	25	0.39	0.41	10.13	11322.79
276	6 + 875.00	25	1.04	0.72	17.88	11340.66
277	6 + 900.00	25	1.28	1.16	29.00	11369.66
278	6 + 925.00	25	1.26	1.27	31.75	11401.41
279	6 + 950.00	25	0.93	1.10	27.38	11428.79
280	6 + 975.00	25	0.36	0.65	16.13	11444.91
281	7 + 000.00	25	2.13	1.25	31.13	11476.04
282	7 + 025.00	25	0.96	1.55	38.63	11514.66
283	7 + 050.00	25	1.47	1.22	30.38	11545.04
284	7 + 075.00	25	2.08	1.78	44.38	11589.41
285	7 + 100.00	25	6.02	4.05	101.25	11690.66
286	7 + 125.00	25	3.99	5.01	125.13	11815.79
287	7 + 150.00	25	5.77	4.88	122.00	11937.79
288	7 + 175.00	25	5.83	5.80	145.00	12082.79
289	7 + 200.00	25	0.66	3.25	81.13	12163.91
290	7 + 225.00	25	1.44	1.05	26.25	12190.16
291	7 + 250.00	25	3.29	2.37	59.13	12249.29
292	7 + 275.00	25	0.12	1.71	42.63	12291.91
293	7 + 300.00	25	0.93	0.53	13.13	12305.04
294	7 + 325.00	25	1.98	1.46	36.38	12341.41
295	7 + 350.00	25	2.65	2.32	57.88	12399.29
296	7 + 375.00	25	0.79	1.72	43.00	12442.29
297	7 + 400.00	25	1.64	1.22	30.38	12472.66

298	7 + 425.00	25	1.34	1.49	37.25	12509.91
299	7 + 450.00	25	2.19	1.77	44.13	12554.04
300	7 + 475.00	25	5.11	3.65	91.25	12645.29
301	7 + 500.00	25	6.33	5.72	143.00	12788.29
302	7 + 525.00	25	4.52	5.43	135.63	12923.91
303	7 + 550.00	25	3.69	4.11	102.63	13026.54
304	7 + 575.00	25	3.24	3.47	86.63	13113.16
305	7 + 600.00	25	3.57	3.41	85.13	13198.29
306	7 + 625.00	25	3.01	3.29	82.25	13280.54
307	7 + 650.00	25	3.19	3.10	77.50	13358.04
308	7 + 675.00	25	4.15	3.67	91.75	13449.79
309	7 + 700.00	25	0.99	2.57	64.25	13514.04
310	7 + 725.00	25	1.99	1.49	37.25	13551.29
311	7 + 750.00	25	0.12	1.06	26.38	13577.66
312	7 + 775.00	25	4.86	2.49	62.25	13639.91
313	7 + 800.00	25	3.93	4.40	109.88	13749.79
314	7 + 825.00	25	2.26	3.10	77.38	13827.16
315	7 + 850.00	25	1.55	1.91	47.63	13874.79
316	7 + 875.00	25	0.32	0.94	23.38	13898.16
317	7 + 900.00	25	0.00	0.16	4.00	13902.16
318	7 + 925.00	25	0.00	0.00	0.01	13902.18
319	7 + 950.00	25	0.11	0.06	1.39	13903.56
320	7 + 975.00	25	0.31	0.21	5.25	13908.81
321	8 + 000.00	25	0.43	0.37	9.25	13918.06
322	8 + 025.00	25	1.17	0.80	20.00	13938.06
323	8 + 050.00	25	5.49	3.33	83.25	14021.31
324	8 + 075.00	25	2.25	3.87	96.75	14118.06
325	8 + 100.00	25	1.18	1.72	42.88	14160.94

326	8 + 125.00	25	0.07	0.63	15.63	14176.56
327	8 + 150.00	25	0.26	0.17	4.13	14180.69
328	8 + 175.00	25	0.00	0.13	3.25	14183.94
329	8 + 200.00	25	2.83	1.42	35.38	14219.31
330	8 + 225.00	25	2.07	2.45	61.25	14280.56
331	8 + 250.00	25	2.72	2.40	59.88	14340.44
332	8 + 275.00	25	2.55	2.64	65.88	14406.31
333	8 + 300.00	25	1.78	2.17	54.13	14460.44
334	8 + 325.00	25	6.61	4.20	104.88	14565.31
335	8 + 350.00	25	1.82	4.22	105.38	14670.69
336	8 + 375.00	25	1.10	1.46	36.50	14707.19
337	8 + 400.00	25	0.85	0.98	24.38	14731.56
338	8 + 425.00	25	3.24	2.05	51.13	14782.69
339	8 + 450.00	25	4.47	3.86	96.38	14879.06
340	8 + 475.00	25	1.63	3.05	76.25	14955.31
341	8 + 500.00	25	0.14	0.89	22.13	14977.44
342	8 + 525.00	25	0.13	0.14	3.38	14980.81
343	8 + 550.00	25	0.02	0.08	1.88	14982.69
344	8 + 575.00	25	0.18	0.10	2.50	14985.19
345	8 + 600.00	25	0.11	0.15	3.63	14988.81
346	8 + 625.00	25	1.20	0.66	16.38	15005.19
347	8 + 650.00	25	2.42	1.81	45.25	15050.44
348	8 + 675.00	25	0.00	1.21	30.25	15080.69
349	8 + 700.00	25	4.82	2.41	60.25	15140.94
350	8 + 725.00	25	0.05	2.44	60.88	15201.81
351	8 + 750.00	25	0.53	0.29	7.25	15209.06
352	8 + 775.00	25	0.69	0.61	15.25	15224.31
353	8 + 800.00	25	0.00	0.35	8.63	15232.94

354	8 + 825.00	25	0.05	0.03	0.63	15233.56
355	8 + 850.00	25	1.61	0.83	20.75	15254.31
356	8 + 875.00	25	10.53	6.07	151.75	15406.06
357	8 + 900.00	25	5.91	8.22	205.50	15611.56
358	8 + 925.00	25	2.98	4.45	111.13	15722.69
359	8 + 950.00	25	0.64	1.81	45.25	15767.94
360	8 + 975.00	25	1.44	1.04	26.00	15793.94
361	9 + 000.00	25	1.24	1.34	33.50	15827.44
362	9 + 025.00	25	0.26	0.75	18.75	15846.19
363	9 + 050.00	25	0.31	0.29	7.13	15853.31
364	9 + 075.00	25	2.16	1.24	30.88	15884.19
365	9 + 100.00	25	1.57	1.87	46.63	15930.81
366	9 + 125.00	25	1.70	1.64	40.88	15971.69
367	9 + 150.00	25	0.73	1.22	30.38	16002.06
368	9 + 175.00	25	0.14	0.44	10.88	16012.94
369	9 + 200.00	25	0.77	0.46	11.38	16024.31
370	9 + 225.00	25	1.55	1.16	29.00	16053.31
371	9 + 250.00	25	0.35	0.95	23.75	16077.06
372	9 + 275.00	25	0.76	0.56	13.88	16090.94
373	9 + 300.00	25	0.73	0.75	18.63	16109.56
374	9 + 325.00	25	0.82	0.78	19.38	16128.94
375	9 + 350.00	25	0.14	0.48	12.00	16140.94
376	9 + 375.00	25	2.50	1.32	33.00	16173.94
377	9 + 400.00	25	2.06	2.28	57.00	16230.94
378	9 + 425.00	25	0.02	1.04	26.00	16256.94
379	9 + 450.00	25	9.26	4.64	116.00	16372.94
380	9 + 475.00	25	11.17	10.22	255.38	16628.31
381	9 + 500.00	25	5.42	8.30	207.38	16835.69

382	9 + 525.00	25	1.25	3.34	83.38	16919.06
383	9 + 550.00	25	0.22	0.74	18.38	16937.44
384	9 + 575.00	25	0.73	0.48	11.88	16949.31
385	9 + 600.00	25	7.22	3.98	99.38	17048.69
386	9 + 625.00	25	11.46	9.34	233.50	17282.19
387	9 + 650.00	25	6.47	8.97	224.13	17506.31
388	9 + 675.00	25	0.18	3.33	83.13	17589.44
389	9 + 700.00	25	0.06	0.12	3.00	17592.44
390	9 + 725.00	25	1.30	0.68	17.00	17609.44
391	9 + 750.00	25	2.12	1.71	42.75	17652.19
392	9 + 775.00	25	0.33	1.23	30.63	17682.81
393	9 + 800.00	25	7.81	4.07	101.75	17784.56
394	9 + 825.00	25	4.57	6.19	154.75	17939.31
395	9 + 850.00	25	7.03	5.80	145.00	18084.31
396	9 + 875.00	25	11.21	9.12	228.00	18312.31
397	9 + 900.00	25	6.27	8.74	218.50	18530.81
398	9 + 925.00	25	11.11	8.69	217.25	18748.06
399	9 + 950.00	25	10.61	10.86	271.50	19019.56
400	9 + 975.00	25	7.77	9.19	229.75	19249.31
401	10 + 000.00	25	2.52	5.15	128.63	19377.94
402	10 + 025.00	25	3.35	2.94	73.38	19451.31
403	10 + 050.00	25	4.91	4.13	103.25	19554.56
404	10 + 075.00	25	1.48	3.20	79.88	19634.44
405	10 + 100.00	25	5.28	3.38	84.50	19718.94

406	10 + 125.00	25	6.13	5.71	142.63	19861.56
407	10 + 150.00	25	10.56	8.35	208.63	20070.19
408	10 + 175.00	25	9.11	9.84	245.88	20316.06
409	10 + 200.00	25	5.05	7.08	177.00	20493.06
410	10 + 225.00	25	5.63	5.34	133.50	20626.56
411	10 + 250.00	25	9.79	7.71	192.75	20819.31
412	10 + 275.00	25	8.54	9.17	229.13	21048.44
413	10 + 300.00	25	8.47	8.51	212.63	21261.06
414	10 + 325.00	25	2.27	5.37	134.25	21395.31
415	10 + 350.00	25	8.40	5.34	133.38	21528.69
416	10 + 375.00	25	7.91	8.16	203.88	21732.56
417	10 + 400.00	25	6.41	7.16	179.00	21911.56
418	10 + 425.00	25	0.00	3.21	80.13	21991.69
419	10 + 450.00	25	7.77	3.89	97.15	22088.84
420	10 + 475.00	25	1.28	4.53	113.15	22201.99
421	10 + 500.00	25	0.05	0.67	16.63	22218.61
422	10 + 525.00	25	6.29	3.17	79.25	22297.86

423	10 + 550.00	25	10.83	8.56	214.00	22511.86
424	10 + 575.00	25	0.77	5.80	145.00	22656.86
425	10 + 600.00	25	0.00	0.39	9.63	22666.49
426	10 + 625.00	25	0.14	0.07	1.75	22668.24
427	10 + 650.00	25	7.49	3.82	95.38	22763.61
428	10 + 675.00	25	5.49	6.49	162.25	22925.86
429	10 + 700.00	25	8.62	7.06	176.38	23102.24
430	10 + 725.00	25	16.25	12.44	310.88	23413.11
431	10 + 750.00	25	15.03	15.64	391.00	23804.11
432	10 + 775.00	25	9.73	12.38	309.50	24113.61
433	10 + 800.00	25	7.41	8.57	214.25	24327.86
434	10 + 825.00	25	8.85	8.13	203.25	24531.11
435	10 + 850.00	25	7.49	8.17	204.25	24735.36
436	10 + 875.00	25	3.03	5.26	131.50	24866.86
437	10 + 900.00	25	6.65	4.84	121.00	24987.86
438	10 + 925.00	25	6.75	6.70	167.50	25155.36
439	10 + 950.00	25	3.17	4.96	124.00	25279.36

440	10 + 975.00	25	4.42	3.80	94.88	25374.24
441	11 + 000.00	25	10.17	7.30	182.38	25556.61
442	11 + 025.00	25	13.35	11.76	294.00	25850.61
443	11 + 050.00	25	11.48	12.42	310.38	26160.99
444	11 + 075.00	25	7.80	9.64	241.00	26401.99
445	11 + 100.00	25	9.41	8.61	215.13	26617.11
446	11 + 125.00	25	6.23	7.82	195.50	26812.61
447	11 + 150.00	25	3.38	4.81	120.13	26932.74
448	11 + 175.00	25	1.85	2.62	65.38	26998.11
449	11 + 200.00	25	6.02	3.94	98.38	27096.49
450	11 + 225.00	25	9.30	7.66	191.50	27287.99
451	11 + 250.00	25	10.85	10.08	251.88	27539.86
452	11 + 275.00	25	7.35	9.10	227.50	27767.36
453	11 + 300.00	25	0.03	3.69	92.25	27859.61
454	11 + 325.00	25	1.83	0.93	23.25	27882.86
455	11 + 350.00	25	4.58	3.21	80.13	27962.99
456	11 + 375.00	25	8.27	6.43	160.63	28123.61

457	11 + 400.00	25	0.09	4.18	104.50	28228.11
458	11 + 425.00	25	0.36	0.23	5.63	28233.74
459	11 + 450.00	25	3.10	1.73	43.25	28276.99
460	11 + 475.00	25	1.57	2.34	58.38	28335.36
461	11 + 500.00	25	0.15	0.86	21.50	28356.86
462	11 + 525.00	25	5.47	2.81	70.25	28427.11
463	11 + 550.00	25	9.38	7.43	185.63	28612.74
464	11 + 575.00	25	1.51	5.45	136.13	28748.86
465	11 + 600.00	25	0.09	0.80	20.00	28768.86
466	11 + 625.00	25	0.16	0.13	3.13	28771.99
467	11 + 650.00	25	1.35	0.76	18.88	28790.86
468	11 + 675.00	25	7.37	4.36	109.00	28899.86
469	11 + 700.00	25	7.35	7.36	184.00	29083.86
470	11 + 725.00	25	17.96	12.66	316.38	29400.24
471	11 + 750.00	25	13.09	15.53	388.13	29788.36
472	11 + 775.00	25	11.24	12.17	304.13	30092.49
473	11 + 800.00	25	0.00	5.62	140.50	30232.99

474	11 + 825.00	25	0.00	0.00	0.00	30232.99
475	11 + 850.00	25	0.00	0.00	0.00	30232.99
476	11 + 875.00	25	1.00	0.50	12.50	30245.49
477	11 + 900.00	25	5.76	3.38	84.55	30330.04
478	11 + 925.00	25	2.47	4.12	102.93	30432.96
479	11 + 950.00	25	2.59	2.53	63.25	30496.21
480	11 + 975.00	25	1.52	2.06	51.38	30547.59
481	12 + 000.00	25	0.95	1.24	30.88	30578.46
482	12 + 025.00	25	0.15	0.55	13.75	30592.21
483	12 + 050.00	25	0.00	0.08	1.88	30594.09
484	12 + 075.00	25	0.00	0.00	0.00	30594.09
485	12 + 100.00	25	1.68	0.84	21.00	30615.09
486	12 + 125.00	25	2.38	2.03	50.75	30665.84
487	12 + 150.00	25	1.99	2.19	54.63	30720.46
488	12 + 175.00	25	0.80	1.40	34.88	30755.34
489	12 + 200.00	25	0.96	0.88	22.00	30777.34
490	12 + 225.00	25	0.93	0.95	23.63	30800.96

491	12 + 250.00	25	0.22	0.58	14.38	30815.34
492	12 + 275.00	25	0.79	0.51	12.63	30827.96
493	12 + 300.00	25	1.60	1.20	29.88	30857.84
494	12 + 325.00	25	2.44	2.02	50.50	30908.34
495	12 + 350.00	25	1.17	1.81	45.13	30953.46
496	12 + 375.00	25	0.83	1.00	25.00	30978.46
497	12 + 400.00	25	0.21	0.52	13.00	30991.46
498	12 + 425.00	25	1.37	0.79	19.75	31011.21
499	12 + 450.00	25	3.06	2.22	55.38	31066.59
500	12 + 475.00	25	0.70	1.88	47.00	31113.59
501	12 + 500.00	25	0.75	0.73	18.13	31131.71
502	12 + 525.00	25	0.75	0.75	18.75	31150.46
503	12 + 550.00	25	1.93	1.34	33.50	31183.96
504	12 + 575.00	25	1.12	1.53	38.13	31222.09
505	12 + 600.00	25	0.36	0.74	18.50	31240.59
506	12 + 625.00	25	0.24	0.30	7.50	31248.09
507	12 + 650.00	25	0.43	0.34	8.38	31256.46

508	12 + 675.00	25	0.88	0.66	16.38	31272.84
509	12 + 700.00	25	0.31	0.60	14.88	31287.71
510	12 + 725.00	25	1.07	0.69	17.25	31304.96
511	12 + 750.00	25	0.44	0.76	18.88	31323.84
512	12 + 775.00	25	0.01	0.23	5.63	31329.46
513	12 + 800.00	25	3.60	1.81	45.13	31374.59
514	12 + 825.00	25	1.13	2.37	59.13	31433.71
515	12 + 850.00	25	0.20	0.67	16.63	31450.34
516	12 + 875.00	25	2.70	1.45	36.25	31486.59
517	12 + 900.00	25	0.56	1.63	40.75	31527.34
518	12 + 925.00	25	0.18	0.37	9.25	31536.59
519	12 + 950.00	25	2.34	1.26	31.50	31568.09
520	12 + 975.00	25	3.91	3.13	78.13	31646.21
521	13 + 000.00	25	0.44	2.18	54.38	31700.59
522	13 + 025.00	25	1.75	1.10	27.38	31727.96
523	13 + 050.00	25	4.85	3.30	82.50	31810.46
524	13 + 075.00	25	3.38	4.12	102.88	31913.34

525	13 + 100.00	25	1.73	2.56	63.88	31977.21
526	13 + 125.00	25	4.55	3.14	78.50	32055.71
527	13 + 150.00	25	6.54	5.55	138.63	32194.34
528	13 + 175.00	25	6.64	6.59	164.75	32359.09
529	13 + 200.00	25	6.05	6.35	158.63	32517.71
530	13 + 225.00	25	3.80	4.93	123.13	32640.84
531	13 + 250.00	25	5.45	4.63	115.63	32756.46
532	13 + 275.00	25	3.16	4.31	107.63	32864.09
533	13 + 300.00	25	0.29	1.73	43.13	32907.21
534	13 + 325.00	25	3.14	1.72	42.88	32950.09
535	13 + 350.00	25	9.95	6.55	163.63	33113.71
536	13 + 375.00	25	1.10	5.53	138.13	33251.84
537	13 + 400.00	25	0.00	0.55	13.75	33265.59
538	13 + 425.00	25	0.08	0.04	1.00	33266.59
539	13 + 450.00	25	4.83	2.46	61.38	33327.96
540	13 + 475.00	25	4.54	4.69	117.13	33445.09
541	13 + 500.00	25	1.85	3.20	79.88	33524.96

542	13 + 525.00	25	2.77	2.31	57.75	33582.71
543	13 + 550.00	25	4.01	3.39	84.75	33667.46
544	13 + 575.00	25	5.99	5.00	125.00	33792.46
545	13 + 600.00	25	6.34	6.17	154.13	33946.59
546	13 + 625.00	25	2.01	4.18	104.38	34050.96
547	13 + 650.00	25	6.67	4.34	108.50	34159.46
548	13 + 675.00	25	3.13	4.90	122.50	34281.96
549	13 + 700.00	25	3.56	3.35	83.63	34365.59
550	13 + 725.00	25	2.50	3.03	75.75	34441.34
551	13 + 750.00	25	1.81	2.16	53.88	34495.21
552	13 + 775.00	25	5.39	3.60	90.00	34585.21
553	13 + 800.00	25	6.86	6.13	153.13	34738.34
554	13 + 825.00	25	7.76	7.31	182.75	34921.09
555	13 + 850.00	25	8.17	7.97	199.13	35120.21
556	13 + 875.00	25	12.72	10.45	261.13	35381.34
557	13 + 900.00	25	12.05	12.39	309.63	35690.96
558	13 + 925.00	25	10.93	11.49	287.25	35978.21

559	13 + 950.00	25	10.56	10.75	268.63	36246.84
560	13 + 975.00	25	8.53	9.55	238.63	36485.46
561	14 + 000.00	25	7.08	7.81	195.13	36680.59
562	14 + 025.00	25	2.11	4.60	114.88	36795.46
563	14 + 050.00	25	0.19	1.15	28.75	36824.21
564	14 + 075.00	25	5.81	3.00	75.00	36899.21
565	14 + 100.00	25	23.89	14.85	371.28	37270.49
566	14 + 125.00	25	10.90	17.40	434.90	37705.39
567	14 + 150.00	25	7.34	9.12	228.00	37933.39
568	14 + 175.00	25	6.06	6.70	167.50	38100.89
569	14 + 200.00	25	6.71	6.39	159.63	38260.51
570	14 + 225.00	25	0.95	3.83	95.75	38356.26
571	14 + 250.00	25	1.19	1.07	26.75	38383.01
572	14 + 275.00	25	4.14	2.67	66.63	38449.64
573	14 + 300.00	25	2.69	3.42	85.38	38535.01
574	14 + 325.00	25	5.48	4.09	102.13	38637.14
575	14 + 350.00	25	0.98	3.23	80.75	38717.89

576	14 + 375.00	25	0.51	0.75	18.63	38736.51
577	14 + 400.00	25	5.95	3.23	80.75	38817.26
578	14 + 425.00	25	6.13	6.04	151.00	38968.26
579	14 + 450.00	25	5.49	5.81	145.25	39113.51
580	14 + 475.00	25	4.98	5.24	130.88	39244.39
581	14 + 500.00	25	2.28	3.63	90.75	39335.14
582	14 + 525.00	25	7.02	4.65	116.25	39451.39
583	14 + 550.00	25	6.67	6.85	171.13	39622.51
584	14 + 575.00	25	7.42	7.05	176.13	39798.64
585	14 + 600.00	25	4.29	5.86	146.38	39945.01
586	14 + 625.00	25	3.14	3.72	92.88	40037.89
587	14 + 650.00	25	1.78	2.46	61.50	40099.39
588	14 + 675.00	25	3.27	2.53	63.13	40162.51
589	14 + 700.00	25	6.19	4.73	118.25	40280.76
590	14 + 725.00	25	8.75	7.47	186.75	40467.51
591	14 + 750.00	25	7.13	7.94	198.50	40666.01
592	14 + 775.00	25	7.12	7.13	178.13	40844.14

593	14 + 800.00	25	3.14	5.13	128.25	40972.39
594	14 + 825.00	25	1.33	2.24	55.88	41028.26
595	14 + 850.00	25	1.03	1.18	29.50	41057.76
596	14 + 875.00	25	1.75	1.39	34.75	41092.51
597	14 + 900.00	25	12.17	6.96	174.00	41266.51
598	14 + 925.00	25	10.18	11.18	279.38	41545.89
599	14 + 950.00	25	2.04	6.11	152.75	41698.64
600	14 + 975.00	25	0.41	1.23	30.63	41729.26
601	15 + 000.00	25	4.76	2.59	64.63	41793.89
602	15 + 025.00	25	2.63	3.70	92.38	41886.26
603	15 + 050.00	25	2.29	2.46	61.50	41947.76
604	15 + 075.00	25	5.82	4.06	101.38	42049.14
605	15 + 100.00	25	3.12	4.47	111.75	42160.89
606	15 + 125.00	25	11.31	7.22	180.38	42341.26
607	15 + 150.00	25	7.16	9.24	230.88	42572.14
608	15 + 175.00	25	4.67	5.92	147.88	42720.01
609	15 + 200.00	25	13.59	9.13	228.25	42948.26

610	15 + 225.00	25	19.28	16.44	410.88	43359.14
611	15 + 250.00	25	32.62	25.95	648.75	44007.89
612	15 + 275.00	25	38.49	35.56	888.88	44896.76
613	15 + 300.00	25	7.80	23.15	578.63	45475.39
614	15 + 325.00	25	0.00	3.90	97.50	45572.89
615	15 + 350.00	25	0.00	0.00	0.00	45572.89
616	15 + 375.00	25	0.00	0.00	0.00	45572.89
617	15 + 400.00	25	0.00	0.00	0.00	45572.89
618	15 + 425.00	25	0.44	0.22	5.50	45578.39
619	15 + 450.00	25	2.95	1.70	42.38	45620.76
620	15 + 475.00	25	5.07	4.01	100.25	45721.01
621	15 + 500.00	25	5.95	5.51	137.75	45858.76
622	15 + 525.00	25	0.55	3.25	81.25	45940.01
623	15 + 550.00	25	2.47	1.51	37.75	45977.76
624	15 + 575.00	25	1.59	2.03	50.75	46028.51
625	15 + 600.00	25	6.15	3.87	96.75	46125.26
626	15 + 625.00	25	0.47	3.31	82.75	46208.01

627	15 + 650.00	25	3.42	1.95	48.63	46256.64
628	15 + 675.00	25	1.91	2.67	66.63	46323.26
629	15 + 700.00	25	4.48	3.20	79.88	46403.14
630	15 + 725.00	25	2.85	3.67	91.63	46494.76
631	15 + 750.00	25	1.43	2.14	53.50	46548.26
632	15 + 775.00	25	2.24	1.84	45.88	46594.14
633	15 + 800.00	25	1.78	2.01	50.25	46644.39
634	15 + 825.00	25	11.19	6.49	162.13	46806.51
635	15 + 850.00	25	20.99	16.09	402.25	47208.76
636	15 + 875.00	25	8.58	14.79	369.63	47578.39
637	15 + 900.00	25	6.99	7.79	194.63	47773.01
638	15 + 925.00	25	2.83	4.91	122.75	47895.76
639	15 + 950.00	25	0.33	1.58	39.50	47935.26
640	15 + 975.00	25	12.78	6.56	163.88	48099.14
641	16 + 000.00	25	10.41	11.60	289.88	48389.01
642	16 + 025.00	25	3.20	6.81	170.13	48559.14
643	16 + 050.00	25	3.52	3.36	84.00	48643.14

644	16 + 075.00	25	0.92	2.22	55.50	48698.64
645	16 + 100.00	25	2.02	1.47	36.75	48735.39
646	16 + 125.00	25	8.34	5.18	129.50	48864.89
647	16 + 150.00	25	7.80	8.07	201.75	49066.64
648	16 + 175.00	25	1.14	4.47	111.75	49178.39
649	16 + 200.00	25	0.00	0.57	14.25	49192.64
650	16 + 225.00	25	0.00	0.00	0.00	49192.64
651	16 + 250.00	25	0.00	0.00	0.00	49192.64
652	16 + 275.00	25	0.00	0.00	0.00	49192.64
653	16 + 300.00	25	0.00	0.00	0.00	49192.64
654	16 + 325.00	25	0.00	0.00	0.00	49192.64
655	16 + 350.00	25	0.00	0.00	0.00	49192.64
656	16 + 375.00	25	0.00	0.00	0.00	49192.64
657	16 + 400.00	25	0.00	0.00	0.00	49192.64
658	16 + 425.00	25	0.47	0.24	5.88	49198.51
659	16 + 450.00	25	0.00	0.24	5.88	49204.39
660	16 + 475.00	25	0.00	0.00	0.00	49204.39

661	16 + 500.00	25	0.02	0.01	0.25	49204.64
662	16 + 525.00	25	0.00	0.01	0.25	49204.89
663	16 + 550.00	25	0.00	0.00	0.00	49204.89
664	16 + 575.00	25	0.00	0.00	0.00	49204.89
665	16 + 600.00	25	0.00	0.00	0.00	49204.89
666	16 + 625.00	25	0.00	0.00	0.00	49204.89
667	16 + 650.00	25	0.00	0.00	0.00	49204.89
668	16 + 675.00	25	0.00	0.00	0.00	49204.89
669	16 + 700.00	25	1.58	0.79	19.75	49224.64
670	16 + 725.00	25	9.47	5.53	138.13	49362.76
671	16 + 750.00	25	10.61	10.04	251.00	49613.76
672	16 + 775.00	25	11.14	10.88	271.88	49885.64
673	16 + 800.00	25	10.90	11.02	275.50	50161.14
674	16 + 825.00	25	11.57	11.24	280.88	50442.01
675	16 + 850.00	25	1.47	6.52	163.00	50605.01
676	16 + 875.00	25	0.00	0.74	18.38	50623.39
677	16 + 900.00	25	0.00	0.00	0.00	50623.39

678	16 + 925.00	25	2.36	1.18	29.50	50652.89
679	16 + 950.00	25	3.31	2.84	70.88	50723.76
680	16 + 975.00	25	0.00	1.66	41.38	50765.14
681	17 + 000.00	25	0.00	0.00	0.00	50765.14
682	17 + 025.00	25	0.00	0.00	0.00	50765.14
683	17 + 050.00	25	0.79	0.40	9.88	50775.01
684	17 + 075.00	25	11.09	5.94	148.50	50923.51
685	17 + 100.00	25	4.23	7.66	191.50	51115.01
686	17 + 125.00	25	0.00	2.12	52.88	51167.89
687	17 + 150.00	25	0.00	0.00	0.00	51167.89
688	17 + 175.00	25	0.00	0.00	0.00	51167.89
689	17 + 200.00	25	0.00	0.00	0.00	51167.89
690	17 + 225.00	25	0.00	0.00	0.00	51167.89
691	17 + 250.00	25	1.72	0.86	21.50	51189.39
692	17 + 275.00	25	5.26	3.49	87.25	51276.64
693	17 + 300.00	25	11.70	8.48	212.00	51488.64
694	17 + 325.00	25	15.41	13.56	338.88	51827.51

695	17 + 350.00	25	24.65	20.03	500.75	52328.26
696	17 + 375.00	25	19.82	22.24	555.88	52884.14
697	17 + 400.00	25	13.37	16.60	414.88	53299.01
698	17 + 425.00	25	3.36	8.37	209.13	53508.14
699	17 + 450.00	25	0.88	2.12	53.00	53561.14
700	17 + 475.00	25	3.05	1.97	49.13	53610.26
701	17 + 500.00	25	1.41	2.23	55.75	53666.01
702	17 + 525.00	25	0.08	0.75	18.63	53684.64
703	17 + 550.00	25	0.38	0.23	5.75	53690.39
704	17 + 575.00	25	1.06	0.72	18.00	53708.39
705	17 + 600.00	25	1.08	1.07	26.75	53735.14
706	17 + 625.00	25	0.12	0.60	15.00	53750.14
707	17 + 650.00	25	0.21	0.17	4.13	53754.26
708	17 + 675.00	25	0.72	0.47	11.63	53765.89
709	17 + 700.00	25	3.68	2.20	55.00	53820.89
710	17 + 725.00	25	1.84	2.76	69.00	53889.89
711	17 + 750.00	25	0.00	0.92	23.00	53912.89

712	17 + 775.00	25	1.18	0.59	14.75	53927.64
713	17 + 800.00	25	4.91	3.05	76.13	54003.76
714	17 + 825.00	25	7.82	6.37	159.13	54162.89
715	17 + 850.00	25	4.95	6.39	159.63	54322.51
716	17 + 875.00	25	4.70	4.83	120.63	54443.14
717	17 + 900.00	25	6.35	5.53	138.13	54581.26
718	17 + 925.00	25	4.34	5.35	133.63	54714.89
719	17 + 950.00	25	1.57	2.96	73.88	54788.76
720	17 + 975.00	25	8.00	4.79	119.63	54908.39
721	18 + 000.00	25	0.54	4.27	106.75	55015.14
722	18 + 025.00	25	4.01	2.28	56.88	55072.01
723	18 + 050.00	25	13.30	8.66	216.38	55288.39
724	18 + 075.00	25	1.78	7.54	188.50	55476.89
725	18 + 100.00	25	0.50	1.14	28.50	55505.39
726	18 + 125.00	25	0.68	0.59	14.75	55520.14
727	18 + 150.00	25	5.05	2.87	71.63	55591.76
728	18 + 175.00	25	0.88	2.97	74.13	55665.89

729	18 + 200.00	25	1.01	0.95	23.63	55689.51
730	18 + 225.00	25	0.83	0.92	23.00	55712.51
731	18 + 250.00	25	7.23	4.03	100.75	55813.26
732	18 + 275.00	25	6.42	6.83	170.63	55983.89
733	18 + 300.00	25	0.35	3.39	84.63	56068.51
734	18 + 325.00	25	0.70	0.53	13.13	56081.64
735	18 + 350.00	25	0.00	0.35	8.75	56090.39
736	18 + 375.00	25	1.79	0.90	22.38	56112.76
737	18 + 400.00	25	0.94	1.37	34.13	56146.89
738	18 + 425.00	25	2.24	1.59	39.75	56186.64
739	18 + 450.00	25	2.62	2.43	60.75	56247.39
740	18 + 475.00	25	6.24	4.43	110.75	56358.14
741	18 + 500.00	25	1.75	4.00	99.88	56458.01
742	18 + 525.00	25	3.22	2.49	62.13	56520.14
743	18 + 550.00	25	0.23	1.73	43.13	56563.26
744	18 + 575.00	25	1.19	0.71	17.75	56581.01
745	18 + 600.00	25	2.48	1.84	45.88	56626.89

746	18 + 625.00	25	1.07	1.78	44.38	56671.26
747	18 + 650.00	25	0.02	0.55	13.63	56684.89
748	18 + 675.00	25	1.71	0.87	21.63	56706.51
749	18 + 700.00	25	1.70	1.71	42.63	56749.14
750	18 + 725.00	25	0.94	1.32	33.00	56782.14
751	18 + 750.00	25	2.23	1.59	39.63	56821.76
752	18 + 775.00	25	5.44	3.84	95.88	56917.64
753	18 + 800.00	25	2.14	3.79	94.75	57012.39
754	18 + 825.00	25	3.62	2.88	72.00	57084.39
755	18 + 850.00	25	2.76	3.19	79.75	57164.14
756	18 + 875.00	25	3.28	3.02	75.50	57239.64
757	18 + 900.00	25	7.39	5.34	133.38	57373.01
758	18 + 925.00	25	4.38	5.89	147.13	57520.14
759	18 + 950.00	25	2.29	3.34	83.38	57603.51
760	18 + 975.00	25	5.08	3.69	92.13	57695.64
761	19 + 000.00	25	1.66	3.37	84.25	57779.89
762	19 + 025.00	25	4.07	2.87	71.63	57851.51

763	19 + 050.00	25	3.26	3.67	91.63	57943.14
764	19 + 075.00	25	4.13	3.70	92.38	58035.51
765	19 + 100.00	25	4.74	4.44	110.88	58146.39
766	19 + 125.00	25	5.57	5.16	128.88	58275.26
767	19 + 150.00	25	4.94	5.26	131.38	58406.64
768	19 + 175.00	25	4.68	4.81	120.25	58526.89
769	19 + 200.00	25	11.03	7.86	196.38	58723.26
770	19 + 225.00	25	12.20	11.62	290.38	59013.64
771	19 + 250.00	25	11.63	11.92	297.88	59311.51
772	19 + 275.00	25	0.27	5.95	148.75	59460.26
773	19 + 300.00	25	1.81	1.04	26.00	59486.26
774	19 + 325.00	25	4.59	3.20	80.00	59566.26
775	19 + 350.00	25	3.69	4.14	103.50	59669.76
776	19 + 375.00	25	4.11	3.90	97.50	59767.26
777	19 + 400.00	25	1.66	2.89	72.13	59839.39
778	19 + 425.00	25	3.59	2.63	65.63	59905.01
779	19 + 450.00	25	3.89	3.74	93.50	59998.51

780	19 + 475.00	25	3.75	3.82	95.50	60094.01
781	19 + 500.00	25	2.83	3.29	82.25	60176.26
782	19 + 525.00	25	11.29	7.06	176.50	60352.76
783	19 + 550.00	25	4.28	7.79	194.63	60547.39
784	19 + 575.00	25	6.60	5.44	136.00	60683.39
785	19 + 600.00	25	1.45	4.03	100.63	60784.01
786	19 + 625.00	25	0.00	0.73	18.13	60802.14
787	19 + 650.00	25	0.46	0.23	5.75	60807.89
788	19 + 675.00	25	0.91	0.69	17.13	60825.01
789	19 + 700.00	25	1.16	1.04	25.88	60850.89
790	19 + 725.00	25	0.00	0.58	14.50	60865.39
791	19 + 750.00	25	0.97	0.49	12.13	60877.51
792	19 + 775.00	25	2.29	1.63	40.75	60918.26
793	19 + 800.00	25	1.55	1.92	48.00	60966.26
794	19 + 825.00	25	2.46	2.01	50.13	61016.39
795	19 + 850.00	25	0.30	1.38	34.50	61050.89
796	19 + 875.00	25	0.64	0.47	11.75	61062.64

797	19 + 900.00	25	1.06	0.85	21.25	61083.89
798	19 + 925.00	25	1.29	1.18	29.38	61113.26
799	19 + 950.00	25	1.58	1.44	35.88	61149.14
800	19 + 975.00	25	0.08	0.83	20.75	61169.89
801	20 + 000.00	25	0.75	0.42	10.38	61180.26
802	20 + 025.00	25	0.00	0.38	9.38	61189.64
803	20 + 050.00	25	0.30	0.15	3.75	61193.39
804	20 + 075.00	25	1.81	1.06	26.38	61219.76
805	20 + 100.00	25	0.00	0.91	22.63	61242.39
806	20 + 125.00	25	0.04	0.02	0.50	61242.89
807	20 + 150.00	25	1.10	0.57	14.25	61257.14
808	20 + 175.00	25	1.94	1.52	38.00	61295.14
809	20 + 200.00	25	2.16	2.05	51.25	61346.39
810	20 + 225.00	25	1.19	1.68	41.88	61388.26
811	20 + 250.00	25	2.28	1.74	43.38	61431.64
812	20 + 275.00	25	0.25	1.27	31.63	61463.26
813	20 + 300.00	25	2.30	1.28	31.88	61495.14

814	20 + 325.00	25	4.14	3.22	80.50	61575.64
815	20 + 350.00	25	0.00	2.07	51.75	61627.39
816	20 + 375.00	25	0.02	0.01	0.25	61627.64
817	20 + 400.00	25	0.14	0.08	2.00	61629.64
818	20 + 425.00	25	0.74	0.44	11.00	61640.64
819	20 + 450.00	25	0.40	0.57	14.25	61654.89
820	20 + 475.00	25	1.24	0.82	20.50	61675.39
821	20 + 500.00	25	6.12	3.68	92.00	61767.39
822	20 + 525.00	25	10.08	8.10	202.50	61969.89
823	20 + 550.00	25	8.52	9.30	232.50	62202.39
824	20 + 575.00	25	3.32	5.92	148.00	62350.39
825	20 + 600.00	25	0.48	1.90	47.50	62397.89
826	20 + 625.00	25	0.00	0.24	6.00	62403.89
827	20 + 650.00	25	0.13	0.07	1.63	62405.51
828	20 + 675.00	25	0.23	0.18	4.50	62410.01
829	20 + 700.00	25	1.23	0.73	18.25	62428.26
830	20 + 725.00	25	1.00	1.12	27.88	62456.14

831	20 + 750.00	25	0.00	0.50	12.50	62468.64
832	20 + 775.00	25	0.99	0.50	12.38	62481.01
833	20 + 800.00	25	0.77	0.88	22.00	62503.01
834	20 + 825.00	25	0.29	0.53	13.25	62516.26
835	20 + 850.00	25	0.38	0.34	8.38	62524.64
836	20 + 875.00	25	1.49	0.94	23.38	62548.01
837	20 + 900.00	25	4.93	3.21	80.25	62628.26
838	20 + 925.00	25	9.05	6.99	174.75	62803.01
839	20 + 950.00	25	5.35	7.20	180.00	62983.01
840	20 + 975.00	25	0.78	3.07	76.63	63059.64
841	21 + 000.00	25	0.05	0.42	10.38	63070.01
842	21 + 025.00	25	0.78	0.42	10.38	63080.39
843	21 + 050.00	25	1.98	1.38	34.50	63114.89
844	21 + 075.00	25	4.84	3.41	85.25	63200.14
845	21 + 100.00	25	4.62	4.73	118.25	63318.39
846	21 + 125.00	25	2.89	3.76	93.88	63412.26
847	21 + 150.00	25	2.73	2.81	70.25	63482.51

848	21 + 175.00	25	3.17	2.95	73.75	63556.26
849	21 + 200.00	25	2.24	2.71	67.63	63623.89
850	21 + 225.00	25	1.67	1.96	48.88	63672.76
851	21 + 250.00	25	1.70	1.69	42.13	63714.89
852	21 + 275.00	25	1.23	1.47	36.63	63751.51
853	21 + 300.00	25	0.09	0.66	16.50	63768.01
854	21 + 325.00	25	0.00	0.05	1.13	63769.14
855	21 + 350.00	25	0.00	0.00	0.00	63769.14
856	21 + 375.00	25	0.00	0.00	0.00	63769.14

Filling volumes

Project "Construction of Arras-Lure Road

Filling volumes

Start Axis: 0 + 000.00

Completion Axis: 21 + 396.50

Sec. No.	Station	distances	Sip Filling (m2)	Average Size (m2)	Filling Vol (m3)	Progressive Filling Vol (m3)
1	0 + 000.00	0	0.05	0.02	0.00	0.00
2	0 + 025.00	25	0.50	0.27	6.85	6.85
3	0 + 050.00	25	0.00	0.25	6.25	13.10
4	0 + 075.00	25	0.06	0.03	0.71	13.81
5	0 + 100.00	25	0.00	0.03	0.71	14.53
6	0 + 125.00	25	0.01	0.00	0.10	14.63
7	0 + 150.00	25	0.40	0.20	5.10	19.73
8	0 + 175.00	25	3.96	2.18	54.50	74.23
9	0 + 200.00	25	0.44	2.20	55.00	129.23
10	0 + 225.00	25	0.40	0.42	10.51	139.74
11	0 + 250.00	25	0.09	0.24	6.11	145.85
12	0 + 275.00	25	0.00	0.04	1.10	146.95
13	0 + 300.00	25	0.05	0.02	0.56	147.51
14	0 + 325.00	25	0.00	0.02	0.56	148.08
15	0 + 350.00	25	0.00	0.00	0.00	148.08
16	0 + 375.00	25	0.26	0.13	3.21	151.29
17	0 + 400.00	25	0.08	0.17	4.16	155.45
18	0 + 425.00	25	0.00	0.04	0.95	156.40
19	0 + 450.00	25	1.01	0.50	12.58	168.98

20	0 + 475.00	25	3.24	2.12	53.06	222.04
21	0 + 500.00	25	4.73	3.99	99.65	321.69
22	0 + 525.00	25	0.20	2.47	61.66	383.35
23	0 + 550.00	25	0.06	0.13	3.25	386.60
24	0 + 575.00	25	0.00	0.03	0.75	387.35
25	0 + 600.00	25	0.00	0.00	0.00	387.35
26	0 + 625.00	25	0.00	0.00	0.00	387.35
27	0 + 650.00	25	0.00	0.00	0.00	387.35
28	0 + 675.00	25	0.01	0.00	0.08	387.43
29	0 + 700.00	25	0.29	0.15	3.70	391.13
30	0 + 725.00	25	0.36	0.33	8.18	399.30
31	0 + 750.00	25	0.20	0.28	7.04	406.34
32	0 + 775.00	25	0.49	0.35	8.64	414.98
33	0 + 800.00	25	5.37	2.93	73.25	488.23
34	0 + 825.00	25	0.00	2.68	67.10	555.33
35	0 + 850.00	25	0.00	0.00	0.00	555.33
36	0 + 875.00	25	0.00	0.00	0.00	555.33
37	0 + 900.00	25	0.00	0.00	0.05	555.38
38	0 + 925.00	25	0.01	0.01	0.19	555.56
39	0 + 950.00	25	1.50	0.76	18.89	574.45
40	0 + 975.00	25	2.91	2.20	55.06	629.51
41	1 + 000.00	25	5.94	4.42	110.56	740.08
42	1 + 025.00	25	2.48	4.21	105.25	845.33
43	1 + 050.00	25	0.06	1.27	31.73	877.05
44	1 + 075.00	25	0.00	0.03	0.73	877.78
45	1 + 100.00	25	4.52	2.26	56.50	934.28
46	1 + 125.00	25	1.97	3.24	81.08	1015.35
47	1 + 150.00	25	0.00	0.98	24.58	1039.93

48	1 + 175.00	25	0.00	0.00	0.00	1039.93
49	1 + 200.00	25	0.00	0.00	0.00	1039.93
50	1 + 225.00	25	0.00	0.00	0.00	1039.93
51	1 + 250.00	25	2.29	1.15	28.63	1068.55
52	1 + 275.00	25	3.18	2.73	68.34	1136.89
53	1 + 300.00	25	1.85	2.51	62.84	1199.73
54	1 + 325.00	25	0.60	1.23	30.63	1230.35
55	1 + 350.00	25	0.00	0.30	7.51	1237.86
56	1 + 375.00	25	1.14	0.57	14.31	1252.18
57	1 + 400.00	25	1.70	1.42	35.55	1287.73
58	1 + 425.00	25	1.03	1.37	34.13	1321.85
59	1 + 450.00	25	0.00	0.52	12.88	1334.73
60	1 + 475.00	25	0.00	0.00	0.00	1334.73
61	1 + 500.00	25	0.00	0.00	0.00	1334.73
62	1 + 525.00	25	0.00	0.00	0.00	1334.73
63	1 + 550.00	25	0.00	0.00	0.00	1334.73
64	1 + 575.00	25	0.00	0.00	0.00	1334.73
65	1 + 600.00	25	0.00	0.00	0.01	1334.74
66	1 + 625.00	25	0.06	0.03	0.76	1335.50
67	1 + 650.00	25	0.00	0.03	0.75	1336.25
68	1 + 675.00	25	0.00	0.00	0.00	1336.25
69	1 + 700.00	25	0.52	0.26	6.50	1342.75
70	1 + 725.00	25	0.68	0.60	15.03	1357.78
71	1 + 750.00	25	0.19	0.43	10.85	1368.63
72	1 + 775.00	25	0.18	0.18	4.56	1373.19
73	1 + 800.00	25	0.00	0.09	2.24	1375.43
74	1 + 825.00	25	0.00	0.00	0.00	1375.43
75	1 + 850.00	25	0.00	0.00	0.00	1375.43

76	1 + 875.00	25	0.00	0.00	0.00	1375.43
77	1 + 900.00	25	0.66	0.33	8.25	1383.68
78	1 + 925.00	25	0.57	0.62	15.38	1399.05
79	1 + 950.00	25	0.08	0.32	8.10	1407.15
80	1 + 975.00	25	0.22	0.15	3.71	1410.86
81	2 + 000.00	25	0.00	0.11	2.74	1413.60
82	2 + 025.00	25	0.00	0.00	0.00	1413.60
83	2 + 050.00	25	0.15	0.08	1.88	1415.48
84	2 + 075.00	25	0.90	0.53	13.13	1428.60
85	2 + 100.00	25	2.39	1.65	41.13	1469.73
86	2 + 125.00	25	3.84	3.12	77.88	1547.60
87	2 + 150.00	25	3.82	3.83	95.75	1643.35
88	2 + 175.00	25	3.81	3.82	95.38	1738.73
89	2 + 200.00	25	0.00	1.91	47.63	1786.35
90	2 + 225.00	25	0.00	0.00	0.00	1786.35
91	2 + 250.00	25	2.11	1.06	26.40	1812.75
92	2 + 275.00	25	0.12	1.12	27.90	1840.65
93	2 + 300.00	25	0.00	0.06	1.50	1842.15
94	2 + 325.00	25	1.00	0.50	12.50	1854.65
95	2 + 350.00	25	6.83	3.92	97.88	1952.53
96	2 + 375.00	25	2.41	4.62	115.55	2068.08
97	2 + 400.00	25	0.62	1.52	37.93	2106.00
98	2 + 425.00	25	0.00	0.31	7.75	2113.75
99	2 + 450.00	25	0.00	0.00	0.00	2113.75
100	2 + 475.00	25	0.03	0.01	0.34	2114.09
101	2 + 500.00	25	0.10	0.06	1.59	2115.68
102	2 + 525.00	25	3.10	1.60	40.00	2155.68
103	2 + 550.00	25	1.79	2.45	61.13	2216.80

104	2 + 575.00	25	0.00	0.90	22.38	2239.18
105	2 + 600.00	25	0.00	0.00	0.00	2239.18
106	2 + 625.00	25	0.00	0.00	0.00	2239.18
107	2 + 650.00	25	0.00	0.00	0.00	2239.18
108	2 + 675.00	25	1.54	0.77	19.25	2258.43
109	2 + 700.00	25	8.80	5.17	129.25	2387.68
110	2 + 725.00	25	6.75	7.78	194.38	2582.05
111	2 + 750.00	25	0.76	3.76	93.88	2675.93
112	2 + 775.00	25	0.00	0.38	9.50	2685.43
113	2 + 800.00	25	0.29	0.15	3.63	2689.05
114	2 + 825.00	25	0.00	0.15	3.63	2692.68
115	2 + 850.00	25	0.03	0.02	0.38	2693.05
116	2 + 875.00	25	0.00	0.02	0.38	2693.43
117	2 + 900.00	25	0.00	0.00	0.00	2693.43
118	2 + 925.00	25	2.07	1.04	25.88	2719.30
119	2 + 950.00	25	0.48	1.28	31.88	2751.18
120	2 + 975.00	25	0.94	0.71	17.75	2768.93
121	3 + 000.00	25	1.39	1.17	29.13	2798.05
122	3 + 025.00	25	0.00	0.70	17.38	2815.43
123	3 + 050.00	25	1.43	0.72	17.88	2833.30
124	3 + 075.00	25	0.05	0.74	18.54	2851.84
125	3 + 100.00	25	0.00	0.03	0.66	2852.50
126	3 + 125.00	25	0.00	0.00	0.00	2852.50
127	3 + 150.00	25	0.00	0.00	0.00	2852.50
128	3 + 175.00	25	0.55	0.28	6.88	2859.38
129	3 + 200.00	25	0.00	0.28	6.88	2866.25
130	3 + 225.00	25	0.20	0.10	2.50	2868.75
131	3 + 250.00	25	0.11	0.16	3.88	2872.63

132	3 + 275.00	25	0.04	0.08	1.88	2874.50
133	3 + 300.00	25	0.90	0.47	11.75	2886.25
134	3 + 325.00	25	3.36	2.13	53.24	2939.49
135	3 + 350.00	25	2.87	3.11	77.86	3017.35
136	3 + 375.00	25	0.00	1.44	35.90	3053.25
137	3 + 400.00	25	0.00	0.00	0.03	3053.28
138	3 + 425.00	25	0.00	0.00	0.00	3053.28
139	3 + 450.00	25	0.02	0.01	0.24	3053.51
140	3 + 475.00	25	4.18	2.10	52.48	3105.99
141	3 + 500.00	25	2.47	3.32	83.11	3189.10
142	3 + 525.00	25	1.22	1.85	46.18	3235.28
143	3 + 550.00	25	3.40	2.31	57.84	3293.11
144	3 + 575.00	25	1.30	2.35	58.81	3351.93
145	3 + 600.00	25	0.00	0.65	16.28	3368.20
146	3 + 625.00	25	0.05	0.02	0.61	3368.81
147	3 + 650.00	25	0.49	0.27	6.79	3375.60
148	3 + 675.00	25	1.26	0.88	21.96	3397.56
149	3 + 700.00	25	0.34	0.80	20.08	3417.64
150	3 + 725.00	25	0.68	0.51	12.79	3430.43
151	3 + 750.00	25	2.30	1.49	37.25	3467.68
152	3 + 775.00	25	0.05	1.17	29.34	3497.01
153	3 + 800.00	25	0.00	0.02	0.59	3497.60
154	3 + 825.00	25	0.01	0.00	0.10	3497.70
155	3 + 850.00	25	0.53	0.27	6.71	3504.41
156	3 + 875.00	25	0.00	0.26	6.61	3511.03
157	3 + 900.00	25	0.00	0.00	0.00	3511.03
158	3 + 925.00	25	0.00	0.00	0.00	3511.03
159	3 + 950.00	25	0.00	0.00	0.01	3511.04

160	3 + 975.00	25	0.01	0.00	0.10	3511.14
161	4 + 000.00	25	1.21	0.61	15.23	3526.36
162	4 + 025.00	25	0.00	0.61	15.14	3541.50
163	4 + 050.00	25	0.69	0.35	8.68	3550.18
164	4 + 075.00	25	0.01	0.35	8.80	3558.98
165	4 + 100.00	25	0.00	0.01	0.13	3559.10
166	4 + 125.00	25	0.00	0.00	0.00	3559.10
167	4 + 150.00	25	0.01	0.01	0.18	3559.28
168	4 + 175.00	25	0.00	0.01	0.18	3559.45
169	4 + 200.00	25	0.40	0.20	5.00	3564.45
170	4 + 225.00	25	2.63	1.52	37.88	3602.33
171	4 + 250.00	25	1.68	2.16	53.88	3656.20
172	4 + 275.00	25	2.92	2.30	57.50	3713.70
173	4 + 300.00	25	0.07	1.49	37.35	3751.05
174	4 + 325.00	25	0.00	0.03	0.85	3751.90
175	4 + 350.00	25	0.00	0.00	0.00	3751.90
176	4 + 375.00	25	0.00	0.00	0.00	3751.90
177	4 + 400.00	25	0.01	0.01	0.15	3752.05
178	4 + 425.00	25	0.35	0.18	4.54	3756.59
179	4 + 450.00	25	0.31	0.33	8.21	3764.80
180	4 + 475.00	25	0.29	0.30	7.44	3772.24
181	4 + 500.00	25	0.89	0.59	14.74	3786.98
182	4 + 525.00	25	0.47	0.68	17.00	3803.98
183	4 + 550.00	25	0.00	0.24	5.88	3809.85
184	4 + 575.00	25	0.04	0.02	0.53	3810.38
185	4 + 600.00	25	0.06	0.05	1.30	3811.68
186	4 + 625.00	25	0.41	0.24	5.93	3817.60
187	4 + 650.00	25	0.27	0.34	8.49	3826.09

188	4 + 675.00	25	1.31	0.79	19.68	3845.76
189	4 + 700.00	25	3.70	2.51	62.63	3908.39
190	4 + 725.00	25	5.16	4.43	110.79	4019.18
191	4 + 750.00	25	5.00	5.08	127.05	4146.23
192	4 + 775.00	25	0.89	2.95	73.68	4219.90
193	4 + 800.00	25	0.01	0.45	11.26	4231.16
194	4 + 825.00	25	0.00	0.01	0.14	4231.30
195	4 + 850.00	25	0.00	0.00	0.00	4231.30
196	4 + 875.00	25	0.25	0.13	3.18	4234.48
197	4 + 900.00	25	0.00	0.13	3.18	4237.65
198	4 + 925.00	25	0.44	0.22	5.49	4243.14
199	4 + 950.00	25	0.33	0.38	9.61	4252.75
200	4 + 975.00	25	0.00	0.17	4.13	4256.88
201	5 + 000.00	25	0.00	0.00	0.00	4256.88
202	5 + 025.00	25	0.00	0.00	0.00	4256.88
203	5 + 050.00	25	0.00	0.00	0.00	4256.88
204	5 + 075.00	25	0.00	0.00	0.00	4256.88
205	5 + 100.00	25	0.02	0.01	0.29	4257.16
206	5 + 125.00	25	0.06	0.04	1.03	4258.19
207	5 + 150.00	25	0.00	0.03	0.74	4258.93
208	5 + 175.00	25	0.00	0.00	0.03	4258.95
209	5 + 200.00	25	0.57	0.29	7.15	4266.10
210	5 + 225.00	25	2.20	1.38	34.60	4300.70
211	5 + 250.00	25	2.02	2.11	52.73	4353.43
212	5 + 275.00	25	4.24	3.13	78.25	4431.68
213	5 + 300.00	25	0.74	2.49	62.25	4493.93
214	5 + 325.00	25	0.00	0.37	9.25	4503.18
215	5 + 350.00	25	0.70	0.35	8.75	4511.93

216	5 + 375.00	25	2.36	1.53	38.30	4550.23
217	5 + 400.00	25	1.89	2.13	53.15	4603.38
218	5 + 425.00	25	0.57	1.23	30.69	4634.06
219	5 + 450.00	25	0.00	0.28	7.09	4641.15
220	5 + 475.00	25	0.02	0.01	0.25	4641.40
221	5 + 500.00	25	0.00	0.01	0.25	4641.65
222	5 + 525.00	25	0.00	0.00	0.04	4641.69
223	5 + 550.00	25	1.64	0.82	20.51	4662.20
224	5 + 575.00	25	0.43	1.03	25.85	4688.05
225	5 + 600.00	25	0.82	0.62	15.56	4703.61
226	5 + 625.00	25	0.37	0.59	14.86	4718.48
227	5 + 650.00	25	0.00	0.19	4.68	4723.15
228	5 + 675.00	25	0.00	0.00	0.00	4723.15
229	5 + 700.00	25	0.00	0.00	0.00	4723.15
230	5 + 725.00	25	0.00	0.00	0.00	4723.15
231	5 + 750.00	25	0.77	0.38	9.61	4732.76
232	5 + 775.00	25	2.89	1.83	45.78	4778.54
233	5 + 800.00	25	3.87	3.38	84.55	4863.09
234	5 + 825.00	25	1.60	2.74	68.39	4931.48
235	5 + 850.00	25	0.00	0.80	20.00	4951.48
236	5 + 875.00	25	0.00	0.00	0.01	4951.49
237	5 + 900.00	25	0.00	0.00	0.01	4951.50
238	5 + 925.00	25	0.00	0.00	0.00	4951.50
239	5 + 950.00	25	7.02	3.51	87.75	5039.25
240	5 + 975.00	25	5.33	6.18	154.38	5193.63
241	6 + 000.00	25	0.00	2.67	66.63	5260.25
242	6 + 025.00	25	0.06	0.03	0.70	5260.95
243	6 + 050.00	25	0.71	0.38	9.56	5270.51

244	6 + 075.00	25	1.22	0.96	24.08	5294.59
245	6 + 100.00	25	0.04	0.63	15.70	5310.29
246	6 + 125.00	25	1.09	0.56	14.11	5324.40
247	6 + 150.00	25	2.30	1.70	42.40	5366.80
248	6 + 175.00	25	2.33	2.31	57.86	5424.66
249	6 + 200.00	25	1.87	2.10	52.51	5477.18
250	6 + 225.00	25	0.52	1.20	29.94	5507.11
251	6 + 250.00	25	0.60	0.56	14.03	5521.14
252	6 + 275.00	25	0.54	0.57	14.24	5535.38
253	6 + 300.00	25	1.00	0.77	19.23	5554.60
254	6 + 325.00	25	1.68	1.34	33.50	5588.10
255	6 + 350.00	25	2.40	2.04	51.04	5639.14
256	6 + 375.00	25	1.68	2.04	50.99	5690.13
257	6 + 400.00	25	1.05	1.36	34.09	5724.21
258	6 + 425.00	25	0.01	0.53	13.21	5737.43
259	6 + 450.00	25	0.00	0.00	0.08	5737.50
260	6 + 475.00	25	0.00	0.00	0.00	5737.50
261	6 + 500.00	25	0.00	0.00	0.00	5737.50
262	6 + 525.00	25	0.32	0.16	3.98	5741.48
263	6 + 550.00	25	0.28	0.30	7.43	5748.90
264	6 + 575.00	25	0.19	0.23	5.83	5754.73
265	6 + 600.00	25	0.00	0.10	2.38	5757.10
266	6 + 625.00	25	0.52	0.26	6.46	5763.56
267	6 + 650.00	25	0.00	0.26	6.46	5770.03
268	6 + 675.00	25	0.00	0.00	0.00	5770.03
269	6 + 700.00	25	0.00	0.00	0.00	5770.03
270	6 + 725.00	25	0.00	0.00	0.00	5770.03
271	6 + 750.00	25	0.00	0.00	0.00	5770.03

272	6 + 775.00	25	1.18	0.59	14.70	5784.73
273	6 + 800.00	25	2.61	1.90	47.38	5832.10
274	6 + 825.00	25	2.27	2.44	61.05	5893.15
275	6 + 850.00	25	2.67	2.47	61.78	5954.93
276	6 + 875.00	25	1.19	1.93	48.23	6003.15
277	6 + 900.00	25	0.97	1.08	26.90	6030.05
278	6 + 925.00	25	1.65	1.31	32.71	6062.76
279	6 + 950.00	25	0.24	0.95	23.69	6086.45
280	6 + 975.00	25	0.14	0.19	4.83	6091.28
281	7 + 000.00	25	1.77	0.96	23.90	6115.18
282	7 + 025.00	25	0.66	1.22	30.40	6145.58
283	7 + 050.00	25	0.43	0.54	13.61	6159.19
284	7 + 075.00	25	0.22	0.32	8.09	6167.28
285	7 + 100.00	25	0.00	0.11	2.75	6170.03
286	7 + 125.00	25	0.01	0.00	0.10	6170.13
287	7 + 150.00	25	0.00	0.00	0.10	6170.23
288	7 + 175.00	25	0.00	0.00	0.00	6170.23
289	7 + 200.00	25	0.54	0.27	6.73	6176.95
290	7 + 225.00	25	0.00	0.27	6.74	6183.69
291	7 + 250.00	25	0.00	0.00	0.01	6183.70
292	7 + 275.00	25	2.97	1.49	37.13	6220.83
293	7 + 300.00	25	0.00	1.49	37.14	6257.96
294	7 + 325.00	25	0.00	0.00	0.01	6257.98
295	7 + 350.00	25	0.00	0.00	0.00	6257.98
296	7 + 375.00	25	0.00	0.00	0.00	6257.98
297	7 + 400.00	25	0.00	0.00	0.05	6258.03
298	7 + 425.00	25	0.08	0.04	1.06	6259.09
299	7 + 450.00	25	0.03	0.06	1.41	6260.50

300	7 + 475.00	25	0.88	0.46	11.45	6271.95
301	7 + 500.00	25	0.00	0.44	11.05	6283.00
302	7 + 525.00	25	0.00	0.00	0.05	6283.05
303	7 + 550.00	25	0.00	0.00	0.05	6283.10
304	7 + 575.00	25	0.05	0.03	0.64	6283.74
305	7 + 600.00	25	0.00	0.03	0.64	6284.38
306	7 + 625.00	25	0.00	0.00	0.00	6284.38
307	7 + 650.00	25	0.00	0.00	0.00	6284.38
308	7 + 675.00	25	0.00	0.00	0.00	6284.38
309	7 + 700.00	25	0.00	0.00	0.00	6284.38
310	7 + 725.00	25	0.00	0.00	0.00	6284.38
311	7 + 750.00	25	1.91	0.95	23.85	6308.23
312	7 + 775.00	25	0.00	0.95	23.85	6332.08
313	7 + 800.00	25	0.00	0.00	0.00	6332.08
314	7 + 825.00	25	0.00	0.00	0.00	6332.08
315	7 + 850.00	25	0.00	0.00	0.01	6332.09
316	7 + 875.00	25	1.06	0.53	13.26	6345.35
317	7 + 900.00	25	3.65	2.35	58.85	6404.20
318	7 + 925.00	25	2.80	3.23	80.63	6484.83
319	7 + 950.00	25	3.13	2.97	74.13	6558.95
320	7 + 975.00	25	1.97	2.55	63.70	6622.65
321	8 + 000.00	25	2.97	2.47	61.69	6684.34
322	8 + 025.00	25	1.83	2.40	59.98	6744.31
323	8 + 050.00	25	2.66	2.24	56.11	6800.43
324	8 + 075.00	25	1.80	2.23	55.68	6856.10
325	8 + 100.00	25	0.98	1.39	34.70	6890.80
326	8 + 125.00	25	3.77	2.37	59.31	6950.11
327	8 + 150.00	25	2.30	3.03	75.79	7025.90

328	8 + 175.00	25	2.85	2.57	64.35	7090.25
329	8 + 200.00	25	0.00	1.43	35.63	7125.88
330	8 + 225.00	25	0.00	0.00	0.00	7125.88
331	8 + 250.00	25	0.00	0.00	0.00	7125.88
332	8 + 275.00	25	0.00	0.00	0.00	7125.88
333	8 + 300.00	25	0.46	0.23	5.75	7131.63
334	8 + 325.00	25	0.93	0.70	17.40	7149.03
335	8 + 350.00	25	0.09	0.51	12.83	7161.85
336	8 + 375.00	25	0.31	0.20	5.06	7166.91
337	8 + 400.00	25	0.32	0.32	7.88	7174.79
338	8 + 425.00	25	0.00	0.16	4.00	7178.79
339	8 + 450.00	25	0.00	0.00	0.05	7178.84
340	8 + 475.00	25	0.00	0.00	0.04	7178.88
341	8 + 500.00	25	1.70	0.85	21.29	7200.16
342	8 + 525.00	25	1.09	1.40	34.89	7235.05
343	8 + 550.00	25	2.00	1.54	38.61	7273.66
344	8 + 575.00	25	1.04	1.52	37.99	7311.65
345	8 + 600.00	25	0.99	1.01	25.29	7336.94
346	8 + 625.00	25	0.96	0.97	24.35	7361.29
347	8 + 650.00	25	0.16	0.56	14.03	7375.31
348	8 + 675.00	25	2.69	1.42	35.60	7410.91
349	8 + 700.00	25	2.08	2.38	59.60	7470.51
350	8 + 725.00	25	2.75	2.41	60.34	7530.85
351	8 + 750.00	25	0.52	1.63	40.85	7571.70
352	8 + 775.00	25	1.31	0.92	22.93	7594.63
353	8 + 800.00	25	3.35	2.33	58.25	7652.88
354	8 + 825.00	25	0.18	1.77	44.13	7697.00
355	8 + 850.00	25	0.22	0.20	5.05	7702.05

356	8 + 875.00	25	0.00	0.11	2.75	7704.80
357	8 + 900.00	25	0.00	0.00	0.00	7704.80
358	8 + 925.00	25	0.05	0.03	0.65	7705.45
359	8 + 950.00	25	0.00	0.03	0.65	7706.10
360	8 + 975.00	25	0.00	0.00	0.00	7706.10
361	9 + 000.00	25	0.00	0.00	0.00	7706.10
362	9 + 025.00	25	1.61	0.81	20.13	7726.23
363	9 + 050.00	25	1.46	1.53	38.36	7764.59
364	9 + 075.00	25	1.59	1.53	38.15	7802.74
365	9 + 100.00	25	0.94	1.27	31.70	7834.44
366	9 + 125.00	25	0.00	0.47	11.79	7846.23
367	9 + 150.00	25	0.86	0.43	10.70	7856.93
368	9 + 175.00	25	2.68	1.77	44.20	7901.13
369	9 + 200.00	25	1.36	2.02	50.51	7951.64
370	9 + 225.00	25	2.17	1.77	44.13	7995.76
371	9 + 250.00	25	3.33	2.75	68.70	8064.46
372	9 + 275.00	25	3.43	3.38	84.44	8148.90
373	9 + 300.00	25	4.19	3.81	95.28	8244.18
374	9 + 325.00	25	1.39	2.79	69.80	8313.98
375	9 + 350.00	25	3.59	2.49	62.23	8376.20
376	9 + 375.00	25	0.76	2.17	54.36	8430.56
377	9 + 400.00	25	0.40	0.58	14.46	8445.03
378	9 + 425.00	25	2.11	1.25	31.33	8476.35
379	9 + 450.00	25	0.00	1.06	26.38	8502.73
380	9 + 475.00	25	0.00	0.00	0.00	8502.73
381	9 + 500.00	25	0.00	0.00	0.00	8502.73
382	9 + 525.00	25	2.02	1.01	25.25	8527.98
383	9 + 550.00	25	5.68	3.85	96.25	8624.23

384	9 + 575.00	25	2.11	3.89	97.33	8721.55
385	9 + 600.00	25	0.00	1.05	26.33	8747.88
386	9 + 625.00	25	0.00	0.00	0.00	8747.88
387	9 + 650.00	25	0.00	0.00	0.00	8747.88
388	9 + 675.00	25	2.42	1.21	30.30	8778.18
389	9 + 700.00	25	1.53	1.98	49.48	8827.65
390	9 + 725.00	25	1.48	1.51	37.64	8865.29
391	9 + 750.00	25	0.31	0.89	22.34	8887.63
392	9 + 775.00	25	1.40	0.85	21.31	8908.94
393	9 + 800.00	25	0.00	0.70	17.44	8926.38
394	9 + 825.00	25	0.00	0.00	0.00	8926.38
395	9 + 850.00	25	0.00	0.00	0.00	8926.38
396	9 + 875.00	25	0.00	0.00	0.03	8926.40
397	9 + 900.00	25	0.86	0.43	10.76	8937.16
398	9 + 925.00	25	0.65	0.76	18.91	8956.08
399	9 + 950.00	25	0.19	0.42	10.55	8966.63
400	9 + 975.00	25	0.00	0.10	2.38	8969.00
401	10 + 000.00	25	2.61	1.30	32.59	9001.59
402	10 + 025.00	25	1.77	2.19	54.71	9056.30
403	10 + 050.00	25	0.00	0.89	22.13	9078.43
404	10 + 075.00	25	0.59	0.30	7.40	9085.83
405	10 + 100.00	25	0.00	0.30	7.40	9093.23
406	10 + 125.00	25	0.02	0.01	0.25	9093.48

407	10 + 150.00	25	0.00	0.01	0.25	9093.73
408	10 + 175.00	25	0.00	0.00	0.00	9093.73
409	10 + 200.00	25	0.00	0.00	0.00	9093.73
410	10 + 225.00	25	0.00	0.00	0.00	9093.73
411	10 + 250.00	25	0.00	0.00	0.00	9093.73
412	10 + 275.00	25	0.00	0.00	0.00	9093.73
413	10 + 300.00	25	0.00	0.00	0.00	9093.73
414	10 + 325.00	25	0.15	0.07	1.84	9095.56
415	10 + 350.00	25	0.00	0.07	1.84	9097.40
416	10 + 375.00	25	0.00	0.00	0.00	9097.40
417	10 + 400.00	25	0.00	0.00	0.00	9097.40
418	10 + 425.00	25	5.36	2.68	67.01	9164.41
419	10 + 450.00	25	6.28	5.82	145.51	9309.93
420	10 + 475.00	25	0.99	3.64	90.88	9400.80
421	10 + 500.00	25	5.81	3.40	85.01	9485.81
422	10 + 525.00	25	0.02	2.92	72.90	9558.71
423	10 + 550.00	25	0.00	0.01	0.26	9558.98

424	10 + 575.00	25	0.40	0.20	5.00	9563.98
425	10 + 600.00	25	6.35	3.37	84.31	9648.29
426	10 + 625.00	25	2.91	4.63	115.70	9763.99
427	10 + 650.00	25	0.00	1.46	36.39	9800.38
428	10 + 675.00	25	0.00	0.00	0.00	9800.38
429	10 + 700.00	25	0.00	0.00	0.00	9800.38
430	10 + 725.00	25	0.00	0.00	0.00	9800.38
431	10 + 750.00	25	0.00	0.00	0.00	9800.38
432	10 + 775.00	25	0.00	0.00	0.00	9800.38
433	10 + 800.00	25	0.00	0.00	0.00	9800.38
434	10 + 825.00	25	0.00	0.00	0.00	9800.38
435	10 + 850.00	25	0.40	0.20	4.96	9805.34
436	10 + 875.00	25	0.26	0.33	8.19	9813.53
437	10 + 900.00	25	0.00	0.13	3.23	9816.75
438	10 + 925.00	25	0.00	0.00	0.00	9816.75
439	10 + 950.00	25	0.00	0.00	0.00	9816.75
440	10 + 975.00	25	0.00	0.00	0.00	9816.75

441	11 + 000.00	25	0.00	0.00	0.00	9816.75
442	11 + 025.00	25	0.00	0.00	0.00	9816.75
443	11 + 050.00	25	0.00	0.00	0.00	9816.75
444	11 + 075.00	25	0.00	0.00	0.00	9816.75
445	11 + 100.00	25	0.00	0.00	0.03	9816.78
446	11 + 125.00	25	0.00	0.00	0.03	9816.80
447	11 + 150.00	25	0.00	0.00	0.05	9816.85
448	11 + 175.00	25	0.00	0.00	0.05	9816.90
449	11 + 200.00	25	0.05	0.03	0.63	9817.53
450	11 + 225.00	25	0.19	0.12	3.00	9820.53
451	11 + 250.00	25	0.00	0.10	2.38	9822.90
452	11 + 275.00	25	0.00	0.00	0.00	9822.90
453	11 + 300.00	25	4.48	2.24	56.00	9878.90
454	11 + 325.00	25	6.19	5.33	133.35	10012.25
455	11 + 350.00	25	0.00	3.09	77.36	10089.61
456	11 + 375.00	25	0.00	0.00	0.01	10089.63
457	11 + 400.00	25	2.54	1.27	31.80	10121.43

458	11 + 425.00	25	2.12	2.33	58.25	10179.68
459	11 + 450.00	25	0.00	1.06	26.45	10206.13
460	11 + 475.00	25	0.45	0.23	5.63	10211.75
461	11 + 500.00	25	1.42	0.94	23.41	10235.16
462	11 + 525.00	25	0.00	0.71	17.79	10252.95
463	11 + 550.00	25	0.00	0.00	0.00	10252.95
464	11 + 575.00	25	1.33	0.66	16.58	10269.53
465	11 + 600.00	25	4.89	3.11	77.68	10347.20
466	11 + 625.00	25	7.30	6.09	152.33	10499.53
467	11 + 650.00	25	2.14	4.72	117.93	10617.45
468	11 + 675.00	25	0.00	1.07	26.70	10644.15
469	11 + 700.00	25	0.00	0.00	0.00	10644.15
470	11 + 725.00	25	0.00	0.00	0.00	10644.15
471	11 + 750.00	25	0.01	0.00	0.06	10644.21
472	11 + 775.00	25	0.00	0.00	0.06	10644.28
473	11 + 800.00	25	1.32	0.66	16.50	10660.78
474	11 + 825.00	25	11.87	6.60	164.89	10825.66

475	11 + 850.00	25	0.00	5.94	148.39	10974.05
476	11 + 875.00	25	0.32	0.16	4.00	10978.05
477	11 + 900.00	25	0.00	0.16	4.00	10982.05
478	11 + 925.00	25	0.00	0.00	0.00	10982.05
479	11 + 950.00	25	0.00	0.00	0.00	10982.05
480	11 + 975.00	25	0.66	0.33	8.23	10990.28
481	12 + 000.00	25	0.78	0.72	18.00	11008.28
482	12 + 025.00	25	2.84	1.81	45.28	11053.55
483	12 + 050.00	25	8.51	5.68	141.88	11195.43
484	12 + 075.00	25	5.91	7.21	180.21	11375.64
485	12 + 100.00	25	0.00	2.95	73.84	11449.48
486	12 + 125.00	25	0.00	0.00	0.00	11449.48
487	12 + 150.00	25	0.00	0.00	0.00	11449.48
488	12 + 175.00	25	2.04	1.02	25.46	11474.94
489	12 + 200.00	25	1.39	1.71	42.83	11517.76
490	12 + 225.00	25	2.24	1.82	45.39	11563.15
491	12 + 250.00	25	0.26	1.25	31.31	11594.46

492	12 + 275.00	25	0.21	0.24	5.93	11600.39
493	12 + 300.00	25	0.17	0.19	4.81	11605.20
494	12 + 325.00	25	0.00	0.09	2.18	11607.38
495	12 + 350.00	25	0.39	0.19	4.81	11612.19
496	12 + 375.00	25	1.16	0.77	19.25	11631.44
497	12 + 400.00	25	2.00	1.58	39.41	11670.85
498	12 + 425.00	25	0.36	1.18	29.50	11700.35
499	12 + 450.00	25	0.00	0.18	4.53	11704.88
500	12 + 475.00	25	0.47	0.23	5.86	11710.74
501	12 + 500.00	25	0.27	0.37	9.29	11720.03
502	12 + 525.00	25	0.83	0.55	13.81	11733.84
503	12 + 550.00	25	1.70	1.27	31.63	11765.46
504	12 + 575.00	25	1.34	1.52	37.95	11803.41
505	12 + 600.00	25	4.00	2.67	66.71	11870.13
506	12 + 625.00	25	2.51	3.25	81.35	11951.48
507	12 + 650.00	25	4.01	3.26	81.44	12032.91
508	12 + 675.00	25	2.75	3.38	84.46	12117.38

509	12 + 700.00	25	1.23	1.99	49.75	12167.13
510	12 + 725.00	25	1.11	1.17	29.20	12196.33
511	12 + 750.00	25	1.30	1.20	30.09	12226.41
512	12 + 775.00	25	1.90	1.60	39.95	12266.36
513	12 + 800.00	25	0.19	1.04	26.11	12292.48
514	12 + 825.00	25	1.54	0.87	21.64	12314.11
515	12 + 850.00	25	1.81	1.67	41.83	12355.94
516	12 + 875.00	25	0.45	1.13	28.20	12384.14
517	12 + 900.00	25	2.29	1.37	34.20	12418.34
518	12 + 925.00	25	3.43	2.86	71.49	12489.83
519	12 + 950.00	25	1.22	2.33	58.16	12547.99
520	12 + 975.00	25	1.91	1.57	39.20	12587.19
521	13 + 000.00	25	1.60	1.76	43.96	12631.15
522	13 + 025.00	25	1.18	1.39	34.75	12665.90
523	13 + 050.00	25	0.87	1.02	25.59	12691.49
524	13 + 075.00	25	0.26	0.56	14.10	12705.59
525	13 + 100.00	25	2.29	1.27	31.78	12737.36

526	13 + 125.00	25	0.12	1.20	30.03	12767.39
527	13 + 150.00	25	0.00	0.06	1.46	12768.85
528	13 + 175.00	25	0.00	0.00	0.00	12768.85
529	13 + 200.00	25	0.00	0.00	0.00	12768.85
530	13 + 225.00	25	1.16	0.58	14.54	12783.39
531	13 + 250.00	25	0.86	1.01	25.23	12808.61
532	13 + 275.00	25	1.98	1.42	35.44	12844.05
533	13 + 300.00	25	3.47	2.73	68.13	12912.18
534	13 + 325.00	25	0.06	1.77	44.13	12956.30
535	13 + 350.00	25	0.00	0.03	0.75	12957.05
536	13 + 375.00	25	2.42	1.21	30.29	12987.34
537	13 + 400.00	25	13.17	7.80	194.96	13182.30
538	13 + 425.00	25	4.00	8.59	214.68	13396.98
539	13 + 450.00	25	0.00	2.00	50.05	13447.03
540	13 + 475.00	25	0.02	0.01	0.34	13447.36
541	13 + 500.00	25	2.90	1.46	36.51	13483.88
542	13 + 525.00	25	1.61	2.25	56.35	13540.23

543	13 + 550.00	25	0.06	0.83	20.86	13561.09
544	13 + 575.00	25	0.02	0.04	0.99	13562.08
545	13 + 600.00	25	0.06	0.04	1.04	13563.11
546	13 + 625.00	25	0.88	0.47	11.79	13574.90
547	13 + 650.00	25	0.29	0.59	14.66	13589.56
548	13 + 675.00	25	1.71	1.00	25.05	13614.61
549	13 + 700.00	25	2.38	2.05	51.13	13665.74
550	13 + 725.00	25	1.70	2.04	51.03	13716.76
551	13 + 750.00	25	2.93	2.32	57.88	13774.64
552	13 + 775.00	25	0.00	1.46	36.59	13811.23
553	13 + 800.00	25	0.00	0.00	0.00	13811.23
554	13 + 825.00	25	0.00	0.00	0.00	13811.23
555	13 + 850.00	25	0.00	0.00	0.00	13811.23
556	13 + 875.00	25	0.00	0.00	0.00	13811.23
557	13 + 900.00	25	0.00	0.00	0.00	13811.23
558	13 + 925.00	25	0.00	0.00	0.00	13811.23
559	13 + 950.00	25	0.00	0.00	0.01	13811.24

560	13 + 975.00	25	0.01	0.01	0.19	13811.43
561	14 + 000.00	25	0.00	0.01	0.18	13811.60
562	14 + 025.00	25	2.33	1.16	29.10	13840.70
563	14 + 050.00	25	3.70	3.01	75.35	13916.05
564	14 + 075.00	25	1.69	2.70	67.40	13983.45
565	14 + 100.00	25	0.00	0.85	21.15	14004.60
566	14 + 125.00	25	0.00	0.00	0.00	14004.60
567	14 + 150.00	25	0.00	0.00	0.00	14004.60
568	14 + 175.00	25	0.00	0.00	0.00	14004.60
569	14 + 200.00	25	0.00	0.00	0.05	14004.65
570	14 + 225.00	25	0.29	0.15	3.63	14008.28
571	14 + 250.00	25	2.59	1.44	35.96	14044.24
572	14 + 275.00	25	0.00	1.30	32.39	14076.63
573	14 + 300.00	25	0.11	0.06	1.38	14078.00
574	14 + 325.00	25	0.17	0.14	3.49	14081.49
575	14 + 350.00	25	2.23	1.20	29.99	14111.48
576	14 + 375.00	25	3.33	2.78	69.46	14180.94

577	14 + 400.00	25	0.00	1.66	41.61	14222.55
578	14 + 425.00	25	0.23	0.12	2.91	14225.46
579	14 + 450.00	25	0.00	0.12	2.89	14228.35
580	14 + 475.00	25	1.06	0.53	13.20	14241.55
581	14 + 500.00	25	0.39	0.72	18.08	14259.63
582	14 + 525.00	25	0.00	0.20	4.88	14264.50
583	14 + 550.00	25	0.00	0.00	0.00	14264.50
584	14 + 575.00	25	0.00	0.00	0.00	14264.50
585	14 + 600.00	25	0.00	0.00	0.00	14264.50
586	14 + 625.00	25	0.51	0.26	6.38	14270.88
587	14 + 650.00	25	0.00	0.26	6.43	14277.30
588	14 + 675.00	25	0.03	0.02	0.43	14277.73
589	14 + 700.00	25	0.00	0.02	0.38	14278.10
590	14 + 725.00	25	0.00	0.00	0.00	14278.10
591	14 + 750.00	25	0.00	0.00	0.00	14278.10
592	14 + 775.00	25	0.00	0.00	0.00	14278.10
593	14 + 800.00	25	0.42	0.21	5.28	14283.38

594	14 + 825.00	25	0.43	0.42	10.60	14293.98
595	14 + 850.00	25	1.13	0.78	19.49	14313.46
596	14 + 875.00	25	2.43	1.78	44.58	14358.04
597	14 + 900.00	25	0.00	1.22	30.41	14388.45
598	14 + 925.00	25	0.00	0.00	0.00	14388.45
599	14 + 950.00	25	1.30	0.65	16.30	14404.75
600	14 + 975.00	25	5.88	3.59	89.78	14494.53
601	15 + 000.00	25	0.05	2.96	74.06	14568.59
602	15 + 025.00	25	0.45	0.25	6.18	14574.76
603	15 + 050.00	25	1.21	0.83	20.75	14595.51
604	15 + 075.00	25	0.00	0.61	15.20	14610.71
605	15 + 100.00	25	6.53	3.27	81.66	14692.38
606	15 + 125.00	25	0.00	3.27	81.63	14774.00
607	15 + 150.00	25	0.00	0.00	0.00	14774.00
608	15 + 175.00	25	0.00	0.00	0.00	14774.00
609	15 + 200.00	25	0.00	0.00	0.00	14774.00
610	15 + 225.00	25	0.00	0.00	0.00	14774.00

611	15 + 250.00	25	0.00	0.00	0.00	14774.00
612	15 + 275.00	25	0.00	0.00	0.00	14774.00
613	15 + 300.00	25	0.01	0.00	0.11	14774.11
614	15 + 325.00	25	3.76	1.88	47.11	14821.23
615	15 + 350.00	25	7.22	5.49	137.24	14958.46
616	15 + 375.00	25	7.22	7.22	180.49	15138.95
617	15 + 400.00	25	2.23	4.73	118.13	15257.08
618	15 + 425.00	25	0.48	1.36	33.88	15290.95
619	15 + 450.00	25	0.00	0.24	6.00	15296.95
620	15 + 475.00	25	0.00	0.00	0.00	15296.95
621	15 + 500.00	25	0.00	0.00	0.00	15296.95
622	15 + 525.00	25	1.02	0.51	12.75	15309.70
623	15 + 550.00	25	0.41	0.71	17.81	15327.51
624	15 + 575.00	25	0.39	0.40	9.93	15337.44
625	15 + 600.00	25	0.00	0.19	4.86	15342.30
626	15 + 625.00	25	0.61	0.31	7.63	15349.93
627	15 + 650.00	25	0.27	0.44	11.05	15360.98

628	15 + 675.00	25	4.77	2.52	63.05	15424.03
629	15 + 700.00	25	1.35	3.06	76.46	15500.49
630	15 + 725.00	25	0.02	0.69	17.13	15517.61
631	15 + 750.00	25	1.46	0.74	18.54	15536.15
632	15 + 775.00	25	0.43	0.95	23.63	15559.78
633	15 + 800.00	25	0.93	0.68	17.00	15576.78
634	15 + 825.00	25	0.00	0.47	11.63	15588.40
635	15 + 850.00	25	0.00	0.00	0.00	15588.40
636	15 + 875.00	25	0.00	0.00	0.00	15588.40
637	15 + 900.00	25	0.00	0.00	0.00	15588.40
638	15 + 925.00	25	1.05	0.53	13.13	15601.53
639	15 + 950.00	25	3.05	2.05	51.25	15652.78
640	15 + 975.00	25	0.00	1.53	38.13	15690.90
641	16 + 000.00	25	0.00	0.00	0.00	15690.90
642	16 + 025.00	25	0.13	0.07	1.64	15692.54
643	16 + 050.00	25	3.92	2.03	50.68	15743.21
644	16 + 075.00	25	1.48	2.70	67.54	15810.75

645	16 + 100.00	25	0.42	0.95	23.75	15834.50
646	16 + 125.00	25	0.00	0.21	5.25	15839.75
647	16 + 150.00	25	0.00	0.00	0.00	15839.75
648	16 + 175.00	25	0.00	0.00	0.00	15839.75
649	16 + 200.00	25	4.09	2.04	51.10	15890.85
650	16 + 225.00	25	5.34	4.72	117.88	16008.73
651	16 + 250.00	25	5.03	5.19	129.66	16138.39
652	16 + 275.00	25	3.36	4.19	104.85	16243.24
653	16 + 300.00	25	2.13	2.74	68.61	16311.85
654	16 + 325.00	25	1.58	1.86	46.38	16358.23
655	16 + 350.00	25	3.19	2.39	59.64	16417.86
656	16 + 375.00	25	10.70	6.95	173.64	16591.50
657	16 + 400.00	25	7.09	8.89	222.31	16813.81
658	16 + 425.00	25	1.90	4.49	112.33	16926.14
659	16 + 450.00	25	6.07	3.98	99.61	17025.75
660	16 + 475.00	25	5.66	5.86	146.61	17172.36
661	16 + 500.00	25	8.54	7.10	177.49	17349.85

662	16 + 525.00	25	10.14	9.34	233.50	17583.35
663	16 + 550.00	25	8.12	9.13	228.25	17811.60
664	16 + 575.00	25	12.34	10.23	255.75	18067.35
665	16 + 600.00	25	10.05	11.20	279.88	18347.23
666	16 + 625.00	25	6.87	8.46	211.50	18558.73
667	16 + 650.00	25	3.20	5.04	125.88	18684.60
668	16 + 675.00	25	2.40	2.80	70.00	18754.60
669	16 + 700.00	25	0.01	1.21	30.13	18784.73
670	16 + 725.00	25	0.00	0.01	0.13	18784.85
671	16 + 750.00	25	0.00	0.00	0.00	18784.85
672	16 + 775.00	25	0.00	0.00	0.00	18784.85
673	16 + 800.00	25	0.00	0.00	0.00	18784.85
674	16 + 825.00	25	0.00	0.00	0.00	18784.85
675	16 + 850.00	25	0.00	0.00	0.00	18784.85
676	16 + 875.00	25	1.96	0.98	24.50	18809.35
677	16 + 900.00	25	1.79	1.88	46.88	18856.23
678	16 + 925.00	25	0.00	0.90	22.38	18878.60

679	16 + 950.00	25	0.00	0.00	0.00	18878.60
680	16 + 975.00	25	4.58	2.29	57.25	18935.85
681	17 + 000.00	25	5.54	5.06	126.50	19062.35
682	17 + 025.00	25	2.32	3.93	98.25	19160.60
683	17 + 050.00	25	0.67	1.50	37.38	19197.98
684	17 + 075.00	25	0.00	0.34	8.38	19206.35
685	17 + 100.00	25	0.00	0.00	0.00	19206.35
686	17 + 125.00	25	3.62	1.81	45.25	19251.60
687	17 + 150.00	25	8.70	6.16	154.00	19405.60
688	17 + 175.00	25	7.27	7.99	199.63	19605.23
689	17 + 200.00	25	5.03	6.15	153.75	19758.98
690	17 + 225.00	25	1.36	3.20	79.88	19838.85
691	17 + 250.00	25	0.00	0.68	17.00	19855.85
692	17 + 275.00	25	0.00	0.00	0.00	19855.85
693	17 + 300.00	25	0.00	0.00	0.00	19855.85
694	17 + 325.00	25	0.00	0.00	0.00	19855.85
695	17 + 350.00	25	0.00	0.00	0.00	19855.85

696	17 + 375.00	25	0.00	0.00	0.00	19855.85
697	17 + 400.00	25	0.00	0.00	0.00	19855.85
698	17 + 425.00	25	0.00	0.00	0.00	19855.85
699	17 + 450.00	25	0.04	0.02	0.50	19856.35
700	17 + 475.00	25	0.00	0.02	0.50	19856.85
701	17 + 500.00	25	0.02	0.01	0.25	19857.10
702	17 + 525.00	25	2.36	1.19	29.75	19886.85
703	17 + 550.00	25	2.95	2.66	66.38	19953.23
704	17 + 575.00	25	2.22	2.59	64.63	20017.85
705	17 + 600.00	25	0.26	1.24	31.00	20048.85
706	17 + 625.00	25	1.32	0.79	19.75	20068.60
707	17 + 650.00	25	4.48	2.90	72.50	20141.10
708	17 + 675.00	25	1.67	3.08	76.88	20217.98
709	17 + 700.00	25	0.00	0.84	20.88	20238.85
710	17 + 725.00	25	0.83	0.42	10.38	20249.23
711	17 + 750.00	25	3.20	2.02	50.38	20299.60
712	17 + 775.00	25	0.73	1.97	49.13	20348.73

713	17 + 800.00	25	0.00	0.37	9.13	20357.85
714	17 + 825.00	25	0.00	0.00	0.00	20357.85
715	17 + 850.00	25	0.00	0.00	0.00	20357.85
716	17 + 875.00	25	0.00	0.00	0.00	20357.85
717	17 + 900.00	25	0.00	0.00	0.00	20357.85
718	17 + 925.00	25	0.00	0.00	0.00	20357.85
719	17 + 950.00	25	0.00	0.00	0.00	20357.85
720	17 + 975.00	25	0.00	0.00	0.00	20357.85
721	18 + 000.00	25	1.02	0.51	12.75	20370.60
722	18 + 025.00	25	0.58	0.80	20.00	20390.60
723	18 + 050.00	25	0.00	0.29	7.25	20397.85
724	18 + 075.00	25	0.09	0.05	1.13	20398.98
725	18 + 100.00	25	0.62	0.36	8.88	20407.85
726	18 + 125.00	25	0.28	0.45	11.25	20419.10
727	18 + 150.00	25	0.00	0.14	3.50	20422.60
728	18 + 175.00	25	0.50	0.25	6.25	20428.85
729	18 + 200.00	25	0.32	0.41	10.25	20439.10

730	18 + 225.00	25	0.00	0.16	4.00	20443.10
731	18 + 250.00	25	0.00	0.00	0.00	20443.10
732	18 + 275.00	25	0.03	0.02	0.38	20443.48
733	18 + 300.00	25	0.67	0.35	8.75	20452.23
734	18 + 325.00	25	0.00	0.34	8.38	20460.60
735	18 + 350.00	25	2.07	1.04	25.88	20486.48
736	18 + 375.00	25	0.00	1.04	25.88	20512.35
737	18 + 400.00	25	0.21	0.11	2.63	20514.98
738	18 + 425.00	25	0.73	0.47	11.75	20526.73
739	18 + 450.00	25	0.16	0.45	11.13	20537.85
740	18 + 475.00	25	0.00	0.08	2.00	20539.85
741	18 + 500.00	25	0.00	0.00	0.00	20539.85
742	18 + 525.00	25	0.55	0.28	6.88	20546.73
743	18 + 550.00	25	2.62	1.59	39.63	20586.35
744	18 + 575.00	25	0.77	1.70	42.38	20628.73
745	18 + 600.00	25	0.22	0.50	12.38	20641.10
746	18 + 625.00	25	1.07	0.65	16.13	20657.23

747	18 + 650.00	25	2.60	1.84	45.88	20703.10
748	18 + 675.00	25	2.37	2.49	62.13	20765.23
749	18 + 700.00	25	0.96	1.67	41.63	20806.85
750	18 + 725.00	25	1.82	1.39	34.75	20841.60
751	18 + 750.00	25	2.68	2.25	56.25	20897.85
752	18 + 775.00	25	0.00	1.34	33.50	20931.35
753	18 + 800.00	25	0.00	0.00	0.00	20931.35
754	18 + 825.00	25	0.17	0.09	2.13	20933.48
755	18 + 850.00	25	0.00	0.09	2.13	20935.60
756	18 + 875.00	25	0.00	0.00	0.00	20935.60
757	18 + 900.00	25	0.00	0.00	0.00	20935.60
758	18 + 925.00	25	0.00	0.00	0.00	20935.60
759	18 + 950.00	25	0.15	0.08	1.88	20937.48
760	18 + 975.00	25	0.00	0.08	1.88	20939.35
761	19 + 000.00	25	0.32	0.16	4.00	20943.35
762	19 + 025.00	25	0.80	0.56	14.00	20957.35
763	19 + 050.00	25	0.05	0.43	10.63	20967.98

764	19 + 075.00	25	0.47	0.26	6.50	20974.48
765	19 + 100.00	25	0.17	0.32	8.00	20982.48
766	19 + 125.00	25	0.00	0.09	2.13	20984.60
767	19 + 150.00	25	0.75	0.38	9.38	20993.98
768	19 + 175.00	25	1.69	1.22	30.50	21024.48
769	19 + 200.00	25	2.17	1.93	48.25	21072.73
770	19 + 225.00	25	0.65	1.41	35.25	21107.98
771	19 + 250.00	25	0.04	0.35	8.63	21116.60
772	19 + 275.00	25	2.51	1.28	31.88	21148.48
773	19 + 300.00	25	0.04	1.28	31.88	21180.35
774	19 + 325.00	25	0.00	0.02	0.50	21180.85
775	19 + 350.00	25	0.13	0.07	1.63	21182.48
776	19 + 375.00	25	0.00	0.07	1.63	21184.10
777	19 + 400.00	25	0.32	0.16	4.00	21188.10
778	19 + 425.00	25	0.04	0.18	4.50	21192.60
779	19 + 450.00	25	0.00	0.02	0.50	21193.10
780	19 + 475.00	25	1.30	0.65	16.25	21209.35

781	19 + 500.00	25	0.00	0.65	16.25	21225.60
782	19 + 525.00	25	0.00	0.00	0.00	21225.60
783	19 + 550.00	25	0.00	0.00	0.00	21225.60
784	19 + 575.00	25	0.00	0.00	0.00	21225.60
785	19 + 600.00	25	0.12	0.06	1.50	21227.10
786	19 + 625.00	25	1.80	0.96	24.00	21251.10
787	19 + 650.00	25	0.48	1.14	28.50	21279.60
788	19 + 675.00	25	0.28	0.38	9.50	21289.10
789	19 + 700.00	25	0.00	0.14	3.50	21292.60
790	19 + 725.00	25	7.35	3.68	91.88	21384.48
791	19 + 750.00	25	0.00	3.68	91.88	21476.35
792	19 + 775.00	25	0.25	0.13	3.13	21479.48
793	19 + 800.00	25	0.94	0.60	14.88	21494.35
794	19 + 825.00	25	0.59	0.77	19.13	21513.48
795	19 + 850.00	25	1.31	0.95	23.75	21537.23
796	19 + 875.00	25	0.03	0.67	16.75	21553.98
797	19 + 900.00	25	0.00	0.02	0.38	21554.35

798	19 + 925.00	25	0.65	0.33	8.13	21562.48
799	19 + 950.00	25	0.03	0.34	8.50	21570.98
800	19 + 975.00	25	1.11	0.57	14.25	21585.23
801	20 + 000.00	25	0.38	0.75	18.63	21603.85
802	20 + 025.00	25	0.68	0.53	13.25	21617.10
803	20 + 050.00	25	1.78	1.23	30.75	21647.85
804	20 + 075.00	25	0.81	1.30	32.38	21680.23
805	20 + 100.00	25	3.72	2.27	56.63	21736.85
806	20 + 125.00	25	1.65	2.69	67.13	21803.98
807	20 + 150.00	25	0.00	0.83	20.63	21824.60
808	20 + 175.00	25	0.00	0.00	0.00	21824.60
809	20 + 200.00	25	0.00	0.00	0.00	21824.60
810	20 + 225.00	25	0.50	0.25	6.25	21830.85
811	20 + 250.00	25	0.54	0.52	13.00	21843.85
812	20 + 275.00	25	0.57	0.56	13.88	21857.73
813	20 + 300.00	25	0.00	0.29	7.13	21864.85
814	20 + 325.00	25	0.00	0.00	0.00	21864.85

815	20 + 350.00	25	2.28	1.14	28.50	21893.35
816	20 + 375.00	25	3.38	2.83	70.75	21964.10
817	20 + 400.00	25	1.49	2.44	60.88	22024.98
818	20 + 425.00	25	0.07	0.78	19.50	22044.48
819	20 + 450.00	25	0.05	0.06	1.50	22045.98
820	20 + 475.00	25	1.18	0.62	15.38	22061.35
821	20 + 500.00	25	0.00	0.59	14.75	22076.10
822	20 + 525.00	25	0.02	0.01	0.25	22076.35
823	20 + 550.00	25	0.00	0.01	0.25	22076.60
824	20 + 575.00	25	0.26	0.13	3.25	22079.85
825	20 + 600.00	25	1.18	0.72	18.00	22097.85
826	20 + 625.00	25	3.93	2.56	63.88	22161.73
827	20 + 650.00	25	0.34	2.14	53.38	22215.10
828	20 + 675.00	25	0.06	0.20	5.00	22220.10
829	20 + 700.00	25	0.68	0.37	9.25	22229.35
830	20 + 725.00	25	3.42	2.05	51.25	22280.60
831	20 + 750.00	25	0.52	1.97	49.25	22329.85

832	20 + 775.00	25	0.00	0.26	6.50	22336.35
833	20 + 800.00	25	0.04	0.02	0.50	22336.85
834	20 + 825.00	25	0.14	0.09	2.25	22339.10
835	20 + 850.00	25	0.00	0.07	1.75	22340.85
836	20 + 875.00	25	0.00	0.00	0.00	22340.85
837	20 + 900.00	25	0.00	0.00	0.00	22340.85
838	20 + 925.00	25	0.00	0.00	0.00	22340.85
839	20 + 950.00	25	0.00	0.00	0.00	22340.85
840	20 + 975.00	25	0.11	0.06	1.38	22342.23
841	21 + 000.00	25	1.51	0.81	20.25	22362.48
842	21 + 025.00	25	0.10	0.81	20.13	22382.60
843	21 + 050.00	25	0.00	0.05	1.25	22383.85
844	21 + 075.00	25	0.00	0.00	0.00	22383.85
845	21 + 100.00	25	0.00	0.00	0.00	22383.85
846	21 + 125.00	25	0.00	0.00	0.00	22383.85
847	21 + 150.00	25	0.00	0.00	0.00	22383.85
848	21 + 175.00	25	0.00	0.00	0.00	22383.85

849	21 + 200.00	25	0.00	0.00	0.00	22383.85
850	21 + 225.00	25	0.00	0.00	0.00	22383.85
851	21 + 250.00	25	0.00	0.00	0.00	22383.85
852	21 + 275.00	25	0.00	0.00	0.00	22383.85
853	21 + 300.00	25	0.26	0.13	3.25	22387.10
854	21 + 325.00	25	1.80	1.03	25.75	22412.85
855	21 + 350.00	25	1.85	1.83	45.63	22458.48
856	21 + 375.00	25	1.37	1.61	40.25	22498.73

Description of purpose and objectives

The main purpose of drafting the EIA is to identify and identify possible negative impacts on the environment and take the necessary measures to minimize and prevent harmful effects on the environment during the study, design and subsequent construction of this facility and the use of his.

The main purpose of EIA hatching is to identify ways in which the proposed project can be designed and transformed in such a way as to mitigate adverse effects on the environment. proposed project, which avoids, reduces or repairs its negative impact on the environment or provides environmental benefits. Mitigation measures may erase the physical aspects of the project or the ways in which it was designed and will be constructed.
In fulfillment of the obligations of the Albanian legislation whichis fully aligned with Council of Europe Directive 85/337 / EEC, dated 27 June 1985 "On the assessment of the effects of public and private projects on the environment", as amended by Council of Europe Directive 97/11 and the required Environmental Procedures by the EBRD, in order to ensure:

a) a high level of environmental protection, through the prevention, minimization and compensation of environmental damage, from the proposed project before its approval for development;

b) ensuring an open decision-making process, during the identification, description and assessment of negative impacts on the environment, in the right way and at the right time; as well as the involvement of all stakeholders in it aiming to define the requirements, responsibilities, rules and procedures for the assessment of significant negative environmental impacts from the implementation of the project

proposed.

Our required project is classified in the projects provided in Law no. 10440, dated

07.07.2011 "On environmental impact assessment", as amended The projects of Annex II are subject to the preliminary procedure of environmental impact assessment.

Environmental impacts will be mainly related to the rehabilitation / construction phase (and consequently for a short time) and the project will bring an overall improvement of environmental quality. That is, the potential environmental impact will be minimal and easy to identify, analyze and take mitigation measures against this impact on the environment and according to the above reasoning, this report is a "summary" environmental impact assessment for rehabilitation / the construction of this school
The purpose is to identify and provide appropriate information to the public and other institutions on the environmental consequences of rehabilitation / construction and reconstruction of the school at the time of development of works for the implementation of this project.
Within this purpose in drafting this EIA we have considered:
-alternatives for the location and associated environmental impacts
-improving the environmental plan
- proper and efficient use of resources
- appropriate measures to mitigate the potential impacts of this project proposal
-conditions for construction by realizing it in a timely manner
The objective of this report is to properly evaluate the direct and indirect effects of this project according to the classification:

- Effects on people near and near this required object
- Impacts on land, water, climate and landscape of the area
- Impacts on materials and cultural assets
- Interactions between these factors mentioned

Environmental impact assessment applies the principle of prevention by approving the best option, from the beginning of the decision-making phase, to avoid harmful impacts of this activity on the environment.

For this issue of waste management, based on the instruction 75/442 / CEE modified from the instruction 91/156 / CEE, this type of hierarchy is updated in three levels:

1. prevention;

2. recovery;

3. disintegration.

The principle of prevention and the principle of precautionary measures enshrined in the Masatricht Treaty imposes the task of reducing pollutant emissions at source despite the effective assessment of a negative environmental effect and in the absence of evidence showing the existence of an accidental link between

emissions and adverse effects.

The objective of the environmental impact assessment is to determine:

→ Description and assessment of direct or indirect environmental impacts during the entire period of rehabilitation / construction of this facility.

→ Environmental impacts related to the state of the environment where this project will be implemented.

→ Proposing the necessary measures to prevent, reduce, mitigate and minimize negative impacts and increase positive impacts on the environment.

During the process of environmental impact assessment, my identification, description and assessment are performed, in the appropriate way of the environmental impact of this road construction activity by determining the possible direct and indirect effects on land, water, sea, air, forests. , climate, human health, flora and fauna, natural landscape, material wealth and cultural heritage, taking into account their interrelationships.

Environmental impact assessment applies the principle of prevention at an early stage of project planning in order to avoid or minimize negative effects on the environment, through its harmonization and adaptation to the carrying capacity of the environment.

EIA is thought of as a way to stop projects that have unacceptable environmental impacts but a much more positive and rewarding view is to think of EIA as a way to help developers and decision makers design projects that have an impact. as little as possible in the environment so that they can be allowed to move forward and provide other benefits that development creates for the economy and society. EIA does this by identifying environmental mitigation during evaluation studies.

The EIA team has been collaborating continuously since the early stages of taking on the design task with the design team and will be collaborating with the developer of this project rehabilitation / construction throughout the development of the project from study, design, completion and implementation to completion of construction to identify ways in which they can be reduced and

that have been previously established. This is an ongoing process until the completion of the facility.

The collaboration is realized to decide what is possible and affordable in the context of the proposed development by approving and designing the best variant with as few environmental impacts as possible.

The EIA report describes below all the measures that the developer is prepared to adopt and the residual impacts remaining after mitigation. Mitigation measures are presented as commitments so that the competent authority knows what it can take into account in deciding whether to give consent.

Predicting the impact of unusual events in EIA deals mainly with uncertainties related to impacts that are relatively certain to occur and they are the consequences of routine project operations in the series of types of works that will be carried out under the project.

However, there is always a risk that an unusual event may cause serious environmental problems during the life cycle of a project considering that we have heavy tool work, difficult excavation work below ground level etc. that will be described below and we can always have some unpleasant surprises.

The main objectives of this procedure for environmental impact assessment can be summarized as follows:

- ✓ Full assurance that environmental considerations are explicitly addressed and are included in the decision-making process
- ✓ Description of how the project affects current environmental conditions
- ✓ Avoidance, reduction and minimization of potential environmental impacts have been considered,
  as well as socio-economic aspects as well as those of human health.
- ✓ Suggestions are given as to the measures to be included in the project to reduce or neutralize adverse environmental impacts or to reflect other unforeseen changes.
- ✓ Determining an appropriate monitoring program to verify that the necessary environmental protection measures are implemented effectively and successfully.
  In order to meet these objectives and according to the references mentioned above, this

The EIA report is structured as follows:

a) Data on the current environmental area and the surrounding areas where the project is implemented
b) Project objectives
c) Detailed description of all installations that are part of the project, or that will be used during its implementation

d) Construction plan and deadlines for its implementation
e) Description of the engineering values that will be built or expanded, as well as the description of the works necessary for the implementation of the project
f) Potential environmental impacts and proposed measures to prevent or amortize these impacts
g) Environmental impact monitoring project of the project
h) Rehabilitation measures in case of environmental damage as well as their respective costs
i) Compliance of the project with the territorial regulation plans and with the economic development plan of the area where the project will be implemented
j) Summary of consultations with local government bodies, the general public and non-profit organizations, as well as their opinions.

These are suggested to be part of a report in the case of a "summary EIA", as stated in Law No. 10440, dated 07.07.2011 "On environmental impact assessment", as amended.

2.1-Legislation used for drafting this report

Our country is a party to international conventions and in this context is obliged to implement a regularity defined by these conventions and following the laws that have been and emerged over the years for the protection of the environment as it is the source of everything that determines the life of people by providing a regular environment and good management of it.

For several years, Albania has been involved in rapid urban development, which has been accompanied by a significant bill in the environmental plan. Increased consumption, transport, urban or inert waste, discharge of sewage into seas and rivers, indiscriminate deforestation, erosion of river beds, burning of tires, erosion of mountains, uncontrolled construction, etc., are just a few from the impacts that occurred on the environment. Often man does not realize that what surrounds him even if I can not see (air), directly affects the quality of life. Consequently, he tends to become indifferent to environmental issues, to the point that nature reacts harshly (flood, e.g.).

In fact, the negative impact on the environment is a bill that all countries are not paying attention to development. For this reason often, energy, transport and environmental indicators are treated together as it is almost impossible not to affect each other. However, developed countries have taken serious commitments and are trying to set a good example that not always development in general and industry in particular go hand in hand with environmental pollution. Signing of Protocols such as Kyoto to reduce emissions shows that states have significantly increased their relation to the environment, as this is directly related to the quality of life of their citizens. Even more important is the Gothenburg Protocol which sets ceilings for the emissions of the four most dangerous air pollutants that create acid rain.

Albania is probably not one of the most polluted countries in the world, but measures must be taken urgently to stop the environmental massacre and in parallel with concrete steps to improve the situation.

In its study, ODA found that Albania does not suffer from strategies, plan measures or setting objectives on paper.

Thus, currently, Albania has:

»Signed 7 International Conventions on various environmental issues;

»Drafted 7 Development Strategies for some environmental aspects;

»There are over 23 laws for protection of the environment, biodiversity, flora and fauna, etc .;

»There are over 20 laws for ratification and accession through International Protocols, Agreements, Amendments, etc .;

»Over 20 revisions and additions to previous legislation;

»Over 80 DCMs that are directly related to the environment;

»20 instructions and over 5 regulations, etc.

It is necessary to implement the signed laws and commitments and even further the will to complete the initiatives undertaken for the protection of the environment. However, even in the drafting of strategies and the inclusion of steps for their implementation there is still much work to be done, in order to reflect all the problems that the environment in the country is facing today.

For the realization of the Environmental Impact Assessment report of the proposed activity u consulted environmental documents related to the state policies of environmental protection, the area in which it seeks to carry out this reconstruction intervention .

Albania, after the '90s, has become a party to a number of international conventions in the field of environmental protection, which are interstate environmental agreements with many countries around the world, related to climate change, protection of biodiversity, the fight against desertification of lands, for migratory species, species, fauna, chemicals, and a range of other regionally and internationally common environmental issues. The Albanian government in recent years has issued many laws and guidelines for the environment which are in full compliance with international conventions such as:

- Finnish Convention "On Environmental Impact Assessment in the Transboundary Context" Espoo dated 25.02.1991
- Geneva Convention "On Atmospheric Pollution" dated 13.11.1979
- Berne Convention "On the Conservation of Flora and Fauna" dated 19.09.1979 ratified by Law No. 8294, dated 02.03.1998
- Convention for the Protection of the Marine Environment and the Maritime Area of the Mediterranean Sea and the Six Accompanying Protocols, adapted in Barcelona on 16.02.1976, on

10.06.1995 by the Conference of the Plenipotentiaries "For the Protection of the Mediterranean Sea from Pollution" ratified by law no. .8690, dated 16.11.2000

- Rio Convention "On Biological Diversity", in Rio de Janeiro on 15.06.1992 ratified by Law No. 9279, dated 23.09.2004,

- Law on Albania's accession to the protocol "On the preparation, response and cooperation to incidents of pollution from hazardous and harmful substances (OPRC - HNS), 2000" promulgated by decree No. 7990, dated 15.10.2012.

Convention on "Biological Diversity", which represents an agreement between different countries

for biodiversity conservation, sustainable use of genetic resources and transfer

of relevant technologies with relevant funding. Albania signed this convention on January 5, 1994. The Convention entered into force on 5 April 1994.

- On November 29, 1995, Albania acceded to the "Ramsar Convention" (Ramsar, 1971), also known as the "Convention on Wetlands of International Importance, in particular Waterfowl". Albania became a member of this convention by ratifying it on March 29, 1996.

- On October 31, 1995, Albania signed the Berne Convention for the Protection of the Natural Flora and Fauna of the Natural Environment of Europe "(Berne, 19 September 1979). Albania became a member of this convention through its ratification on March 2, 1998. .

- Aarhus Convention "On access to information, public participation in decision-making and access to the justice system in environmental matters" (Denmark, 25 June 1998). The Convention represents an important instrument for strengthening and harmonizing the environmental rights of citizens by giving them more opportunities to be informed about public participation and justice in Europe. Albania was among the 35 member states that signed this convention.

- Convention for the Suppression of Desertification, with a view to combating this phenomenon in countries suffering from it (4 December 1996). Annex 4 addresses the problem of desertification in Mediterranean countries. Albania's participation was approved in 1999.

- Convention for the Protection of the Ozone Layer, known as the Vienna Convention (1985) ratified on 8 October 1999.

Since its inception in 1974, the Committee for the Protection of the Marine Environment (MEPC = KMAD) has studied various provisions of MARPOL 73/78 that required clarification or that were problematic to implement. In order to remove ambiguities and resolve problems uniformly, the MEPC decided that it was desirable to apply uniform interpretations of MARPOL 73/78 and acknowledged that, in some way, some of the rules should be amended or new ones envisaged with in order to further reduce pollution related to the use of ships and that accidentally caused by ships. These measures taken by the MEPC have led to the drafting of a number of uniform interpretations of the Convention and amendments.

This publication is intended to facilitate consultation on the uniform provisions and interpretations of the updated Articles, Protocols and the five Annexes to MARPOL 73/78. It

includes all amendments of 2000 (as adopted by MEPC resolution.89 (45). The Secretariat will specify that it does not intend to introduce formal or other modifications to credible texts. For legal purposes, consulting

reliable MARPOL 73/78 texts.

However, we will find in this publication the amendments to rule 13G of Annex i and the supplement to the IOPP Certificate (as adopted on 11 May 2001 by MEPC resolution.95 (46) .These important amendments will enter into force on 1 September 2002 if they are accepted on the date of tacit acceptance fixed on 1 March 2002. At the date of publication of this summary publication, the conditions for the entry into force of these amendments had not yet been met. in force before the next revision of this summary publication and therefore the text of MEPC resolution 95 (46) has been reproduced in the section entitled "Additional information" (section 7).) adopted by the MEPC resolution.95 (46) appears in the same section (section 8).

The content is very similar to what is required by the provisions of the EBRD, in Annex 4 of "Environmental Procedures" and by the EIB, which follows the relevant European directives (Directive 85/337 / of the Council of Europe, amended by Directive 97 / 11 / te
Council of Europe).

The EBRD provides more details on each item in particular and this is especially true for the description of the environmental aspects and socio-economic conditions that may be affected by the project. Among them we mention: climate, geomorphology and geology, water resources, biological and ecological resources, the impact on the panoramic and the visual, on air quality, noise and land use.

Regarding the definition of potential impacts, we have the following definitions:

→ Medium acceptable impact: negative impact on the environment that can be reduced. This is not an impact that accumulates and does not cause widespread environmental damage.

→ Substantial impact: an impact on the environment that cannot be mitigated so easily. This impact accumulates and causes damage that spreads to the environment.

→ Indirect impact: is the impact previously accumulated or shifted remotely and can be predicted.

Again in this case the Albanian legislation is similar to the provisions of the EBRD, in particular on the possibility of cumulative impacts.

In addition to the above, the EBRD emphasizes the importance of describing both positive and negative impacts (in terms of scale, importance, recurrence, return, mass and duration), as well as the importance of the scale of impacts (whether this is an impact at local, regional, national or interim level).

Preparation of the Report of The Environmental Impact Assessment of the proposed activity was carried out based on the following legal acts:

- Law no. 8094 dated 21.03.1996 "On public disposal of waste"
- Law No.8756 dated 26.03.2001 "On civil emergencies"
- Law No. 8766 dated 05.04.2001 updated "On fire protection and rescue"

- Law no. 8503, dated 30.6.1999 "On the right to information regarding official documents"
- Law No.9010, dated 13.2.2003 "On the treatment of solid waste",
- Law No.9774, dated 12.07.2007 "On the assessment and management of noise in the environment",
- Law No. 81/2017 "On protected areas"
- Law No. 10, dated 18.02.2010 "On safety and health at work"
- Regulation No. 1 dated 30.03.2007 "On the treatment of construction waste, from creation, transportation to their disposal"
- Methodological Guide for "Preparation of Environmental Impact Assessment Report"
- DCM No. 994, dated 02.07.2008 "On attracting public opinion in environmental decision-making"
- Decision of the Council of Ministers No. 175, dated 19.01.2011 "On the approval of the national strategy of waste management ...",
- Decision of the Council of Ministers No. 123, dated 17.02.2011, "On the approval of the national action plan for the management of environmental noise"
- Decision of the Council of Ministers No. 805, dated 04.12.2003 "On the approval of the list of activities with an impact on the environment"
- Decision of the Council of Ministers No. 103, dated 31.07.2002 "On environmental monitoring in the Republic of Albania"
- Guideline No.6, dated 27.11.2007 "On the approval of rules, content and deadlines for drafting plans for solid waste management"
- Instruction no.6 dated 27.12.2006 "On the approval of the methodology of preliminary environmental impact assessment of an activity"
- Decision of the Council of Ministers No. 99, dated 18.02.2005 “On the approval of the Albanian catalog of the classification of
Wastes "

- Instruction no. 2 dated 21.05.2007 "On the approval of the list of activities with environmental impact, the manner of application and the rules and procedures for granting environmental authorization and consent by the Regional Environmental Agencies"
- Instruction No.8, dated 27.11.2007 “On noise limit levels in certain environments
- Instruction No. 1037/1, dated 12.04.2011 "On the assessment and management of environmental noise"
- Decision of the Council of Ministers No. 123, dated 17.02.2011 "On the approval of the national plan for environmental noise management"
- Instruction No. 1037/1, dated 12.04.2011 "On the assessment and management of environmental noise"
- Decision of the Council of Ministers No. 123, dated 17.02.2011 "On the approval of the national plan for environmental noise management",
- Law no. 10 463, dated 22.9.2011 "On integrated waste management"
- Law no. 10 431, dated 09.06.2011 "On environmental protection" amended
- Law no. 10 440, dated 07.07.2011 "On environmental impact assessment"
- Law no. 10 448, dated 14.07.2011 "On environmental permits"
- DCM No. 13, dated 04.01.2013 "On the approval of the rules, responsibilities of deadlines for the development of the environmental impact assessment procedure"

- DCM No. 419, dated 25.06.2014 "On the approval of applications for permits, transfer of permits, rules for review of permits"
- DCM No. 912, dated 11.11.2015 "On the approval of the national methodology for drafting the environmental impact assessment report"
- DCM No. 352, dated 29.04.2015 "On the assessment of air quality and requirements for some pollutants related to it"
- Law no. 8308, dated 18.03.1998 "On road transport" as amended, which deals in a special way with issues such as:

(i) assigning the role of local government bodies (MB);

(ii) rules for transport companies;

(iii) procedures applicable to road transport firms for market entry;

(iv) transport of dangerous goods. This law has been approximated with the EC directive 96/26 with the approval of its amendments with law no. 9760, dated 21.6.2007.

- Law no.9808, dated 24.9.2007 "On some changes and additions to law 8378, dated 22.07.1998" Road Code of the Republic of Albania "(for weights and dimensions, transport capacity of vehicles, etc.), which paves the way for drafting of other legal acts according to EC Directives and Regulations.

VKM no. 325, dated 19.03.2008 "On the approval of the rules for acceptance in the activity of the road transport operator of goods and passengers, as well as for the recognition of official documents, assigned to these operators", partially complied with Directive no. 96/26 / EC lays down the qualitative criteria that must be met for admission to the activity of road transport of goods and

- passengers for road transport operators, both for the domestic market and for the international market.

2.1.1- Ebrd Requirements (Ebrd Environmental And Social Policy).

The methodology applied for compiling the structure of the EIA report is based on the requirements of ERDB Environmental and Social Policy.The 2019 Environmental and Social Policy and related Performance Requirements were approved by the EBRD Board of Directors on 25 April 2019 and apply to projects initiated after 1 January 2020. The Policy will be reviewed in 2024.

The European Bank for Reconstruction and Development (EBRD) is committed to promoting "sustainable and environmentally friendly development" throughout its range of investment and technical cooperation activities, pursuing the EBRD Founding Agreement.
The Bank believes that environmental and social sustainability is a fundamental aspect of achieving results in line with its transition mandate and confirms that projects promoting environmental and social sustainability enjoy the highest priority in its activities.
Performance requirements (PR):

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

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

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

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

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

For Category A and B projects which involve existing facilities, an assessment of the environmental and social issues of past and current operations will be required. The purpose of this assessment is to identify potential risks, liabilities and opportunities associated with existing facilities and operations, to confirm the current status of regulatory compliance and to assess the

client's existing management systems and overall performance against the PRs. Any investigations of existing facilities must be carried out by experts that are independent of the facility that is being investigated.

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

This project is not in the list categorized as type A projects.
Based on the technical project that will be implemented on the footprint of the existing road already built years ago, based on this project, the asphalt layer will be laid and the signage of the existing road will be installed, based on the environmental and social impacts that will have during the construction phase (of about 12 months) which are estimated to be minimal and easily addressed through mitigation measures.

2.2 -Description of the methodology for drafting this report

Implementation of the Albanian legislation and the EBRD, in order to ensure a high level of environmental protection through prevention, compensation of environmental damage, guaranteeing an open, extensive decision-making in consultation with the drafters of the construction project, staff engineering and beyond with specialists in the respective local field but also with consulting from external experts, for which it is required to realize this water supply project of Bulqiza villages fulfills on all sides as multilateral interests and from environmental and state points of view.

During the drafting of this report is considered:

- Existing condition of the village area without water supply
- Impacts on the environment during the construction phase of the facility
- Impacts on the environment and how to mitigate them
- Harmonization and connection of this activity with all necessary measures to minimize environmental damage
- Necessary infrastructure for construction and then for operation
- Compliance of this project with the general local plan.

The EIA has allowed and assisted in the design of this project as it has no unforeseen impacts on the environment and has served as a guide to help developers and decision makers to design the construction project with the least possible impact on the environment by identifying environmental mitigation during evaluation studies.

The drafter has been identified to identify significant environmental impacts and has collaborated with the developer to identify ways in which they can be reduced. This is a repetitive process that started in the early stages and continues throughout the development of the project.

It is usually not possible to mitigate every impact of a project, but the job of the EIA team is to work with the project developer to decide what is possible and feasible in the context of the proposed development.

The residual impact assessment has just been completed and the EIA report describes the measures the developer is prepared to adopt and the residual impacts remaining after mitigation.

Mitigation measures are presented as commitments so that the competent authority knows what to consider in deciding whether to give consent.

2.2.1 - Risk assessment in drafting this report

Predicting the occurrence of unusual events in EIA deals mainly with uncertainties related to impacts that are relatively certain to occur as they are the consequences of routine project operations.

However, there is always a risk that an unusual event may cause serious environmental problems during the implementation cycle of this project. Risk identification requires the systematic examination of all elements in project design and their interactions with humans and the environment to determine how much damage (to health or the environment) may occur.

Risk assessment (VR) is the scientific method of determining uncertainty about future events of this type. Techniques can be either qualitative or quantitative. Qualitative techniques are commonly used to evaluate simple systems where the consequences of events are less severe. Quantitative risk assessment has been used for more complex systems and for risks that can lead to serious consequences such as the death of people (victims).Evaluations should start at a simple level and can be made more sophisticated, depending on the nature and complexity of the risk and the needs of the decision maker in risk management this is known as a "tiered approach". Using a “level approach” it must be ensured that the resources applied to the risk assessment are proportionate to the risk.

A number of essential activities are involved in risk assessment. These are divided into five main steps:

- Risk identification;
- Risk analysis;
- Consequence analysis;
- Risk determination,
- Assessment and mitigation measures.

Risk identification involves identifying hazardous materials or any hazardous events that may be associated with the project. A common consequence in creating potential risks is to manage the secondary risks that may arise. It is important that the full range of potential risks be identified at the outset, even if it is to clarify why some potential risks have been ruled out as such and that do not require further assessment.

In this project, during its realization either the construction of a new part of the axis or the rehabilitation / construction of the existing axis we are at risk of malfunctioning equipment that will be used during the entire construction period until their completion and specifically care must be taken by:

- Operation of heavy and excavating tools at the moment of starting the works and during all the time until the end of the object as any possible accident can be caused.
- Heavy vehicles, excavators, cranes, diggers should not work continuously and at the same time in order not to eat up and densely the dust that comes out of the construction works and not to spread to the surrounding area as it is an open square, on the street main and within the center inhabited by many inhabitants. At the same time avoiding the production of noise above the allowed ones as all works will be done mainly within the inhabited area.
- Non-pollution of the environment from the materials that will come out from the excavation works and from the soil that will come out which will no longer be used in the facility as well as proper care during their evacuation in the previously determined place or for reuse with authorization and decision only by the supervisor i ve works and by the institution.
- Good operation, very rigorous and within the technical conditions of the construction site and the work site by the contractor from the moment of commencement of works in order to avoid any possible accident.
- Care of auto vehicles such as diggers, excavators, trucks of all tonnages that will bring real materials as well as all other motor vehicles that work only a specific and limited time section for not spilling fuel or oils in the square that bring pollution environmental

A hazard can be defined as a situation that in certain circumstances may result in injury or being damaged. The level of risk is calculated by combining the probability or frequency of occurrence of a defined risk and the magnitude of the consequences that may occur.

While the law in force on environmental impact assessment does not explicitly refer to risk as part of the scope of the EIA it is good practice for the environmental report to describe the environmental and health risks arising from projects where these are relevant.

2.2.2 - Risk analysis

This is an estimate of the frequency or probability of a dangerous incident occurring

that may cause damage to this type of project and subsequently during the development of its construction. This includes:

- specifying the sequence of events that may lead to the occurrence of the dangerous incident by defect or analysis of the tree / event history;
- quantifying the likelihood of the incident.

"Analysis of the tree / history of the defect, the cause" begins with the incident causing the effect on people and the environment (eg, fire or spillage of contaminated liquids, slipping or slipping of machinery during various excavation works) and returns through failures or events that may have led to this point. "Tree / event history analysis" extends from the beginning of the event to incidents that can harm people and the environment. Both can be used to provide a graphical representation

of the relationship between particular events and the final unwanted incident (sometimes referred to as the "main event").

Hazard and Operability Studies (HazOps) Hazard and Operability Studies is a special approach to tree / event history analysis often used in high-risk installation studies. The HazOps approach is to examine small segments of the process or operation in a systematic way to identify all possible accident scenarios. Detailed design information, operating character, and historical data on failure rates from the supplier or similar equipment were used to perform the analysis. Once the origins of different events have been identified, event histories have been tracked through dangerous incidents affecting people or the environment and the probability of them occurring is determined, if possible.

Consequence analysis in the process involves predicting the consequences for people and the environment that may arise from a given risk. It can be divided into three main stages, as follows:

- determining the possible consequences or impacts of the hazard, including the sequence of events from hazardous incidents to the impact;
- forecasting the extent of possible consequences;
- estimating the probability of occurrence of the consequence.

2.2.3 –Examination of impacts and prediction of consequences

Examination of impacts / consequences

It is important that the full range of possible consequences is considered at this stage. Some consequences are clearly related to the particular risk being analyzed such as human health impacts from discharges and bathing waters mixed with elements of
unacceptable as oils, lubricants etc. in water channels.

Examining the sequence of events from dangerous incident to impact will vary in the complex, depending on the nature of the hazard considered. It is impossible in the case of our project to leave in the square or open around it any kind of waste and nature.

Predicting the extent of consequences

The prediction of the magnitude of the consequences will vary depending on the complexity of the hazardous event in the assessment. Some key features to consider at this stage:

- The spatial scale of the consequences of damage resulting from an environmental impact will often extend significantly beyond the boundaries of the source of the hazard. It is important that the risk assessment is not too limited in this regard.
- Temporary degree of consequences. It is important to consider the duration of an impact as it may cause long-term damage. For example, the potential consequences of a major oil spill affecting beaches could have long-term impacts on the area tourism industry; a spill of a solvent on permeable soil could result in an impact on aquifers for many years to come.

For quantitative / quantitative assessments, robust and long-term modeling, using tools similar to those used in conventional impact forecasting, can be used to predict and determine the time scale and extent of environmental impact.

Estimating the probability of consequences

The purpose of this step is to assess the possibility of consequences and consists of three components:

-probability of occurrence of dangerous incident,

-probability of receptors exposed to risk and

-probability of damage resulting from exposure to risk.

Depending on the circumstances of the dangerous incident, the assignment of probabilities may be relatively straightforward or may require a more sophisticated approach.

uncertainties

This section discusses the importance of addressing uncertainty in EIA. Uncertainty is important as it can affect the quality of information available in decision making. there are
two main ways in which uncertainty is relevant in EIA:

- Uncertainty in forecasting impacts.

Predictions, by nature, are uncertain as they relate to the future. Uncertainty is mainly related to the lack of knowledge about how the project and the environment will behave in the future. For example, the effect of project emissions on air quality will depend crucially on the exact position, discharge strength, temperature and composition of the emissions, as well as future weather conditions and all of these are unclear. But uncertainty can also increase because our knowledge of the underlying environment is based solely on samples / models, and the methods used to predict impacts (models, etc.) are always simplifications of what is happening in the world. There may also be errors in the data and in the application of the methods but hopefully these can be avoided with the help of careful and detailed controls.

- Uncertainty about the existence of "extraordinary events" during the implementation of the project

- Unforeseen risks that endanger human life and the environment

- From the malfunction of cars, tools and equipment that participate in the project and cause accidents such as fire, explosions and various leaks or slides.

The forecasting process consists of a number of stages, including deciding how to describe the impacts, collecting project-related data and the environment, and selecting and applying the forecasting method. Uncertainty can appear at each of these stages.

There are a number of criteria for deciding how to describe an impact. These include:

-the nature of the impact itself, eg, location and extent, time and other related characteristics;

-the type of standards against which forecasts will be assessed;

-ability and possibility of methods to make different types of forecasts (average / maximum amplitude, short / long, near / far, etc.)

The decision to describe an impact using a measure rather than what may lead to a different conclusion about the impact. his.

There will always be uncertainty in the data needed to make the predictions. These can be data about the activity itself: first,

☞ how much waste will be deposited at a proposed site? Given that in our case we will

waste:

→ from demolition works of existing surfaces which must be separated from concrete waste, metal waste and other waste.

→ from the excavation works for the implementation of the project according to the specifications and forecasts made in it for the realization of this object.

→ waste that comes out during construction works and that is no longer used.

☞ What is their chemical composition?

Since we are dealing with a new construction of the water supply network, we need constant supervision because we can face unpleasant situations.

It can also be related to the affected baseline environment: what is the local population of the affected species. What proportion of the regional national population does it include? What channels make the spread of pollutants possible? What are the local conditions of dispersal in air, soil and water? How many people live on the project site?

Data are subject to two types of uncertainties:

- Inaccuracy in measurement and sample selection - accuracy of instruments, technique and user as well as frequency of measurements scale of the selected model;

- Natural and unavoidable variability in the environment, for example, average weather conditions will change over the year and over the years; river inflow levels soil moisture change over time, as do populations and species reproduction; the different genetic composition of individuals in a population of microorganisms will result in one

variability of their response to soil pollution.

All predictive methods, when using scientific models or expert judgments, include some environmental models: mathematical, physical, experimental, or conceptual (verbal / mental). Uncertainties occur because none of these models can predict what will happen in the real environment. The model is only a real-world approximation and the conclusions cannot give an accurate and precise description of what might happen.

Where possible, assumptions based on impact forecasting, and reliability in forecasting should be clearly specified. Where there is a significant level of uncertainty, forecasts should always be expressed as either qualitatively (e.g., from lowest to highest and most likely values) or statistically (e.g., 95% limit / level of reliability). For example, statistical analysis may show that 95% of the noise reliability interval associated with an industrial project is 65-70dBA. This means that there is a 95% probability that the actual noise is within these norms. There are several different

statistical methods that can determine the level of uncertainty in forecasts and it is appropriate to use these where there is considerable uncertainty.

Monte Carlo analysis is a computer simulation technique that can be applied to any system that uses uncertain variables. The simulation investigates the consequences of these uncertainties in the final product using probability analysis by varying each variable according to the distribution of their uncertainty limits.

Uncertainty can be reduced by improving the quality of the data entered, by increasing the number of samples studied, by using more appropriate measurement methods, or by using the forecasting method as a more sophisticated model. It is important, however, not to collect more data or use methods that are more effective than it is to make an adequate forecast. The “Adequate” provision is such that it allows the judgment to be made in relation to its importance and provides decision-makers and other actors with sufficient information to make their judgments. A large amount of time and money is often wasted on EIA, collecting large amounts of data and using very sophisticated tools, when a simpler method and a simpler description of the impacts may be much more appropriate. For some estimates qualitative approaches are appropriate, for example by asking an expert or based on someone else's experience, and in these cases uncertainty can be managed by checking with another expert or using more than one comparison.

Reducing uncertainty in these cases is more a case of "common sense" than a complex methodology:

-When previous experience has been used to anticipate the potential effects of a proposed development, the evaluator should ensure that the other location or activity is reasonable, compared to the current proposal in terms of project design and environment. If there are differences, they should be taken into account when interpreting the projected impact.

-If expert judgment is used it should be as impartial as possible. If prejudice or controversy is unavoidable, observations should be drawn from other experts and any differences of opinion expressed clearly to decision-makers.

-Where there is uncertainty, sensitivity analysis can be a useful tool. Formal sensitivity analysis is an analytical method used to assess the stability of relationships between variables: in simple terms, how much will X increase if Y increases? A factor called the partial derivative that is calculated for each data is known as the sensitivity coefficient. Data with the highest coefficient of sensitivity have the greatest impact on uncertainty in results.

In the simplest form of sensitivity analysis, the question "If" What will happen to the impact of air quality if the weather conditions become progressively warmer over time?

This type of analysis can be used to test how the outcome may vary according to different future scenarios and how significant the impact is on future uncertainty. If the result is very sensitive, then it may be necessary to work much further to reduce uncertainty or impose constraints on the project to prevent the impact from becoming too high, e.g., by imposing permissible conditions for limiting work levels .The technique allows resources to focus on key variables that directly affect uncertainty, so that the overall uncertainty of the end result is reduced.

The method also promotes a better understanding of the system works and the importance of the variables that yield the result.

2.3 - Territorial plans

The required project has been drafted and proposed by specialists in the respective fields and in addition to its preparation in accordance with the requirements proposed by the investor and the technical conditions of implementation is complete and is in accordance with regional socio-economic development plans as well as those of territorial regulation. for this area.
For this area and for Lures in particular have been drafted several regulatory and functional plans within which without question have been these new buildings for which is the design task to improve the existing environment in order to increase the safety of these buildings and adapting to the technical requirements of the time in order to function according to the previously set parameters.

2.3.1– Spatial planning

The general principles of this abbreviated planning are a set of rules based on international experience that can be summarized as follows:

1) Promoting sustainable development
2) Prevention of harmful impact on the natural environment
3) Preservation of characteristic natural, landscape, flora and fauna features
4) Ecologically healthy development, preservation of ecological corridors to guarantee the protection of habitats
5) Taking preventive measures and regeneration of natural environments
6) Incorporating principles such as 'polluter pays'
7) Use of the best techniques and methods for environmental protection
8) Use of the best technology available based on minimal impact, pollution-free construction and site preparation.
9) Informing the public, involving the community in decision-making and public access to information
10) Border and regional cooperation

2..2– Environmental standards for road construction.

Albanian Law on Environmental Protection requires that any project or activity that will, or is likely to affect, the environment must obtain an Environmental Statement, Permit, Authorization or Environmental Consent from the Ministry of Tourism and Environment or the Regional Directorate of Environment prior to project implementation. A decision of the Council of Ministers has defined the types of projects that must receive one of the above approvals.

The law provides the following definitions that are relevant to the classification of projects and the respective licenses to be issued.

1. "Project" refers to any implementation of works of a construction nature, installations or schemes or other interventions in a natural environment or landscape, including the use of natural resources and mineral resources.

2. “Environmental Impact Assessment” (EIA) is the process undertaken to identify, anticipate, interpret, measure, communicate and prevent the impact of a project on the environment, according to its alternatives, in order to select the most appropriate alternative. good to prevent or mitigate negative impacts, before approving the project and its implementation.

3. “Strategic Environmental Assessment” (SEA) is the process of assessing the potential impacts on the environment of a policy, plan or program.

4. "Environmental statement" is the official document issued by the Ministry of Environment, after reviewing the application and relevant documentation for approval of the project, plan or program. The statement may reject or approve the request submitted, accompanied by the mandatory conditions to be implemented by the proposer and the competent authorities. The Environmental Statement is issued after the Strategic Environmental Assessment is completed.

5. "Environmental Permit" is the official document, issued by the Ministry of Environment, after reviewing and consulting on the application and relevant documentation with stakeholders interested in the process. The permit approves the exercise of an activity that has an impact on the environment, and defines the conditions and binding circumstances that must be adhered to, so that pollution and damage do not exceed the permitted norms.

6. "Environmental Consent and Authorization" is issued for activities of local character that have an impact on the environment, but is not included in the Decision of the Council of Ministers. They are approved by the Regional Directorates of Environment in the form of consent or authorization, in cooperation with local government bodies.

UInstructions of the Minister of Environment approve the list of activities, application format, rules and procedures for issuing a permit or authorization by DRM-to.

Any form of approval may contain binding conditions and procedures to be implemented, so that pollution and damage to the environment do not exceed the permitted norms. MoEFWA has authorized the offices of the local ARM hall-to issue Environmental Approvals for activities with the least impact on the environment, namely the Environmental Authority (for larger impact) and Environmental Consent (for smaller impacts).

The Law on Environmental Impact Assessment (EIA) determines the type and scale of projects or activities that require EIA before implementation. Categories of EIA-ve are:

- *Summary EIA*. This applies to projects that may have smaller potential impacts on a scale that again requires a professional assessment of their impacts. These include projects listed in Annex 2 of the EIA Law and changes or rehabilitation of projects listed in Annex 1.
- *In-Depth EIA*. This applies to projects with potentially significant impacts, as listed in Annex 1 of the Law, those projects listed in Annex 2 for which the MPEF thinks they will have a

significant impact on the environment (based on information provided by the proposer at the time of application, in the manner detailed in Annex 3 of the Law) and the activities are to be implemented in the protected areas of the Republic of Albania.

Specific requirements under Albanian legislation on cultural property issues, natural habitats and forests are summarized below:

- Issues related to cultural heritage are regulated by Law no. 9048, "On Cultural Heritage", dated 7 April 2003. This is a very broad law that covers many aspects of cultural heritage.

The law requires that in the event that any person accidentally discovers or excavates cultural heritage objects during construction work, they must immediately stop the work and notify the relevant local authorities within three days. These bodies are then responsible for making relevant checks on the objects found, reporting on their value and making proposals on continuing the works or terminating them for further investigation. These bodies may also decide on any possible changes or interruptions in the work to preserve the objects found. (Article 48)

For cases of large constructions, investors are obliged to consult with the relevant authorities when drafting the project and applying for a construction permit. Specialists should inspect the area and prepare the relevant report as well as any necessary modifications for the protection of any object of cultural importance. The proposal for changes in the project is made by the institutions that have performed the control. The costs for these changes must be borne by the investor himself. (Article 47)

Any restoration of objects of cultural importance, eg a public building protected by order of the competent authorities, must be performed by persons licensed for such works. (Article 17) Any object restored by an institution not-should be supervised by the relevant state institution / ies. The area surrounding a cultural monument is considered a protected area (Article 32) and the works to be carried out must be authorized by the competent body. (Article 33)

Any costs or expenses for changes required by the competent authorities, at any stage of the project, for any of the above situations, including any required research and any necessary restoration or preservation activities, must be borne entirely by the investor. However, in the case of restorations of cultural heritage sites the relevant authorities make available a certain fund depending on the category of the monument.

- Issues related to Natural Habitats are regulated by Law no. 81/2017 "On Protected Areas". This is a wide-ranging law, covering many aspects of protected areas.
-

Object of the Law

The purpose of this law is the proclamation, preservation, administration, management and sustainable use of protected areas and their natural and biological resources; facilities for the development of environmental tourism, for informing and educating the public and for economic benefits, direct and indirect, from the local population, from the public and private sector. (Article 1)

Purpose of the Law

1. The purpose of this law is to provide special protection of important components of natural reserves, biodiversity and nature, entirely through the creation of protected areas.

2.Protected areas are created to ensure the conservation and restoration of natural habitats, species, reserves and natural landscapes.

3. This law regulates the protection of 6 categories of protected areas, which are applied in the territory of the Republic of Albania. The categorization of areas, status and level of protection for each area is based on the criteria of the World Center for Nature Conservation (IUCN). (Article 2)

1. Activities and constructions in protected areas are done only according to the requirements of this law, in accordance with the management plan and after obtaining the environmental permit. For constructions that are made or made in contradiction with this law, the law “On Urban stick ”amended.

2. Economic and social activities, projects intended to be implemented in a protected area, are provided with environmental permits, after submitting the relevant study and the full environmental impact assessment report.

3. All public, private and tourist constructions in the territory of protected areas are made on the basis of studies and general regulatory plans, which are approved by the Council of Territorial Regulation of the Republic of Albania.

4. The administration of protected areas, environmental inspectors, local government bodies, in cooperation with the State Police and the construction police, prohibit the implementation of projects and activities that have an impact on the environment and that conflict with the management plan of the area.

5. Legal and natural persons, who perform permitted activities in the territory of protected areas, with the entry into force of this law, are obliged to enter into a contract with the administrative institutions for exercising the activity, against the respective payments. (Article 19)

- Forest issuesare regulated by Law No. 57/2020, "On Forests":

1. The object of this law is to determine the same rules for the relations, duties, rights and responsibilities of state institutions, local government bodies, non-profit organizations, private and business owners, for the storage, administration, management and use of the fund. national forest, forest land and their natural and biological resources.

2. This law also regulates the protection, social, ecotourism and economic activities that take place in the national forest fund and in other forest and non-forest resources, based on the principles of sustainable and multifunctional forest management. (Article 1)

1. Parts of the national forest fund, required by legal or natural entities or local government bodies to return to the land, for the construction of tourist structures, recreation or health centers, for the extension of the construction and extension boundary line of the suburbs and inhabited centers in rural areas or for other public purposes such as roads and railways, for drilling and exploitation of oil and gas wells, for airports and telecommunication structures, for the purposes

of military structures of the industrial center, are removed from the forest fund and the Forest Cadastre as follows:

a) Forests and lands with forest vegetation, with an area up to 30 ha, with the approval of the Council of Ministers

b) Forests and lands with forest vegetation, with an area over 30.1 ha, by special law.

2. The rules for submitting the request, keeping and completing the technical documentation, criteria and procedures for reducing the area and volume of the forest fund, are determined by a decision of the Council of Ministers. (Article 17)

3.2 - Nature of the project

The project is of the type " Construction of Lura road"

3.3 - The size of the project and the importance for the region where it will be built

The project for the construction of " Construction of Lura road "It was drafted taking into account the development plans of the city of Lura and respecting the technical conditions of the design in force.

3.3.1 - The importance of the project for the region where it will be built

Concrete project: " Construction of Lura road "

On the existing condition of the road

3.5 – Characteristics, description and program for construction

For the realization of the project, the designer should review all existing information related to the project that he should design according to the design task and consult with the local government unit.
The quality of the design study must be such that it achieves the required standard and meets the design requirements.

3.5.4 – Description of alternatives and their analysis

The concept of alternatives can be defined as a possible course of action from one country to another another for the fulfillment of the same purpose.
A comparison of alternatives will help to determine the best method for achieving the project objectives by minimizing the environmental impacts or, to show the most environmentally friendly option or the best one in practice.
Considering alternatives may be more helpful when the ESIA is workingwe beginning of the cycleproject. Depending on the time, type and number of alternatives open for consideration may include:

→ "Activity" alternative
→ "Location" Alternative

→ Alternative Processes
→ Demand alternative
→ Assignment alternative
→ The "best way" alternative
→ Construction site alternative
→ "Ladder" alternative
→ Alternative 'project'

The range of categories of alternatives to be evaluated should be considered together with the Do nothing alternative. The relative impact of each alternative is compared against the baseline project environment-without project) to choose a preferred alternative, including the option to take no action. The assessment of alternatives should include a thorough comparison of all potential impacts, direct and indirect and summary (Chapter 14), on the environment. The purpose of evaluating alternatives is to find the most effective way to reconcile the purpose of the proposal with the environmental benefits of the proposed activity, either by reducing or avoiding potentially significant negative impacts.

Environmental Assessment

Environmental assessment of alternatives aims to ensure:

☞ An overall environmental assessment of the proposed investment
☞ Recommendations for environmental mitigation measures that will accompany investments.

The following key activities will be involved:

☞ Summary of Albanian legislation in the field of environment;
☞ Identify key environmental issues to assess and impact on the environment along the way from the implementation of alternatives;
☞ Description of possible mitigation measures to prevent or reduce significant environmental impacts;
☞ Proposal of environmental actions to be taken during the planning and construction phases in the future

Economic Valuation

The basic problem of the feasibility study is the economic assessment which compares the costs and benefits of different investment alternatives in a reference situation- i.e. a situation without new investment.

Conditions of economic evaluation:

- A cost analysis-benefit of any alternative studied;
- A financial analysis to recognize the road impact. This should include:
- Prepare a spreadsheet model for cost analysis-benefit over a horizon of more than 20-annual;
- Preparation of analysis of economic forecasts and growth factors
- Prepare cost analysis-benefit for each alternative studied;
- Prepare sensitivity analysis on cost results-benefit;

- Creating a detailed implementation plan.

"Alternativedo not do anything "do nothing".

The consequence of the "do nothing" alternative is the same as the demand for a modern infrastructure andtoo necessary for the whole area and further not to be considered. This alternative, if it stays in these parameters, will never enable the increase of incomes for the inhabitants of the area and the local government, on the contrary, these incomes will decrease as a result of the migration of the inhabitants or the relocation of businesses and investments in other areas. acceptable road infrastructure.

The departure of tourists will have very serious economic consequences as we must consider that throughout the year the whole economic mechanism of this area is set in motion, helping to increase the quality of life of the inhabitants of this area.

The second alternative:

– Adjustment of the panoramic side bringing an ornament and increase of the degree of greenery in accordance with the PPV in which the creation of new green spaces and recreational areas are foreseen.

– Hilly parks (buffer layers)

– Afforestation of border areas with residential areas

– Protection of agricultural land

This environmental rehabilitation will bring a number of positive impacts to the city:

-A relaxing panorama for this area

-Air quality will be better by significantly reducing the amount of major pollutants in the air.

-Reduction of the level of noise caused by vehicles during their movement.

Alternateswidow of the project

The proposed project takes into account all the factors for the economic growth of the area, the promotion of tourism and other values of the area. .

RELIEF

The relief of the area is mountainous and is distinguished for the complex character in the composition of the relief we find: mountain ridges, plateaus, pits, karst plains as well as mountains and valleys. This highland extends from 380-2751 m at the eastern end, so the hypsonometric amplitude is large, dominated by highlands above 700-900m that gradually decrease towards the west. The horizontal fragmentation of the relief in this area is large and very large in the old and new terrigenous and small and very small in the limestone. The relief energy is average in the terrigenous rocks in the central part and in the circle they go to the maximum values 400-500m / km¸. In this highland there are types of structural-erosive relief, erosive-deductive, karstic, glacial. The erosive structural relief is found in the whole area, Karst relief is also very widespread here, it should be noted that the climate has been affected by rainfall and its variety and pronounced changes in parameters. We find various forms such as: gorges, furrows, ridges, outcrops, plains and valleys and karstic valleys, we also find underground forms such as caves, voids and underground valleys, various Glacial relief has an extension which we find only in high parts such

as peaks of mountains that have a limestone composition. We also find lawns with picturesque landscapes such as the Korab plain, the Shehu mountains which are rare in terms of economic values. Glacial relief has an extension which we find only in high parts such as mountain peaks that have a limestone composition. We also find lawns with picturesque landscapes such as the Korab plain, the Shehu mountains which are rare in terms of economic values. Glacial relief has an extension which we find only in high parts such as mountain peaks that have a limestone composition. We also find lawns with picturesque landscapes such as the Korab plain, the Shehu mountains which are rare in terms of economic values.

The geological construction in this area enables the development as this area is rich in minerals, building materials and marbles. This geological construction has made the settlements mainly located in limestone compositions and in contacts with other layers due to water sources. The composition with clays and limestone has made the offer very rich for them.

It should be noted that in terms of relief in the settlement and its impact on socio-economic development it has influenced the character of a closed economy and direction in the livestock sector as the supply of fertile agricultural land is limited. Relief has also been decisive in the architecture of buildings and living space in isolated areas. This relief has also determined the placement of inhabited properties away from each other, leaving free the productive lands. This region has great opportunities for the development of tourism. Picturesque landscapes are also offered by the Lura National Park as well as numerous forests, lakes that are very beautiful.

4. - Description of the existing state of the environment

4.1 - Ecosystems, flora and fauna

The great variation of this territory in terms of altitude above sea level has made possible the installation of a rich forest vegetation. The phytoclimatic zones of beech (fagetum), hormok (picetum) and the area of alpine pastures (alpinetum), in the upper border of vegetation, are encountered. In this area are found the main species in their area of distribution in suitable climatic and terrestrial development conditions such as beech (Fagus sylvatica), white fir (Abies alba), black pine (Pinus nigra), pine (Pinus heldreichi), arneni (Pinus peuce), black alder (Alnus glutinosa), hazelnut (Corilus avellana), acacia (Robinia pseudoacacia). The main species we quoted above are also associated with the subforest with

other species such as hawthorn (Crataegus monogina), juniper (Juniperus oxycedrus), thana (Cornus mas) etc. In addition to the above species in natural conditions is found widespread yew (Taxus bacata) and birch (Betula pendula), which in addition to the natural form is also installed artificially through afforestation.

Herbaceous vegetation and medicinal plants.

A large number of medicinal and herbal plants are widespread in this area, such as:

black juniper (Juniperus communis), red juniper (Juniperus oxycedrus), wild apple (Malus communis), monoecious hawthorn (Crataegus monogina), black hawthorn (Sambucus nigra), wild rose (Rosa canina) Arun drub andrachnea), raspberry (Rubus ideus), cherry (Vasinium myrtillus) etc.

Herbs with great medicinal value highly demanded by the foreign market of the pharmaceutical industry such as primrose (Primula officinalis), thyme (Saturea Montana), bird (Helledorum odorus), strawberry (Fragaria vesca), hydrangea (Hipericumperforatum), nettle), poppy (Papaver

rhoeas), nettle (Urtica dioica), dairy (Taraxum officinalis) etc. In addition to medicinal plants in this territory there are a large number of herbaceous plants with great nutritional value for livestock.

The animal world.

The diversity and wealth that this area has in terms of climate, that of soils, flora, etc., has created very favorable conditions for the development of a very diverse animal world. This is evidenced by the existence of many special species according to the character of habitat. The habitat is spread all over the territory, such as shrubs, oak forests, beech, and at the height of alpine pastures and a few aquatic habitats.

its complete regeneration, in all values of biodiversity, has found developmental and living conditions of many species of wild animals such as: rabbit, mountain partridge, wild boar, wolf, fox, etc.

In the habitats of beech and pine forests, which includes the road reconstruction area, which are more damaged in recent years and where there is damage to ecosystems and biodiversity factors as a whole, we find a smaller number of animals. wildlife living in these areas such as bear, wolf, eagle, lynx, wild goat, roe deer, etc.

Wild trout and several other indigenous fish species are rarely found in the clear and cold water habitats of the streams, which makes this area distinct from other areas of the country. All this, the wealth of the animal world and with special values offers conditions for the development of mountain tourism, family, sports, ecological, recreational, etc.

Fauna of the area

The diverse presence of forest formations is also related to the existence of different species of wild fauna, mammals such as brown bear (Ursus arctos), wild boar (Sus scrofa), wolf (Canis lupus), roe deer (Capreolus capreolus) , wild goat (Rupicapra rupicapra), birds like eagle (Aquila chrysaetos), mountain eagle (Alectorisgraeca), wild rooster (Tetrao urogallus), falcon (Falco naumanni), owl (Bubo bubo), woodpecker (Dry) thrush (Turdus merula) etc.

Forest vegetation.

The location of this territory in terms of altitude above sea level has made possible the installation of a rich forest vegetation. In it are found the phytoclimatic zones of beech (fagetum), hornbeam (picetum) and the area of alpine pastures (alpinetum), in the upper border of the vegetation. In this area are found the main species in their distribution area in suitable climatic and terrestrial development conditions such as beech (Fagus sylvatica), white fir (Abies alba), black pine (Pinus nigra), pine (Pinus heldreichi), arneni (Pinus peuce), black alder (Alnus glutinosa), hazelnut (Corilus avellana), acacia (Robinia pseudoacacia).

The main species we mentioned above are also associated with the subspecies with other species of juniper (Crataegus monogina), juniper (Juniperus oxycedrus), thana (Cornus mas) etc.

In addition to the above species in natural conditions is found widespread yew (Taxus bacata) and birch (Betula pendula), which in addition to the natural form is also installed artificially through afforestation.

Herbaceous vegetation and medicinal plants.
This area is rich in vegetation and there are a large number of medicinal and herbal plants such as:
black juniper (Juniperus communis),
red juniper (Juniperus oxycedrus),
wild apple (Malus communis),
monocot hawthorn (Crataegus monogina),
black elder (Sambucus nigra),
wild rose (Rosa canina),
drunakuqi (Arbutus andrachnea), raspberry (Rubus ideus),
cherry (Vasinium myrtillus) etc.
Herbs with great medicinal value highly demanded by the foreign market of the pharmaceutical industry such as primrose (Primula officinalis), thyme (Saturea Montana), bird (Helledorum odorus), strawberry (Fragaria vesca), hydrangea (Hipericumperforatum), nettle), poppy (Papaver rhoeas), nettle (Urtica dioica), dairy (Taraxum officinalis) etc. In addition to medicinal plants in this area there are a large number of herbaceous plants with great nutritional value for livestock.
Vegetation of the area.
The vegetation cover of the surface where the road reconstruction will take place is characterized by very low vegetation, mainly grass, which is up to 20 cm long. Tall trees and shrubs are almost non-existent.
It is mostly a bare area, without developed forests. On the surface grow a few low shrub-shaped trees, such as hornbeam, oak and a little juniper, a little shaft and a little herb.
In the area around the surface is noticed the presence of tall trees, characteristic for these heights such as pine and very little beech.

4.2 - Areas of the national ecological network

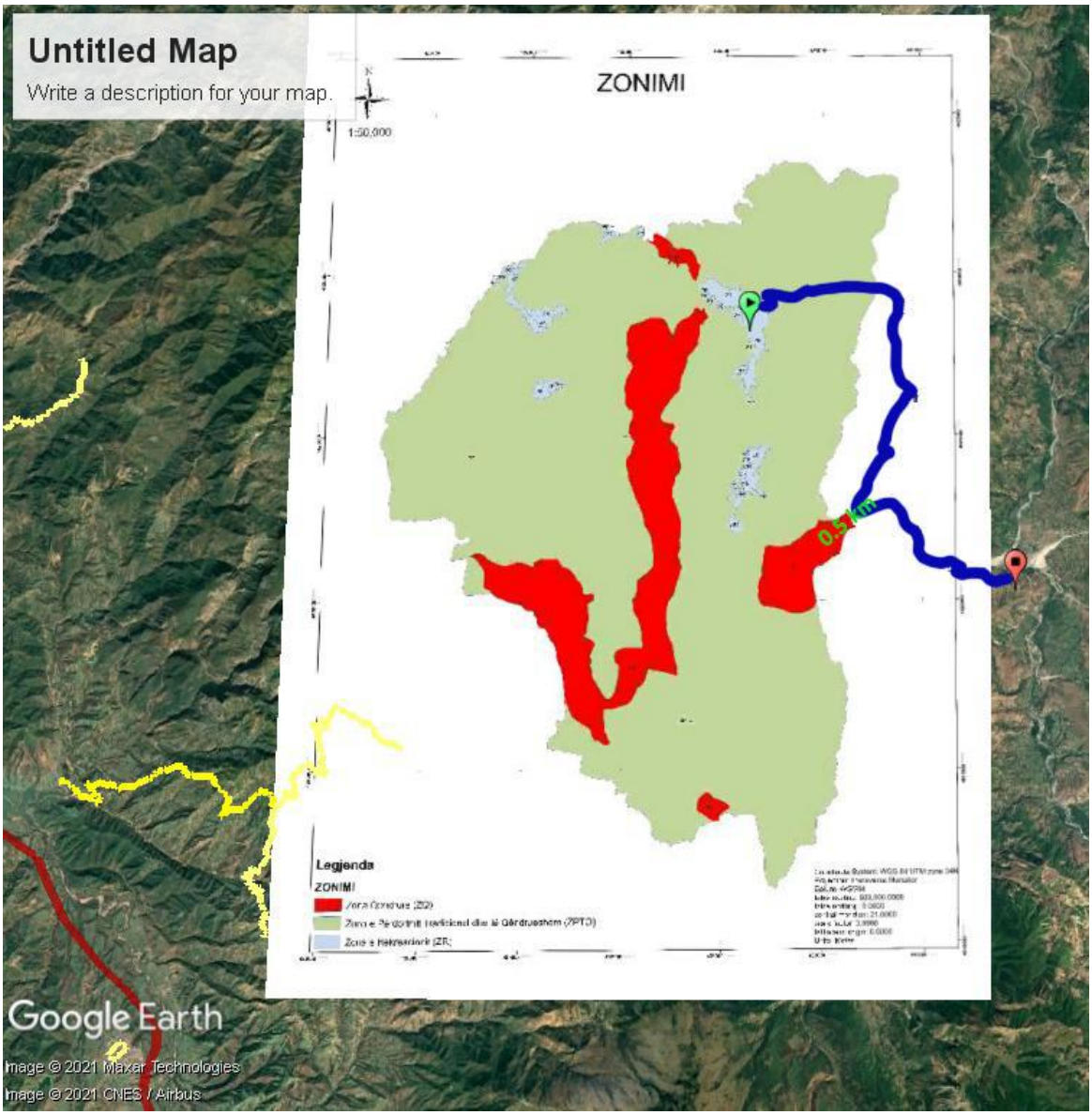
The Network of Protected Areas in Albania contains several categories, which can be defined as follows:

- Category I: Reserve Only for Natural Purposes / Reserve for Scientific Purposes
- Category II: National Park
- Category III: Natural Monument
- Category IV: Managed Natural Resources / Administered Area of Species and Habitats
- Category V: Protected Landscape Area
- Category VI: Protected Area of Managed Resources / Protected Area with Multiple Use

Referring to the Map of Protected Areas on the ASIG / Geoportal, it results that the project area crosses the border of the protected area “Lura-Deja Mountain” and a part of the road footprint passes within this protected area.
According to the conservation and administration sub-zones of the National Park, the road footprint that crosses in the border of the Protected Area passes into the sub-zone of traditional

use and sustainable development.In this sub-zone are not allowed constructions and activities that cause the change of the natural state of the ecosystem.
The construction of infrastructure in the sub-zone is carried out according to the definitions of the management plan and planning documents, urban development and tourism plans, approved by the National Council of the Territory, which does not affect the ecological integrity of the ecosystem and respect the functions of the area protected, ecological values and those of natural and cultural landscape;

A part of the road footprint located within the National Park Protected Area crosses in the sub-zone of traditional use and sustainable development of the National Park "Lura - Mali i Dejës" is 9.25 km.



LURA- DEJA MOUNTAIN

- Located in the Region of Dibra and Lezha
- Category II
- Surface 20,242.8ha
- With DCM no. 661, dated 31.10.2018, the extension of the surface of the National Park "Lura" (surface 1,280ha, approved by DCM no. 96, dated 21.11.1966) and the merger with the National Park "Zall Gjoçaj" (surface 140ha , approved by DCM) No. 102, dated 15.01.1996), creating the National Park "Lura-Mountain of Deja";

The surface of the park includes:

Nr.	Category	Surface.Ha
1.	Agriculture	467.87
2.	Pastures	2,106.81
3.	Sclerophilous vegetation	339.06
4.	Bush	5,281.33
5.	Surface with little vegetation	1,062.76
6.	Forest	10,984.94
	TOTAL	20,242.78

Table 6: Use of the national park area, according to the DCM

The National Park "Lura- Deja Mountain" is divided into three sub-zones of conservation and administration:

Nr.	Sub - zone	Surface.Ha
a.	Central Subzone (ZQ)	2,861.62
b.	Sub-zone of Traditional Use and Sustainable Development (ZPTZhQ)	16,898.40
c.	Recreation Subzone (ZR)	482.76
	TOTAL	20,242.78

Table 7: Zoning of the national park area, according to the DCM

- Central Sub-zone, includes the main habitats with shrub forests and is defined as an area with high values for natural heritage and biodiversity in which the first level of protection is

applied, which ensures an undisturbed territory. In this sub-area are allowed scientific research and development of free ecotourism activities in nature;

- Sub-zone of Traditional Use and Sustainable Development, includes agricultural lands and pastures, as well as water territories, in which it is possible to continue traditional activities, such as: agriculture, grazing, collection of medicinal and aromatic plants, with their balanced use . Constructions and activities that cause changes in the natural state of the ecosystem are not allowed in this area. In the sub-zone of traditional use, the second level of protection is applied, which provides a territory with low impact and control of economic, social, agribusiness, entertainment, sports and ecotourism activities.

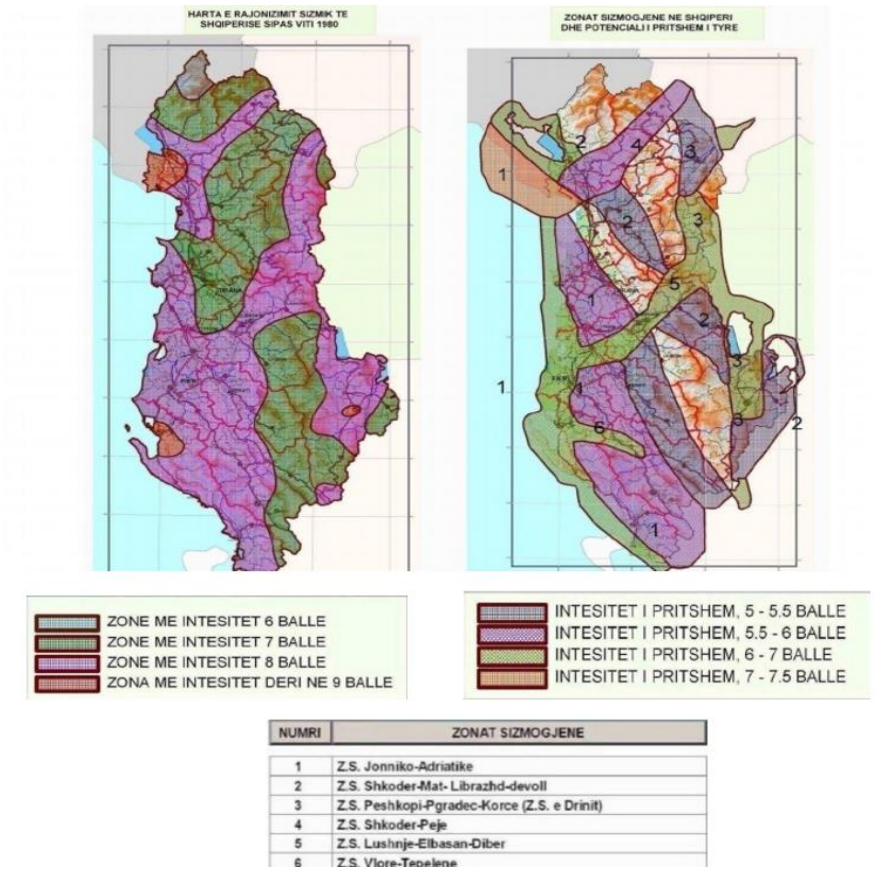
- Recreation sub-zone, includes parts of forest and aquatic habitats, which are created by the reservoir dam. It applies the third level of protection, which provides a territory with low impact and control of tourist activities such as outdoor hiking opportunities, such tourist services, which respect the functions of the protected area, its ecological values and those of the natural landscape, in accordance with the protected area management plan and planning documents, approved by National Council of the Territory.

4.3 - Population

According to INSTAT data, 75262 inhabitants in 15394 families with about 4.9 members per family live in the retińí of Dibra. It has a density of 70 b / km¸ . Analyzing the data, it turns out that 24,106 inhabitants have left the Dibër district since 1990, since in 1990 this district had about 99,368 inhabitants. This population is located in Tirana 67%, Durres 21% and districts such as: Lushnje, Fier, Lezha, Kavaja, up to Saranda and Shkodra.

4.4 – Seismicity

The region where the territory of the Municipality of Lura lies is located in the northern part of the Tirana Lowlands. It is located at an average distance of 18 km from the city of Tirana and 28 km from the city of Durres and as such is included mainly in the territories affected by the same earthquakes that have affected these two cities and the surrounding areas.



NUMRI	ZONAT SIZMOGJENE
1	Z.S. Jonniko-Adriatike
2	Z.S. Shkoder-Mat- Librazhd-devoll
3	Z.S. Peshkopi-Pgradec-Korce (Z.S. e Drinit)
4	Z.S. Shkoder-Peje
5	Z.S. Lushnje-Elbasan-Diber
6	Z.S. Vlore-Tepelene

The Ionian-Adriatic area of detachments above the ridges is the longest area and with the strongest seismic activity of our country from which are generated the largest earthquakes that have affected our country. It is followed for several hundred km along the Adriatic and Ionian coasts outside our territory and through two cross-sections, Shkodra-Peja and Vlora-Tepelena, is divided into three segments as:

a) The northern segment with PVP extension characterized by pre-Pliocene detachment of the overlying type of Kruja area; is followed over 200 km from Lezhana to Ulcinj and further along the coast and is active even today.

b) The southern segment with VP extension that is followed for over 250 km, from Vlora to Konispol and further to Greece, along the Ionian coast and is characterized by pre-Pliocene overlying divisions of the Ionian zone.

c) The central segment with extension V to VP which consists of post-Pliocene detachment over five active parts of the Pre-Adriatic Lowland and is followed around 130 km from Vlora to Lezha. This includes the area where the territories of the Municipality of Fushë Krujë are located.

This segment is still active today. According to the map of maximum expected earthquakes in this area can be generated earthquakes with maximum expected magnitude up to M max = 6.5-6.9

Geologically, the Kruja region is mainly included in the Ionian outer tectonic zone, which is also the orogenic front in the Adriatic ecolysis zone.

Kruja area

The Kruja area represents a ridge that borders on the east with the tectonic zone of Kraste-Cukali while on the west with the Ionian zone and the area of the Southern Adriatic. Throughout the eastern tectonic boundary, there is branching of flysch and rarely the globotruncan limestone of the Krasta sub-zone over the oligocene flysch of the Kruja area. Contact with the Southern Adriatic area and the Ionian area is not clear and definite everywhere. This border is debatable especially for the southern part (from the Tomorri anticline to the south).

The tectonic zone of Kruja, in all studies conducted so far, has been treated as a single area from Leskovik in the south, to Shkodra in the north. Some researchers (Misha, etc. 1982, etc.) based on the presence of planktonic foraminifera in the Cretaceous pelagic deposits in the Melesin anticline, have treated the latter as a unit of the Ionian zone. The thematic study for the biostratigraphic decoding of the carbonate deposits of the Kruja area (Koroveshi, etc. 1999) brought important biostratigraphic data which show significant changes of the carbonate facies from north to south. In the northern part, in all stratigraphic cuts carried out in carbonate deposits, only benthic foraminifera, which are typical for the neritic facies, result. The exception to this is the more western structure, that of Ishm, where from the analyzes performed on the samples taken at the well Ish.1. has resulted mixed fauna, which is interpreted as transient to the Ionian area (Nakuçi et al. 2001). In the south, in the Tomorri anticline, in the Upper Cretaceous deposits, planktonic mini-foraminifera have been found alongside the benthic ones, as well as in Kulmake and Qeshibesh (see ch. Stratigraphy) and especially in Meles where only planktonic foraminifera meet.

Analyzing the time of rudhaformation, the facies of carbonate deposits and the tectonic style, a noticeable difference is clearly noticed between the structures in the regions from Elbasan and further north from those further south. In the north of Elbasan the structures are linear, mainly isoclinic, with neritic facies, characterized by the presence of benthic foraminifera, with age of orogenesis at the end of the early Oligocene. While the structures in the southern part are of anticline or brahianticline nature with mixed facies, with paleogeographical phenomena and with later age of orogenesis (at the end of the Middle Oligocene). This essential difference is interpreted as the effect of the impact of the Vlora - Elbasan - Diber crossroads, in the south of which the tectonic construction is conditioned by the presence of other secondary cross faults and salt tectonics.

Krastes sub-zone.

It is an eastern paleogeographic subzone of the Krasta - Cukali area. It has a superficial distribution in the form of a mainly narrow belt, but with sectors where its exit expands as in Qaf-Shtame-Xiber, Qaf Molle-Polis, while from the regions of the ultrabasic massif of Devoll to the south it has the form of a belt of wide and narrowing enough in the vicinity of Leskovik from the coverage of the ophiolites of the Mirdita area. In the geological construction of this subzone participate mainly pelagic deposits, starting from those of the early flysch mainly of Albian, the Upper Cretaceous globotruncan limestone and the new Maastrichtian-Eocene flysch, which at the same

time reflect the physiognomy, tectonic formed wrinkles and narrow structures, inverted and stretched,

In the west this subzone covers large sectors of the Kruja area. At the front of the overhang there is a large scaly and destroyed area. Characteristic for this subzone is that the western structures (of the front of the subzone) at the core of the anticline are built of the early gray flysch of Albian.

Thus, many moderate to strong earthquakes have been generated from this segment of the Ionian-Adriatic Zone. The area of Fushë Krujë, today is affected by earthquakes with focal near it, such as, the earthquake of 26 August 1852 in Cape Rodoni, the earthquake of 16 May 1860 in Ura e Beshirit, the earthquake of 4 February 1934 in Ndroq , the earthquake of 19 August 1970 in Vrap and the earthquake of 9 January 1988 in (Yzberish) Tirana, which were felt in the region of Fushë Krujë with an intensity of 6 magnitude MSK-64. Among the strongest earthquakes that have occurred in the last two centuries and that have been felt in this area (reference is made for the central part of the area of Fushë Krujë) we can mention:

- The earthquake of June 1, 1905 with its epicenter in the city of Shkodra with Ms = 6.6 and I0 = IX front (MSK-64). The earthquake was accompanied by casualties and material damage in the city of Shkodra. This earthquake was strongly felt in the area of Fushë Krujë, while in the northern part of this area it was also accompanied by material damage.

-Termed of the year 1617 with / „= 8 points (MSK -64) in Kruja, (6 points in the area of Fushë Krujë)

- termed of 26.8.1852 with Ms = 6.0 and intensity I0 = 8 points MSK-64, in Cape Rodoni; kytërmet was followed by great damage in the egjirit area of Rodon and Lezha.

-Terms of 16.5.1860 with (MSK-64) in Beshir Bridge, VI front was felt in the area of Fushë Krujë, Kruja

- The earthquake of 17.12.1926 with Ms = 6.2 and 1 = IX front (MSK-64) in Durres, was felt VIII front in the area of Kruja

-Terms of 4.2.1934 with MS = 5.6 in Ndroq, VI front was felt in the area of Fushë Krujë-

- Earthquake of 19.8.1970 with MS = 5.5dhel0 — l front (MSK-64) in the area of Vrap, it was felt 6front of the Kruja area

- Earthquake of 16.9.1975 with MS — 5.3 in Cape Rodon

Earthquakes of the year 9.1.1988 with MS-5.4 in Tirana.

-Termed of 15 April 1979 with epicenter at sea near the Albanian border. The earthquake was of magnitude Ms = 6.9 and with an intensity of 9-10 points (MSK-64) in the epicenter area. This earthquake has caused great damage and casualties to people on the Montenegrin coast and in our country in the districts of Shkodra, Lezha and Mirdita. The intensity of this earthquake in the area of Fushë Krujë was VII-VIII with MSK-64.

4.5 – Hydrology

The following geological formations are found in the lower Lura region:

1.-Quaternary deposits-Late Holocene: bed alluvium, sand, gravel

2-Quaternary deposits-Early Holocene: -alQh -separate terrace alluvium; alevrite, sand, gravel.

3-Quaternary deposits – Pleistocene-Holocenkoluvione, deluvion, proluvione-clay, gravel aleurolite.

4.- Neogene - Tortonian molasa deposits; -allevrolites, clays, sandstones with coal seams (Mezezi formation).

Based on the lithological criteria and the water content of the rocks that make up the region, we classify three groups (Hydrogeological Map):

I.Rocks to be crushed

1. With high water content. Quaternary deposits-Early Holocene: -alQh1-alluvium of the first terrace; alluvium, sand, gravel.

2.With average water content. Quaternary deposits - Late Holocene: alluvium of sand bed, gravel. Early Holocene Quaternary deposits: -of the first terrace alluvium (alluvium, sand, gravel)

II. Compact rocks: -With low water content. Neogene-tortonian N13t (d) -molase deposits; -allevrolites, clays, sandstones with coal seams (Mezezi formation).

III. Rocks practically without water1. rocks to crumble. In the shallow deposits practically without water, the Upper Quaternary-Pleistocene-Holocene-c, d, pQp3-h deposits, colluvium in, deluvions, proluvions represented by clays, alluviums, gravels are part.

4.6 – Air quality and noise

- **Ajri.**

Based on the monitoring data, the urban air in this area is clean for the 4 monitored indicators, SO2, NO2, O3, and Pb which result within the allowed norms of the Albanian and EU Standards in all stations and cities. monitored.

Monitoring of atmospheric pollution through elementary analysis of aerosols, confirms that the content of toxic metals in the urban air in the center of Tirana results in values much lower than the allowed norms. are in higher concentrations.

The prevailing winds generally come from the northwest and southeast sides of the building. This refreshing sea breeze can be noticed especially during the summer period. To assess the air quality situation data on air pollutants obtained from the most representative existing metering stations and closest to the project area were used.

The current air quality in the Project area is extremely poor: in the western part the measured data give an average annual measured value of PM10 (particles with a mass of 10 micrometers or less) of 354 μg / m3. In the eastern part PM10 is 96 μg / m3. These values should be compared with the Albanian standard for this parameter which is 70 μg / m3 and the European standard which is 40 μg / m3 (which should be reduced to 20 in the future).

Air pollutants can be dust particles, chemicals or biological materials, which have effects on the human body, environment or atmosphere. Some of the most important groups of air quality indicators are:

SO2, NOx and NH3 (ammonia), which also cause acid rain;
CO2, CH4 (methane), NO2, which are related to the emission of gases;
PM10, LNP, indicating the mass of solid particles in the air.

Each of these indicators is caused by different reasons. Historically, the main air pollutants in Albania have been the industries of chrome, copper, metallurgy, steel, cement and TPPs, etc. Starting in the 1990s, a large number of them were closed. In recent years, pollution has come mainly from oil extraction and processing, cement production, uncontrolled burning of fertilizers and increased transport.

Data on NO2 and SO2

Nitrogen Dioxide (NO2) and Sulfur Dioxide (SO2) are integral to smog and cause acid rain. They are created by burning coal, oil and its derivatives. Each of them penetrates very easily into the human body and can cause lung disease, increase the chance of getting viruses as well as eye or skin irritations. In interaction with the sun and water in the atmosphere, these two gases are converted to acids, which fall to the ground in the form of acid rain or snow.

In Albania, the allowed norms of these gases in the atmosphere are determined by the Decision of the Council of Ministers no. 803, dated 4.12.2003, "On the approval of air quality norms". They are on average 60 µg / m3 per year for each indicator, or 50% higher than the norms set by the European Union, which has an average of 40 µg / m3.

The presence of NO2 in urban areas is mainly due to increased transport and traffic. In a general view, it can be said that the presence of these pollutants is below the norms set by the Albanian State, but also below the European norm. The list of the most polluted cities with NO2 is led by Tirana, followed by Durrës and Fieri. A clearer picture comes from the environmental report for 2009 of the Ministry of Environment, according to which the area of December 21 in Tirana is above the norms allowed by the EU by 12 µg / m3 or 30% more. The situation with SO2 is also within the allowed parameters in cities. Fier continues to have a high rate, but also Elbasan, a consequence of the industries that have operated in these areas. The presence of SO2 is below the EU average, and the production of electricity from hydro sources helps a lot.

These data are obtained from the Ministry of Tourism and Environment.

- **Noise.**

This facility will be built on the main entrance road to the city of Lura, so the noise of vehicles circulating in this area is inevitable.

Referring to the law No.7994, dated 12.07.2007, "On noise assessment and management *in the environment* "The investor has taken all measures for the smallest possible noise in this activity that seeks to develop through:

a) selection and use of equipment that emits low noise levels,

b) the selection of the place, that the installation and operation of vehicles and equipment that emit noise, to guarantee the border level in all environments, which are affected by it,

c) noise prevention and mitigation measures at the point of release, along the propagation paths and in the environments affected by it.

The accumulated noise source from the operation of the motocompressor at a distance of 7 ml from them is 90 dB. Considering the expression of the level of acoustic intensity of a noise with relation as follows:

$L = 10 Ig (I / I_0)$

L - Acoustic level of noise taken into consideration.

Iı - Acoustic intensity of accumulated noises.

The_0 - Acoustic intensity of reference.

We emphasize that the acoustic level of noise in the residential center is lower than that of the noise of a car passing in it, practically it is 32 - 40 dB which corresponds to the conditions of a conversation with normal voice.

The analysis of the frequency of the noises named by these machines and equipment shows that they are below the average frequency of 200-2000 Hz, which is not disturbing for the human ear, but is more affected by interurban vehicle noises than the means of quarry vehicles. afferta that exploit this road.

The main cause of acoustic pollution for this area is the traffic of vehicles and trucks with heavy tonnage that transport inert or different construction materials. The frequency of movement of these trucks is not very high so it does not bother at all times.

First, noise is defined as unwanted sounds. The internationally recognized range of hearing ranges from 0 dB (hearing threshold) to 140 dB (pain threshold). The response frequency for the human ear is usually taken to cover the range from 20 Hz (number of oscillations per second) to 20,000 Hz. The ear does not respond equally to different frequencies at the same sound pressure level. Noises are more sensitive in the range between frequencies than at finite frequencies and because of this, the low and high frequency components of a sound reduce the importance of applying a coefficient (filtering) to noise measurements.

The coefficient which is most widely used for noise measurement is the A-coefficient which expresses the subjective human reaction to noise. This is an internationally accepted standard for noise measurements to represent subjective responses of human sensation to noise. Excessive noise seriously damages human health and interferes with the daily activities of people at school, at work, at home and during free time. It can disrupt sleep, cause cardiovascular and psycho-physiological effects, reduce performance, and provoke annoying reactions and changes in social behavior. The World Health Organization estimates that traffic noise is detrimental to the health of almost every elderly person in the EU as well as one in five Europeans thought to be regularly exposed to high levels of noise at night which can significantly damage their health.When noise quantification is disturbing; it is generally accepted that, for steady state noise levels increase or decrease by 1 dB (A) is indistinguishable from human beings under normal conditions, although this may be perceptible in laboratory conditions. An increase or decrease of 3 dB (A) is normally only slightly noticeable under normal conditions. Increasing a noise is is a purely subjective parameter,

Exterior noise levels are rarely stable because they rise and fall based on surrounding activities. In an attempt to find a variable external noise meter parameter a noise meter was used. The most

important parameter for noise assessment is the continuous A-weighted equivalent sound pressure at the LAeq level. This is an internationally accepted definition of the A-weighted value of the pressure level of a sound, or of several continuous and steady sounds that, within a given time interval (T), has the same meaning as saying change of sound pressure per unit time. This is a unit commonly used to describe noise in construction processes, noise from industrial equipment and is the most appropriate unit for describing many other forms of ambient noise. Urban noise monitoring conducted by the Institute of Public Health aimed to measure the level of acoustic pollution in the monitoring points of the 7 main cities of our country, to provide the opportunity to judge the extent of exposure of the population to noise. When the noise level is around 65 dBA, sleep becomes a serious disturbance and most of the population becomes disturbed. In this case, noise in the community, becomes a real environmental health problem. Currently, noise is one of the environmental hazards, which continues to evolve and can create problems for that part of the people who are exposed. In particular, pollution from road traffic has become problematic and quite disturbing.

Noise pollution is relatively low, depending on the distances from their sources. The permissible limit for noise pollution from vehicle traffic during the day is considered 65 dB, while at night 55 dB). In the project area, noise levels are below the levels allowed by international standards.

4.7 – Heritage, landscape and status of the area

Albania is known for its rich biological and landscape diversity thanks to its geographical position, geological, pedological and hydrological conditions, as well as the character of climatic sticks. This great variety of ecosystems makes possible the existence and conservation of rich varieties of plants and animals.

The high and rapid rates of population growth in the last 50 years, accompanied by migration from rural to urban areas have been accompanied by a progressive increase in human population towards coastal and coastal systems, which are also the most ecologically sensitive systems. .

The study area is not directly included in protected areas such as reserves, national parks, etc. and is not a protected area in accordance with the country's economic development plans and national environmental strategy.

It is not an area used for protected, important species of flora and fauna, such as crossbreeding, nesting, food, rest, wintering, migration that can be affected by the development of this activity.

It is not an area of historical or cultural importance and does not affect the passageways of the public or other relaxing, recreational units.

There are no architectural, archaeological, cultural objects with historical interests built near it but a considerable distance.

The study area is not directly included in an area

buffers which are stored in accordance with environmental legislation and in accordance with the policies and plans applied by the MoEFWA.

5. – The effects of this activity on the direct and indirect environment

5.1 - Changes in the environment during construction

The activity that is proposed to be carried out does not have large dimensions in terms of work but in terms of the character of investments yes, as it is an industrial shed in the city environment, in residential and historical areas, of historical and cultural importance. This is the reason that since the works will be carried out in a normally inhabited area, it is of particular importance to analyze the impacts that it will have from the moment of start, ie rehabilitation / construction and further still during its use.
This chapter will also present a detailed analysis of the potential impacts specifying the mitigation measures that will be used to eliminate or minimize environmental impacts. This analysis is performed based on the project discussed above in this report.

In order to analyze the possible impacts on the environment during the construction period of this road school, first, the main components of the construction works have been singled out.
Then, for each of these components, the negative or positive impacts on the environment and the possible mitigation measures against them are specified. Finally, the sources and causes of possible impacts are outlined.

5.1.1 - Changes in the environment during excavation workst

The construction of this new building will initially require the erection of the construction site according to the location that will be decided in cooperation with the contractor and the local government unit in the notification and knowledge of the works supervisor and then the excavations will be done. defined in the project - the design estimated for this type of facility by means of excavators and the removal of the material will be done by self-unloading vehicles or trucks of a certain tonnage.

On the one hand, people who are not involved in the construction of the project should be protected during the excavation works, and on the other hand, the people involved in the realization of the project should be protected. The work site must also be protected continuously at all times.

The excavation cycle will include:

- Excavations of damaged surfaces of the school body that will be regenerated.
- Excavations for the opening of new pits of this axis according to the forecasts and the project in order to achieve the standards.
- Excavations in the depths determined for the opening of new channels in the new segments which will be done in accordance with the project by applying all the technical conditions of design and implementation.
- Loading of material excavated in trucks or removal of this material and its storage in places authorized by the local unit
- Return of transport vehicles to the project construction area.

The protection of uninvolved people should be done in such a way that the fencing (with fence, gabiant net, etc.) of the places to be worked at a height or depth which does not allow them (especially children) to be endangered. Also, a warning sign should be placed prohibiting the passage of the fence by persons not working on the project.
If the soil contains minerals, which in contact with water lose stability, then the soil and especially the mulch should be protected from rain by reinforcing it with supporting armatures according to KTZ.
Suitable material and material refilled from temporary work will be used for refills only with the approval and consent of the works supervisor.
Any excess material will be available due to material shortages
required.All materials resulting from breakdowns will be checked in advance by the Supervisor and their reuse will be authorized by him.

Potential impacts during the tabular excavation process are as follows:

Impact process
Excavation Excavation Removal of contaminated layers Water quality
Charge Impact on plant life Water ecology
Discharge Distribution of suspensions Noise
Transport Interconnection with land traffic Traffic
Noise, air pollution, waste

5.1.2 - Expectations of events during the construction of the facility

The set of construction processes that will be carried out in this silo is what is generally carried out in each construction site, setting milestones according to the definitions in the project - prevention of this facility, realization of excavation works and removal of materials from excavation, construction of works of art as well as a new bridge in Gomsiqe, excavation for the opening of the route in the previously approved milestones, various concreting, paving and coating with concrete tiles, sewerage works, electrical works and other planned works and unplanned that may arise during the construction of the facility.
The use of appropriate equipment, compliance with international regulations and in general implementation according to the standards and best construction techniques, are an essential requirement for the selection of contractors and the successful completion of the project. This will bring tangible benefits to mitigate the impact of construction on the environment.

earth
Construction and continuous use can not lead to the extinction of agricultural land as this project will take place in the existing territory and we have no touch on the surface of agricultural land. We will have an impact only on the use of land in vain that is not used in the vicinity of the new building. The impact will be permanent and irreversible. However, the impact can be limited to

proper conservation and reuse of land for restoration along road embankments and pothole filling or to improve the soil elsewhere. Therefore, the loss of agricultural land is considered to have a small impact.

Accidental waste or spills during construction or use (eg fuels, oils, lubricants, cement, etc.) have the potential to affect existing soil and its quality. However, good practice building methods as described in the paragraph above can be used to potentially avoid or limit such impacts. Therefore, the residual impact is considered to be insignificant (negative). Any impact will be temporary and diminish over time.

Changes in steep angles during school construction or other features along the road (eg potholes or parking lots) can lead to changes in the soil / its stability and can cause erosion. Such impacts will be significant on a local scale.

Such potential impacts can be avoided at the design stage or limited through the use of mitigation measures. Therefore, the residual impact is considered to be insignificant (negative). The impact will be permanent and irreversible.

The relief

Many of the potential relief impacts on the proposed road footprint will occur during the construction phase and can be minimized through design or can be mitigated by following good construction methods in practice. These measures will include the following:

→ Geotechnical control and design process will identify sites where mitigation measures such as slope retaining walls, or bio will be required.-engineering (e.g., use of plants to increase soil sustainability)

→ All works will be undertaken in accordance with the approved Albanian standards. In case of any specific case (for which there is a gap in the legislation), the designer can refer to the relevant published Eurocodes.

→ There may be areas where soil may be required to be used for purposes such as side filling or landscaping so in this context the soil should be carefully removed.

→ To be built with the right parameters, taking into account the maximum load and geological conditions- land engineering.

→ Necessary requirement for the construction works of the new school is the transport and storage of excavation soils in predetermined terrains.

→ High care when maneuvering vehicles

→ To be built with the right parameters, taking into account the alienation of these rocks by atmospheric factors.

→ To be built with the right parameters, taking into account the geological conditions-land engineering; and seismic microzoning of the construction site and beyond.

→ To protect the foundations of these works from erosion. Natural corridors should be considered and tombstones should be placed under the road.

→ Appropriate drainage standards should be applied to mitigate the potential impact of soil erosion.

→ Good construction techniques in practice will be used to prevent soil pollution as well

and appropriate waste disposal methods will be used to mitigate the potential effects of accidental spills or leaks of fuel, oil or lubricant or sludge that may be generated by waste disposal or wastewater treatment activities.

→ The best construction methods will be followed using appropriate protective equipment (PPE) which will be used to help mitigate the potential risk to human health in the event that contaminants may be encountered during construction.

Geology

The construction of the industrial silo building could lead to the creation of new geological exposures. These can have educational and research potential. As such, road construction can have a (beneficial) moderate impact. This effect will be permanent and irreversible.

Treating them with protective measures can stabilize the stability of the rocks. Design and good construction practices will limit the potential for this. Mitigation measures will also be used to improve the stability of the rocks, where necessary. Therefore, it is considered that the impact of at this point is likely to be negligible (negative). Any instability of the rocks is likely to be temporary, but irreversible if any landslides occur.

At the time of preparation of this report there are no significant sites that have been predetermined for their geological significance. Therefore the construction and operation of the school will not change anything in this regard.

Hydrology

Many of the potential environmental impacts can be limited through design by following good construction methods in practice. These measures will be included as follows:

- All works will be carried out in accordance with similar approved standards. Where practicable, the design of all road structures shall be in accordance with the relevant published Eurocodes. This norm and standard forces many partial interventions to deviate from the current direction with small deviations.
- Where possible, existing quarries located in the vicinity of the planned road will be exploited before new rented pits can be created.
- In order not to reduce the resources that serve for groundwater supply or that may cause problems in the water supply of local communities, factors such as: spring season (where these waters have the highest potential) or the period should be taken into account. of summer when these springs have low inflows; factors to be considered in the duration of works.
- Where reducing the amount of water is necessary and groundwater sources (eg sources used for water supply) have been identified in the project area then mitigation measures such as time constraint or volume reduction may be taken. water to reduce the impact or alternative supplies can be carried out which will nevertheless condition the

duration of the work. It should be noted that these activities may require a permit under the Law on Water Resources of Albania.

- Where the use of groundwater is proposed for water supply during the construction and operation phases of the road, a proper assessment should be made of the potential effects that this process may have on supply local communities and take and mitigation measures. Where practical and reasonable, alternative water supplies to the local population may be used when local wells or springs lie within the school corridor. It should be noted that obtaining water may require a permit under the Albanian Water Resources Law.
- Appropriate drainage standards during design and construction will be applied to mitigate the potential impact on groundwater quality from the release of hazardous substances (eg oil and other pollutants);
- Best construction methods in practice will be used to prevent soil pollution as well as appropriate waste disposal practices to mitigate the potential effects of accidental spills or leaks of fuel, oil or lubricants or sludge that may be created by waste disposal or wastewater treatment activities;
- Any vehicles and equipment used during construction will be regularly maintained and inspected for fuel leaks, lubricants and oil, and appropriate equipment will be available on site to eliminate minor spills;
- All fuels will be stored according to good practice guidelines, including tanks with a minimum storage volume of 110% of the storage capacity
- Discharges from any vehicle or after tire washing will be collected and recycled when possible and not discharged to the ground;
- Excess water from washing machines will be deposited within an area from which the dog must remove debris or mud before discharging the water.
- Earthworks can lead to an increase in suspended solids in groundwater and resources will be minimized by the total amount of land exposed to construction work, foundations, etc.
- All waste from demolition during construction will be classified and disposed of in accordance with relevant legislation;
- Sewage flowing from any portable toilet if used will be disposed of in sealed containers, which must be emptied periodically into wastewater treatment plants.
- A separate register must be maintained for all types of waste generated.
- Better construction protocols and methods will be followed for the use of appropriate personal protective equipment (PPE) which will be used to help mitigate the potential risk to human health in the event that infectious materials may be encountered during construction;
- An on-site inspection will be carried out to monitor (if any) water or land pollution, in accordance with national or European standards;

- A proper risk assessment and rehabilitation will be performed for employees in places where contaminated water or soil can be identified in order to take preventive measures.
- Drainage systems shall be designed to limit the penetration of oils, fuels or suspended solids into the groundwater system or springs. Securing work areas with ambushes will limit the potential impact and stop

penetration of pollutants into groundwater and soil.

- A more appropriate use of herbicides to control plant growth along the highway, and the use of road salts will be done to a minimum.

Where there is potential for groundwater resources (including wells, canals and springs) all of the above measures will be implemented. Prior to construction and impact mitigation, the baseline situation (e.g. water quality and flow rates) will be determined through monitoring. Throughout construction, necessary monitoring should be done in order to maintain the same parameters to ensure that no decrease in water quality or inflow occurs, which often occurs as a result of the development of road works. If a decrease in flow or quality is identified, the cause should be verified as well as appropriate mitigation measures should be taken to put the situation in place.

The following paragraphs discuss the most meaningful parameters and measures taken.

5.2 - Impacts on the construction phase

The construction will be done according to a contemporary project and in the project phase the idea is considered to mitigate environmental impacts.

Through environmental impact assessment which is not simply to assess or characterize the environment, but rather to influence the design to make the best possible solutions as well as to ensure that efforts to mitigate the negative effects are reflected in the project . The criterion for reaching the environmental impact assessment can be considered as a kind of formula.

In most cases, generating an environmental impact assessment enables reporting on the significance of a particular impact according to an assessment scale:

Data processing	Economic-social-environmental situation	Stages of the project	Impact reporting	Inclusion of the mini-port
Review of regulations	Project trace data collection	Project works	Resettlement (mini report)	Inclusion of the Action Plan
Field visit before drafting the project	Analysis and comparison	Basic report	Action Plan	Monitoring and evaluation
view	basis	Impact assessment	Management plans	implementation

The significance of the effect is formulated as a function of the receptor or the sensitivity to the environmental issues of the area as well as the magnitude of the project impact on the environment. In other words, important criteria were used to report the impact of the impact. Descriptors and criteria for environmental sensitivity of environmental aspects are listed in the table below:

sensitivity	Description
Very high	Very important, internationally and limited potential to be replaced.
High	Great importance at the national level and limited potential to be replaced
Average	Great importance, at regional level and limited potential to be replaced.
Low	Medium importance at local level and limited potential to be replaced
Not important	Significance decreases locally

Descriptiontypical and criteria that determine the size of an impact from a project:

sensitivity	Tip description
Big	Loss of environmental resources or their specificity; of resources; severe damage to the main features, or important side elements
	High level or large improvement of resource quality; extensive re-staging or improvement; great improvement of qualitative (useful) attributes.
Moderate	Loss of resources, but not adversely affecting its features; partial loss of / damage to key features, or features of (lateral) elements.
	Benefit for it, or adding key features, or kara characteristics of elements; improving quality attributes (beneficiaries).
Small	

	Some measurable change or weakening of it, one or more of the main characteristics, or characteristics of the (negative) elements.
	Minor benefit to the source or addition of one or more of the key features or characteristics of the beneficial element to the quality or a reduced risk of adverse impact occurring (benefit)
Not important	Very small loss or change to the detriment of one or more (lateral) features
	Very small benefits to it or positive additions of one or more features, or features of elements (useful)
There is no difference	There is no loss or change of characteristics, or characteristics of the elements; no apparent impact in any direction.

The degree of determination of the significance of the impact should be based on reasoned argument, professional judgment and taking into account the views of the relevant bodies. For some items, the predicted effects can be compared to the quantitative limits of their level for the degree of significance. Assigning each effect to one of the five categories of scale of importance, enables that different thematic issues will be placed on the same scale, in order to help the decision process-receiving at any stage of the project within which this process is. These five categories of importance are given as follows:

Indicative category	Typical effect description
Very wide	Only side effects are normally assigned this level of importance. They represent key factors in the decision process-receipt. These effects are general andnot necessarily, in relation to important international, national or regional features where there may be a detrimental impact or loss of source features. However, major changes to a site or landscape of local importance may fall into this category
Big	These beneficial or negative effects are considered very important and can be material to be considered in the decision process-taking.
Moderate	

	These beneficial or negative effects can be significant but non-key factors in the decision process-receipt. The cumulative effects of such factors may influence the decision-taking only if they lead to an increase in the overall negative effect on a particular resource or users of that resource
Easy	These beneficial or negative effects can be raised as local factors. They do not affect the decision process-but are important in later stages of the project.
Neutral	There are no effects or those that are below the levels of perception, within the normal limits of the allowed norms.

It is important to note that indicative categories are needed for both positive (beneficial) and negative (negative) effects. The five indicator categories enable the finding of eight possible outcomes. By applying the formula, the greater the sensitivity of the environment or the value of the receptor or source, as well as the magnitude of the impact, the more accurate the effect will be. withoutsoybeans a a negative impact on the source will have a very significant negative effect.

The tendency to mitigate potential negative environmental impacts is to avoid them wherever possible.

This will be achieved by considering ways to prevent adverse effects at source, before considering subsequent mitigation measures. This is achieved through careful selection and design of the road avoiding environmentally sensitive areas.

The methodology developed in this report also identifies the ways and means for the selection of measures for the prevention of phenomena such as landslides, slopes, etc., further developing the analysis in order to better design the vertical and horizontal retaining walls for it. minimize negative impacts on the environment.

Other mitigation measures will be taken into account and will be included in the protection or improvement of environmental characteristics or in the quality of works such as: specific specifics of earthworks, mobility, human health, etc.

Impact variable

		not vary	Insignificant	Small	Moderate	High	
Environmental value (sensitivity)	Shhigh ume	Neutral	Easy	Moderate or large	Big or very big	Very big	
	High Neutral Light Easy or Moderate or High or modestored large very large						
	middlewith	Neutral	Neutral or light	Easy	Moderate	Moderate or large	
	Low Neutral Neutral or Neutral or Light Easy or easily moderated						

	Firstëndë sishme	Neutral	Neutral	Neutral or light	Neutral or light	Easy

5.2.1 – Recommended measures in the construction phase

To minimize negative environmental impacts it is recommended:

→ Avoid the maximum leakage of oils from vehicles and construction tools (excavators, diggers, cranes, concrete mixers, etc.)

→ To provide means and opportunities for the collection of oils in case of accidental spills on the ground and in the network of drainage and irrigation canals as well as to contract special entities which deal with their treatment.

→ Installation of retaining walls or dams in areas where there is a risk of landslides

→ Lay concrete surfaces for cleaning vehicles, those for changing their oil and storage surfaces for other pollutants.

→ Bitumen, paints and other toxic substances should be used carefully, so as not to contaminate the soil and water.

→ Take measures to prevent landslides, slopes or erosion during the construction phase.

→ To avoid as much as possible the compaction of agricultural lands around the surface of the building;

→ Possible works outside the building track, to be performed in dry weather, and when the ground is not wet

→ To avoid to the maximum the leakage of oils, fuels from construction tools (excavator, digger, crane, concrete mixer, etc.)

→ To be collected in a certain place, in impermeable containers, on the construction site, waste oils, greases, etc.

→ The place where it is thought that the possibility of spillage of oils and greases, to be covered by an impermeable layer of these substances.

→ Keep products that absorb these contaminants ready

Table 5.1 Summary of environmental impact assessments

Environmental parameter	spring	Impact value		
		E ulet (U)	Average (M)	High (L)
noise	During construction	U		

WastEs	During excavation	U		
	During construction	U		
Air pollution	Construction equipment	U		
	Car movements		M	
	Workers' movements	U		
	Dust from activities		M	
Water pollution	DRAINAGE	U		
	Other waste	U		
Impact on traffic	Machinery movements		M	
	Employee movements	U		

The machines needed for this construction are:

→ Excavators with buckets for digging
→ bulldozer
→ Concrete mixer
→ Trucks of different tonnages
→ Road surface leveler
→ Asphalt paving
→ Bitumen
→ Machinery and equipment that may be required during various operations for the complete completion of the reconstruction of this road axis
→ Containers for daily waste collection.

5.2.2 – Landscape and natural beauties

This chapter presents an assessment of the impact on the environment and natural beauty which is based on field observation and previous studies of the area in Lures. The data collected from the well-known cultural heritage and natural beauties of the area were also appreciated.

The main steps in conducting Landscape and Natural Beauty Impact Assessment are as follows:

- Data collection, fieldwork and literature study for this purpose
- Description of the basic landscape
- Landscape classification
- Identify potential positive and negative impacts on the landscape and natural beauties.
- Assess the significance of the impacts identified.

This report describes them as follows:

Degree of compliance with government policies and additional landscape-related documents

b. Road location, existing in the context of the landscape

c. Evaluation methodology;

d.Evaluation of the existing landscape its character, quality and sensitivity to the road proposed;

e.Possible road impacts in the landscape

f.Potential impact of the road on key landscape elements and possible mitigation measures for this purpose.

Albanian laws define the system for nature protection and create the basic requirements for nature conservation and its sustainable use, in particular:

a. Conservation, renewal and sustainable use of nature and renewable natural resources;

b. Restoration of damaged nature protected areas and their natural habitats and species;

c.Maintenance and restoration of ecological balance of nature;

d. Establishment of a planning, management, information and financing system for nature protection;

e. Realization of the goals defined in the nature protection policies;

f.Reduction of over-the use of and damage to entire species of flora and fauna, especially of important species, as well as their habitats;

gE the right of the public to information and the right to participate in nature conservation;

h. To ensure the right of citizens to a healthy environment, and access to beauty natural for rest and recreation;

i.Ensuring biodiversity through the conservation of important natural habitats and important species of wild flora and fauna;

The protection of the landscape and natural beauties aims to achieve;

Characteristics of rare and endangered ecosystems and species;

2. Landscape characteristics promoted as a resort

3. Recreational values of landscape and natural beauties.

The environmental permit will be granted only if the proposed project does not adversely affect the natural features of the landscape or important habitat types and natural beauties.

Negative impact, according to point 2 occurs if a proposed project can cause:

- ☞ Negative impact on one or more important species or important habitat types; or
- ☞ If it is expected to cause major irregularities in the functioning of the ecosystem.

A second assessment will be made for public interests, including social or economic ones (SWOT analysis)

Referring to the road proposals, the law stipulates that:

The competent authorities will take appropriate steps to avoid the deterioration of natural habitats and species habitats, as well as the degradation of high-sensitivity areas.

Each proposed project can have a significant effect on the landscape management of the area either individually or in combination with other projects should be subject to proper impact assessment and the competent authorities and stakeholders may agree with the project proposed only after it has been concluded that the project will not adversely affect the integrity of the area in question;

In the event of adverse impacts but where the project is nevertheless to be carried out for reasons of public interest, including those of a social or economic nature, the competent authority shall seek the necessary compensatory measures to ensure the overall coherence of the ecosystem in word.

The degree of importance for understanding the effects

Degree of importance (for understanding the effects)	effects
Heavy	Effects to be considered because the receptor and source are irreversibly damaged
Big	Effects that can turn into issues that require decision making.
Moderate	Impacts that have little chance of becoming issues and that the project could address but where an evaluation may be needed in the future
Small	The effects are at a significant local level
Not important	Effects that are beyond current evaluation or forecasting criteria or within the landscape capacity to accept change.

Factors affecting the landscape of the area

- → Landscaping thinning or replacement
- → Specific characteristics of the appearance of the area or landscape
- → Current land use
- → Scale and contours of the landscape
- → View and distribution of visual receptors
- → Landscaping with this area
- → Known qualities and values in the landscape or view of the city.

Landscape quality assessment

Landscape assessment and visual impacts are based on two stages of development: road completion and then 15 years after completion. The baseline assessment is assumed to be this year (2019) and includes standard mitigation proposals.
At the time of the assessment the impacts of the construction were assessed with the information provided by the road designers as well as by the terrain surveillance.
This evaluation method serves to provide a higher level of understanding of any potential and landscape or visual impact over a period of time and considers the development of relief proposals.
The quality of the landscape is assessed on the basis of the ranking in five scales determined in MNRRU Volume 11, article 3, Part 5.

Landscape Quality	Landscape description
High	Very strong landscape structure, characteristic pattern
	Balanced combination of soil contours and soil cover;
	Appropriate land use management and land cover;
	Very good features preserved
	Unique value in its place;
	No features removed
Very attractive	Strong landscape structure, characteristic patterns and balanced combination of soil contours with its cover
	Appropriate land use management and land cover but with development potential
	Landscape with strong preserved features
	Landscape with strong sensibility;
	Landscape with any features removed as appropriate
Good	Pleasant landscape structure, characteristic patterns and combinations of soil contours and its cover are still evident;
	Several actions can be taken to improve land use management and land cover.
	Some strong features preserved
	Sensitive landscape
	Some landscape features removed.
Common	Distinctive landscape structure, characteristic patterns of soil contours and its cover are often masked by land use;
	There is room for improvement in land use management and land cover
	Any feature saved
	Features often removed
Poor	Poor or degraded landscape structure, characteristic patterns of soil contours and its cover are covered and masked by land use;
	Lack of management and intervention in the landscape has resulted in degradation.
	No features saved
	Numerous features have been removed.

Assessment of landscape and sensitive areas

The assessment of the degree of sensitivity of the landscape or appearance of the inhabited area during the change process is reflected in the degree to which the landscape is able to adapt to change (due to the type of development or change of land use) without the effects of opposite on her character. This may be influenced by the degree of contours of existing or new soil from existing vegetation or new planting. These and other factors determine the visibility of the proposed development and therefore may affect the extent of the effect and the perceived character and the creation of a cozy landscape around the inhabited area.

Sensitivity assessment factors

Very High	When it is very attractive and rare;
	Internationally recognized by international organizations (world heritage)
	Unstable landscape
	Landscape with rare qualities
High	High importance and rare landscape
	Qualified nationally in importance;
	Very low landscape sustainability
	Very attractive landscape
Average	Typical landscape with high values
	Landscape known on a regional scale
	Landscape with high potential for intervention
	High quality landscape
Low	Monotonous or degraded landscape
	Known only locally
	Potential for intervention
	Ordinary landscape
	Damaged or insignificant landscape
	Landscape where there was interference
	Local scale
unimportant	Poor quality

The degree of impact on the landscape or the appearance of the area can be opposite (negative), unchanging or beneficial (positive). The determination of the degree of impact is based mainly on the nature of the proposed development and results in the conclusion of how the landscape or appearance of the city changes, as well as the duration of the effects of the change (i.e. permanent or temporary).

To assess the magnitude of the impact resulting from the project options, the European directives set comparative standards which is essentially a descending degree of impact starting from “no-extra large).

Big	**Not favorable** Proposals result in the addition of unusual new features or elements and results in a total loss or a degree of severe damage to key features, and elements that contribute to the landscape or appearance of the area, and the effects are long lasting and irreversible.
	Useful The proposals offer great scale or great improvement for the quality of the landscape through restoration or expansion of possibilities through the removal of the unusual landscape component and the addition of new features suitable for the character of the landscape.
Moderate	**Not favorable** The proposal forms a new visible, unusual feature that results in partial loss or damage to key features, elements and features that contribute to the landscape or appearance of the area, and where and where the effects may be long-term or irreversible.
	beneficiaries The proposals provide a partial or significant improvement in the addition of key landscape features, which will result in an improvement in landscape quality.
Low	**Joi favorable** Some small and measurable changes when the proposal constitutes a small feature in landscaping or appearance of the area and results in minor loss or damage to key features, and the effects are short-term and medium-term.
	Useful Proposals offer slight improvement by restoring existing features or by removing some unusual features and adding key features and elements of the landscape,
Not important	**Jo Favorable** PrOPOSAland for small losses of landscape qualities or elements and where the effects may be short-term or reversible
	useful proposals for light interventions that have very little effect on landscape features
No change	There is no loss or alteration of features or elements of the landscape or appearance sof the area There is no apparent beneficial or adverse effect

Significance of impact on landscape

The significance of the predicted impact that may result from the proposed development will depend on the magnitude of the impact and the sensitivity of the receptor.

Sensitive areas where the magnitude of the change is projected to be small may result in being larger eg moderate.

Using the magnitude of the impacts and assessing the sensitivity of the landscape at the visual receptors below we show how an initial assessment of the significance of the effects for each component is made. This matrix is a tool that serves to control to ensure that decisions about sensitivity, impact size, and effect significance are balanced.

Matrix of significance of effects

	Very high	Neutral	easily	Moderate or large	Great either moreee	Very great
	up Neutral Moderate Moderate Moderate or Large or osee easy big very e great					
	average	Neutral	Neutral or e easily	easily	Moderate	Moderate or high
	low	Neutral	Neutral or light	Neutral or easy	Slight	Easy or MODERATE
		Neutral		Neutral or easy		Easy
		Ska	Neutral	Small		Big
		Impact size (harmful or beneficial)				

Very benefit i great (positive effect)	Very few proposals, even if there are any can deserve this appreciation Providing an opportunity for major expansion.
Positive effect	Great opportunities to mitigate damage or restore lost character ska by intervening in the landscape Characteristics lost or damaged by intensive agriculture, lack of management or unsustainable development. Proposals offer opportunities to enhance the landscape because: -They fit very well with the scale, contour of the ground and landscape pattern; -Great opportunities to mitigate damage or restore lost features due to lack of management or sustainable development through landscape intervention -Measures that will enable the restoration or expansion of the place, scale and quality of the landscape through well-designed planting and mitigation measures, which can increase the quality of the features through the use of local materials and species that adapt to the landscape; - Measures that enable some landscape qualities to be restored through beneficial and sensitive landscape measures designed during the design phase, measures which are not officially recognized. Certain objectives in the government's regional plans for landscape restoration

Benefit of moderate (positive effect)	Proposals: -Good modeling on scale, in soil and landscape contours; -Integration of mitigation measures to ensure that they will blend well with the surrounding landscape - Preserving or improving the characteristics of the existing landscape in an area where the landscape does not allow it to be touched or changed. Assess whether the measures taken during the design could improve the

Neutral effects Proposals are well designed for:

-To complement the scale, ground contours and landscape patterns;

- To integrate mitigation measures that ensure that the schemes will harmonize well with the features and elements of the surrounding landscape;

-To avoid annoying effects and not to have a negative effect on the current level of tranquility of the landscape through which the road passes;

- To preserve the character of the existing landscape in an area that is not a certain landscape, which is neither of national or local value with quality high, that is not sensitive or change it.

- To avoid conflicts with the responsible institutions of the area protection

Hslight loss

(negative effect) Proposals:

-When not fit with enough ground contours or landscape pattern

-Although not very visually annoying, it will affect the points designated tool throughout the area;

-Touches a surface or known landscape quality;

-Cannot be completely mitigated due to the nature of the proposal oryes the character of the landscape through which the road passes;

-Conflict with the policies of local authorities for the protection of character landscape landscape

Moderate loss

(negative effect) Proposals:

-When they are outside the landscape scale or contrary to fashion local lin and soil contours;

-When they are visually annoying and you will be negatively affected mwith landscape;

-When it is impossible to completely mitigate the impact; mitigation does not will prevent the scheme from damaging the landscape in the long run dhe some of the landscape features will be destroyed or will partially reduced.

- When will there be a negative impact on known landscape quality osand on its tangible and important features

- When there will be a conflict with local and national policies about it protect agricultural land.

Hgreat loss

(negative effect) Proposals are very detrimental to the landscape in these cases:

-When they are in significant conflict with the contours of the floor, the scale and landscape model;

-When they are visually annoying and will interrupt the field of view of beautiful and valuable area;

-When it is likely to degrade, diminish or destroy integrity eight of a range of characteristic features or elements of area with their placement;
-When they are essentially harmful to a high quality or very landscape endangered, causing in it change or significantly reduced their quality
-When it can not be adequately mitigated
Very big loss
(negative effects) The proposals will result in extremely serious negative impacts in the landscape when they:
-They are in complete contradiction with the contours of the ground, scale and landscape model;
-They are very visual and extremely annoying, running destroyed the beautiful and valuable sights both sides of the road and the whole area;
-They are associated with irreversible damage or degradation or that can eventually destroy landscape features.
-They will cause a very high damage to the quality of landscape or may change them irreversibly.
-When it can no longer be mitigated and when no other measure can salvage.
-When you can not agree with the government's protection policy areas

Visual impact assessment

Visual impact is the result of a change that may come from application as the proposed pathway to an identified receptor. Typical receptors include; residential houses, public premises, government buildings.
Receptors are grouped according to their location, prediction of appearance and type, and the sensitivity of receptors is mainly related to three factors:

1. Receptor location and context of perspective;
2. The activity or purpose for which the receptor is placed at a certain point.
3. The importance of the appearance (which can be determined in relation to its popularity or the number of people who may be directly affected by the impact of the change of appearance).

Using these factors the most sensitive receptors may include:

- Owners of properties affected by development;
- Users of all recreational facilities including road users, whose attention and interest may be focused on the landscape.

Less sensitive receptors may be people in their workplace, or engaged in similar activities, whose attention may be focused on their work and, therefore, are less sensitive to changes in view. School users are also included in this category, as transient receptors.

Evaluation of the magnitude of the impact on the image;

Degree of impact visual	Description
Big	Unfavorable The proposal is very distinct and causes severe damage to the main features, or characteristics of other elements that affect the appearance, and also significantly affect the overall visual character of the area
	Useful The proposal is distinctive and brings a high degree of improvement to the main features of the landscape, the apocalyptic characteristics of the elements that contribute to the view. The proposals significantly improve the overall visual character of the area.

Moderate	Unfavorable The proposal forms a new visible feature and results in partial damage of the main characteristics, or characteristics of the elements that contribute to the appearance. There is a deterioration of the existing appearance
	Useful The proposal forms a new visible feature that results in a partial improvement of the main features, or features of the elements that contribute to the view. A noticeable improvement in the existing appearance.
Small	Unfavorable Some measurable change or where the proposal forms a small feature in the landscape and will not change the overall balance of landscape features or the characteristics of the elements that contribute to the view. A noticeable deterioration that will not change the overall balance of features or elements in the existing look.
	Useful Some measurable change or where the proposal forms a small feature in the landscape and will not change the overall balance, features or characteristics of the elements that make up the existing look. A slight noticeable improvement of the main features that contribute to the appearance.
Not important	Unfavorable the proposal results in very small losses in the characteristics of the landscape, or the characteristics of the elements that contribute to the view. The proposal will be evaluated a little
	Useful proposals result in very little improvement in landscape features, or features of elements that contribute to the view The proposal will be slightly appreciated
E unchangeable	There is no loss or change of features or elements which contribute to the appearance. No part of the proposal will be visible

The significance of the impact on the image was calculated taking into account the sensitivity of the receptor to the size and duration of the effect. Meaning was achieved by following the references in the following matrix table. For example, the importance of visual impact is highest for sensitive receptors where there are large-scale effects on a view over a long period of time. The following table is a guide to how the visual impact of the proposed development is assessed in this report.

5.2.3 - Air quality

The release of gases into the air associated with the construction of the work can occur from two independent sources:

→ Releases of pollutants from the burns of private cars and those of construction, with internal combustion engine.

→ Dust coming from the movement of cars on unpaved roads in the square of the building.

→ Dust that comes out of the excavation works of the planned works

Releases of air gases related to construction, for the two types of sources mentioned above, vary according to the types of activities and are related to the different typical phases of a construction project.

This is how the following stages of these releases in the project can be distinguished:

- Preparation of the construction area that includes excavation works and movement with heavy machinery for moving the soil or irregular masses, loading materials, vehicle traffic on unpaved environmental roads;
- Removal of debris from natural and man-made obstructions, which may include blasting, blasting, mechanical removal, loading / unloading of materials.
- General construction of interior and exterior works

Releases of gases and dusts into the air from these common construction activities include:

EU allowed norms

polluter	**application**	**limit**	**Measuring**	**Date of achievement of the target**
		200 µg / m3		
Nitrogen dioxide (NO2)	Europe	It should not be exceeded more than 18 times / year	Average in 1 hour	
		40 µg / m3	Average annual Annual average	
Nitrogen oxide (NOx)	Europe			
		30 /g / m3		
		40 µg / m3	Annual average	

Suspended particles (PM10)	Europe	It should not be crossed anymore		
		more than 18 times / year		
		50 µg / m3	Not average	
			24 hours	

- ⇨ Gaseous emissions from combustion (COV, NOx, CO, SOx, PM10) from heavy-duty diesel or petrol vehicles, portable auxiliary equipment and employee transport vehicles,
- ⇨ Dusts coming out (PM10) from demolition works and soil excavation or from various collapses that occur on site.

Table 5.2 Data on gas emissions from construction machinery

Pajisja	CO [gh-1]	COV [gh-1]	NOx [gh-1]	Sox [gh-1]	Dust [gh-1]
Makinë shtrimi, Eskavatorë dhe Buldozerë me rrota gome, Ekskavatorë të vegjël me rrota aktive	259.58	113.17	858.19	82.5	77.9
Autobetoniere, Rul, Autovinç, Kamjon, Traktor me rrota gome Autobot	816.81	86.84	1889.1	206	116
Vinç, Grup gjeneratori, Kompresor ajri, Saldatriçe, Çekiç pilotash	306.37	69.35	767.3	64.7	63.2

Although construction equipment is known to release environmental pollutants, the impacts are expected to be mini mountains for several reasons.

During the preparation of the area there will be no demolition of buildings because the proposed project site is above all limited and there is no need for its leveling due to the very current state of the site location.

The tools that will be used in the construction will be regularly maintained, which will result in a good fuel combustion as well as minimal releases of occasional pollutants such as:

- carbon monoxide and dusty materials such as PM10 and PM2.5.
- the number of means of transport of goods or even workers will be low and consequently they will not create a significant negative impact. Regarding the spread of dust, great care should be taken as the residential areas are very close to the proposed project site.

However, dust spread from roads and construction sites can and should be eliminated or minimized by applying appropriate mitigation measures, such as:

- Realization of demolition works as soon as possible and with wet water flow, depending on the atmospheric conditions
- The use of water wetting of the material from the excavation in such a way in accordance with the humidity of the moment so that no mud is created but no dust comes out during the maneuvers for loading and transporting outside the construction site.
- Speed limit of transport vehicles
- Use of hoppers for concrete and other materials that can generate dust

These releases and their impacts can be considered negligible, given the limited duration of the pontoon construction phase of the control structure.
vehicles.

Dust risk assessment

footprint	Criteria	ASSESSMENT
19 km	Footprint of the project (65 km)	Rraverage weight
	Proximity to sensitive receptors (20 to 100 m)	risk
	extensionae of demolition works	Low risk
	extensionae excavation works (excavation 75 km)	Rrezik high risk
	Application for piloting (yes)	Rraverage weight
	Concreting request (yes)	Rrhigh ezik
	Extension of works	Rrhigh ezik
	typeof trucks to be used	Rraverage weight
	Number of vehicles to be used (> 100)	Rraverage weight
Risk assessment		Medium / High

In any case, regardless of the processes that will be carried out, the air quality will not be damaged outside the prescribed standards. Thus, the worst days would occur during the soil displacement processes especially when these processes would take place in the dry summer season.

In the technical literature is given the reference value 0.15-0.30 kg / m per month for the release of dusts that spread in the environment. These exemptions can be considered acceptable. The return of dust to the ground, in fact, is assumed to be very small and will occur only in the area near the construction site, so it will not cause residual concerns for the surrounding area.

Table 5.3 Air quality standards and pollutant emissions into the environment

Autoriteti / Ndotesit	Vlerat mesatare të elementëve ndotës						
	SO_2			NO_x			
	Vjetore	24 h MAX	Ditore	Vjetore	24 orë Max	Ditore	Orare
Banka Botërore	0.10	0.5 (jasht)	1.0 (brenda)	0.05 ppm	-	0.05	-
SHBA	0.02ppm[a] 0.03ppm[b]	0.1ppm [a] 0.14ppm [b] 0.5ppm [ac]	-	0.05 ppm	-	-	-
WHO	-	90µg/m³	-	-	-	-	190-320 µg/m³
UE	80 µg/m³	-	-	200 µg/m³	-	-	-

[a] -Secondary based on environmental impacts
[b] -Primary based on health impacts on humans
[c] -Maximum of three hours once a year

IFC has issued guidelines which are directly related to the construction and operation of roads. The guidance includes a number of possible methods for dust control and their effectiveness in dust control during the road construction phase. The IFC guidelines form an effective orientation to the mitigation measures proposed by the practice for dust control during construction and maintenance work.

Recommended to be extended are those detailed in the Table below in which IFC provides general dust control measures

Control measures Control efficiency (%)
Periodic wetland of road 12 to 98
Reduce circulation speed 0 to 80
Construction of road with solid surface 85 to 95
Coverage of stock materials 0 to 58

In air quality assessments, data are secured by taking standard data factorsmonitoring to use during design; this is because in Albania these measurements are performed only for large urban centers where over 30% of the population live. For the assessment of air quality will be used the

background levels measured in 2011 referred to in the Environment Report of Albania as well as the EIMS program for monitoring the environment, biodiversity, climate, etc.

The best standard methods for minimizing dust build-up are:

→ Frequent wetting of dusty surfaces;
→ Implement speed limits in areas under construction to reduce the amount of dust that can rise during their circulation
→ Coverage of stock materials
→ Coverage of vehicles transporting construction materials
→ Compaction of construction road surfaces where possible.
→ Powders obtained from drilling should be sprayed with running water
→ Concentrate the works in each lane, to eliminate the high generation of dust
→ There should be no open burning of unnecessary materials in the area
→ All materials should be transported covered to minimize the spread of dust.
→ Personnel exposed during work must wear dust masks
→ Use fuels that meet Albanian norms regarding gas emissions.
→ Do not keep vehicles and construction tools on while not in use.
→ To maintain and change in a timely manner the filters of the engines of vehicles of transport and construction.
→ Minimize the use of generators as much as possible.
→ To maintain and change in a timely manner the filters of the engines of vehicles of transport and construction.
→ Workers wear gas masks.
→ Asphalting should be done in the shortest possible time and preferably at the lowest possible temperatures.

Given that controls for dust mitigation measures are proposed for the construction phase it is expected that dust levels are expected to be continuously controlled to minimize dust impacts.

Albanian legislation currently does not have accepted standards or limits set for dust deposition norms. However, average daily dust deposition rates can be used to indicate any potentially problematic impacts. The UK Road Code allows a maximum rate of 200 milligrams (mg) per day per square meter after which dust deposition can be problematic (can cause accidents).

This rate is given according to the following table:

pollutant	Place of Application	Value Lim	the measure
Deposited powder	UK	> 200 mg / m2 / day = Daily problem	

5.2.4 - Surface and groundwater

To create normal working conditions, it will be necessary to remove water from the foundation pits. This could theoretically lead to a temporary decrease in the groundwater level in the vicinity

of the area. However, as noted in the hydrogeological study of the area of the city of Lura, the sources of underwater water in this area are limited and the groundwater of these depths (excavation depth) is not polluted by communication with other waters. For this reason, the reduction of these water levels due to excavation activity is not expected to have any significant impact.

During the construction period, the construction contractor will carry out a leveling plan and drainage drains for the site area, in order to manage the flow of water out of the area in a responsible manner. For this, measures can and should be used to control sediments and to minimize the transport of sediments outside the area such as

retaining nets.

Measures such as roofs or fences can and should also be taken to minimize erosion of aggregate piles.

Water coming from drainage activities may contain suspended solids. It may also contain oils or greases flushed from accidental uncontrolled spills of vehicles in the square. Measures to be taken to remove solids before water is discharged from the site include the use of decanting pits or other solid waste control structures. Any visible oil or grease stains can be removed from the surface by of tension-active absorbents.

Accidental spills of fuel or other materials are a potential hazard to coastal or inland waters. For this reason, precautionary measures will be taken to stop these spills and all workers should be trained to deal with these cases. On the other hand, a written emergency response plan should be prepared and stored at the construction site and workers should be trained to follow specific spill procedures. Workers must be provided with the appropriate equipment to collect and treat oil spills in these cases.

To avoid the spread of liquid materials, which may damage surface or groundwater reserves, the following mitigation measures should be taken:

- → Separation of all fuels and lubricants that come out during the maintenance of construction equipment and their collection in the right places.
- → Construction of load-bearing barriers around all fuel storage tanks or not placing them in the territory where the terminal will be operated
- → Construction and maintenance of facilities to remove rainwater from secondary supporting structures and removal of fuels from the surface of the accumulated material.

For the treatment of sanitary waste, although in small quantities, an external contactor or a small system for wastewater treatment may be used temporarily. Under no circumstances will untreated wastewater be discharged into local or seawater.

5.2.5 - Noises and vibrations

Noise from construction activities can be significant for a limited period of time. Noise levels caused by construction activities may

vary greatly, depending on the construction phase and the specific task being performed.

All noise emitting equipment will be properly maintained to minimize the impact of noise in the area. Noise-emitting equipment must meet EU standards for ambient noise.

Referring to the law No.7994, dated 12.07.2007, "On the assessment and management of noise in the environment" the investor has taken all measures for noise as small as possible in this activity that seeks to develop through:

a) selection and use of equipment that emits low noise levels,

b) the selection of the place, that the installation and operation of vehicles and equipment that emit noise guarantee the border level in all environments, which are affected by it,

c) noise prevention and mitigation measures at the point of release, along the propagation paths and in the environments affected by it.

The equipment that will work listed above must be in good technical condition, not to be used in peak movement schedules, are very far from the residential area and the impact on the environment is low.

Permissible limits of construction noise:

Evaluation category and reference period	Category A allowable value	Category B allowed value	Category C, allowable value
(LAeq)	dB (A)	dB (A)	dB (A)
During the night from 23.00-07.00	45	50	55
Evening and weekend	55	60	65
1900-2300 days			
1300-2300 Sat.e			
0700-2300 djele			
During the day	65	70	75
0700-1900 days a weeks			
0700-1300 sate			

The European Code states that category A values will be used when ambient noise levels (rounded to the nearest 5 dB) are less than these values.

Vcategory B lights will be used when ambient noise levels (with a tolerance of 5 dB) are the same as category A values.

Category C threshold values are to be used when ambient noise levels (with a tolerance of 5 dB) are higher than category A values.

Where ambient noise levels exceed the threshold values listed in the table above then we can say that we have a noise impact if the total LAeq noise level increases more than 3 dB due to construction activity.

Object type	Day dB Laeq (06:00-22:00)	Naten dB Laeq (22:00)-06:00)
Hospitals, schools, monasteries	57	47
Residential area	59	49
Main areas, rural areas, mixed areas	64	54
Commercial areas	69	59

The degree of comparison of the current noise with the expected one during the works in this object:

Noise level change dB (A)	**Subjective response**	**Degree of impact**
0 - 0.9	Insignificant	No impact (insignificant)
1.0 -2.9	Slightly negligible	Easy
3.0- 4.9	Distinctive	Medium
5.0 - 9.9	From doubling or higher	Considerable
10.0 or higher	More than doubling to very high	Different influences

To categorize ambient noise levels these noises should be measured at three different points and the data should be rounded to a value close to 5 dB.
The basic data presented in the given Tables are rounded accordingly and are presented below in the tables in the respective tables, together with the resulting category of construction noise assessment.
In terms of working hours during the construction phases it is understandable that interventions will usually occur at 07:00-18:00. In this view the night period will not be taken into account.

Approximate noise levels near residential centers:

Period	Ambient noise level rounded to 5 dB	Category rating-noise threshold from bUILDING
Day (07:00)-19:00)	50 dB (A)	Category A - 65 dB (A) per day
Evening (19:00)-23:00)	50 dB (A)	Category A - 55 dB (A) evenings
At night (23:00)-07:00)	50 dB (A)	Category C - 55 dB (A) at night

Approximate noise levels away from residential centers:

Period	Ambient noise level rounded to 5 dB	Category rating-noise threshold from bUILDING
Day (07:00)-19:00)	55 dB (A)	Category A - 65 dB (A) per day
Evening (19:00)-23:00)	50 dB (A)	Category A - 55 dB (A) evenings
At night (23:00)-07:00)	45 dB (A)	Category C - 55 dB (A) at night

It was previously planned and thought that the construction operations would be roughly divided into these phases as follows:

- The first phase of construction (excavation, concreting)
- Second phase of construction (filling, paving, construction KUB)
- The first phase of construction (lighting installation, completion of works).

Expected data of Phase I:

device	Power in kF	Weight	Octave Band (Hz)								dBLAeq
			63	125	250	500	1000	2000	4000	8000	
bulldozer	250	35 t	77	86	75	75	82	80	73	67	86
Self-unloading truck	194	25 t	88	90	80	79	76	71	65	61	81
Excavators	172	35t	76	79	75	75	76	73	70	65	80
diggers	364	56 t	91	94	90	86	86	83	77	69	91
Hammers	100	22 t	85	88	85	89	92	88	86	81	95

Expected data of Phase II:

device	Power in kF	Weight	Octave Band (Hz)								dBLAeq
			63	125	250	500	1000	2000	4000	8000	
bulldozer	250	35 t	77	86	75	75	82	80	73	67	86
Self-unloading truck	194	25 t	88	90	80	79	76	71	65	61	81
Excavators	172	35t	76	79	75	75	76	73	70	65	80
diggers	364	56 t	91	94	90	86	86	83	77	69	91

Expected data of Phase III:

device	Power in kF	Weight	Octave Band (Hz)								dBLAeq
			63	125	250	500	1000	2000	4000	8000	
Compression	250	35 t	77	86	75	75	82	80	73	67	86
Self-unloading truck	194	25 t	88	90	80	79	76	71	65	61	81
Asphalt	172	35t	76	79	75	75	76	73	70	65	80
Bitumen	194	25 t	88	90	80	79	76	71	65	61	81

There are many measures that can be taken in the works area or in the vehicle park which can minimize noise.

These are the measures used in EU countries and reflect the best practices in the field of construction which should be taken into account:

→ Turning off unnecessary tools

→ Using rubber insulators (used tires can also be used)

→ Minimize falls from material heights;

→ Turning on the machines gradually (one after the other) not all at once

→ Equipment maintenance. For example, noises can be reduced by squeezing loose parts as well as by kissing or fixing them with elastic material (such as rubber) between the surfaces in contact.

→ Noise from construction equipment can be reduced by modifying or applying methods that reduce the noise level. However, modifications should be made in consultation with equipment manufacturers to ensure that safety for this modification does not damage the device. Such measures include:

→ For continuous noise, such as that caused by the operation of diesel engines, a solution for reduction may be to install a muffler system or by fitting an acoustic shield and placing it over the hood.

→ Noise caused between different parts of machines which create a resonance can be minimized by initially modeling the device by adding an insulating layer or by reducing the accelerating effect of the motor.

In places where noise reduction is not possible, the distance between the noise source and its receiver may be taken into account. For maximum noise reduction these protection sites should be placed as close to the source as possible. Ex:

- Grouping on-site and ancillary buildings can be a good barrier to noise
- Areas that have been dug below ground level can be used to place static equipment such as generators, compressors and pumps.
- Places raised above the level of the landscape works area or built can serve for the positioning of noisy equipment in them.

5.2.5.1 - Area where they can be used for road construction

The terrain may require the use of roadside burst openings. It is understandable that demolition should be as limited as possible and away from residential centers. When an explosion occurs energy is transmitted from the blast site in the form of air pressure waves. These pressure waves constitute energy with a wide range of frequencies, some of which are higher than 20 Hz and are therefore perceptible as sound. Most are below 20 Hz and are therefore inaudible but can feel like shock. The combination of explosion with shock create the phenomenon that is known as air overpressure.

The main problem in this case is to consider the buildings adjacent to the blast sites. Windows are generally the weakest part of a structure and experiments have shown that a poorly mounted window can be said to be around 150 dB (lin), while well-mounted windows start to crack at around 170 dB (lin). Structural damage will not be expected at levels below 180 dB (lin).

Noise from construction activities can be significant for a limited period of time. Noise levels caused by construction activities can vary greatly, depending on the construction phase and the specific task being performed. All noise emitting equipment will be properly maintained to minimize the impact of noise in the area.

Noise-emitting devices shall be in accordance with applicable EU standards as set out in EU Directive 2000/14 / EC of the European Parliament and of the Council of 8 May 2000 on the harmonization of the laws of the Member States relating to ambient noise emitted by devices. used outdoors.

The following are the values of noise power, rated for some equipment commonly used in the construction phase:

→ Excavators with digging bucket 81-90 Leq dB (A) at 15 m;
→ trucks 81-87 Leq dB (A) at 15 m;
→ concrete pump 74-84 Leq dB (A) at 15 m;
→ crane (Derrick) 79-86 Leq dB (A) at 15 m;
→ (mobile) cranes 80-85 Leq dB (A) at 15 m;
→ generators 71-87 Leq dB (A) at 15 m;
→ hammer fork 69-85 Leq dB (A) at 15 m;
→ pump 68-80 Leq dB (A) at 15 m;
→ bulldozer 77-90 Leq dB (A) at 15 m;

→ conveyor chargers 77-90 Leq dB (A) at 15 m;
→ flattener 79-89 Leq dB (A) at 15 m;
→ welding machine 66-75 Leq dB (A) at 15 m;
→ air compressor 76-89 Leq dB (A) at 15 m

In any case, the maximum noise levels acceptable on site are:

- Continuous 1,000 m from the 45 dBA plant
- Instant 1,000 m from the 55 dBA plant

In terms of vibrations, also in relation to the fact that a good part of the road trail is located away from any sensitive subject, any impact on the surrounding environment can be ruled out.
In places where noise reduction is not possible, the distance between the noise source and its receiver may be taken into account. For maximum noise reduction these protection sites should be placed as close to the source as possible. Ex:

- Grouping on-site and ancillary buildings can be a good barrier to noise
- Areas that have been dug below ground level can be used to place static equipment such as generators, compressors and pumps.
- Places raised above the level of the landscape works area or built can serve for the positioning of noisy equipment in them.

5.2.5.2 - Sensitivity of receptors

Based on the assessment of the magnitude of the impact and the sensitivity of the individual receptors, the matrix given in Table 8-5 has been developed in order to provide an indication of the degree of potential significance of any prior noise impact during the construction and operation phase.

5.2.7 - Waste generated

During the construction period of this road there will be two sources of waste:

→ Material excavated to realize the infrastructure provided on the ground
→ Excess material that will result from demolition works or various levels in the service area and near the road axis.

Some of the solid waste produced during earthworks can also come from the packaging of various construction materials (cement, wood, plastic, cardboard, glass, insulation materials, etc.). These types of waste can be classified as ine rte. Only pure oils can be classified as "dangerous". Construction workers will be required to collect the types of waste on their own. All materials removed from the construction site will be managed according to Albanian laws and regulations in force.
Hazardous materials that will be compulsorily used during construction, will be stored in the areas provided with double ends. With these measures, there is no need for significant negative impacts to occur during the construction phase of this facility.

The total amount of waste generated by workers at the construction site is estimated to be about 24 t. This value is calculated taking into account the maximum number of construction workers in the most intensive time, which will be approximately 20-25 workers / day for three months of programmed work, assuming a production of municipal waste (commercial, institutional and waste disposal). except) as much as 1/3 of the average waste production per capita (500 kg per capita per year). For proper management of this waste, which in turn can classify time as household waste, a portable unit will need to be set up of their treatment.

Based on these results, in order to prevent the impact of contaminants during excavation works, it will be necessary to remove excavated material that is supposed to come out of the excavation and be deposited safely as well as other materials that will result. during construction works. These waste materials will be placed in areas authorized by the local government. The contracting firm will be considered responsible for the pollution that will result in the mentioned areas.

The choice of waste collection site belongs not only to the project firm but it should be discussed with the entrepreneur and the local government.

Optimal location of the landfill is intended to minimize the risk of contamination of the surrounding soil and groundwater due to accidental spills of oil products, and should also be considered a very good solution to isolate polluted soil and groundwater from the environment above them. So the construction of this facility and the systematization of service facilities, not itself that will not negatively affect land use procedures, but will have a positive impact in terms of the area currently contaminated by waste materials or an absurd appearance of pleasant in the vicinity of the city center affecting at the moment in a not at all satisfactory manner.

Based on the measures that will be taken, previously planned and that will be implemented in the future by the contractor, not himself that will not negatively affect the land use procedures, but will have a positive impact in terms of the contaminated area currently from waste materials.

5.3 - Impact assessment and mitigation measures

The duration and type of process to be carried out are the basic factors that are taken into account in assessing the importance of the potential negative impacts of the construction of maritime works. To have a more concise idea of these impacts, Table 5.4 summarizes the environmental parameters and possible sources of impacts defined above. For each case, taking into account the size and duration of the process, an assessment of overall importance was made using three levels: Low (U), Medium (M) and High (L).

Table 5.4 Summary of environmental impact assessments

Environmental parameter	spring	Impact value		
		E ulet (U)	Average (M)	High (L)
Use of building materials resources	Concrete structures		M	
Direct impact on marine life and their habitat	Excavation for foundations	U		
	Other excavations	U		
Air pollution	Construction equipment	U		
	Car movements		M	
	Workers' movements	U		
	Dust from activities		M	
Water pollution	DRAINAGE	U		
	Other waste	U		
Impact on traffic	Machinery movements		M	
	Employee movements	U		
Solid waste	All activity	U		

Use of sources of construction materials

The construction of this facility will require a quantity foreseen and described above the construction wool material to be transported from the place of production. On the other hand, in order to carry out the respective constructions, a certain amount of cement and ready-mixed concrete described above will be needed, which will be obtained from licensed and certified suppliers. Certain parts of this road segment will be built with reinforced concrete. In general, the overall impact of this issue is assessed as "moderate".

Impact on traffic / roads

Regarding the construction materials, referring to the above discussion, their quantity is thought to be reduced to a maximum. Steel profile materials can be brought from outside the building as raw material and processed here, on local construction sites, inside the construction site, significantly reducing the amount of material that will be transported to the site.

The biggest impact on land traffic will come from the transportation of solid materials. Given the amount of materials to be transported and the duration of the supply, the impact of this issue is considered "moderate".

Necessary mitigation of the impact of this process transport and storage, leveling, leveling, enters the category of "Best Practices of Area Management
construction ".
The speed of vehicles will be strictly controlled in order to reduce the risk of accidents, placing road signals in the most "hot" points of traffic (problematic junctions or junctions), especially at the exit of the construction site with those of the city.

5.4 - Impact on the environment around the building

The direct impacts on the surrounding environment are related to the demolition and excavation that will take place on the construction site as well as the failure to control the occasional rainfall that may occur during the time of these excavations.
Based on the analysis of the biological features of the structure area, it has been concluded that the benthic macro-fauna and the ichthyic fauna are poor, as a result of the previous intense human influences. For this reason the impact of the excavation itself is considered "low".
Contractual specifications should require the best existing technology and procedures for reducing rainwater runoff into the sea.
noise-During the construction of the facility it will be necessary to use machines that emit noise. These devices will operate for a limited period of time and the distance from residential areas is such (several hundred meters) that the impact is considered "low". We gave this reflection above.
Air pollution- Dusts from construction processes as well as car exhaust emissions are potential sources of air pollution, which can increase the concentration of fine materials in it. Above we described a list of the main equipment that are generally used in construction as well as the estimated duration of their operation. Most of the equipment will operate in an open environment with a large dispersion due to currents and winds. The impact on air pollution can therefore be considered "low".
The issue that needs mitigation measures is the pollution (dust and emissions) associated with self-unloading trucks transporting construction material. All diesel-operated equipment must be regularly maintained to minimize emissions.
Water pollution- spillage of washing water of excavation or transport machinery or of oil waste and engine lubricants, may create conditions for other impacts, the object of which is groundwater.
The impact of these factors is "small", taking into account the level of equipment involved and the standards by which these types of equipment work. There is some evidence that surface water has been used to supply drinking water.
Discussions withresidents throughout the study area indicate that local watercourses are also used as bath water. However, concerns about water quality have led to the need for investment in the drinking water system and the access of every household to have it.
Until then (ie when the water comes to the network) the inhabitants will continue to use the mountain streams and the groundwater sources as water supply for consumption and internal uses.

Within these, the value (or sensitivity) of water for domestic supply is high in rural areas.
Mitigation measures include Construction Management Best Practices, which should be one of the basic requirements of the contract specifications.
The following is a summary of European water laws:
European Directive 2000/60 / EC (Water Framework Directive) was adopted in October 2000 with the aim of ensuring the protection of Europe's valuable natural water resources. In simple terms, the Directive imposes a requirement on Member States to work together to implement measures that will proactively move water bodies within their jurisdiction towards achieving 'ecologically good' status.
Article 1 (Purpose) of the Directive:
The purpose of this Directive is to establish a legal framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater and:

a) Prevent further deterioration, protect and enhance the status of aquatic ecosystems and, in relation to their water needs, terrestrial ecosystems and wetlands directly dependent on aquatic ecosystems;

b) To promote the sustainable use of water based on a long-term protection of available water resources;

c) to make enhanced protection and improvement of the aquatic environment, through specific measures for the progressive reduction of emissions, emissions and losses of priority substances.

d) Ensures the progressive reduction of groundwater pollution and prevents their further pollution.

e) Contributes to mitigating the effects of floods and droughts.

Earthworks can lead to an increase in the concentration of inerts deposited on the surface as well asgroundwater pollution. This will, therefore, to minimize this should limit the total amount exposed to soil through measures such as:

- Carrying out phases of construction, minimizing soil exposure where possible on the ground.
- Coverage of soil or stock materials
- Use of barriers along the boundary of the exposed area;
- Placing mud away from streams and water sources;
- Fuel and chemical solutions will be stored, in secured areas a minimum of 110% of the total capacity of the tank to ensure that any spills will not end up in the external environment.
- Any vehicles or other equipment used during construction will be regularly maintained and inspected for leaks.
- Leaks from equipment or from washing wheels will be collected and recycled, avoiding their disposal in natural waters or those of the local network.

A leveling and drainage plan for the area will be required by the construction contractor, in order tomanage out-of-area water flow in a responsible manner. Sediment control measures can be used as retaining nets, as needed, to minimize sediment transport outside the area.
Measures such as roofs or fences can also be taken to minimize erosion of aggregate piles.
Water coming from drainage activities may contain solids or suspended substances, oilor fat. Measures to be taken to remove solids before water drains from the site include the use of decanting pits or other solid waste control structures. Any visible oil or grease stain can be removed from the surface by means of absorbents.
Accidental spills of fuel or other materials are a potential hazard to inland waters. Precautions must be taken to stop spills and all workers must be trained in the handling, storage and placement of hazardous or toxic materials. A written emergency response plan should be prepared and stored on the construction site and workers should be trained to follow specific spill procedures. Workers should be provided with adequate tools to collect and handle spills in emergencies.
To avoid the spread of liquid materials, which may damage surface or groundwater reserves, the following measures should be taken with mitigation:

→ Separation of all fuels and lubricants released during maintenance of equipment construction and their collection in the right places.

→ Construction of holding embankments for all storage tanks.

→ Construction and maintenance of facilities to remove rainwater from secondary storage structures and removal of fuels from the surface of accumulated matter.

5.5 - Impact on the environment during the use of the facility

With the measures that will be taken and the proper care, we think that this negative impact will not be taken into consideration.
As can be seen the main sources of potential environmental impacts that may result from the use of this building include noise impacts on air quality and white water treatment.
Other possible sources of environmental impact include vehicle fuel leaks as well as the generation of a small volume of solid waste.
The potential impacts to be assessed in this case are:

→ noises, fumes and emissions from the movement of vehicles

→ discharge waters and surface waters.

Pollution is considered at minimum levels in all aspects, excluding any possible breakdowns.
External drainage systems will be required to capture and separate flows from the top of the terrain or along the road and divert them to the pre-planned and designed discharge network. Some modifications to the existing flow regime can be expected however due to flow acceleration within the drainage system. The residual impact on the aquatic environment is therefore considered to be small (negative). This impact will be permanent and irreversible.
Traffic on the road will result in the deposition of pollutants on the road surface including dust, oils, greases or fuel as well as heavy metals. After rainfall, these pollutants can flow downstream

to the receiving waters (ie local streams, sewerage systems, etc.). The internal drainage system will adapt consistent drainage practices to make a pre-treatment of these contaminants before being discharged into the receiving environment. The residual impact on the aquatic environment is therefore considered to be negligible (negative). Any impact on loca le flows will be temporary and reversible.

The indoor drainage system will adopt consistent drainage practices to capture, treat, and temporarily maintain flow, to reduce the rate of volume flowing downstream. The residual impact on the water environment is therefore considered to be negligible (negative). Any affect to local flows will be temporary and reversible.

Potential risk from major road leaks has been assessed in accordance with the Road and Bridge Design Manual (DMRB) Volume 11 (Environmental Assessment) Section 3, (Environmental Assessment Technique). This methodology takes into account the following factors:

- → The length of the road
- → Nature and location of intersections
- → The unit of time it will take for emergency services to reach a spill
- → Predicting traffic volumes
- → Percentage of heavy goods vehicles (ATR) that will make up the road traffic.

On this basis, it has been determined that the potential risk of a major pollution is less than 0.5%, and therefore no additional mitigation measures are needed. The magnitude of the impact of potential spills on the aquatic environment is therefore negligible (negative).

The construction of the building will result in the exposure of bare land in two segments in which there will be an intervention which after rain, will bring an increase in the concentration of suspended matter which will be discharged into water streams (rivers, streams).). Best construction practices will be adopted during the construction phase and will be applied in practice to minimize the loss of soil exposed during rainfall, and to prevent their removal before crossing in the direction of the water stream. The residual impact on the aquatic environment is therefore considered to be small (negative).

This impact will be temporary and reversible.

The movement and maintenance of equipment on site during the construction phase will pose a potential risk of leaks or spills (eg oils, greases and fuels). Best practices will be followed in practice including proactive vehicle maintenance as well as separation of vehicle wash areas to prevent contaminants leaking downstream. The residual impact on the aquatic environment is therefore considered to be negligible (negative).

This impact will be temporary and reversible.

Storing fuel and chemicals on site during the construction phase will pose a potential risk of leaks or spills. Best methods will be applied in practice including fencing and isolation of storage areas and keeping them away from sensitive receptors (water in this case) as well as safe locating and disposal of waste (eg black). . The residual impact on the aquatic environment is therefore considered to be negligible (negative).

This impact will be temporary and reversible.

Table 5.5 Summary of environmental impact assessments during operation

Environmental parameter	spring	Impact value		
		E ulet (U)	Average (M)	High (L)
Air pollution	Car engines	U		
	Dust from car movement	U		
Water pollution	DRAINAGE	U		
	Other waste	U		
Impact on traffic	Machinery movements	U		
	Employee movements	U		
Solid waste	All activity	U		

Waste:

The problem of waste production will not be as important as in the construction period, because the construction of this facility can produce mainly urban waste in small quantities. This waste is not hazardous and the types, quantities, date and manner of disposal of all waste will be subject to coordination with other sectors close to the structure.

Effective drainage management along the road during the exploitation phase is essential to ensure environmental protection and water quality. The design of the drainage canals has been done and will normally be implemented during construction considering this canal as a natural corridor.

External drainage (ie those from the surrounding natural catchment areas) will be collected in special drainage systems and avoided from the road;

Internal drainage (ie removal from the road surface) will be treated as follows:

Sustainable drainage techniques will be used everywhere in practice;

Open drainage systems will be used by replacing the pipes where possible. In areas of high ecological value a second layer of treatment will be used in the form of an “end of the line” for basin sediment (in areas of moderate ecological value) or wetlands built (in areas of relatively high value). high ecological).

5.5.1 - Vegetable lands

impactStrength and timing of impact

Noise during the day and visual impacts (eg movement of vehicles and people) as well as the impact of lighting from vehicle lights at night can reduce the possibility of adaptation for mammals or birds that may be located near the road. These impacts will be high for the area adjacent to the road and lower away from it. All of these impacts will reduce the number of

mammals or birds in the areas near the road.

The other impact is because the closure of natural corridors will bring accidents and damage to mammals that will try to cross the road.

Duration of impacts

Visual effects(movement of vehicles and people) will be pronounced during the day. Impacts on species such as birds and mammals will be greatest during the breeding season.

Return

These impacts are not reversible as they will last as long as the road is in use.

Time and Frequency

Lighting impacts will only occur at night. Visual impacts (movement of vehicles and people) willbe higher during the day. Impacts on birds will be greatest during the bird breeding season. Considering the potential impacts on poultry and small mammals it is considered that the impact on plant soils will not be too negative.

5.5.2 –Habitates

Time and frequency of impact

A series of significant ongoing impacts are predicted by accidental pollution such as hydrocarbon release, road salt, other leaks into aquatic habitats. Ntale oxidative pollution can be very harmful to the aquatic environment. Accidental pollution is usually reversible with appropriate time measures, and depending on the degree of pollution.

Duration

Impacts can occur throughout the life of the road.

Return

The effects of pollution and physical disturbances on fauna are reversible within a nor male period (e.g. within 1 to 2 years) although this will depend on the mobility of the fauna in the aquatic areas affected. It tends to be long-term, only when pollution occurs which leads to long-term reductions of biodiversity in rivers. A discrete pollution event, however, can have serious consequences downstream from the pollution site.

Time and Frequency

Pollution impacts can occur at any time. The risk of traffic pollution for the fauna will be higher during the breeding season. During the operation of the road there can be significant impacts on the aquatic fauna as a result of accidental pollution and from the increased risk of collision. It is therefore considered that the impact on watercourses and coastal habitats of the corridors will be moderate.

5.5.3 - Reptiles

Strength and timing of impact

The proposed route may turn out to cause great pressure from crawling vehicles trying to cross their usual route. Species that would be directly affected include the turtle, the European green

lizard, snakes and vipers that live in this habitat. Studies have shown vehicle oppression and 100% mortality of turtles trying to cross a road with more than two lanes). The opening of some natural corridors would bring a decrease of this ratio.

Duration

Pwhether mitigation measures can have a very long-term impact on species conservation status.

Return

Individuals of species can be replaced through natural processes of addition and distribution; however if the impact is too high, the population may never be able to recover the original size of the initial population and this would be irreversible.

Time and Frequency

Impacts will be highest during the breeding season when reptiles are very active, but can also occur in late winter when individuals move from their breeding grounds to lethargic sleeping areas.

6 - Environmental management plan

Any important activity carried out in relation to the environment, should include in its project the Environmental Management Plan (EMP), the purpose of which is to prevent, minimize and eliminate negative impacts on the environment of the activity that is proposed to be carried out in our case of construction of this road facility.

Table 6.1 Practice of waste management as a whole

No.	Residue type	Recycling / Reuse	burn	landfill	deposit
1	Construction waste	✓		✓	✓
2	Wood waste	✓	✓		
3	Plastic waste	✓			
4	Ene boshe	✓		✓	
5	Solid concrete pieces			✓	✓
6	Cloth waste		✓		
7	Waste paper, cardboard	✓	✓		
8	Waste plastic pipes	✓			

The overall objective is to minimize the impact of waste generated during the phase construction through the following measures:

- to minimize the amount of waste produced

- maximize the amount of waste used for recycling - including the separation of recyclable waste at source
- minimize the amount of waste deposited at the landfill
- ensure that any hazardous waste (eg oils, etc.) is safely stored and transferred to appropriate facilities
- to avoid the impacts of dust from the treatment of construction waste
- ensure that all waste is properly stored, labeled and disposed of in accordance with local regulations, and
- ensure that waste is disposed of in accordance with the waste management hierarchy.

The following issues are an integral part of the EMP and are based on international best practices for waste management and in accordance with EU directive and Albanian legislation.

The broad scope of the PMMS is:

- ☞ Provide a mechanism to ensure that proposed measures to mitigate adverse environmental impacts are considered or implemented
- ☞ Ensure that standards of good construction practices are applied during road construction
- ☞ Provide a framework for mitigating impacts that may be unseen or unidentified that may occur or occur during the construction process.
- ☞ To set up as needed, an interaction that will help third parties understand the context and purpose of this project in meeting environmental requirements
- ☞ Provide a compliance monitoring framework to show how environmental performance in this project is being met.

PMMS will be developed throughout the duration of the project. The contractor must reflect the plan recommendations in all work processes. It is the contractor's responsibility to ensure that the PMMS is implemented.

Environmental Management Plans, identify the legislation that must be respected during the implementation of the project, analyze the environmental characteristics of the area, describing the social and natural environments. The environmental management plan for the road segment is focused on both phases, the works phase and the exploitation phase. This plan consists of the plan of environmental impact mitigation measures and monitoring program. The implementing agencies of the Management Plan will be the project contractor, the Contracting Authority, the Regional Environmental Directorate of Diber District, Bulqize Municipality.

The Contractor shall ensure to the extent possible that all environmental components are monitored in accordance with Albanian legislation and other environmental commitments as appropriate. The Contractor shall submit the following:

- ⇒ Environmental management, occupational safety and health during construction operations
- ⇒ Open communication and cooperation with entities involved in construction works, including employees, stakeholders related to environmental management, safety and health
- ⇒ Effective implementation of environmental, safety and health protection policies

and plans;

⇒ Regular review of these policies and plans if needed

⇒ Clear guidelines for staff who will manage the environment, safety and health plan.

⇒ Allocation of resources for the implementation and maintenance of the environmental, safety and health plan as well as the activities that can be developed for these issues;

⇒ Assigning responsibility and accountability for the implementation of the environmental, safety and health plan;

⇒ Ongoing communications related to environmental issues with the contracting authority (ARA)

⇒ Support and participation to maintain a safe environment;

The project will comply with the relevant legislation, instructions and approvals of the Government of Albania for the construction and operational phases of the project.

6.1 - Recommendations for minimizing negative impacts

EIA recommendations for this project:

Environmental impact	Impact phase	location	Mitigation measures	LIABILITY
Earth and Geology				
Discovery of the earth contaminated during the construction phase	Tall cONSTRUCTION	IN construction site (construction area)	-Surveillance of the soil for any possible pollution during the conform construction phase law -If contamination is detected, field samples should be taken and the necessary analyzes performed -Make a proper risk assessment to see if there is risk to employees -Employees to wear appropriate clothing to prevent hazardous pollution	Kontraactor
Removal of soils	During constructio n	At the construction site	-Use of quarries near the construction site before opening new quarries or renting them Careful removal of the soil layer to enable its maximum purity for later use for	Designer Contractor
Soil pollution	Tall cONSTRUCTION	At the construction site	-None of the materials intended for restoration should be used without being certified in terms of quality. -Selection of the best design standards of the drainage system	Designer Contractor
Hydrology				

Impact on waters underground	Tall cONSTRUCTION	At the construction site	-Use the current quarries as efficiently as possible on purpose moshapjen of young which may affect groundwater. -Limit the time of works in case the groundwater or springs that may be encountered during the construction of the road serve as suppliers of drinking water sources	Designer Contractor
Impact on groundwater	During construction and operation	At the construction site	-Very good design of the drainage system in order to prevent pollutants in groundwater in case of accidents. -Periodic maintenance and control of vehicles that will work on the construction site -Very good storage and storage of fuels and chemicals while maintaining a reserve of 110% storage capacity. Leaks that may occur on site must be cleaned before penetrating the ground Excess water from washing machines will be deposited within an area from which debris or mud must be removed before discharging water. -Limiting the impact on land cover during operations -Wastewater flowing from each portable toilet should be disposed of in sealed containers, which must be emptied periodically into wastewater treatment plants. -Implementation of the best standards to mitigate the potential impact of groundwater quality from the release of hazardous substances -Predicting the maintenance of roads to eliminate pollution from oils or falling mud during road use -Using herbicides according to the norms	Kontraactor
Air quality based on best practices:				
Emissions from machinery and equipment	Tall cONSTRUCTION and exploitation of myths	In the area of construction site of construction, the areas around it, as well as on the roads where construction vehicles will circulate	-Be careful in covering vehicles during soil transport -Technical inspection and maintenance of vehicles and equipment -Use of the best possible machinery and equipment in terms of environmental parameters Consideration of bio fuels -Periodic monitoring of the working processes of these devices	Kontraactor
Dust from loads and various downloads	During construction and	Impact on site, as well even in the area around it	Minimize discharge from heights of building materials and soils	Kontraaktori

Dust from transport i mATERIALS	Tall constructi on and exploitatio n myths	In the area of construction site, the areas around it, as well as on the roads where construction vehicles will circulate	-Speed control; locating speed limits - Non-loading above the norms of transport vehicles of construction materials and soils and their coverage when it is obligatory -Control of road wetting as a measure to eliminate dust -When water is ineffective in removing dust, co-polymers can be used to make the powder inactive. -Installing a tire washing device when exiting the construction site. -Good design of transport auxiliary axes to cause as little pollution as possible during road construction.	KontraArran ge new
Dust i caused by wind on surfaces affected by erosion	During constructi on and exploitati on of	Impact on site, as well even in the area around it	-Control of humidity and its pressure -Coverage of stock materials; Re-vegetation of bare areas there is possible	Kontraakto ri
Noise				
Noise that will be felt during construction works as a result of machinery, work processes, etc.	Tall cONSTRU CTION	On and around the construction site	-Avoid unnecessary work of machines and turn off when you do not ask them to perform a certain job -Turn on the devices gradually and not all at once -Maintenance and inspection of vehicles and machinery on site -Work only at certain times of equipment that finds noises that can affect the receptors -In case of loud noises use the warning system -Use of silencing equipment where required according to the detected noise level -Noise devices such as pumps, generators to be placed as far as possible from the receptors; -Noise isolation when these will be generated near residential areas, schools, kindergartens, hospitals; installation of insulating equipment for the purpose.	Designer Contractor

Noise during operation of en route	Design and use	Impact on the construction site as well as in the area around it	-Minimizing the fall from the heights of the materials -As close as possible to each other equipment Mr.generating dates; -Use of protective layers -Good road design -Prediction of additional noise insulation measures if kjo will be considered reasonable -Various cuts and reinforcements Full or partial coverage of amnesia different tilee -Installing the most noise-insulating windows if you want to be required; -Improvement and noise insulation of cative if required	Client designer
Ecology				
Concerns in ecology	Tall constructi on and exploitati on myths	At the construction site	• implementationii all laws related to biodiversity and protected species • Taking into account the direct and indirect effects that lighting may have, signaling the ecology of the area • GSangia or minimalism as much as possible of cutting down trees • Kujdes during the works in the poultry breeding season • Sipas lighting restriction rules in sensitive areas • Good placement and positioning of machinery on site • GSangi of injuries in watercourses • Applying the best construction methods to minimize the amount of deposited dust •Special ponds for balancing groundwater and surface water • predictionii new areas planted with trees and shrubs of the area or green areas where possible;	designedlike Contractor Client
Concern i turtles from habitat loss	Tall cONSTRU CTION	Impact on construction site, as well as in the area around	• To identify the turtles and to surround them in order to eliminate the accident for their death. •Sic requires the opening of underground tunnels or cliffs which will serve as natural corridors for the safe passage of turtles or other mammals. • The works will be monitored according to Albanian laws	designedlike Contractor Client

Loss of HABITAT	Tall constructi on and exploitati on myths	Impact on construction site, as well as in the surrounding area	• Mbbringing vegetation to create good conditions and encourage the creation of new habitats in the area • Kit is possible to strengthen the natural corridors on both sides of the road • SHabitats should be built with recyclable material left over from the trees to be cut because this prevents the use of new materials but is also more comfortable for reptiles. •Kthe characteristics of the water that will pass through the drains should be in good environmental conditions to serve as habitat and for different aquatic species, creating the conditions for their reproduction. •Ndeconstruction of new tombs to serve as an incoming natural hand harvest-yesleaves for species e	designedlike Contractor Client
Loss of HABITAT	Tall constructi on and exploitati on myths	Impact on construction site, as well as in the surrounding area	•Replacement i newer habitats mainly in polluted areas •Sspecifically in the forest habitats planting of traditional trees of the area •Dry habitats turn into preserved green conifers •In damaged shrub habitats should be planted shrubs with the same characteristics; •In the habitats of arable land or a contaminated land (depending on distance with)	designedlike Contractor Client
Landscape				
Loss of values of landscape	Tall cONSTRU CTION	Impact on construction site, as well as in the surrounding area	•Protection of valuable vegetation and trees there is possible (near street sleep); •Keeping vegetation locally and green areas where possible •Awhere it is possible to cover the sides of the road with vegetation to better adapt to the local landscape; •ukbringing local vegetation to polluted areas to compensate for the loss of vegetation from the road trail •Maintenance of planted areas where possible to ensure sustainable development of the area. •Where possible, proper design should be done so that the transition between the current landscape and the one that will be formed after the construction of the road is as easy as possible. •designingii supporting structures such as bridges, tombino	designed as Contractor Client

Hydrology				
Interventions in soil can lead to increased dust concentration in surface and groundwater.	Tall cONSTRUCTION	INFLUENCE on site as well in the surrounding area HIS	•Minimize exposed soils •Mimitating as much as possible the duration of the discovered soils •Coverage as a priority during the trial of the works •Use of protective fences in exposed areas (soil, building material etc.); •Placement of soil removed during construction on site as far away from water sources or streams	Kontraactor
Pollution of water surfaces from chemical substances and other pollutants	Tall cONSTRUCTION	INFLUENCE on site as well in the surrounding area HIS	•Periodic maintenance and inspection of vehicles that will work on site •Very good storage and storage of fuels and chemicals while maintaining a reserve of 110% capacity •Maintain the necessary equipment for the immediate elimination of small leaks •Leaks from the construction site or tire wash should be collected so that they do not end up in surface waters; and •wizardwastewater must be collected in separate tanks and emptied periodically at designated sites	Kontraactor
Getting off the road of pollutants and taking measures for their non-discharge into groundwater	During constructi on	INFLUENCE on site as well in the area around him	•Where possible external drainage should be collected in special drainage systems to avoid the road •Crossings should be designed in such a way that the average daily flow does not impede the passage over them •Removal of water from the road should be done with an open drainage system, while in sensitive areas this removal should be done with the final sediment treatment system.	Designer Client
Socio-economic perspective				
Expropriations	Design, built Rrtimit, exploitatio n	INFLUENCE on site, as well as in the area around it	•Precise determination of expropriation areas according to applicable laws •Zthe enactment of Albanian laws on public expropriation •A socio-economic plan for expropriated residents; •Develop a monitoring plan according to international best practices	Government of Albania.

6.2 - Evaluation of the effects in a summary way

The summary effects will be a combination of all the effects of the environmental components. The impact of an intervention may not be very significant but in the complex they can be very significant.

The final effect of an activity that may affect the quality of the environment can be defined as:

"Impacts resulting from incremental changes caused by the past, current actions and those foreseen in the future that will accompany a particular project"

The impact summary matrix is a systematic procedure that serves to identify, assess and evaluate the effects of foreseeable ara interventions. Its purpose at the project level is to take into account the growing effects that the project may cause which is the focus of this Environmental Report along with impacts from other activities.

Summary impact assessment is needed at project level The EIA is defined by the European Community Directive "assessment of the effects of certain public and private projects on the environment" (85/337 / EEC) as amended by Council Directive 97/11 / EC.

6.2.1 - Methodology and evaluationt

There are numerous methodologies for evaluating summative effects including the application of models, matricesand threshold analysis. The methodology adopted in this assessment focused on identifying and evaluating sensitive key receptors identified through the EIA process.

The evaluation of indirect and summary effects should be an open process and the results of the evaluation process should be integrated into the design of the project and the application of mitigation measures.

The approved methodology includes three phases:

Phase 1: Determining assessment parameters, identifying key sensitive receptors and summarizing potential impacts on sensitivity receptors

Phase 2: Identify the nature and magnitude of the impact;

Phase 3: Recommendations for mitigation measures.

The first stage of evaluation is the identification of evaluation parameters and the definition of basic data the environment where a project will be applied.

Basic data

The basic environmental data of the study area provide the context for assessing the impacts ofpossible of a project. This assessment has used basic data provided by the literature, consultation with other experts and field research undertaken during the preparation of this PR.

Spatial boundaries of the project area

Defining the geographical boundaries of the project is a key point in ensuring that the project is adequately evaluated. This boundary is defined taking into account the characteristics of the project and its traces as well as taking into account the following factors:

- Availability of basic data;
- Glife of the most appropriate geographical scale for impact assessment (e.g. for landscape assessment).

Phase 1:

The focus of this assessment is to identify key sensitive receptors within the host environment that may be affected by the project. Receptors were initially identified by environmental experts and through consultations the following key receptors were selected:

- Ndescape to socio-economic issues
- Landscape issues
- Local landscape character
- Protected habitats
- Protected species
- Kryroad fires
- predictionii public transport
- Necessary road capacity and forecast
- Rrflood ezik
- Surface water quality removed
- Wgroundwater weaving and the risk of pollution
- Ndnoise escape
- Tcultural heritage and archaeological resources
- togethera and agriculture

Movesimilar illime

No other development of any similar road project in this area is foreseen. As a result, all assessments will be made according to the current conditions and the impacts will be calculated for the exploitation phase.

Phase 2

Phase 2 of the assessment assesses the nature and extent of the potential impacts identified in phase 1.

Nature of Impacts

The nature or type of impact identified by consulting with other experts as well as the field humiliationfor this project. This phase focuses specifically on identifying the type of impact "which may increase the overall importance of an impact on a sensitive receptor when considered together.

Impact assessment

The potential impacts of the project are assessed in each of the technical sections within it PM.

Phase 3

The mitigation measures described at this stage and included in the design of the project show that for most of the potentially significant effects predicted, the residual effects are negligible and also identify the effects of the Proposed Development on the sensitive receptors described above. .

Effectsidentified by sensitive receptors

Recepsensitive networks	effecthe remaining eight
Effectst socio-economic	↗
Peizashi	↘
Karakteri of the local landscape	↘
Biprotected messiah	Ø
Fuanae protected	Ø
patha and bearing capacity	Ø
the forecastmi i public transport	↗
risku by floods	↗
Ndotja of surface waters	Ø
Ndotjof groundwater	Ø
its influencemi of noises	↘
Archeologya and inheritance kultural	Ø
togethera and agriculture	↘
Total	↗

↗-its influencem positive↘- its influencem negative Ø-neutral

No negative impacts are predicted from the result of the overall evaluation of the project. No mitigation measures no additional will be required on those identified in this report and already integrated as part of the project.

This summary impact assessment has examined the growing contribution of the proposed project togetherwith potential impacts from other nearby developments.

The assessment focused specifically on the sensitive receptors identified through the project's Environmental Impact Assessment as well as examining the nature and significance of any potential impacts that may arise on these receptors. The impact assessment summary was considered throughout the EIA process and as such, many of the impacts mentioned were included in the proposed mitigation measures.

Principles of waste minimization

Inventory management systems will be updated to determine product consumption, provide documented data for each stage of the waste chain process, and identify potential losses and overconsumption.

An inventory will be stored for all waste that has been produced and disposed of (type and volume), based on the inventory of the periodic review.

Separation of solid waste according to the defined classification

Waste generated during the construction phase can be classified into four categories for disposal:

- inert (and, construction waste, unused construction materials, etc.),
- consumers,
- oily & hazardous and liquid.
- Metal containers / bins will be combined with types of waste (cardboard, plastic, metal pieces, oily, hazardous if any, etc.), in order to enable separation.

The waste will be separated from the camp staff and the staff who will handle the waste will be trained. Through "procedures" employees will be instructed on waste treatment at construction sites and camps. Companies providing services will go through a qualification process and will be audited during the period they provide the service.

Solid waste depots

A space for daily waste storage will be created on the construction site, consisting of metal containers / bins. At the end of the working day the waste in metal bins will be transported to the camp area and put in the warehouse.

The depot will be in the camp and partially covered with a roof. Metal bins for oily waste or other hazardous waste will be waterproof.

Procedures for filling car tanks and treating hazardous waste / materials will be defined prior to commencement of construction.

Waste reuse / recycling opportunities

Waste will be disposed of according to local regulations and recycling materials that processed in Albania. Recyclable materials will be collected regularly by local companies, certified by the relevant authorities (Ministry of Tourism and Environment).

Most of the excavated soil will be used to replenish the canals.

There is a possibility that excess soil will be distributed and contoured along the road trail. The bentonite clay used in the no-digging (GDH) crossing method will be recycled.

Waste transfer

Waste transfer will be performed by certified companies; the vehicles will have all the equipment, taking into account the type of waste to be transported. Waste export is not foreseen.

Final disposal of waste

Only companies certified by the relevant authorities (Ministry of Tourism and Environment) will be used for waste disposal; A list of companies certified for waste management has been provided by the Ministry of Tourism and Environment, which confirms that it will be possible to manage and dispose of all possible waste of construction and operation on the premises within Albania. This process will be fully coordinated with the responsible authorities.

Inert waste, which does not pose a risk of pollution, will be disposed of in a controlled disposal area. Other waste will be transported to a designated area by the municipality for waste disposal.

Oily and hazardous waste will be disposed of by contracting firms specializing in spaces that have been equipped and approved for such waste.

Liquid waste will be collected through a special wastewater discharge system in port areas and directed to the public wastewater system.

Specifics of hazardous waste management

In order to ensure protection for the environment and human health, the collection, transport and storage of hazardous waste will include measures to provide documented data for each stage of the waste chain process from the area where it is produced (mainly on site). of construction) to the final area where they will be destroyed.

Transport of hazardous waste should be performed only with vehicles that:

1) have the appropriate equipment for the type and amount of hazardous waste to be transported

2) are safe to use on the road and

3) have previously been registered for this purpose with the relevant authorities.

Waste registration process

All waste will be recorded after each phase of this management plan: separation / separation, storage, transfer and acceptance in the disposal area.

The contractor will create opportunities to provide documented data for each stage of the chain process, especially hazardous waste.

Waste management will be maximized in an ongoing process and this plan will be reviewed periodically throughout the construction phase.

Eventually, the plan will include provisions for training all employees on how to use it

EMP and will include procedures related to communication with stakeholders and possibly to improve community conditions.

7 – Plan of environmental protection measures

7.1 – Emergency Response Plan (EMR)

The Emergency Response Plan (EMP) describes in a document the actions and procedures according to the specific area, which should be undertaken in emergency situations that occur during construction and operation.

The objective of the PRE is to be prepared to respond to disturbances, accidental and emergency situations in a manner appropriate to operational risks and to prevent their potential adverse consequences. The construction company will implement the requirements of the EBRD strategy (paragraphs 18–22 of KP4) to identify the risks of major accidents, to prevent major accidents and to limit their consequences on people and the environment, with the aim of to guarantee high levels of protection in a constant and effective manner.

The PRE will clearly present the difference between all phases of the project, as the measures to be taken will be different during construction, operation and maintenance (decommissioning will take place many years later and therefore a separate PRE will be drafted, in accordance with the relevant requirements in that period).

The PRE will address land and sea incidents and related response scenarios.

The content of the PRE can be summarized as follows:

- → Provisions of Albanian legislation on civil emergencies
- → Detection of relevant hazards (ie natural disasters, civil unrest, landslides, fires or explosions, equipment malfunctions during processes, pressure problems, etc.) in connection with the construction of the enclosed structure and the installation and operation infrastructure as well as potential impact on the environment and health
- → Identification of government authorities, media and other relevant stakeholders to be notified and communication procedures with them
- → Necessary measures to limit the consequences on people and the environment related to construction / reconstruction accidents of this axis; cooperation between local and central authorities, as well as regional structures and local communities, as described in the Law on Civil Emergencies and based on international best practices;
- → Describe technical safety measures as well as appropriate measures to protect the public or property from potential hazards; methods of lessons learned from pipeline accidents
- → Preliminary description of the organizational structure and explain the interaction with the project and operational procedures
- → Preliminary identification of the system and procedures for providing accommodation in a safe place, evacuation, rescue, medical treatment and repatriation of staff, and
- → Preliminary description of training activities and measures for training response teams and testing of emergency systems and procedures.

Finally, the plan should include provisions for training workers on emergency response procedures and will provide information on internal and external interconnection during an emergency response.

7.2 – Plan of socio-economic measures

Reducing the socio-economic impacts from the construction project of this road segment from the entrance of the city and the inner roads of Lura includes efforts to avoid misunderstandings about long-term employment of local workers, educating the population on the non-speculative nature of project construction in words, avoiding conflicts with landowners given the compensation as well as the respectful treatment of the inhabitants of the area.

The competent authority for issuing this construction permit will do and continues to do a planned and careful work, identifying the areas will extend the project area as well as their real values from the mortgage register of the area.

For any surprises that may occur during the implementation of the project, the operator will take measures to notify the local government authorities and act in accordance with applicable Albanian law.

In the past, Environmental Impact Assessment has focused on the direct and indirect impacts of biophysical transitions of proposed developments (eg impacts of development activities on water,

air, soil, flora and fauna.

In recent years, the impacts of social, cultural and economic development have also taken on importance, having the same importance as other impacts.

Social and economic issues are an important component of the systematic analysis used duringESIA to identify and assess the potential socio-economic impacts of a proposed development on the lives and current affairs of people, their families and communities in general, ie whether these potential impacts are significant or not. Social Impact Assessment (VNS) can help developers or other stakeholders in the project find ways to prevent, minimize or eliminate the negative impacts that will occur. The ESIA can identify and distinguish the many measurable impacts of a proposed development but not every impact can be significant.

People can be directly or indirectly influenced, have a role or if the project affects the socio-economic components. So VNS tends to focus on avoiding negative impacts and also provides an opportunity to plan and maximize the beneficial impacts of a proposed development.

Beneficial impacts may include:

-A better standard of living due to increased access to employment, business opportunities, training and education;

-Reduction of distances

-Increase funding for the improvement of social infrastructure and cultural programs.

Important steps of the ESIA are the specific definition of the impacts that the project brings to the region. The ESA examines the socio-economic components of value before the project and how these components can interact with the components of a proposed development. For example, a socio-economic impact is when communities directly affected by a project that seeks land expropriation are allowed to move into appropriate housing and property.

These processes can be accelerated or mitigated by considering the following measures:

Having large labor camps near communities affected by expropriation

Employing residents of the areas near which the project is located

-Increasing income for the community

Interweaving of different cultures.

7.2.1 - Socio-economic management plan

The purpose of a socio-economic management plan (SMP) is to develop feasible andcost effective as low as possible in order to reduce the negative socio-economic impacts identified to acceptable levels. A study evaluation is an important tool to capture and include considerations that may have significant effects on project developments. It provides the framework for in-depth studies of an EIA and mitigation measures.

These management plans will address the specific impacts identified. They will include budgets, roles and responsibilities for its full implementation and will include key topics such as:

→ Assistance to impact groups
→ Grievance mechanisms
→ Flow of management plan
→ Monitoring and evaluation plans
→ Community awareness plans
→ Daily communication about plan activities
→ Resettlement action plan (if any)

Any infrastructural development may require the expropriation of land and in the course of the project there may be such and will involve small amounts of land owned and / or used by many people. To date, the expropriation process has been systematized only by paying for the loss of land based on its size.

During the construction phase but also the exploitation there may be some indirect impacts but that should be taken into account. In this context, a health management plan needs to be developed. Summarized in one this plan will include the following components.

controvhealth jet	**Regulations and standards for you implemented**	**Vhealth plan improvements**
Excellenceae of air from pollution fand the noise of vehicles	Internationally accepted norms for the types of accommodation	Specified in the relevant chapters
Construction of traffic management infrastructure	BB / IFC standards	Traffic analysis, taking normalization measures when possible.
laneee emergency	All roads must have the necessary infrastructure for ambulance	Spthe necessary details of the project
Armui work	Bank Guidelines and Advice World	contractingt and subcontractorspber enforce national health rules
Traffic safety	World Bank, Albanian Salary Code	Detailed plan for ambulances, behavior of drivers in traffic, emergency services, speeds, etc.

Emergency forecasting	World Bank	Detailed plans with the police and other institutions for cases when the transport of hazardous waste or explosives or the movement of
Time of arrival of the ambulance	PRACTICALa different	Time defined in the road code of Albania.
Warning	PRACTICALa world	Workshop for education on the observance of traffic rules

7.2.2 - The purpose of socio-economic evaluation

The main purpose of VSE is to identify impacts as well as find ways to mitigate them. The three main factors that determine the impacts on the socio-economic situation of a proposed development during the ESIA are:

- Level up to what stage the ESIA study will be conducted
- Nature and degree of development proposed;
- Ksocio-economic context of the proposed development.

International practice defines 6 stages for an accurate process of socio-economic analysis:

1. STUDY

A preliminary analysis that identifies priorities, obtains the required information and integrates them into the design ofVNMS. Preliminary and effective study narrows the focus of the ESIA on issues of paramount importance.

2. Profiling of basic conditions

Focuses on gathering information about the socio-economic environment in the context of the development ofproposed. This may include the determination of measurable indicators of components of socio-economic value.

3. Predicted impact

Based on analysis of information gathered from scanning basic profiles and experiences of to anticipate potential socio-economic impacts. Identifying the relationship between the negative and positive impacts of a proposed development is part of this analysis.

4. Identify ways of mitigating the impact.

The predicted negative impacts require mitigation. Mitigation includes strategies, plans and programs to reduce, avoid or better manage potential impacts.

5. Assess the significance of the impact

Includes determining whether a proposed development has the premise to cause significant adverse impacts on valuable socioeconomic components. If appropriate mitigation measures cannot be identified, the proposed development may not be approved.

6. Application of mitigation and monitoring of mitigation measures

The best way to mitigate socio-economic impacts requires good monitoring programs to ensure the impact mitigation is working effectively and when necessary, mitigation measures can be adapted as required.

7.2.3 - Recommended socio-economic and health measures

•prioritytyt for employment of area residents in order to reduce unemployment and increase income

•Kontraaction with companies in the construction field area for cooperation opportunities

•togetherworking with the regional employment office for ease in finding the right workflow

•workingof local residents in order to reduce the cost of transportation or accommodation

•prioritytyt use of area products for food, which could also serve as a good marketing of the area and increase revenue for its residents.

Recommended measures in terms of health:

•implementationii technical safety rules and training of workers and staff of the company on safety at work.

•Mbajtja in readiness of an ambulance corner and relevant means for this purpose.

•MbaCompulsory helmet and other appropriate means, according to the place and work processes

•Emergency contact numbers should be published in visible places in the workplace.

•Appropriate hazard warning signs should be placed in places where there is a risk of accidents. These territories should be surrounded by easily recognizable obstacles.

•Employees will be employed in compliance with Albanian laws, and the contractor must comply with the requirements for optimal hygienic-sanitary conditions specified by legislation. The employer must guarantee health insurance

Any infrastructural development may require the expropriation of land, and in the course of the project there may be and will involve small amounts of land owned and / or used by many people.

to to date, the expropriation process has consisted only of paying for the loss of land based on its size.

The investor is obliged to set up the system of prevention and control of accidents, to avoid consequences for life, human health and the environment. For the realization of this obligation the investor will take effective measures such as:

⇒ Securing the workplace according to the technical rules in force.

⇒ Implementing normal working hours and rest so that the employee does not lose attention.

⇒ Working in noise environments for a limited time in order not to damage employees working under these effects.

⇒ The live equipment will be insulated, the employees who will work in these equipment as well as pressure equipment must be pre-instructed and dressed in certain special clothes.

⇨ In order to guarantee the protection of life and activity from fire during the process of activity development, it is designed to install fire extinguishers in each environment and an independent fire protection system will be built in case of need in accordance with the Fire Protection Conditions approved by The proper instruction of the employees who will work in electrical appliances and other equipment has been done by the responsible person. *Nonetheless* , there is a possibility of an accident, because:

- from loss of employee attention a fire may occur.
- due to carelessness in the use of work machinery during construction, employees may be injured by limbs.
- When working with the lifting machine of vehicles, the electric metal neure requires high attention and great care as employees can be injured as a result of loss of attention during working hours.
- during the transport of both solid and liquid waste, loads must be secured carefully so that there is no leakage or drop of load from the transport vehicle due to small gauges of details.

Potential hazards caused by chemical agents, oils, fuels, etc. must be eliminated. or reduced to a minimum through the following measures:

a) design and organization of work systems in the workplace;
b) supply of tools suitable for specific works and relevant maintenance procedures
c) reducing to a minimum the number of workers who are or may be exposed;
d) minimizing the duration and intensity of exposure;
e) proper hygienic measures;

The measures taken and to be implemented by the investor are sufficient to reduce the potential risk.

The main purpose of socio-economic assessment (SEA) is to identify impacts as well as find ways to mitigate them.

The three main factors that determine the impact on the social situation-economic aspects of a development proposed during the ESIA are:

→ Level up to what stage the ESIA study will be conducted
→ Nature and degree of development proposed;
→ Social context-economic development of the proposed.

International practice defines 6 stages for a precise process of social analysis-economic:

1) Study

A preliminary analysis identifies priorities, obtains the required information and integrates it into the ESIA design. Preliminary and effective study narrows the focus of the ESIA on issues of paramount importance.

2) Profiling of basic conditions

Focuses on gathering information about the social environment-economic in the context of the proposed development. This may include defining measurable indicators of socially valuable components- economic.

3) Predicted impact

Based on analysis of information gathered from basic profile scans and international experiences to predict potential social impacts-economic. Identifying the relationship between the negative and positive impacts of a proposed development is part of this analysis.

4) Identify ways to mitigate the impact.

The predicted negative impacts require mitigation. Mitigation includes strategies, plans and programs to reduce, avoid or better manage potential impacts.

5) Assess the significance of the impact

Includes determining whether a proposed development has premises to cause significant negative impacts on socio components-economic value. If appropriate mitigation measures cannot be identified, the proposed development may not be approved.

6) Application of mitigation and monitoring of mitigation measures

The best way to mitigate social impacts-economic requires good monitoring programs (also known as folloë-up) to ensure impact mitigation is working effectively, and when necessary, mitigation measures can be adapted as required.

Recommended measures in the socio-economic aspect during construction:

- ☞ priorityt for employment of area residents in order to reduce unemployment and increase income
- ☞ Kontraaction with companies in the construction field area for cooperation opportunities
- ☞ togetherworking with the regional employment office for ease in finding the right workflow
- ☞ workingof local residents in order to reduce the cost of transportation or accommodation
- ☞ priorityt use of area products for food, which could also serve as a good marketing of the area and increase revenue for its residents.
- ☞ Implementation of technical safety rules and training of workers and staff of the company on safety at work.
- ☞ Keeping an ambulance corner and related equipment ready for this purpose.
- ☞ Compulsory wearing of a helmet and other appropriate means, according to the place and work processes
- ☞ Emergency contact numbers should be published in visible places in the workplace.
- ☞ Appropriate hazard warning signs should be placed in places where there is a risk of accidents. These territories should be surrounded by easily recognizable obstacles.

- ☞ Employees will be employed in compliance with Albanian laws and the contractor must comply with the requirements for optimal hygienic conditions-sanitary specified by legislation.
- ☞ The employer must guarantee health insurance

For the normal functioning of this activity in order for the work to proceed in accordance with the legislation in force and in the modern service, as the only existing way, it becomes necessary the technical insurance of employees and specialists according to the regulations in force as well as health and social insurance theirs. Without the realization of these tasks the functioning of the facility can not be understood. For this reason we recommend that the technical instruction be done according to the regulations in force.

Taking care to minimize the negative effects and increase the positive effects, the investor will develop the construction activity of this facility by improving the working conditions and specifically:

- For the protection of workplaces and the environment from dust created during work, all measures have been taken to minimize them.
- For polluted and wastewater in the squares and connecting roads of the service, the surface water will be drained in the open canals for this purpose and discharged in the designated canal of the facility or in the side canal according to the permit that will be obtained for this purpose.
- To eliminate risks during power supply all equipment operating under voltage has been earthed.

7.3 – Summary of mitigation measures, compensation and increase of measures

In identifying mitigation measures, emphasis is placed on pollution prevention techniques which include cleaner technologies and waste minimization.

The technologies identified are part of a wide range of technologies used that are considered to be current best practices for the purpose of setting a emission limit value for polluting gases or dusts. Other measures and improved practices of material processing and storage will also be undertaken in order to reduce gas emissions. Environmental management and control will focus on continuous improvement of procedures in order to prevent, eliminate and / or progressively reduce negative impacts on the environment.

The main objectives of ecological mitigation are to take measures to avoid or minimize impactsnegative of the scheme on the existing value for the protection of the nature of the area both during the construction phase and operation. Where adverse impacts cannot be avoided or mitigated, it will be necessary to improve the value of nature through the creation of compensatory habitats suitable for the locality.

The output of the rating scale is to determine the significance of the residual effects on the various characteristics.

The location of land available for compensation measures only with habitat creation principles which are prescribed to compensate for habitat loss remains uncertain. Places to be done can not

be promised without getting the necessary financial guarantees.

As a general principle for achieving mitigation and compensation is proposed:

7.3.1 – Mammals

Species of mammals present and their ecological value are defined in the European Directives of Habitats and Birds

Habitats Directive EC

In 1992, the European Community adopted Council Directive 92/43 / EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (EC Habitats Directive). This is the means by which the Community fulfills its obligations as a signatory to the Convention on the Conservation of European Wildlife and Natural Habitats (Berne Convention). The provisions of the Directive require Member States to integrate a range of measures including species protection to undertake habitat and species surveillance and to produce a report every six years on the implementation of the Directive.

Poultry Directive EC

In 1979, the European Community adopted Council Directive 79/409 / EEC on the conservation of wild birds, in response to the 1979 Berne Convention on the Conservation of European Habitats and Species. The directive provides a framework for the conservation and management of wild birds in Europe. It sets broad objectives for a wide range of activities although the precise legal mechanisms for achieving them are the responsibility of each member state.

Degree of Impact

To assess the magnitude of the impact of the scheme, by the International Road Agency have been determinedanalytical conditions that serve as standards on the degree of impact, from "no impact" to "major change". These criteria take into account direct habitat losses and ecological characteristics occurring from land acquisition for roads and perceived indirect impacts such as habitat pollution and fragmentation.

Characteristics and reason for evaluation

Characteristics	**Features of important contained in this habitat**	**Heavy speciespresent present nof this habitat**	**Value**
Pstardom Findinghegjerë	Annex to the EU Habitats Directive	Annexes I and IV of the EU Habitats Directive Turtles, bats, woodpeckers, etc.	more e up
bush	Important habitats at the level loka	Annex I of the European Directive on GSBirds of the Fields Annexes II and IV of the EU Directive on Habitats and Red List Species - Non-venomous snakes	Mesatare

Fieldt e produce vegetationwind	Important Habitat ithith the LSA	Annexes II and IV of the EU Directive on HABITATS Turtles Annex I of the European Poultry Directive - Falcons, migratory birds	Low
streams waterways that also serve as corridors	Important corridor along road trail	Annexes II and IV of the EU Directive on Habitats Turtles, toads or other species that use natural corridors Annexes II and IV of the EU Directive on habitats - turtles, turtles	more e up
Zvarranretreating	Shrub forests, water ponds	Annex IV of EU Habitats Directive: Balkan green lizard lizards red list species non-venomous snakes	mesatare
Mammals	woods	Annex II of the EU Habitats Directive- roe deer, rabbit (also in annex V)	Mesatare

Criteria for determining the degree of impact

Degree of impact	**description**
High negative	The proposal may adversely affect the integrity and function, in terms of the coherence of the ecological structure and functioning throughout the area, or of the supporting components of the habitat, or that conflicts with the interests of the community
Average	The integrity of the area will not be adversely affected but the effect on its functions may be significant in terms of its ecological objectives. If this impact is not clearly defined even though we may have complete data then this impact will be considered as a major negative.
E ulet negative	When none of the above scales is applied and when there are minor impacts on the ecology
Not important	Very small impacts
No change	There is no change in ecological values

Mitigation measures in the project:

FEATURES	**Mitigation measures for the project**
Turtles, reptiles, small mammals	Tubes or tunnels to be installed as part of the new school to be suitable for the passage of turtles, reptiles and small mammals to reduce their death toll

The very practical application of mitigation measures summarized in the table below requires the following actions:

Table 6.2 Mitigation measures during the construction of the facility

ACTIVITY	Potential impacts	Mitigation measures
Works on land. Disposal of liquid waste.	Potential water pollution	On-site treatment of liquid waste. Disposal of this waste will not be allowed
Various construction works on the ground Water drainage	Penetration of sediments, oil and grease in nearby watercourses	Water contaminated with water must be directed to the water heater (OES) inside the plant. Separation of all waste oil and lubricants from the maintenance of construction equipment and their proper removal. Construction and maintenance of equipment for it left rainwater from the secondary supporting structures and remove oil from the surface of the accumulated material.
	Dust release from construction equipment	Neighborhood of roads and squares of vehicles
Preparation of squares and its structures	Release of combustion fumes from equipment	Regular maintenance of construction tools and their limited use.
Earthworks, distribution of equipment and materials	Heavy traffic and dust added	Coverage of vehicle load, wetlands and access roads, limited use of vehicles.
Preparation of squares and various construction activities	Noise and equipment	Regular maintenance of vehicles, to aim to work during the day and to use equipment according to the norms.

- Environmental issues will be the object of a section of implementation character for the construction company and the administrator of the object during the use of this

building

- The Technical Implementation Specifications will include all the necessary references to the Construction Area Management Best Practices mentioned in Table 6.2. The specifications will cover the respective parameters from the environmental point of view, such as casting limit for excavation works, characteristics of gravel material, construction methods, equipment requirements, etc.
- The above documents must be part of the contractual documents and will be followed correctly by the selected contractor
- Supervision of works will be performed by experienced personnel in order to monitor compliance with the required specifications

7.3.2 – Assess the importance of effects and mitigation principles

An assessment of the significance of the mitigation effects of the scheme is carried out for each important ecological function (on which there is a potential to generate an impact), to enable an assessment to be undertaken of the significance of the effects. in ecological sources as a whole. The initial assessment by calculation and mitigation measures are summarized in the Table below.

Characteristics ecological	Value / sensitivity of spring	The degree of impact of scheme at source	Meaning of effect
woodst broadleaf	Very high	Moderate	Big negative
bush	middleatare	Small	Easy negative
SCOPEgreen father	Low	Small	Easy negative
Watercourses and natural corridors	Very high	Moderate	Big negative
REPTILES	middleatare	Big	Big negative
Mammals	middleatare	Big	Moderate negative

Species-specific

Mitigation measures required to meet the requirements of the laws are mandatory.

Turtle .It should be considered that before construction begins, turtles living on the site of the proposed route dshould be assembled and held in a semi-natural wall near the construction site before work begins on its opening in order to prevent mortality during construction. After construction site these can be released again.

Planting native vegetation and the provision of habitats for important species should be considered

Ecological component	Value / sensitivity of the source scheme at source	Impact rate of Description	effects
Pyll broadleaf	Very high	Low	Moderate (negative)
bush	middleatare	Low	Light (negative)
Livadhe	Low	Low	Light (negative)
Watercourses or water corridors	Very high	Low	Moderate (negative)
Vicearraniket	middleatare	Moderate	Moderate (negative)
Mammals	middleatare	Low	Light (negative)

planting vegetation along the road axis as specified in the landscape chapter.

Additional recommendations the following ecological measures could be implemented:

-Vegetation planting should allow the creation of appropriate spaces to encourage the development of a terrestrial flora and provide suitable habitats for a number of fauna species; therefore planting should not be too dense and some areas within a forest or shrub area should be left uncultivated. Where possible, planting areas should be connected to form natural corridors that will direct wildlife away from the road main.

Placement of wooden poles .To ensure the climbing of small reptiles and rodents on steep slopes, some wooden poles should be placed which can be produced from the remaining materials as a result of possible deforestation from the opening of the road trail.

Lateral water flow channels should be designed in order to be as friendly as possible with the environment to create the possibility of increasing vegetation and aquatic fauna as well as to enable suitable water resources for the mammals of the area.

Underpasses or culverts should be as convenient as possible as well as allow water passage in order to ensure the movement of mammals adapting as natural corridors. All new plantings should be indigenous plants in order to adapt as well as possible to the landscape.

*Creation of additional habitats.*This means total compensation of the deforested area in a new habitat but this should happen when the necessary verifications of the damaged area and vegetation are performed and finding suitable land for the process. This habitat should be of the following composition: topsoil, forested area, uncultivated land. The same can happen with the creation of wetlands by planting shrubs and the creation of natural habitats.

7.3.3 – Mitigation principles in ecological systems

Among the main mitigation principles for ecological systems we can mention:

- Respect for all Albanian laws and the conservation of the species of the area
- Careful consideration of the location of new structures, to avoid direct and indirect effects on the characteristics of the ecological values of the area.
- Avoiding and minimizing cuts beyond the current road alignment during the vegetation clearing process during construction works.
- Avoiding works for cutting vegetation during the growing season as well making noise during this period.
- Avoid using strong lighting at night to avoid damaging species or nocturnal mammals.
- Installation of special structures for the normal movement of reptiles
- Construction of dry underground canals for the passage of mammals under the road
- Careful installation and as little noise as possible generated by the equipment on site
- Avoidance of surface water pollution by dangerous pollutants (hydrocarbons, salts, chemicals)
- Applying the best construction instructions during road construction, such as: using rollers to suppress dust during the dry summer months, applying speed limits at construction sites, to reduce the impacts that come from depositing dust.
- Balancing drainage systems for the best possible separation of the water surface with the land surface.
- Providing new areas for planting trees and shrubs where the road allows working in conjunction with landscape management proposals
- Consider identifying broader compensation options such as providing new habitat areas for important species.
- Monitoring areas where mitigation measures have been applied to assess their success and fair management in the future

7 .4 – Traffic management plan

A Traffic Management Plan (PMT) will be designed to manage the traffic generated during the construction phase of the project, to minimize traffic disruptions and delays of road users, and to provide ongoing safety for road users. road, including pedestrians and cyclists. All of the traffic-related impacts previously described can be mitigated very effectively by implementing standard best practices regarding environmental controls and management practices during construction. These measures will be presented in detail in the PMT, which will describe in detail the measures that the contractor will implement during the construction phase of the project.

The contractor must regularly update his Traffic Management Panel, while drafting the construction method and identifying in detail the requirements for the movement of vehicles.

A PMT is important to ensure the safety of construction personnel and workers

sve to the shipyard. The aim is for the PMT to be a 'living' document and its traffic management principles will form the basis for the detailed follow-up measures to be taken between the contractor and the authorities managing the highway for the management of construction vehicle traffic. according to and when the contract for the construction site is assigned.

The PMT will include the following minimum requirements:

→ Levels of development in relation to the construction tools that will use the road network.
→ Measures in the area to enter the works corridor and inside the works corridor.
→ Identify key sensitive elements along the proposed roads leading to the area.
→ Identifying, demarcating and constructing all roads leading to the construction site.
→ Measures to minimize clutter during the construction of new or modified road infrastructure (eg time to be completed, lane works, set of road signs, road diversions and publication of road diversion notices) .
→ Measures to provide ongoing safety for road users, including pedestrians and cyclists.
→ Training requirements for project vehicle drivers regarding road and environmental safety.
→ Calendar of Project activities.
→ Roles and responsibilities for PMT implementation.
→ Measures to stop the driving of vehicles "on unpaved roads".
→ Speed limits and methods of their implementation.
→ Tools to inform the community about traffic risks.
→ Vehicle equipment.
→ Maintenance of vehicles and places for refueling.
→ Inspection, control and reporting.
→ Driver skills.

To meet the minimum PMT requirements the contractor will:

⇒ Assign heavy construction tools to move on roads suitable to and from the works area.
⇒ To control and supervise the arrival and departure of construction vehicles from the entrance of the construction site.
⇒ Identify the persons in charge of performing and managing the procedures.

8 – Environmental Impact Monitoring Plan

Monitoring activities will only relate to the construction phase, as in action one of the potential environmental impacts will not worsen the current situation.

The activities will start during the mobilization phase, before the start of the works or any real works activity, in order to have basic values to compare with the values obtained during the construction phase.

Activities will also continue after the completion of the works, to verify that any impact during the construction phase is no more.

The detailed definition of activities will be made as a priority before the preparation of the project area, and will be presented and discussed with the competent authorities for approval.

The same authorities are expected to issue guidelines on the initial values for the monitored parameters, in order to determine the need for the mitigation measures foreseen in the previous chapter.

In full coordination with the Construction Contractor, a qualification plan will be drafted for all staff to be engaged on the project site during the construction of the Structure.
The training will include familiarity with existing environmental conditions, potential environmental impacts from the construction project, implementation of specific mitigation measures to minimize or eliminate negative impacts and general environmental protection measures.
This plan provides for general environmental protection measures, ie for everything that may happen accidentally or intentionally inside the square that will constitute the construction site of the terminal.
A monitoring plan is planned to be made to monitor operationally the excavation and storage of materials of this excavation if any filling will be needed both outside this territory which should be done under really strict monitoring conditions.
Specified requirements and ways of monitoring are given above in which for each component are given mitigation measures as well as monitoring phases in order to be as clear as possible in this report. Respectively, the monitoring methods are found in the above-mentioned chapter listed as follows:

component environmenta	**methods**	**Vlocation of points tof measurement /**	**Frequency of receiving SAMPLES**	**responsible**
watermarkt undergroun d	Sampling in watercourses and physico-chemical analysis of	wizardpiezometric eti in location of certain	During construction and operation	Kcontractor Klientity DRM
Qualityae air (dust)	Emission measurement	Dust monitoring network	Sipas Albanian laws	Kcontractor Klientity
Qualityae air	Gas sensors	Emissions monitoring network and monitoring of sensitive areas around the site	Regularly during construction and operation	Kcontractor Klientity DRM
noise	Monitorimi i Mr.persimmon s and vibrations	peaka selected midis source of noise / vibration and receptors	Regularly to see if has exceeded the norms Monitoring after the opening of the road (after 3,6 and 9 months).	Kcontractor Klientity DRM
Ecology	survey	New habitats of newly	2 times a year in spring and in winter to see the stage of addition of species to new habitats and vegetation.	Klientity DRM
Landscape	survey	Zonenew to ukjella	Monitorim as the case may be observedr if everything went as planned	Kcontractor Klientity

The purpose of this monitoring plan is to document the current environmental conditions as well as the excavation and deposition operations of the materials from a technical and environmental point of view. As a mini mum this monitoring plan should address the assessment of current environmental conditions, sediment disintegration, environmental analysis of excavated material samples, qualify monitoring program staff and the responsibilities of this staff. In identifying mitigation measures, emphasis is placed on pollution prevention techniques, which include cleaner technologies and minimization of waste generated. The technologies identified are part of a wide range of technologies used that are considered to be current best practices for the purposes of setting emission limit values for polluting gases or dusts.

The environmental monitoring program is focused on the following elements:

- Adherence to the orientations of the management plan;
- Adherence to technical specifications;
- Respecting the Albanian legislation and the Guidelines of the new Botero Bank for the preservation of the welfare and health of workers and residents, their insurance, etc .;
- Preserving the lives of workers and residents;
- Observance of discharge norms in the environment.

Mitigation measures during the construction of the facility

aCTIVITY	Potential impacts	Mitigation measures
Various construction works on the ground. Disposal of liquid waste	Potential water pollution	On-site treatment of liquid waste. Disposal of this waste will not be allowed
Various construction works on the ground. Water drainage	Penetration of sediments, oil and grease in nearby watercourses	Water contaminated with water must be directed to the water heater (OES) inside the plant. Separation of all waste oil and lubricants from the maintenance of construction equipment and their proper removal. Construction and maintenance of equipment for it left rainwater from the secondary supporting structures and remove oil from the surface of the accumulated material.
Preparation of squares and its structures	Release of combustion fumes from equipment	Regular maintenance of construction tools and their limited use.

Movement of vehicles for transportation of construction materials	Heavy traffic and dust added	Vehicle load coverage, wetlands and access roads, limited use of vehicles according to a previously compiled schedule
Earthworks, distribution of equipment and construction materials	Dust, noise and increased traffic	Regular maintenance of vehicles, to aim to work during the day and to use equipment according to the norms.
Completion of works	Aesthetic appearance	Adjustment, return to previous state and greenery

Envirnmental parameters	List of parameters to be measured	Methodology of measures	Location	Frequency	Responsible authoritys
Qualityorof water	● COD, BOD, (O2 mg/l) others (according to Albanian laws and European norms in force), ● sasiaof water to be used during construction and operation (m3).	Manual sampling of physico-chemical analyzesof water	networkpiezometric ti Raised for this purpose	● sipas laws in force,swhenever there are suspicions of pollution, or technological accidents	conetractors, Clients, DRM
Qualityorof air	● Gas release (NO, CO, SOx); (according to Albanian laws and European normsnof power) ● Dust release (PM10); (according to Albanian laws and European normsnof power)	Measuringof emissions, gas sensors	Sistopic of dust monitoring, emission monitoring in areassensitive	regularlyt during construction and operation according to Albanian laws and directivesto BE	conetractors, Clients, DRM
noiset and vibrations	levelofof dB (A) noise, depending on the distance from the square of the building and special sectors within it; (according to Albanian laws and European norms in force).	monitormOf noises and vibrations	N of the key point between the noise source and the receptors	monotorim here pas hereseven during operation at full capacity of noise equipment.	conetractors, Clients, DRM
Biodivercacy	Hectare and typeof vegetation; hectares and type of endangered areas; number, type and density; number of animals; traffic density; the number of accidents and the relationship between them and the number of animals and traffic density.	monitorm here pas here	nearof the construction site	monitorm occasionally according to the laws	conetractors, Clients, DRM

togethera agricultural	● Hectaresoccupied by constructions; tons / hectare of displaced land cover for the opening of the construction site. Urban Urban planningin the area ● Lejaof honor ● Roadsof passage to the object ● Planetof land use during construction and operation of the facility ● Plansof environmental rehabilitation after the construction phase	monitorm here pas here	nearof the construction site	monitorm occasionally according to the laws forfirst land use according to the project	conetractors, Clients, DRM
Security on work	● Security measures on site; . Placement of signs, wallsof protective fences, etc. ● Trainingof employees.	MonitoringDaily	nearof the construction site	As per technical security laws and regulations	conetractors,
heritagea cultural	Physical conditionTheirs	widowerzhgime occasionally	nearof the construction site	during thew construction and exploitation	Municipality, DRM
city hall	Physical conditionof landscape	widowerzhgime occasionally	nearof the construction site	during thew construction and exploitation	city hall, DRM

- ☞ The above documents will be part of the contractual documents and will be followed correctly by the selected contractor
- ☞ Supervision of works will be performed by experienced personnel in order to monitor compliance with the required specifications.

8.1 - Content of Environmental Impact Monitoring Plans

In order to carry out a fully controlled construction and exploitation activity, to prevent possible negative impacts on the environment as well as to take the necessary measures to avoid the consequences of these impacts, it becomes necessary and essential to monitor:

- ✓ the process of demolition and excavation for the foundations of this building
- ✓ pollution of the terrain in the dividing surface of the activity of the structure with other private legal entities or even of the port itself,
- ✓ water that will flow into the construction sites.
- ✓ noises of excavation, leveling, loading and transport vehicles that will work on the construction site.

Taking general protective measures for the environment

	Komponenti	Problematika në mirmbajtje	Avantazhet	Disavantazhet	Kosto kapitale	Kosto e mirmbajti	Mjedisi
1	Drenazhim me tuba Pa trajtim fundor	•Nuk kerkohet mirëbajtje periodike •Sistemi duhet të monitorohet periodikisht një here në vit.	•Kërkohet shumë pak mirëmbajtje •Kërkohet pak toke për ndërtimin e tyre •Parandalon depërtimin në mjedisin e ujërave nëntokësore.	•Nuk bëhet trajtimi I ujerave përpara duke rritur mundësin e ndotjes në mjedis No ëater quality treatment before •Nuk bëhet ngadalsim apo pakësim I rrjedhes së ujit; e gjithë sasia shkon në destinacion përfundimtar. •Kosto e lartë e ndërtimit			
2	Drenazhim me tuba Me trajtim	•Kerkohet një mirembatje e moderuar për të funksionuar ne rregull •Kërkohet largim periodic I sedimenteve në bazë	•Ul përqindjen dhe volumin e rrjedhës në mjedisin e jashtëm pritës •Ul përqindjen e ndotësve në mjedisin e jashtëm pritës • Parandalon ndotjen e ujërave nëntokësore	•Kërkohet një mirëmbatje mesatare •Ul ndotjen vetem kur bëhet trajtimi për cilësine e ujit •Kosto e lartë ndërtimi			
3	Drenazhim me tuba Trajtim fundor (ligatina	•Kërkohet mirëmbajtje peridike për të mbajtur funksionim normal •Largimi periodic I sedimenteve dhe pastrim I shpeshtë	•Ul përqindjen dhe volumin e rrjedhjes së ujit mjedis (pak a shume si ato para zhvillmit të zonës) •Ul sasinë e ndotësve në mjedis	•Kërkohet mirëmbajtje periodike •Kosto e lartë ndërtimi			

This monitoring of the construction activity and use of the Closed Vehicle Control Structure should be preceded by:

- ❖ Qualification of all staff to be engaged on the project site during its construction and operation
- ❖ Continuous training of this staff for its updating with the latest useful and necessary information for the smooth operation of the use of this road axis

The identification of mitigation measures consists of:

⇒ pollution prevention techniques through taking practical practical safety measures which include waste minimization technologies.

⇒ Application of Clean Technologies which are part of a wide range of technologies used and which are considered to be the current best practices for the purpose of setting a limit value for the release of gases or polluting dusts and which in technical jargon are called "friendly technologies environment ".

Monitoring should be carried out not only by sampling in the territory where they will be dumped, but also to plan environmental sampling and surveillance by experts in the surrounding territory, especially in the direction of airflow movement to capture the limits of possible displacements of powders. The monitoring should last at least one more step from the waste disposal period to create a clear idea of the effects of this disposal, possibly also due to the strict application of the technical conditions for the insulation of the material, in a period time that justifies the movements of sediments thrown even during natural events (meteorological, etc.) that may occur in the next two seasons after the start of works.

In the monitoring process, it is good to include individual environmental experts of the country (independent), as well as scientific research institutions that are engaged in this direction without leaving out the licensed laboratories or even accredited by national and international institutions.

Experienced sedimentologists should be among the first experts to observe changes in relief and directions of sediment distribution after deposition, to determine the eight sampling modalities such as locations, frequency of sampling and time of sampling. samples. The use of high-precision GPS to determine the coordinates of these points, would undoubtedly help not only to improve the work of sampling but more importantly the progress of changes in time of these deposits, including biophysical observations .

On the other hand, inorganic and organic pollution in surface sediments, will be one of the monitoring objectives not only during the operation of the construction site but also afterwards, when the normal use of this road axis begins.

Monitoring of the dumping of excavated material in the area in the object in certain segments (if this alternative will be chosen), for the process of its isolation, should be performed by experts in civil engineering, engineering geology and the environment , during all work procedures.

Before isolating the contaminated material, it is best to repeat the environmental analysis for organic and inorganic pollutants in the landfill area, to verify the state of pollution compared to the period when the environmental status analysis was performed. Also as mentioned above, the necessary biological monitoring should be accompanied by relevant footage to make the process not only more controllable but in order to draw the most fair and fruitful conclusions in other activities of this type in the future. which will undoubtedly have a place in the territory of the above local unit

It is also recommended to monitor the pollution of surface drainage water or even rainfall before it is discharged to the main collectors or other sewage from organic matter (oil and its by-products), during the whole process of excavation and transport of excavated sediment. This is simply due to possible accidental leaks from the excavation tools and other tools that will work in the port. Direct monitoring of the works and technical conditions provided by the tools from the environmental point of view, by the environmental inspector of APD, would be a preventive monitoring to some extent that would help greatly in minimizing and possibly in eliminating possible pollution.

It is precisely the Ministry of Environment and the Regional Environmental Agency that in cooperation with the authoritative expertise of the country, will approve or determine the frequencies, type, manner and technology of monitoring procedures, types of observations and analyzes, etc.

Environmental impact	Impact phase	Location of impact	Mitigation measures	responsible
Detection of contaminated soil during the construction phase	During construction	On site (construction area)	• Observation of the soil for any possible pollution during the construction phase in accordance with the laws	
			• If contamination is detected, field samples should be taken and necessary analyzes performed	
			•Make a proper risk assessment to see if there is risk to employees	
			• Employees should dress appropriately to prevent hazardous contamination	Contractor
Removal of soils	During construction	At the construction site	• Use of quarries near the construction site before opening new quarries or renting them	
			• Careful removal of the soil layer to enable its maximum cleanliness for later use for landscape rehabilitation	
			• Design the road to ensure that material reserves are as long as possible	DesignerContractor
Soil pollution	During construction	At the construction site	• None of the materials intended for restoration should be used without being certified in terms of quality.	
			• Selection of the best design standards of the drainage system in order to mitigate soil erosion and remove excess water;	Designer
			• Technical preventive measures for waste prevention and final treatment	Contractor
Impact on groundwater	During construction	At the construction site	• Use of current quarries as efficiently as possible in order not to spread new ones which may affect groundwater.	DesignerContractor
			• Limit the time of works in case the groundwater or springs that may be encountered during the construction of the road serve as suppliers of drinking water sources	
			• Obtaining proper permits for works where water is present	
Impact on groundwater	During construction and operation	At the construction site	• Very good design of the drainage system in order to prevent pollutants in groundwater in case of accidents.	Designer Contractor Client
			• Periodic maintenance and inspection of vehicles that will work on site	
			• Very good storage and storage of fuels and chemicals while storing and reserve of 110	
			% storage capacity.	
			• Leaks that may occur at the site should be cleaned before penetrating the ground	
			•Excess water from washing machines will be deposited within an area from which debris or mud must be removed before discharging water.	
			• Limitation of the impact on the land cover during the works	

			• Sewage flowing from any portable WC must be disposed of in sealed containers, which must be emptied periodically into wastewater treatment plants. • Predicting road maintenance to eliminate oil pollution or mud fall during road use • Normal use of herbicides to stop the growth of vegetation in the body of the road to a minimum	
Emissions from machinery and equipment	During construction and operation	In the construction site area, the areas around it, as well as on the roads where construction vehicles will circulate	• Be careful when covering vehicles when transporting soil •Technical control and maintenance of vehicles and equipment • Use of machinery and equipment as best as possible in terms of environmental parameters • Consideration of bio fuels • Periodic monitoring of the working processes of these devices	Contractor
Dust from various loads and discharges	During construction and operation	Impact on the construction site as well as in the area around it	• Minimize discharge from heights of building materials and soils	Contractor
Dust from the transport of materials	During construction and operation	In the area of the construction site, the areas around it, as well as on the roads where construction vehicles will circulate	• Speed control; locating speed limits • Failure to load above the norms of vehicles transporting construction materials and soil and covering them when required • Road wetting control as a measure to eliminate dust • When water is ineffective in removing dust, co-polymers can be used to make the powder inactive. • Installation of a tire washing device when exiting the construction site. • Good design of transport auxiliary axes to cause as little pollution as possible during road construction.	Contractor
Wind-induced dust on erosion-affected surfaces	During construction and operation	Impact on the construction site as well as in the area around it	•Humidity and pressure control • Coverage of stock materials; • Re-vegetation of bare areas there is possible	Contractor
Noise that will be felt during construction works as a result of machinery, work processes, etc.	During construction	Impact on the construction site as well as in the area around it	• Avoid unnecessary work of machines and turn off when you do not ask them to perform a certain job • Turn on the appliances gradually and not all at once • Maintenance and inspection of vehicles and machinery on site • Work only at certain times on equipment that generates noise that may affect the receptors • In case of loud noises use the warning system • Use of silencing equipment where required according to the detected noise level	Contractor

			• Noisy devices such as pumps, generators should be placed as far away as possible from the receptors; • Noise isolation when these will be generated near residential areas, schools, kindergartens, hospitals; installation of insulating equipment for the purpose. • Use of rubber layers for noise insulation	
Noise during road operation	Design and utilization	Impact on the construction site as well as in the area around it	• Minimize the fall from the heights of the materials • Bring noise-generating equipment as close to each other as possible; • Use of protective layers to enclose noise-generating equipment. • Good road design • Provide additional noise isolation measures if this is deemed reasonable • Various cuts and reinforcements • Full or partial coverage of various amnesties • Installation of more noise-insulating windows if required; • Improvement and noise isolation I cative if required	DesignerClient
Concerns in ecology	During construction and operation	At the construction site	• Enforcement of all laws related to biodiversity and protected species •Taking into account the direct and indirect effects that lighting may have, signaling the ecology of the area • Avoid or minimize tree felling as much as possible • Be careful during the works in the bird breeding season • According to the rules lighting restriction in sensitive areas • Good placement and positioning of machinery on site • Avoidance of damage to watercourses • Application of the best construction methods to minimize the amount of deposited dust • Special ponds for balancing groundwater and surface water • Anticipation of new areas planted with trees and shrubs of the area or green areas where possible; • Consider compensating habitats for species that may start living there after the works • Beware of sensitive receptors • Engagement of structures dealing with ecological monitoring in the area; • Necessary monitoring by law	Designer Contractor Client
Disturbance of turtles from habitat loss	During construction	Impact on the construction site as well as in the area around it	• As required, gathering turtles before work, sheltering them to lose their mortality • As installation of barriers is required to prevent their entry into the road • As required the opening of underground tunnels or cliffs which will serve as natural corridors for the safe passage of turtles or other mammals. and	Designer Contractor Client

			• the works will be monitored according to Albanian laws	
Habitat loss	During construction and operation	Impact on the construction site as well as in the area around it	• planting vegetation to create good conditions and encourage the creation of new habitats in the area • where it is possible to strengthen the natural corridors on both sides of the road • Habitat poles to be built with recyclable material left over from the trees to be cut because this prevents the use of new materials but is also more comfortable for reptiles • the characteristics of the water that will pass through the drainages to be in good environmental conditions to serve as habitat and for different aquatic species creating the conditions for their reproduction • construction of new culverts to serve as natural entry-exit corridors for different species; • planted trees should be in the local area	Designer Contractor Client
Habitat loss	During construction and operation	Impact on the construction site as well as in the area around it	• habitat compensation by creating new habitats mainly in polluted areas • specifically in the forest habitats planting of traditional trees of the area • Dry habitats turn into green bushes • In damaged shrub habitats should be planted shrubs with the same characteristics; • Plant vegetation in the habitats of arable land or a contaminated land (depending on the distance to the road)	Designer Contractor Client

Accidental cases:

The investor is obliged to set up the system of prevention and control of accidents, to avoid consequences for life, human health and the environment. For the realization of this obligation the investor will take effective measures such as:

⇒ Securing the workplace according to the technical rules in force

⇒ Implementing normal working hours and rest so that the employee does not lose attention.

⇒ Working in noise environments for a limited time in order not to damage employees working under these effects.

⇒ The live equipment will be insulated, the employees who will work in these

equipment as well as pressure equipment must be pre-instructed and dressed in certain special clothes.

⇨ In order to guarantee the protection of life and activity from fire during the process of activity development, it is designed to install fire extinguishers in each environment and an independent fire protection system will be built in case of need in accordance with the Fire Protection Conditions approved by The proper instruction of the employees who will work in electrical appliances and other equipment has been done by the responsible person.

Nonetheless , there is a possibility of an accident, because:

- from loss of employee attention a fire may occur.
- from carelessness in the use of work machinery during construction

employees may be disqualified from limbs.

- When working with the lifting machine of vehicles, the electric metal neure requires high attention and great care as employees can be injured as a result of loss of attention during working hours.
- during the transport of both solid and liquid waste, loads must be secured carefully so that there is no leakage or drop of load from the transport vehicle due to small gauges of details.

Potential hazards caused by chemical agents, oils, fuels, etc. must be eliminated. or reduced to a minimum through the following measures:

a) design and organization of work systems in the workplace;
b) supply of appropriate tools for specific works and relevant maintenance procedures;
c) reducing to a minimum the number of workers who are or may be exposed;
d) minimizing the duration and intensity of exposure;
e) proper hygienic measures;

The measures taken and to be implemented by the investor are sufficient to reduce the potential risk.

The employer, in order to protect the health and safety of the workers from the consequences of accidents or emergencies caused by the development of this activity in the workplace, establishes appropriate intervention procedures to be applied in these cases. These measures include practical safety exercises that should be performed at regular intervals and the provision of appropriate ambulance equipment.

In the event of a fire or emergency, the employer shall immediately take immediate action to reduce the effects and in particular assistance with the removal, evacuation and information of workers. The employer takes appropriate measures to normalize the situation as soon as possible.

Workers allowed to work in the affected area or necessary workers
to carry out the necessary repairs and activities are given protective clothing, tools to
individual protection and appropriate means of intervention used as long as the abnormal situation persists.

The employer adapts the necessary measures to prepare the alarm system and other communication systems necessary to immediately signal the accident or emergency.

The emergency measures included in the plan must contain:

a) Preliminary information on hazardous activities, on hazardous chemical agents, on potential hazard identification measures, on preventive measures and procedures in such a way that the competent offices for emergency situations can immediately determine the relevant procedures and preventive measures ;
b) any other information on the potential hazards caused or which may be caused by accidents or emergency situations, including information on the procedures followed under this Article.

In case of fire or emergency, unprotected entities should leave the area immediately.
In determining the persons, the employer takes into account the dimensions of the enterprise as well as the specific risks of the enterprise or production units.
Employees can not refuse this appointment, unless they have the right motivation. They must be informed, be in sufficient numbers and have the right tools available, taking into account the dimensions of the enterprise and the specific risks of the enterprise and production units.

9 - Benefits of the project

9.1 - Improvement in infrastructure

Powers	**poorlystra iner**
•Unique natural beauty in Albania •Good climate • Organic products of high standards of the area •Cultural heritage and religious sites •Hospitable community with rich cultural traditions •Skilled farmers	•Low marketing of the area and its values •Low marketing of area products •Lack of rural development programs •Lack of skilled labor •Unstoppable migration of area residents
OppORTuNiTy	**threat**
•Greater access to schools •Multiplication of facilities and service •Job creation during construction and operation •Increase in land value •Promotion of cultural heritage values and natural beauties •Benefits of tourism •Opening of businesses in order to strengthen the area •Development of ecotourism	• Pollution of rivers and non-cleaning over the years

9.2 - Economic development, employment and increase of quality of life

Of course, this increase from the inflow of our country will directly affect the increase of the standard of living as a result of the increase of income turnover.
The project to improve the standard of work of oshee is of great importance for the same is a great innovation and favor for citizens and is also a necessary work given the current conditions of degradation, poor security and difficulties in use of existing infrastructure.
Part of the project from the remodel of the existing building will lead to its new construction.

9.3 – SWOT analysis

Economic benefits from tourism
Socio-economic development

Powers	**poorlystr ainer**
•Young population in age •Good family traditions •Income from emigration •Capacity to adapt to the new and to survive	•Brain migration to large centers •Poor OSHEE service system •Low income in LGUs •Few community and social service NGOs
OppORTuNiTy	**threat**
•Greater access to services •Opportunity to set up training centers in the field of service and education • Incentives for learning foreign languages • Improving vocational education •Improving health care •Return of the migrated population	•Insufficient funding for education •Current health service not at a satisfactory level •Unclear regional development policies

In conclusion :

-Seeing, studying and verifying on the spot the construction site, the project of realization of this object, its functional side, the measures that are foreseen to be taken and must be applied, we conclude that the performance of this activity does not bring and will not bring possible negative consequences on the environment.

Recommendations:

1. **During the construction process in the implementation of the project designed by specialists in the respective fields, the square surface outside the planned one should not be touched or used.**
2. **Take special care during construction for the treatment of construction waste by collection in a certain place and evacuation within a day in a certain place previously by the local unit**
3. **Take special care so as not to contaminate the soil surface by throwing various mixtures with water, sand, lime or cement, etc.**
4. **Implement technical rules and technical safety measures at work during construction in order to avoid as much as possible any possible accident.**
5. **Enforce MNZ rules.**
6. **Use qualified and instructed personnel.**
7. **Do not temporarily occupy the road or square outside the previously planned.**
8. **To implement in each phase the legislation in force both during the construction and during the operation of this activity.**
9. **In any case of possible breakdown to immediately notify the relevant structures for taking measures urgently.**

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