NON-TECHNICAL SUMMARY OF

UPDATED REPORT ON ASSESSMENT OF

ENVIRONMENTAL IMPACT OF INVESTMENT PROPOSAL

"MARITSA" MOTORWAY" section from km 2 +900 to **km 73 +320**

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Sofia, January 2010

Non-technical summary of the updated report on EIA of investment proposal:
"MARITSA" Motorwaysection from km 2 +900 to km 73 +320"

TEAM WORKING:

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General provisions

Title of the investment proposal: "MARITSA" Motorway section from km 2 +900 to km 73 +320

Details of Assignor

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Introduction

I. State of the site

This motorway section design was begun in the mid 70's of the last century.

Approval of the route was performed in accordance with the applicable legislation at the time, regulating the investment process in construction.

EIA procedures have been conducted for the entire section of "Maritsa" Motorway -from km 2 +200 to km 117 +080 and Decision No. 37 of 1994 of the Ministry of Environment approved moving to the next stage of designing.

Decision of the Ministry of Environment and water 48-27/1997 approved the implementation of the motorway and the final EIA report was processed for the section from km 73 +320 to km 117 +080.

In 2000, an updated technical design was made and a plot plan for the section from km 5 +000 to km 114 +508.

For the section from km 2 +930 to km 73 +600 a final EIA report was prepared which was returned for amendments and completion by the Ministry with Decision No. 46-11/2000

Expropriating procedures for the construction of "Maritsa" Motorway have been completed for all properties.

Recent remarks by the European Commission / GD Environment / in connection with the evaluation of environmental impact assessment / EIA / for projects to be financed under OP "Transport" are presented in a letter from the Permanent Representation of Bulgaria to EU Ref. No. Pv-8.2-2083/28.04.2009

II. Analysis of work completed so far

To date, the following has been done in connection with the construction of the investment proposal "Construction of "Maritsa" Motorway" from km 2 +900 ÷ km 73 +320 ":

According to information from NRA the investment proposal project has not been changed. According to the legal requirements for road design, the project from 1990 was updated in 1999 - 2000. This way the environmental impact of the investment proposal is maintained.

As required by the Ministry of Environment and water the preparation of technical specification for performing additional hydrogeological and design works to ensure water sources compensating those affected by the route of "Maritsa" Motorway for section of km 17 +028 to km 36 +360 was assigned.

The construction of "Maritsa" Motorway along its length is at different stages, namely:

- the section from km 0 +000 to km 2 +930 (Orizovo road junction with Trakia motorway) is in operation;

- the section to km 5 +000 is included in the design for road junction Orizovo and construction was completed to make the connection; stage connections are in operation;

- the section from km 5 +000 to km 72 +940 will be performed entirely as a new construction, a design was updated in 1999 - 2000;
- at km 19 +900, 32 +000 and 42 +250 archaeological fieldworks are carried out (photos attached);

1.1. Location

The designed route of "Maritsa" Motorway crosses the territory located in Gornotrakiyska Valley, south-central region of Bulgaria, in the Valley of "Maritsa" River. Most of the route is located in Haskovo region.

Situation of the route is presented in Appendix 1.1-1.

The condition of the site in August 2009 was presented with photographs, given as Annex 1.1-2.

The region is characterized by intensive agriculture and developed manufacturing and light industry. For agriculture servicing the required number of underpasses and overpasses are planned. Transport servicing of the area is ensured through three road junctions, respectively, Dimitrovgrad, Harmanli and Simeonovgrad.

The "Maritsa" Motorway section starts from km 2 +900 and ends at km 73 +320. The total length of the segment is 70 +420 km. THE ROUTE IS PLANNED TO THE NORTH AND PARALLELLY TO THE EXISTING HIGHWAY I-8 IN THE VALLEY OF THE "MARITSA" RIVER, AVOIDING RESIDENTIAL AREAS AND ENDING IN THE SOUTHWESTERN SLOPES OF SAKAR MOUNTAIN

The nearest residential areas are the villages of Dobri Dol, Zetyovo, Zlatna livada, Velikan, Yabalkovo, Krum, Dobrich, Krepost, Voden, Aleksandrovo, Polyanovo and the town of Harmanli. With the exception of the village of Polyanovo, located 150 m from the motorway, all other populated areas are at distance between 400 m /Aleksandrovo/ and 1400 m / village of Voden/ from the motorway.

The type of terrain through which the motorway is planned is flat, hilly somewhere. The route crosses consecutively the rivers Stara, "Maritsa", Banska, Harmanliyska and their tributary streams. Close to the route /at distance of over 500 m / there are several dams - Dobri Dol, Yabalkovo, Krum, Krepost, Voden, Uzundjovo, Bryagovo.

Within the route range there are three water collectors such as Byalata voda, Yabalkovo and a pumping station at km 20 +200. The motorway route near water supply zones is essential and appropriate measures have to be taken to prevent pollution of groundwater, which can disrupt normal operation of the wells.

The design layout of "Maritsa" Motorway **does not pass through protected areas for the purposes of PTA.**

1.2. Natural persons and legal entities that will be affected by the implementation of the investment proposal

The implementation of the investment proposal Construction of "Maritsa" Motorway from km 2 +900 to km 73 +320" will affect the following:

- National Road Infrastructure Agency, which prepared the project and partially built the motorway after km 73 +320;
- Population of nearby areas who will be directly or indirectly affected by the implementation of the IP;
- Municipalities of nearby residential areas: Chirpan, Dimitrovgrad, Harmanli.
- Municipalities: Dobri Dol, Zetyovo, Zlatna livada, Velikan, Yabalkovo, Krum, Dobrich, Krepost, Voden, Aleksandrovo, Polyanovo, Preslavec.
- Legal entities such as: Electricity supply company, District traffic offices of Stara Zagora and Haskovo, water and sewerage companies in the same areas, telecommunication company Bulgargaz, NRIC, Irrigation Systems, Municipal Land Commissions, Ministry of Agriculture and others.
- Participants in motorway traffic - local and foreign
- The construction company that won the tender for construction, and its subcontractors.

1.3. Technical parameters of "Maritsa" Motorway

The technical parameters of "Maritsa" Motorway are shown in table 1.3-1

Table 1.3 -1

Technical parameters of "Maritsa" Motorway

№	Technical indicators	Unit of measure	120 km/h
1	2	3	5
1.	Min. R of horizontal curve	m	1000
5.	Maximum longitudinal slope	%	4
6.	Minimum longitudinal slope /as exception/	%	0,5 0
7.	Minimum R of convex vertical curve / as exception /	m	25000 19000
8.	Minimum R of concave vertical curve / as exception /	m	10000
9.	Transverse gradient in straight section	%	2,5
10.	Maximum transverse gradient on a horizontal curve	%	6
11.	Dimensions - A28, including -Active lanes - 2 x 2 x 3.75 m -leading asphalt strips - 2 x 2 x 0.5 m -median dividing strip - 3 m -emergency lane - 2 x 2.50 m-lay-by - 2 x 1.50 m	m	28
12.	Traffic category	Very heavy	

Along the concerned section 10 car parks are designed.

In the concerned section construction of 3 road junctions is planned, namely:

Road junction "Dimitrovgrad" at km 38 +800 - type "full clover-leaf junction;

Road junction "Simeonovgrad" at km 65+680.00 - designed as half clover-leaf junction,

Road junction Harmanli " (Topolovgrad) at km 70 +311 - designed as half clover-leaf junction.

A stage connection construction is planned at km 70 +620 due to the advanced construction of section A-1 "Maritsa" section Harmanli - Lyubimets and available conditions for its commissioning/putting into operation through a temporary connection with road I-8 Sofia - Kapitan Andreevo .

Road intersections

The motorway intersects 7 roads part of State road net:

- Road II-66-Chirpan Popovitsa; - road III-806 Chirpan-Varbitsa; - road IV -50606 Dobrich-Krum; - road III-506 Dobrich - Dimitrovgrad; - road IV 50045 Voden - Uzundjovo; - road IV 50316 Alexandrovo - Uzundjovo; - road-IV -80077 Harmanli -Polyanovo-Konstantinovo.

Dirt roads intersections at 25 points.

Large Equipments

Agricultural subways L = 8.00 m

for servicing of lands through which the motorway A-1 "Maritsa" passes - 16 pcs.

Overpasses, underpasses and bridges with aperture L> 10 m

Overpasses and underpasses -12 pcs.

Agricultural underpasses and overpasses - 14 pcs;

Bridges - 5;

Railroad overpasses - 2.

1.3.1. Main raw materials to be used in implementation of the investment proposal and its operation

Table 1.3.1-1

Earthworks - total for disposal	m3	6974900
Road works - aggregates - crushed stone	m3	891347
Asphalt - for bottom layer and main layer	t	984532
Asphaltic concrete type A and thick asphaltic concrete type A	t	608602
Drainage - drainage pipes diameter 100, diameter 200	m	81826

ROAD CULVERTS - PIPE CULVERT - L = 2 M	m	171
Prefabricated pipe culverts	m	3785
Concrete - classes from B15 to B35	m3	73353
Concrete for foundations and collar beams	m3	25346
Drainage pipes with a diameter of 150 mm and 50 mm	pcs	230
Steel handrail and safety railings	m	16912
Safety fences and roads meshes	m	398410
Communication cables and lighting	m	3029
Reconstruction of service water pipelines from a diameter of 88.9/3.2mm to diameter of 530/7mm	m	8296
Electrical power supply - Reconstruction of electrical power line 20 kV	m	8054
Communication cables - Reconstruction of TT cables		
Repositioning of Dimitrovgrad - Podkova railway line from km 6 +628 to km 7 +824	pcs	10163
Landscape design		
Planting of perennials - 10-12 years lifespan coniferous and 7-9 years lifespan deciduous saplings	pcs	1358739
Planting 3 years lifespan bushes thinned out and 2 years lifespan bushes not thinned out	pcs	1119
Planting 3 years lifespan thinned out	t	55950
Grass planting manually in three stages with 20 kg /decare ammonium nitrate		
Watering grass areas 5 times with 10t/decare		

1.3.2. Expropriation

A plot plan was drawn for the project site separated as a subproject where all concerned areas are listed in detail, as well as their owners.

Pursuant to Decision of the Council of Ministers No. 779 of 30 November 2007 / SG issue 104 of December 11, 2007 / on expropriation of privately owned property for State needs for construction of site "Maritsa" Motorway from km 5 +100 to km 117 +000, located on the territory of Stara Zagora and Haskovo regions, all lands are expropriated alongside "Maritsa" Motorway route. In the concerned section these are the lands of the town of Chirpan, the village of Zetyovo, the village of Zlatna Livada, the village of Velikan, the village of Yabalkovo, the village of Krum, the village of Dobrich, the village of Krepost, the village of Aleksandrovo, the village of Kostantinovo, the village of Polyanovo, the village of Preslavets and the town of Harmanli.

1.3.3. Affected infrastructure of "Maritsa" Motorway

Rehabilitation of irrigation and drainage fields - 17 pcs.
Equipments -10 pcs.
Pipelines - 7 pcs.
River Correction of river Azmaka from km 64 +600 to km 65 +300
Repositioning of railway line Dimitrovgrad - Uzundjovo and construction of a railway overpass at km 41+597.50
Reconstruction of TT cables BTC- 5 pcs.
Reconstruction of power lines - 20 kV -14 pcs.

1.3.4. Landscape Planning and Environment preservation

Projects for Landscape Planning and Environmental Protection have been prepared, projects for the direct route and road junctions are separated into a separate subproject, an integral part of this project.

The concerned section of "Maritsa" Motorway was built from km 2+900 to km 5+000
Subsections of the rest of the route are divided into 4 lots:Lot 1 Orizovo - Dimitrovgrad from km 5 +000 to km36 +400
Lot 2 Dimitrovgrad - Uzundjovo from km 36 +000 to km 48 +600
Lot 3 Uzundjovo - Polyanovo from km 48 +600 to km 60 +300
Lot 4 Polyanovo - Harmanli from km 60 +300 to km 71 +011.31

1.4. Information provision and legislative framework

1.4.1. Information provision - through presenting of available project materials, parts of drawings, explanatory notes, geological and hydrogeological reports

1.4.2. Regulation - the current legislation in Bulgaria harmonized with EU legislation

Literature - necessary for experts in the relevant sections;

1.5. Stages in the construction of ""Maritsa" Motorway"

At this stage of the investment proposal no specific deadlines for implementing the various stages and the overall "Maritsa" Motorway are planned.

2. Alternatives for implementation of the investment proposal

2.1. " Zero alternative" implementation of **"zero alternatives"** is unacceptable because in the present situation it would mean additional load of heavy traffic on road I-8 with all the resulting negative consequences - worsening environmental conditions - EVV, noise etc.

2.1. Alternatives to the situation

They were analyzed in previous stages and this option was adopted as the most appropriate - in terms of air, noise, sanitation for the population.

2.2. Alternatives regarding water sources affected by the route of the motorway. In a separate project, new water sources have been studied and planned to compensate the affected ones in the construction of the motorway (please find detailed description in section "groundwater").

2.5. Alternatives regarding temporary storage sites of suitable materials for embankments, excavation soil and rock masses

Before construction starts prospective concessionaire is to identify sites for temporary storage of appropriate material for embankments, excavation soil and rock mass, including and unsuitable rock mass and humus layer and to obtain authorization from the municipalities for disposal.

The company-contractor of the investment proposal implementation will identify after analysis the opportunities for positioning of disposal sites after the corresponding authorization from the municipal and supervisory bodies.

2.6. Other alternatives regarding the realization of the investment proposal

There are alternatives regarding the location of rock quarries,
water supply to the construction sites, providing for drinking water and sanitation needs of workers.

3. Description and analysis of components and factors of the General Assembly under Art.4 and 5 and of material cultural heritage, which will be significantly affected by IP, and interactions between them

3.1. Atmospheric air - "Maritsa" Motorway is situated in an area favorable for its construction and operation
in terms of climate - positive temperatures, a small number of foggy days and an average annual rainfall. Winds favor the diffusion of harmful emissions by traffic.

Residential areas are at sufficient distance from the route - from 500 to 1400 meters. Only the villages of Alexandrovo and Polyanovo are at relatively close distance - 375 and 150 m respectively.

Information provided by EEA confirms that air pollution in town of Dimitrovgrad is locally limited; the distance from the motorway route is considerable /2500 to 3725 m/. This distance and the meteorological factors - speed and direction of wind are a prerequisite for favorable prognosis on clean atmospheric air.

3.2. Water

3.2.1. Surface water the river "Maritsa" is receiving water Grade III. Information obtained by the EEA shows that
in most cases the regulatory requirements for water intake Grade III are fulfilled, but there are cases significantly exceeding the MAC - the BOD 5, permanganate oxidation, orthophosphate, petroleum and others. Concentrations of heavy metals in river waters are below the MAC.

Cumulative effect on pollution of surface waters from other investment proposals in the region of "Maritsa" Motorway is not expected.

3.2.2. Groundwater Hydrogeological conditions in the area of the motorway are characterized by ferrets, fissure and karst groundwater where parts of seven groundwater bodies are identified, located in four layers as follows (BDIBR, 2007): Neogene-Quaternary, Neogen; Neogen-Paleogene; Proterozoy.

Data of regional operational resources of the specified bodies of groundwater is presented as well as the permitted extraction and quantities available.

In the design layout of "Maritsa" Motorway from km 5 +000 to km73 +320 and in the proximity there are water intake systems and facilities of groundwater

- Pump station (PS) Byalata voda at km 20 +200 for drinking water of villages Zlatna Livada, Cenovo, Celina and Zetyovo
- *PS Zlatna Livada*. It is located next to the design layout of "Maritsa" Motorway at km 21 +880, so that will be destroyed
- Haskovo and villages Mineralni bani, Bryastovo, Spahievo, Kasnakovo and Klokotnitsa (annex 3.2.2-3). Constitutes a water intake system with pumping station and 30 intake facilities - 13 shaft and 17 wells constructed in a linear line with length of about 3500 m, on the right bank of the river "Maritsa"

- PS Yabalkovo for water supply of TPS "Maritsa" 3 - town Dimitrovgrad (annex 3.2.2-4). Constitutes a water intake system with pumping station and 47 wells

-WPS Yabalkovo - selska at km 27 +800 for water supply of village Yabalkovo and village Gorski Izvor

- *WPS Krum-Dobrich at km 32 +200 for water supply to the villages of Krum and Dobrich*

- Tube wells TW No. 1 and No. 2 TW for irrigation, fire protection and other needs of Titanic Ltd. - Harmanli

The location of the described intake systems and facilities, as well as the others in the proximity, but outside the zone of interaction with the "Maritsa" Motorway, is shown in annex 8.6-1 provided by BDIBR - Plovdiv letter No. RD-09-250/14.08.2009

3.3. Waste

The largest quantities of waste will be generated from unsuitable for embankments excavation spoils. Under the plan for movement of land masses / Bruckner polygon /to km 61+200 accumulation of earth mass is not expected as it gets full balance of earthworks /the total quantity of excavation soil is 6974000 m3/. After this km the excess in the last 10 km of motorway before Harmanli amounts to around 500000 m 3 and landfill should be determined for that.

The prepared company program for work with the waste generated during construction of "Maritsa" Motorway is appropriate. This program will trace the movement of waste to their environmentally safe treatment

"Maritsa" Motorway operation will continue for many years. The site itself does not generate waste, but the required maintenance of the route, the slopes, the ditches, the grass lawns and other facilities will generate waste.

Control over the generated waste during "Maritsa" Motorway operation has to be strengthened regarding waste collection, transportation and treatment under the WMA.

3.4. Subsoil

The design layout of "Maritsa" Motorway structurally considered is situated from northwest to southeast within the southern periphery of the Upper Thracian depression and the "Maritsa" fault zone imposed structures on Srednogorska zone, then enters Harmanliyska block. In the background of these major structural units smaller structures are situated: Plovdiv area lowlands, Chirpanski prag, Gaberska horst-anticline, Haskovo lowlands, etc.

The approximate location of the described lithostratigraphic units within the route of the motorway has been specified in mileage.

Some physical and geological processes and phenomena have been into account that gravitational phenomena and processes are developed, but in some areas where the route of the motorway plans deep excavations in clay-sandy sediments and high embankments there is potential for occurrence of landslide processes and phenomena in any inappropriate to design solutions to the stability of slopes, their process of implementation of the excavation and embankment consolidation work.

"Maritsa" Motorway route is almost entirely within the area of seismic area grade IX for which buildings and facilities are sized with a seismic coefficient K c = 0,27. Only the section from km 64 +000 to km 73 +311.31 is in a region of seismic zone grade VIII with a seismic coefficient Kc = 0,15.

The implementation of "Maritsa" Motorway is viewed in various geological conditions, determined by many lithostratigraphic units constituting the geological environment within the area of the planned construction.

An engineering and geological survey of the route, road junctions and large facilities (Patproekt Ltd., 2007) differentiated the following lithological variations (construction land) to be classified as earth and rock soils with very wide range of physical and mechanical properties.

3.4.1. Mineral resources and of mineral water deposits

As per information provided by the Department of subsoil and natural resources (letter No. ZDOID - 8080/15.07.2009) in the design layout of the "Maritsa" Motorway and the immediate terrain around it there are no registered deposits of mineral resources. The nearest field of mineral resources is located more than 500 m from the road axis and the land provided for mining concession is more than 800 m from the route.

The nearest mineral water deposits - exclusive state property, are Harmanli - about 2,0 km south-west and Merichleri - more than 5,0 km northeast of the route of the "Maritsa" Motorway.

3.4.2. Cumulative effect - such is possible in the implementation of roadside service complexes, petrol stations, car parks and other buildings and facilities in the area of "Maritsa" Motorway route. The impact on subsoil will be accumulated similarly, but to a lower extent.

3.5. Biodiversity Flora and fauna and protected natural territories

3.5.1. Flora

3.5.1.1. General characteristics of vegetation

In this section, the "Maritsa" Motorway is entirely in the Upper Thracian flora area. Since this region is primarily agrarian, the motorway passes through farmlands sown annually mainly with cereals and grains. The vegetation cover, which will be affected and under the influence of the motorway is represented by: Agricultural lands in forest areas with Turkey oak (Quercus cerris)) and Intra-Carpathian insular (Quercus virgiliana), often with oak (Quercus pedunculiflora); The xerothermic formations are dominated by (Dichantieta ischemi), (Poeta bulbosae), (Chrysopogoneta grylli) and ephemerals(Ephemereta); Agricultural lands in forest areas with elm (Ulmus minor), raywood (Fraxinus oxycarpa), oak (Quercus pedunculiflora) etc. ; Mixed forests of Turkey oak (Quercus cerris), Italian oak (Quercus frainetto) and Mediterranean elements and mixed forests of downy/white oak (Quercus pubescens), Italian oak (Quercus frainetto) and Intra-Carpathian insular (Quercus virgiliana).

In this section of the motorway localities of the rare and endangered species of higher plants were not found, as most of the motorway passes through arable land. Synanthropous and ruderal vegetation in uncultivated areas in this region is substantially included. In the broader region including the route of the motorway and its near environs has localities of some rare plant species that are listed in the Red Book of Bulgaria volume I, 1984 and protected under the Biodiversity Act. Information about them in this regard is given with a brief analysis (see table 3.5. 1-1).

The described section of the route also crosses priority habitats listed in the Habitats Directive and Birds Directive about protected areas in the pan-European ecological network NATURA 2000, adopted by Council of Ministers Decision No. 122 of 02.03.2007.

Table No. 3.5.1-1

Rare plant species in the wider area of the "Maritsa" Motorway

№	Bulgarian name	Latin name	endemic	Red Book	EU	Locality
1	snow snowdrop	*Galanthus nivalis*	-	R	-	everywhere
2	marsh snowdrop	*Leucojum aestivum*	-	R	-	humid areas
3	bovine kingcup	*Caltha iornuta*	-	R	-	Dimitrovgrad
4	Mediterranean Winged larkspur	*Delphinium halteratum*	-	R	-	Thracian Valley
5	smearwort	*Aristolochia rotunda*	-	R	-	Haskovo
6	sedum	*Sedum kostovii*	Bg	R	+	Harmanli and village Sladun -Haskovo

7	Cumulus clover	*Trifolium globosum*	-	R	-	Harmanli
8	senega	*Polygala monspeliaca*	-	Z	-	Thracian Valley
9	Three Stamened Waterwort	*Elatine triandra*	-	R	-	Thracian Valley
10	Six Stamened Waterwort	*Elatine alsinastrum*	-	R	-	Thracian Valley
11	Skirret	*Sium sisarum*	-	Z	-	Thracian Valley
12	Samodivska grass	*Peucedanum vittijugum*	Bk	R	-	Haskovo
13	rock plant	*Alcana primuliflora*	-	R	-	Harmanli, Lyubimets, Ostar kamak
14	cornflower	*Centaurea inermis*	Bg	R	-	Harmanli - Oludere, Devedere, Ostar kamak

Designations:
"I" - the type is included in the "Red Book of Bulgaria" in category "disappeared "
"Z" - the type included in the "Red Book of Bulgaria" in category "endangered"
"R" - the type included in the "Red Book of Bulgaria" in category "rare"
"BG" - the species is Bulgarian endemic
"Bk" - the species is Balkan endemic
"+" - the species is included in the list of rare, endangered and endemic plants

The above information is not related to a real threat to these plants in the construction and operation of the motorway as their localities are not only outside of the track, but relatively distant from it. It is useful as a warning that in this region there are rare representatives of the Bulgarian flora - Bulgarian and Balkan endemic and all future activities in the natural environment must be preceded by an expert study.

I. Xerophyte and mesoxerophyte microthermal and mesothermal vegetation in xerothermic oak belt and hilly plains

Native plant communities of:

1. Mixed forests of oak *(Quercus cerris)* and oak *(Quercus frainetto)* and Mediterranean elements
2. Mixed forests of oak *(Quercus cerris)* and oak *(Quercus frainetto)* and hornbeam (*Carpinus orientalis)*
3. Mixed forests of oak *(Quercus cerris)* and white oak *(Quercus pubescens)* and undergrowth of smoke bush *(Cotimus coggygria)* in places secondary domination by smoke bushc *(Cotimus coggygria)*
4. Forests of white oak *(Quercus pubescens)* and oak *(Quercus virgilianae)*

Derived communities of:

5. Bush *(Amygdaleta nanae)* and grass *(Artemisieta albae, Agrpyreta pectiniformae, Agropyreta brandsae, Brometa riparii and others.)* Xerothermic and steppe formations
6. Mesoxerothermal grass dominated by meadow-grass *(Poa bulbosa)*, rye-grass *(Lolium perenne)*, twitch *(Cynodon dactylon)* areas with *(Dichantium ischaemum)* and rarely Goldbeard grass *(Chrysopogon gryllus)*, mainly in village meadows.
7. Agricultural areas in mixed forests of Turkey oak *(Quercus cerris)* and oak *(Quercus frainetto)*
8. Agricultural land in forests of white oak *(Quercus pubescens)* and oak *(Quercus virgiliana)*

II**. Mesophyte hygrophyte microthermal vegetation in the lowlands, valleys and along rivers**

Native communities of:

1. Forests of black alder *(Alneta glutinosae),* willows *(Saliceta albae, Saliceta fragilis)* and poplars *(Populeta allae, Populeta nigrae),* in some areas in combination with artificial poplar plantations andhygrophite grass formations.

Derived communities of

2. Mesophyte grass formations (grasslands) *(Festuceta pratensis, Poaeta sylvicolae, Alopecureta pratensis, Lolieta perennis, Agrostideta stoloniferae and others.)* in forests of elm, field ash, summer and blossom oak and others.

This section of the motorway affects habitats of European importance, primarily at the intersection of River "Maritsa", River Banska and River Harmanliyska occupied by natural vegetation which will be under its influence. The route of the motorway will pass through habitats 91MO Pannonia -Balkanic turkey oak-sessile oak forests and 92AO Riparian forests and galleries of Salix alba and *Populus alba*.

A detailed description of the vegetation is made in the route length of the "Maritsa" Motorway, and a description of the areas that will be affected where it crosses the natural vegetation:

1. From km 22 to 26 - mesophyte and hygropyte microthermal vegetation constituted of co-communities of black alder *(Alneta glutinosae),* willows *(Saliceta albae, Saliceta fragilis)* and poplars *(Populeta albae, Populeta nigrae),* in some areas in combination with artificial poplar plantations and hygrophite grass formations. Under the direct impact will be about 9 ha of this vegetation and indirect (mainly during construction) - still about 10 ha. This vegetation falls within the protected zone of Natura 2000 "BG0002081 "Maritsa" - Parvomay" and "BG0000578 "Maritsa" River (in both Directives) and is included in the natural habitat 92AO - Riparian galleries Salix alba and *Populus alba*, which is of European significance.

2. Between km 32 and and 34 and between 37 and 38 the motorway crosses small woodland composed of mixed forests of oak *(Quercus cerris)* and oak *(Quercus frainetto),* with Mediterranean elements - *Juniperus oxycedrus, Coronilla emerus* and others. These communities, although widely spread in the country, belong to the natural habitat of European significance 91MO Pannonia -Balkanic turkey oak-sessile oak forests. **They will be under direct impact total area of about 7 ha and indirect (mainly during construction) - about 6 ha.**

3. The sections of the motorway from 45km to 48km, and from 53 to 57 are occupied mainly by xerothermic grass formations predominantly *(Dichantieta ischemi),* meadow-grass *(Poaeta bulbosae), (Chrysopogonetta grylli)* and ephemerals *(Ephemereta).* These are the areas occupied mainly by typical grassland communities and abandoned arable land in the recent past. Part of it is used there as livestock cattle grazing while others ruderalized and in significant degradation. These areas which amount to about 17.5 ha **have no conservation value** of nature conservation perspective.

In the areas of the same two divisions, two small areas are peripherally affected composed of oak *(Quercus frainetto),* white oak *(Quercus pubescens)* and oak *(Quercus virgiliana).*

The impact over these is mainly indirect and changes on their composition and structure are not expected. They would make good landscape elements due to their proximity to the motorway.

4. At the end of the road route at town Harmanli the motorway crosses the river Harmanliyska where some of the vegetation has the characteristics of riparian vegetation specific hydro-and hygrophlic elements but does not belong to habitat 92AO -Riparian galleries Salix alba and Populus alba.

3.5.2. Wildlife

3.5.2.1. General characteristics of wildlife

According to the biogeographic regionalization of Europe as a whole 100% of the territory affected by the construction of the "Maritsa" Motorway falls into the "Continental biogeographical region" (ETC, 2002), characterized **by moderate biodiversity**.

Information about the affected protection zones of Natura 2000 is about prevalence of more than 210 species of vertebrates (mostly birds) high conservation status. These species in many cases also occur outside protected areas in suitable habitats along the route.

Classfinfish (Osteichthyes)

Over 11 types of finfish are found in the "Maritsa" River within the protected areas

Class Amphibians (Amphibia)

At least 13 species of amphibians occur in protected Natura 2000 sites

Reptiles Class (Reptilia)

At least 20 species of reptiles occur in the area

Class Birds (Aves)

The region through which the route of "Maritsa" Motorway passes and protected areas of Natura 2000 which it affects, are inhabited by 141 bird species, 61 of which are included in the Red Book of Bulgaria (Golemansky, forthcoming). In the area 38 species of European conservation concern are protected (8RES). Globally threatened (category 8RES 1) are 6 species and endangered in Europe (8RES 2 and 3) are 62 species. 49 species are listed in Annex 1 of Directive 79/409/EEC. 53 species are included in Annex 2 of the Biodiversity Act, 19 species in Annex 3. The majority of species are also subject to protection of the Bern and Bonn Convention. Please find a list of bird species and their conservation status in Annex 3.5.2-1.

should be noted that the majority of waterfowl species are concentrated along the "Maritsa" River and its tributaries (often used as corridors for movement) and adjacent wetlands. Some of them occur as passing (migratory, wintering).

Mammals *(*Mammalia*)*

At least 45 species of mammals occur in the area.

Due to the lack of detailed mapping of the distribution of endangered mammal species in areas over which the route of the motorway passes, the precautionary principle is applied and is considered further in the assessment that they are important, at least those sections of the route that are described as important for birds and to maintain appropriate for endangered mammalian species habitats. During a track beat along the motorway route no caves or mine galleries, suitable as safe havens for bats were found, but a number of suitable habitats for feeding and movement were found, mainly linear structures with trees and bushes, and wetlands. Special attention was paid on bats was in the assessment and determination of appropriate mitigation measures.

Annex 3.5.2.1-1 shows a tabular protection status and suitable habitats of bats occurring along the route of "Maritsa" Motorway.

A detailed description of the occurrence of wildlife along the route of "Maritsa" motorway and 20 sections are identified as particularly important for birds:

Table 3.5.2.1 - 1

A detailed description of the occurrence of wildlife along the route of "Maritsa" motorway

from km to km	Short description	Annex № **3.5.2.2-1-** photos **3.5.2.2-2-** maps
9 +000 - 12 +500	crossing near and through areas of the micro dams of "Maritsa" - Parvomay *in the micro-dams nest Little Bittern, Little Grebe, probably - kingfisher and during migration and wintering - waterfowl, including those subject to protection in "Maritsa" Parvomay) as a whooper, pygmy cormorant, great white Heron and others.*	Photos 1-3 maps 2 and 5
13 +500 - 13 +800	crossing through pastureland with trees and bushes *there are species of conservation importance such as red-backed shrike, Syrian woodpecker.*	photos 1 and 4 map 5
15 +100 - 15 +300	crossing through a gully with trees and bushes *there are species of conservation importance such as red-backed shrike, Syrian woodpecker.*	Photo 5 map 5
17 +000 - 19 +000	crossing the river and at distance of about 400 m of a micro dam *Here are found endangered species like Syrian woodpecker, red-backed shrike and the kingfisher.*	Photo 6 map 5
19+200	crossing through pasture	photo 7

20+200	suitable habitat for Red-backed Shrike, ortolan, stonechat and others	map 5
22+000 – 25+200	crossing along pastureland with trees and bushes and crossing of river "Maritsa" - the Motorway *2* protected area of Natura *2000* – 33 *river "Maritsa"* and protected area"Maritsa"-Parvomay*",* nesting area of kingfisher, white-headed, red-back and black-headed shrike of the species, subject to protection*;* waterfowl – heron, cormorant, golden eye birds, and other species like wagtails , swallows, bee-eaters and others.	Photos 8-14 map 3
32 +300 - 33 +300	Crossing a forest Skew, Black-headed warbler, big tit, oriole, robin, turtle-dove, green woodpecker, etc.. Large hawk is also observed. *There are suitable habitats for Syrian woodpecker and gray woodpecker*, , although these species were not found during the walk through the terrain.	Photos 15-17 map 6
36 +000 - 36 +500	crossing of the Banska River This is a nesting area of species such as red-backed shrike and Syrian woodpecker. The river is suitable habitat for kingfisher. A pair of Common Buzzard and a pair of Kestrels were found.	Photos 15 and 18; map 7
37 +000 - 39 +000	Crossing a forest no preliminary data on endangered raptor species nesting	Photos 15 and 18; map
41 +000 - 42 +500	crossing grassland and forest belts there are species of conservation importance such as red-backed shrike and Syrian woodpecker.	Photos 19-20 map 7
45 +000 - 51 +000	crossing scrubby pastures - mosaic habitat of conservation significant species such as red-backed shrike, Syrian woodpecker, Calandra Lark, warbler, and white and black headed Shrike. These species nest in relatively high density in this section.	Photo 21 map 8
51 +000 - 52 +000	crossing scrubby and forests habitat of conservation significant species such as red-backed shrike, Syrian woodpecker, Calandra Lark, warbler, and black-headed Shrike. These species nest in relatively high density in this section.	Photos 22-23 map 9
53 +000- 54 +200	crossing scrubby pastures - mosaic habitat of conservation significant species such as red-backed shrike, Syrian woodpecker, Calandra Lark, warbler, and white and black headed Shrike.	photos 22, 24 and 24a; map 9
54 +200 - 56 +000	crossing wet meadows and bogs They are suitable habitat for nesting Corncrake, skylark, Calandra Lark, Tawny Pipit and species of conservation importance. This is a nesting area of species such as red-backed shrike and Syrian woodpecker.	photos 22, 25 and 25a; map 9
56 +000 - 57 +100	crossing mosaic habitat and forest belt near a small water body Red-backed Shrike, Red-headed shrike, Syrian woodpecker, ortolan.	photos 22 and 26a-e map 9
58+000 – 59+100	grossing 3 gullies overgrown with trees and bushes Red-backed Shrike, red-headed shrike, Syrian woodpecker, ortolan ortolan. Small spotted eagle has been observed hunting in the area, but its nest is not located near the route of the motorway.	Photos 27-28 map 10
61 +000 - 62 +600	crossing through pastureland with bushes - mosaic habitat and gullies with tree and bush vegetation Red-headed shrike and white-headed shrike*;* habitats are suitable for warbler and ortolan which nest in the region.	photos 27 и 29a-d; map 11
63 +000 - 65 +500	crossing through island type forests - the habitat of a large olive Mockingbird, gullies, close to the river and nests of common buzzard and kingfisher*;* nightjar, Roller, Syrian woodpecker.	photos 27 and 30a-d-34 map 11
66 +500 - 68 +500	crossing near small dams and the river "Maritsa" *at least one nesting pair of Long-legged Buzzard* , a pair of black kite, and at least 2 pairs of Roller. Throughout the route section were found 3 pairs of Roller.	photos 35 and 36a-d map 12

	White stork sleeping place and hunting territory of the Long-legged Buzzard, Red-backed Shrike, Syrian woodpecker, middle spotted woodpecker, Calandra Lark.	
69 +200 - 69 +600	crossing the river Harmanliyska *black stork, a large forest Sandpiper, Little Ringed Plover and other birds.*	photos 34 and 37-40 map 12

3.5.3. Protected Areas

3.5.3.1. Protected areas in LBD

General characteristics of the Protected Areas of the National Ecological Network / Natura 2000 /

The proposed route, according to the investment proposal goes through three protected areas (PA) of the European ecological network "Natura 2000" - "BG0002081 "Maritsa"-Parvomay and BG0000578 river "Maritsa" at the villages of Velikan and Yabalkovo and through BG0000434 Banska River between the village of Preslavets and Harmanli (map 1). The section between the villages of Velikan and Yabalkovo is relatively short (length 0,8 km), the section between the villages Dobrich and Dimitrovgrad is not more than 100 m long, the maximum proximity to the PA in the area between the villages Preslavets and Harmanli is about 150 m.

Protected areas under the Directive on the conservation of wild birds

"Maritsa" motorway in the section passes through a protected area for birds and close to two other protected areas, as follows below:

Protected area "Maritsa" - Parvomay (code BG0002081) (Map 2) - crossed by the route of the motorway in sections of the motorway km 9 +000 - 12 +500 (near two micro dams south of the village Velikan and km22+000 - km 25+200 - crossing along pastureland with trees and bushes and crossing of river "Maritsa" north of village Yabalkovo.

Protected Zone Harmanliyska River (code BG0002092) - the route of the motorway passes approximately 1.8 km north of its northern border, significant impact on the area is not expected.

Protected Zone Zlatno pole (code BG0002103) - the route of the motorway passes approximately 4.8 km south of its southern border, significant impact on the area is not expected.

Protected areas for conservation of natural habitats and of wild fauna and flora

Protected area river "Maritsa" (code BG0000578) **(** map 3) - - crossed by the route of the motorway

Protected area river Banska (code BG0000434) (Map 4)- crossed by the route of the motorway in a very small section of 0.3 km;

Protected Zone Ostar kamak (code BG0001034) - the route of the motorway passes approximately 1.8 km north of its northern border, significant impact on the area is not expected.

Protected Zone Sakar (code BG0000212) - the route of the motorway passes approximately 6.7 km north-west of its western border; significant impact on the area is not expected.

Significant plant species associated with nature conservation and management of the site:

White water lily *(Nymphaea alba)* (size and density of population less than 2% compared with the established in the country, in excellent condition as per expert analysis).

3.5.3.2. Protected Areas under the Protected areas act

The design layout of "Maritsa" Motorway does not pass through protected areas for the purposes of PTA. Near the motorway route are the following protected areas (Map 1):

Protected Area Defileto ("Olu Dere"), declared to the preservation of the picturesque gorge and protected animal species, with an area of 37.2 ha in the territory of village Ostar kamak, village Polyanovo and town Harmanli, Municipality Harmanli (declared by Order No. 3751/30.11.1973) - distance of the route from the protected area is about 2.9 km

Protected Area Zlatno pole, declared for the conservation of wetland near the river "Maritsa" with habitats of protected plants and animals, with an area of 84.8 ha in the village Brod, village Zlatopole and village Raynovo, Municipality Dimitrovgrad and village Nova nadejda, Municpality Haskovo (declared by Order No. RD-476/11.07.2001) - distance of the route from the protected area is about 5 km

Natural landmark Palamudche (habitat of summer oak in the area Palamud) with an area of 29.5 ha in the territory of village Uzundjovo, Municipality Haskovo (declared by Order No. 656/13.09.1979)- distance of the route from the protected area is about 0.7 km

Natural landmark "Group of 12 summer oak trees" in the territory of village Skobelevo - distance of the route from the protected area is about 3 km

Natural landmark Fossil finds - distance of the route from the protected area is about 10 km

The remoteness of the motorway route from protected areas suggests that there will be no impact on animal and plant species subject to conservation in protected areas neither during construction nor during operation of the highway.

3.6. Land and soil

A detailed description of the land and soil in the region of "Maritsa" motorway from km 2 +900 to km 73 +320 the route passes through:

Deep soils in the plains and hilly areas / primarily on Pliocene and Quaternary sediments /: 12. Leached black earth-resinous or clay; 20. Leached maroon forest soil, sandy clay soil; 23. Maroon-podzolic / pseudopodzolic /, slightly sandy clay to sandy clay soil. 25. Maroon-podzolic / pseudopodzolic / lower valley / rich humus / clay-sand soil; 31. Alluvial and alluvial-meadow soil, sandy and sandy-clay soil, 32. Delluvial and deluvial-meadow soil;

Eroded soils: 44. Eroded leached maroon forest soil; 47. Eroded leached black earth-resinous soil;

Shallow soils: 55. Shallow leached maroon forest soil; 67. Rendzinas / humus-carbonate soil.

The location of different soil types along the "Maritsa" motorway is traced in mileage.

Disturbed land and soils

The designed motorway along the route passes through agricultural and forestry land, as well as through small areas of land marked as uncategorized, but free from construction. The only technogenic damaged areas that are crossed by the route are country roads, drainage and irrigation hydro facilities in the lowlands and in the broader valley of the river "Maritsa".

The total area of land needed for construction of "Maritsa" "in the section from km 2 +900 to km 73 +320 is 1112.489 decares, of which:

Agricultural Fund - 543.970 acres

forests - 568.519 decares

The amount of disturbed agricultural lands is presented in categories, land quality rating and land productivity category. The most significant amounts of damaged agricultural land are of IV and V category - "good and intermediate land" with an average rating of 65 and 55 respectively.

Degraded soils

Due to the prevailing flat terrain landslides and landslips have not been established. Not detected any signs of salinization, alkalization or acidification of soils. Waterlogging of soils outside bottom depressions or floodplains are not established. Water erosion occurs very weak. More sensitive to these processes are river bank forms and gorges and separate steep sections of the adjacent slopes in the hilly part of the territory. Only farmland in bare ridges and terrains was partially affected by deflation.

Degradation processes during the construction of the motorway are connected only with trampling the soil of the land adjacent to the route as a result of movement of mechanization equipment in the temporary building approaches to the motorway, or use them for temporary facilities, storages and sites.

Contaminated land

For establishing of soil condition in the region and their possible contamination with heavy metals and arsenic data from EEA was provided to us on soil monitoring of 10 sampling points from 2004 to 2007 /

The conclusion of the monitoring of soil in the area is that in terms of analyzed hazards they are below standard levels.

3.7. Physical factors

Near the designed route currently there are no noise sources other than the places of intersection of roads from the national road network (II-66, III-806, I V-50606, III-506 I, IV-50045, IV-50316 and IV-80077), where vehicle are sources of noise.

Background noise around the designed route is in the natural background in levels 30 ÷ 38 dBA.

Noise sources during construction

Traditionally used road construction equipment is source of environmental noise in the construction of the new route. In certain periods of time near the working equipment an equivalent level of noise about 90 dBA can be expected. The service road for materials supply will come primarily from cities in the region and will use the newly constructed road. If needed it can pass through nearby villages.

The construction activities will take place during the day.

Sources of noise during operation

The traffic flow on the newly built road route will be source of environmental noise. The expected noise characteristics of the flow is obtained in calculations based on data submitted by RINA from the total profile traffic count of 2005 and the respective estimated coefficients.

TableNo. 3.7.3 -1

Estimated parameters of traffic flow

Year	**N,** MV/ **h**		R**, %**		**Leq, dBA**	
	day	night	day	night	day	night
2015	**316**	**38**	**44,0**	**52,8**	**68,3**	**59,5**
2020	**393**	**48**	**43,7**	**51,6**	**69,2**	**60,4**
2025	**489**	**59**	**43,3**	**51,9**	**70,2**	**61,3**

- 2025 is expected to increase the levels of transport noise by about 2 dBA for day and night period.

10 car parks are planned in the design immediately next to the route of the road on both sides. Noise emitted by them in the environment will be significantly lower than the noise emitted by traffic flow, which will determine levels in the section.

Vibration - characteristic of areas that will be affected by the investment proposal

There are no known sources of vibration in the areas concerned in the investment proposal.

Harmful radiation - a characteristic of areas concerned in the investment proposal

In the area of the route of “Maritsa” motorway intersect high-voltage power lines described in item 1.3.3. Reconstruction is envisaged of electrical wires 20 kV with a total length of 8296 m, in 14 points along the route length.

There are no known sources of harmful radiation in the areas concerned in the investment proposal.

3.8. Landscape

A brief description of the structure and functioning of landscapes in the area concerned is presented in classes, types, subtypes and groups. 6 local geochemical landscapes are differentiated along the route length outlined by the river network. Each of them differs from others in a certain set of characteristics that are described in detail.

Currently existing in the area major types of landscapes are described in the list of the landscapes included in the adopted in 1998 (as required by the draft European Landscape Convention) Charter for Sustainable Development of the Bulgarian countryside. Guidelines for sustainable development set out in the Charter for Bulgaria concern the following categories of landscape, which are described in the EIA:

- preserved natural landscapes;
- forest landscapes;
- agricultural landscapes;
- water landscapes;
- urban landscapes;
- communication landscapes;
- industrial landscapes;
- communication and recreational landscapes.

3.9. Hazardous substances - sources, toxicological characteristics

A list is provided of the properties of chemical substances, preparations and products that define them in the category for classification as dangerous.

A list is provided of dangerous substances and preparations which will be used in the construction and operation of "Maritsa" motorway representing risk to health and the environment.

- Diesel fuel, petroleum hydrocarbons and additives - for construction equipment and transport;
- Motor and engine lubricants (PAH *- polycyclic aromatic hydrocarbons, PCB * - polychlorinated biphenyls) - for construction equipment and transport;
- Ammonite - Ammonium nitrate - for blasting
- A mixture of toxic and irritating gases in blasting;
- Carbon, nitrogen and sulfur oxides, volatile organic compounds, PAH *, metal aerosols particulate matter (PM) - exhaust fumes from construction equipment used
- Manufacturing dust containing crystalline silica below 2% - excavation of soil and surface layers, crushing equipment for various fractions of the road pavement; handling of bulk inert materials; Work in hot, dry and windy weather.

In normal operation, hazardous substances will not pose additional risk to public health in the designed routes of "Maritsa" motorway, given the remoteness of the route from the residential areas.

3.10. Cultural and historical heritage

Since 2000, in the track of the delayed project of "Maritsa" motorway intensive terrain research activities are carried out by different teams of specialists. On the following sites of cultural and historical heritage a full archaeological survey is done, as they fall to the very track or its easement. Their area has been clarified as a result of drilling and excavation campaigns in previous years. Excavations not completed on 4 of the six sites.

km 13 +450 - 13 +560 *. A settlement from Neolithic and Roman era, in the territory of village Zetyovo, Chirpan. - In 2000, drilling survey was conducted under the supervision of Prof. Kr Kalchev (IM-St. Zagora).*

km. 19+900 - 20+350. *Medieval settlement and a necropolis in the area Byalata voda in the territory of village Zlatna Livada, Chirpan.* Studies are supervised by D. Yankov (RIM - Stara Zagora), R. Koleva (Sofia University St. Kliment Ohridski) and Ch. Kirilov (Sofia University St. Kliment Ohridski).

The excavations are not completed.

Archaeological site in the area of Karabyulyuk, in the territory of village Yabalkovo, Dimitrovgrad. Excavations are supervised by Dr. K. Leshtakov (Sofia University St. Kliment Ohridski), I. Petrov (IM-Haskovo), N. Todorova, V. Petrova, P. Leshtakov.

The excavations are not completed.

km 32 +000 - 32 +200*. Medieval settlement in the area of Kar dere in the territory of village Krum, Dimitrovgrad.* Studies are supervised by Dr. B. Borisov and G. Sheyleva, both from Veliko Tarnovo University "St. St. Cyril and Methodius"

The excavations are not completed.

Km ***42+020 – 42+300.*** Early Christian church and pit alignment of late Iron Age in the territory of. *Zhelyova cheshma in the land of village Krepost, Dimitrovgrad.* Studies are supervised by Prof. N. Rabadzhiev and I. Lozanov (Sofia University St. Kl. Ohridski).

The excavations are not completed.

Km ***73+000 – 73+500.*** Found a large number of tanks that the researchers refer to the cult yamen complex of early and late Iron Age. The site has been studied from 2000 to 2007 and up to present. The excavations have been supervised by V. Ignatov, T. Kuncheva and K. Velkov.

3.11. Health and hygiene aspects of the environment: current conditions analysis. Identification of potentially affected populations and territories, areas or sites with specific hygienic-protection status or subject to health-protection

Table 3.11-1

Nearest residential areas to ""Maritsa"" motorway

№	Location (city/town/village)	Municipality	From km to km	Distance (m) from the motorway to the residential area
1	Dobri Dol	Parvomay	12 +000 - 13 +800	1125
2	Zetyovo	Chirpan	15+750 – 16+800	1075
3	Zlatna Livada	Chirpan	21 +700 - 22 +600	1000
4	Velikan	Dimitrovgrad	24 +300 - 25 +000	1250
5	Yabalkovo	Dimitrovgrad	26 +000 - 27 +250	875
6	Krum	Dimitrovgrad	30 +800 - 31 +875	775
7	Dobrich	Dimitrovgrad	33 +450 - 35 +000	500
8	Krepost	Dimitrovgrad	39 +675 - 41 +400	625
9	Voden	Dimitrovgrad	44 +000 - 45 +725	1400
10	Aleksandrovo	Haskovo	51+425 – 52+500	375
11	**Polyanovo**	**Harmanli**	**59 +425 - 60 +750**	**150**
12	Harmanli	Harmanli	68 +000 - 73 +000	750

Regulation № 7 of MH on hygiene requirements for health protection of urban environment (SG issue 46/1992, amended and supplemented issue 46/1994, issue 89 and issue 101 of 1996, issue 101/1997, issue 20 of 1999) does not regulate any requirements for minimum distance from sites subject to health protection to the motorway routes.

Health status of the population in the concerned area

The health status of population of municipalities Chirpan, Dimitrovgrad and Harmanli has been studied by demographic indexes and comparative characteristics of indexes for the country in age structure of the population, demographics for 2007, classes of diseases that are most closely associated with environmental factors. A study was made of health status of the population by registered general morbidity index and cancer morbidity index in level and structure for a retrospective period**.**

The current health of the population in the area before construction of the motorway, in prevailing disease classes shows that the structure of morbidity data are not significantly different from the average for the country.

There is no evidence of increased cancer morbidity as a result of specific harmful effects of environmental factors.

Indexes increase in hospitalizations are most likely due to the improvement of healthcare of the population and the active use of the opportunities for hospital care through clinical pathways rather than a sharp deterioration in health status.

Given the sufficient distance from populated areas /except the village of Polyanovo / our expectations are to maintain the same health status during and after realizing the motorway project.

4. Description, analysis and assessment of the likely significant effects on the population and the environment as a result of the realization of the investment proposal

4.1. Atmospheric air

Characterization of sources of air pollution resulting from the implementation of the investment proposal. Quantity and content of the emitted pollutants

Separation of EVV in the implementation of IP will be in the following stages:

- works during construction
- during the operation of the motorway

Hazards emitted will depend on construction activities and can be defined as diffuse emissions.

EVV expected in atmospheric air are:

- Dust (with a different fractional composition) - from excavation and bulk earthworks, demolition of pavement, loading and unloading of bulk inert materials and construction wastes;
- Waste gas during the construction equipment operation, containing nitrogen oxides, sulfur oxides, carbon monoxide and oxides, hydrocarbons - saturated and polyaromatic, soot, heavy metals and others.
- Aromatic hydrocarbon resins and bitumen - in asphalt paving;
- Fumes of organic solvents - from paint thinners used in laying the horizontal markings;

periodicity of construction works during daylight hours, and better organization of the works are a prerequisite for local scale EVV which is quickly dissipated in the environment without adverse effects on other components.

Estimates of exhaust emissions from vehicles are made under an approved and active MEW methodology for determining the emissions of harmful substances in the air - in EMEKA / SOKNASH 1997 2000, third edition, 09.2004, December 2005

Dissipation of emissions of harmful substances emitted by traffic flow of "Maritsa" motorway from km 2 +900 to km 73 +320, expressed as concentrations is presented using the action of current German method "Merkblatt Über Luftverunreinigungen an Straßen Teil: Straßen ohne mit lockerer Randbebauung, MLuS – 92".

THE ESTIMATIONS SHOW THAT CARBON MONOXIDE, SULFUR DIOXIDE AND SOOT WILL BE IN LOW LEVELS UNDER THE STANDARD IN IMMEDIATE PROXIMITY OF THE MOTORWAY THROUGHOUT THE FORECAST PERIOD. FOR HYDROCARBONS, BEING A COMPOUND MIXTURE, THERE IS NO SANITARY STANDARD. CONCENTRATIONS OF N02 NEAR THE LAY-BY DO NOT EXCEED THE AVERAGE YEAR RATE. AT 30 M DISTANCE AWAY FROM THE MOTORWAY CONCENTRATIONS ARE DECREASED APPROXIMATELY TWICE, AND AT 100-METER DISTANCE - WITH LOW BACKGROUND LEVELS.

The above estimates indicate that the population of the nearest location - the village of Polyanovo - will not be exposed to excessive levels of EVV from the traffic flow.

Cumulative effect

The combined action of two or more hazards increases their toxicity. In this case, however, at very low predicted levels of harmful substances in a busiest year, the total concentration of NO_2 + SO_2 + CO is less than "1" / 0.7587 /, which is a very good prognostic sign.

With regard to atmospheric air there are no investment proposals in the route proximity that would pollute it and because of this no cumulative effect on its purity is expected.

In conclusion, we believe that with regard to air the operation of "Maritsa" motorway will not deteriorate the environmental situation in the region given the proposed measures, combined with air monitoring are implemented.

4.2. Surface and groundwater

4.2.1. Surface water

a. During implementation of the investment proposal

During the construction of the "Maritsa" motorway and the construction of various facilities along the route no formation of industrial waste waters and their discharge into

the nearby water collector is expected. The water necessary for manufacturing processes will be taken from water sources following the respective permissions.

Washing of vehicles, changing oil, fueling and repair is not planned/envisaged at the construction sites. Only their parking is envisaged.

After construction of the motorway eradication of these construction sites and recultivation of land shall be carried out. It is the responsibility of the construction company which shall prepare a program for both construction and cleanup of the construction sites.

b. Use of natural resources

In the construction of the "Martisa" Motorway, water will be used as a natural resource in the concrete-laying works in the construction of installations, for casing and reinforcement works, for the implementation of the landscaping project, for coating etc. As per the bill of materials the total quantity of concrete for the above works is 137816 m^3, which means water resources consumption around 30000 m^3.

Operation of the "Maritsa" motorway is not related to use of surface water and groundwater resources in the region.

c. During the operation of "Maritsa" motorway

The motorway during operation will be a linear source of pollution, emitting: EVV from transit flow and occasionally contamination of some local areas from accidental spillage of transported chemicals on the road.

For wastewater resulting from roadside service complexes and other additional sites / service stations, garages and others / treatment facilities will be built and permits will be obtained from the Basin Directorate Eastern Aegean area in the city of Plovdiv.

Rain water taking off the motorway road will be done through side ditches into nearby gullies and rivers. Their regular cleaning is necessary by the service personnel.

During the construction and operation of "Maritsa" motorway a plan shall be prepared for emergency, crisis and burst pollution measures to overcome them or prevent them. Given the strict implementation of the measures envisaged in the construction and normal operation of the motorway, deterioration of surface waters of the receiving waters collectors around her route is not expected.

During the construction and normal operation of the motorway significant deterioration of surface waters of various receiving water collectors, through which the route passes is not expected.

On following/implementing these conditions deterioration of surface water near the track "Maritsa" motorway is not expected both in construction and in its operation.

4.2.2. Groundwater

a. During implementation of the investment proposal

The interaction of "Maritsa" motorway with groundwater during its construction is expected to result in additional impacts on the currently existing quantitative and chemical status of groundwater bodies in separate areas on and around the motorway.

Impacts quantitative status will include:

- Physical destruction of two tube wells of WPS Krum-Dobrich at km 32 +200
  which supplies water to villages Dobrich and Krum through the existing pumping station.
- Physical destruction of the closed down and practically liquidated WPS Zlatna livada at km 21 +880;

The expected impacts on the quantitative status of groundwater are assessed as insignificant, low, with the exception of the physical destruction of water intake facilities in WPS Krum-Dobrich. This does not generate cumulativeness as it has no practical effect on the existing quantitative condition of underground waters, determined by the natural conditions of feeding and drainage, and by the exploitation of built and water intake systems and installations, the water taking from which is in conformity with the provisions of the Law on Waters and ordinances thereto.

Impacts on the chemical status could include:

- infiltration of contaminated water (mainly mechanical impurities), possibly generated during excavation, embankment consolidation, and other concrete works in construction of roads and relevant facilities.

- It is generally possible, but unlikely, minor amounts of infiltrated polluted water in excavation for foundation of the bridge over the river "Maritsa" to reach the nearest located around the motorway at km 25 +000 intake facilities BPS 16 and BPS 17 of the WPS Yabalkovo. They are unlikely to make substantial negative changes in the chemical composition of extracted water in which manganese concentration is above standard rates.

The expected impact on the chemical status of groundwater is assessed as negligible, low, because the amount of infiltrating water contaminated during construction is minor and they practically do not contain harmful and dangerous substances. It does not generate accumulation and does not lead to a change of existing quality of groundwater depending on the quality of incoming ground water bodies in resources from River "Maritsa" and human impact of the above point and diffuse sources of pollution.

b. During normal operation

Impacts during normal operation of the motorway, representing a linear source of pollution, can result in deterioration of the chemical status of groundwater due to:

- temporary, transient, reversible, low and limited geographical scope indirect discharge into ground water bodies of water-soluble pollutants (chlorides, sulfates, sodium, magnesium and others) generated by the chemical materials used for winter maintenance of roadway, wear of tires, oil spills from passing and/or parked vehicles, etc.,

Such impact, although low, should be limited and, if possible, removed in the sections of the motorway passing through the approximate area of belts II and III of the sanitary protected zones of water intake facilities for drinking water (approximately defined because they are not updated and incorporated under Ordinance № 3 / 16.10.2000) as follows:

- from km 18 +800 to km 21 +000 - belts II and III of the WPS Byalata voda;

- from km 24 +580 to km 28 +000 - bridge over the river "Maritsa" and belts II and III of the WPS Yabalkovo for water supply to the town Haskovo, PS Yabalkovo for supply of TPS "Maritsa" 3 - Dimitrovgrad and WPS Yabalkovo-selska for water supply to village Yabalkovo and village Gorski Izvor;

- unacceptable ingress of air pollutants in the portable water intake structures and pumping stations with faulty doors, windows and shutters of wells generated by the traffic flow.

c . Possible impacts in emergency situations

Impact on groundwater is possible as a result of:

- natural disasters - earthquakes, floods, etc.;.

- in case of discharge pollution in accidental spillage of petroleum and other hazardous substances and materials in road accidents.

These impacts are negative, direct, temporary, transient and reversible, with low degree and limited range around the accident site.

Finally we believe that the hydrogeological conditions within the area of the project route of "Maritsa" motorway does not impede its development.

The intake facilities and water supply systems already built to compensate for intake systems resources affected by the motorway, and implementation of proposed measures during construction and operation contribute significantly to prevent, reduce and eliminate adverse effects on groundwater.

4.3. Estimate impact on environmental components of the generated wastes during the construction and operation of "Maritsa" motorway

Impact of waste generated during construction and operation of the motorway on environmental components may be significant in case of failure to implement the

regulations and instructions of the controlling bodies, municipalities and other departments. In order to reduce or prevent this impact the following is necessary:

- constantly updating of internal procedures for movement of waste generated in the construction and operation of the motorway, compliance with regulatory requirements and continuous control by municipal authorities of the respective municipalities;

- development of an emergency plan to address emergency, crisis situations and discharge pollution - during construction and during operation of the motorway; Development of measures to prevent or overcome crisis situations with minimal impact on the environment components;

- the plan developed by the construction company for motorway construction organization to be agreed with the supervisory authorities and municipalities, with particular attention to the location of construction sites, landfills for temporary storage of excavation soil (which will later be used for embankments), and landfills for disposal of unusable for embankments excavation soils.

Treatment of generated waste will be made by depositing:

- Household waste - in landfills;
- Construction waste - in landfills for construction waste;
- unusable for construction soils - in terrains designated by the respective municipalities.

With proper implementation of construction works and operational activities of the motorway, compliance with regulatory requirements and continuous monitoring - in construction and in its operation, the negative impact on the environment components will be reduced.

Cumulative effect - no cumulative effect is expected from implementation of other investment proposal.

4.4. Subsoil

a. During construction:

The degree of disturbance of the geological environment along the roadway is different - low in areas where it is laid on the terrain, too high in sections where the execution of high embankments and deep ditches (over 10 m), is accompanied by changes in stress and strain status the various soils and rocks in the motorway area.

Apart from mechanical disturbance, the geological environment is potentially threatened by pollution with municipal and construction waste, spills of petroleum products from transport and construction machinery and others. This impact on the geological environment will be temporary, transient, reversible, low degree and limited territorial range within the construction site.

The described impact on the subsoil will be cumulated with similar, but -lower impact of the construction of roadside service complexes, petrol stations, garages and other buildings and facilities

b. During normal operation

The impact on the subsoil may result in:

- Development of erosion mainly on the surface of deep ditches slopes and high embankments in case of poor maintenance of implemented anti-erosion measures. This impact will be negative, direct, temporary and reversible, low; degree;

- contamination of ground along the motorway from the emitted gases and aerosols containing lead and cadmium, soot and others. This impact will be negative, direct, permanent and irreversible, low degree.

c / Possible impacts in emergency situations Impact on subsoil is possible as a result of:

- natural disasters - earthquakes, floods, etc.;

- in case of discharge pollution in accidental spillage of petroleum and other hazardous substances and materials in road accidents.

These impacts are negative, direct, temporary, transient and reversible, with low degree and limited range around the accident site.

Cumulative effect - as mentioned, such is possible in the realization of roadside service complexes, petrol stations, car parks and other buildings and facilities in the area of "Maritsa" motorway route. The impact on subsoil will be accumulated similarly, but to a lower extent.

Finally we believe that the geological structure, engineering geological and hydrogeological conditions within the area of the project route of "Maritsa" motorway do not impede its development.

The implementation of the proposed measures during construction and operation contribute significantly to prevent, reduce and remove adverse impacts on the surface and subsoil.

4. 5. Fauna, wildlife and protected natural areas and zones

4.5.1. Flora

Along the designed motorway route and in its immediate surroundings no rare species of the Bulgarian flora are localized that are subject to protection.

The negative impact of the investment proposal on biodiversity is limited to deprivation of habitats suitable for ubiquitous species of plants and affected areas are relatively negligible, and are not vital for their dissemination.

Direct impact on part of the plant cover will be only within the route range - in construction site and relates to the damage or possible destruction of plant species and communities, as well as disturbance of their habitats.

The indirect impact on plant species could be a result of supposed changes in environmental conditions of traditional habitats. It is planned that almost all facilities in the area of the site be durable, fit in the natural environment and there is not a prerequisite for permanent destruction of plant species, their populations and habitats. Adverse impacts on vegetation in the area of the motorway are usually followed by pollution of air and soil that result from the combustion of different fuels used in activities both during construction and during operation.

Forecast of the alleged significant impacts on flora

The motorway route is located almost entirely in an agricultural region most of whose lands are returned to the owners. The main proportion of land is cultivated and occupied by field crops and on the slopes - from pasture and perennial crops. Separate areas were abandoned and desert. In the areas occupied by natural vegetation fall two habitats of European importance listed in Annex 1 of Directive 92/43 EEC - habitat code 92AO - Riparian galleries *Salix alba and Populus alba*and habitat code 91MO Balkan-Pannonian-durmast forests.

Direct and indirect negative impacts are expected as a direct result of construction of a bridge, working roads, temporary facilities and other related activities. The impact on vegetation of this habitat during the construction period is short, negative, significant, but during the operation it is permanent, negative, and negligible.

Wild plants in other uncultivated areas are considered as such with low conservation value - no localities of rare plants and priority habitats. The construction and operation of the motorway will not cause significant and irreversible degradation processes on natural vegetation and its habitat on the road route. The impacts on it would be lasting, negative, insignificant.

Potential adverse impacts on vegetation in the immediate proximity of the proposed motorway route during construction and operation would be in relation to trophic chains. The analyses of tissues of plants in points of road intersections with the existing route of the highway showed that the concentration of toxic substances in the tissues of trees, shrubs and herbaceous plants do not exceed accepted standards for fodder.

Estimates in terms of concentration of harmful and undesirable substances in the tissues of higher plants are that a significant negative impact on vegetation during normal operation of the motorway does not follow.

4.5.2. Wildlife

Nature and extent of the expected impact on wildlife

The impacts on wildlife representatives from the construction of "Maritsa" motorway will be inevitably multifaceted and, in general - adverse for most species. The construction and subsequent operation of the motorway will have an impact on wildlife as a major component of the natural environment in the region.

The below described forms of negative impact will occur in both protected areas - (1) protected habitats and (2) protected birds.

The section between the villages of Velikan and Yabalkovo is relatively short (0,8 km length), the maximum length of the split of the route east part of the zone is not more than 1,2 km. Therefore **dramatically negative influence on habitat conserved in it is not expected,** considering the area affected in view of the total habitat area in the protected area. Significant adverse impacts are expected on the populations of bird species subject to conservation in the protected zone, mainly due to discomfort and risk of mortality on the road. The most affected species are expected to be the black kite whose only pair of nesting is in critical proximity to the road and wintering cormorants that night area is located near the road route.

The section of BG0000434 Banska River between the villages Dobrich and Dimitrovgrad has a length of not more than 100 m (road width is 30 m). The maximum proximity to the protected area between the villages Preslavets and Harmanli is about 150 m.

Along the motorway route twenty sections are determined crossing areas important for biodiversity conservation, including within the protected areas. They are not distributed evenly along the entire route. Along the route, west of Dimitrovgrad smaller and fragmented territories are located important for conservation of animals, and between Dimitrovgrad and Harmanli there are larger compact areas with preserved biodiversity.

The construction of "Maritsa" Motorway with the planned parameters will lead to direct and indirect effects on the animals and their habitats, including within the 3 zones of the European ecological network Natura 2000 and the ecological corridors connecting them.

The impacts on wildlife are direct and indirect.

Direct impacts are associated with destruction and loss of habitat, fragmentation of habitats and bird mortality.

Indirect impacts are associated with deterioration of habitats near the motorway route due to drying of wetlands (gullies, small water bodies, modifications of the riverbed), sewage water, road surface and solid waste, and noise pollution. They are connected with caused discomfort from the traffic of vehicles, noise pollution, chemical pollution of air, vibration, soil pollution, light pollution, thermal load.

The construction and operation of "Maritsa" motorway is expected to cause significant long-term impacts on wildlife mainly in terms of mortality, fragmentation, habitat destruction and discomfort.

The impacts will have a local character due to the features of the site - its linear structure with considerable length, suggesting that the overall effect on the local populations of species will be significant. Some species such as white-headed shrike and the great olive mockingbird have a very fractured distribution in the country and territories crossed by the motorway route are one of the few places in the country where they are found.

Destruction of habitat as a whole, although constant for most types of **is not associated with drastic reduction of the total suitable habitat area.** However, in further development of the region **the cumulative effect should be considered very carefully** to prevent future additional loss of species' habitats in areas determined as conservation significant for animals.

The fragmentation and high mortality are the most serious long-term effects from the motorway for all systematic groups without fish and specific measures need to be implemented to minimize adverse impacts. Discomfort is a significant negative factor mainly for mammals and birds, in most cases waterfowl using micro-dams as a place to rest and

nesting raptors will be most affected. Two nests of raptors are found in a critical proximity to the motorway route - one nest of black kite in the intersection of the route with the "Maritsa" river in protected area "Maritsa"-Parvomay and one nest of common buzzard near the river Azmaka at km65 +300. For these two cases mitigation measures are necessary in the case of the black kite compensatory measures are necessary to be implemented. Appropriate mitigation measures are described in Section 6.5.2.

4.5.3. Protected areas

Due to the significant distance of the protected areas from the construction and operation of "Maritsa" motorway, they will not be subjected to impacts.

4.6. Forecast of the expected significant impacts on land and soil

Disturbance of land and soil during construction is: Temporary and recoverable

Some disturbances occur during and for the purposes of construction works (direct route excluded), but they are temporary and recoverable. These are disturbances of the lands of temporary sites and approaches during construction and those used for temporary disposal sites of soil materials. After completion of the construction and utilization of land masses, cleared areas are recultivated under prepared recultivation project.

Direct and constant.

The next group of disturbances are the main and most important, and are due to the existing motorway and its facilities. They are direct and permanent. When building a motorway beside the primary and direct disturbance of the lands of the road facility, a number of sub-sites lands which are outside the area of the route will be disturbed. These are junctions, car parks, tourist complexes, the intersection of communications to other departments and others. In excavation and fill for road works on the motorway, and the construction of other additional facilities, etc. humus horizon and general soil profile are taken away, so these lands are considered to be permanently damaged, and soils - destroyed.

Disturbances of lands and soils during the motorway operation relating to roadside strips of land that are continuously polluted with toxic substances of sediment composition of EVV gas from traffic - heavy metals, organics. In this respect relevant requirements have been developed concerning roadside agriculture and forestry crops.

4.7. Noise, forecast of the expected significant impacts

In the route near the motorway (up to 500 m.) are the villages: Dobrich (500 m.), Aleksandrovo (375 m.), and Polyanovo (150 m.).

During construction:

During construction of the road in the nearest residential areas the village of Polyanovo equivalent noise levels around 58 dBA can be expected, which exceed the standard of hygiene for the day period by about 3 dBA. The impact is for a limited period of time. For other populated areas around the route noise levels are not expected to exceed the limits.

Trucks serving the construction are a source of high noise levels and deteriorate the noise status of populated areas when crossing them. The impact is transient.

During the operation

The distance from the road route where hygiene standards for noise are reached in the unobstructed distribution of noise over a plane surface, determines the width of noise protection zone on both sides of the road. The table shows the level of noise Leq, noise protection zone width for residential areas as a forecast for the year 2025: during the day - 200 m., at night - 240 m. The requirement for the night period is determining.

The residential area of the village of Polyanovo falls within the determined noise protection zone.

The nearest residential areas are at a distance of about 150 m from the new motorway. The expected noise levels reaching them are them: during the day - about 61,0 dBA, at night - about 52,0 dBA. Expected levels in excess of hygiene standards are low - about 1 dBA during the day and about 2 dBA at night.

Other residential areas along the "Maritsa" motorway are distant enough from the route and will not be affected by transport noise.

Cumulative effect

Impact of transport noise of the motorway is expected for the village of Polyanovo. Investment proposals for construction of future projects in the area of the village have not been submitted so far. In the future, in the area of the village of Polyanovo a major source of noise will operate - the traffic flow on "Maritsa" motorway. Cumulative effect with other facilities sources of environmental noise is not expected.

Conclusion

"Maritsa" motorway in section from km 2 +900 to km 73 +320 is situated in such a way that in terms of noise it does not constitute an adverse or a risk factor for the residential; areas located near the route. The expected small excess levels for the village of Polyanovo will be successfully removed by implementing the proposed solution.

4.8. Landscape - Assessment and forecast of expected disturbances of the landscape

The construction of the motorway in the region is necessary and the determined - well-grounded.

In any case, with the construction of the motorway, the existing landscape and landscape components will be partially disturbed.

The basic disturbed landscape components are evaluated and shown in item 3.8 of the EIA, where each of the components carries different weight in the assessment of the overall disturbance of the landscape in the vicinity of the motorway.

A specificity of the motorway is that besides being an anthropogenic-technogenic object, it is also a linear object (70 km), passing, as already stated, over a relatively varied topography and morphological structure. Topography as a leading natural factor determines landscape diversity. Crossing a sequence of landscape groups, **disturbances caused by the motorway are direct, but local and within the route range, the facilities and roadside objects in which the project does not cause major changes in the structure and functioning of local landscapes.**

The impact is particularly serious because of emitted harmful gases from cars on the biogenic components of the natural environment and soil near the motorway. Most significant, however, this impact is currently on urban landscapes. The construction of "Maritsa" motorway and the significant traffic unload of road E-80 will be a substantial change in a positive direction with respect to this impact on urban and agricultural landscapes.

Limiting the impact of the motorway on agricultural landscapes in the roadside strip is achieved through roadside plantings and landscape design of the motorway, which will be the subject of separate projects. The impact of the motorway on agricultural landscapes is also limited by changing the types of agricultural crops with technical crops which are more resistant to chemical pollution.

4.9. Harmful substances

Problem with hazardous substances can occur in the operation of the motorway, in case of traffic accidents and accidents involving commercial vehicles (mostly with tanks) carrying substances classified as harmful.

The possibility of an incident involving hazardous substances and hazardous waste is small, given the best technical features of the design layout of "Maritsa" motorway.

Type, amount and consequences of such incidents cannot be estimated even approximately because of the wide variety of substances transported, and because of the unpredictability of its occurrence.

4.10. Estimated impact on the monuments of cultural and historic heritage

Impact on archaeological sites - the nature of the excavation and construction works within the motorway easement suggest actual destruction of monuments and therefore require their full study before construction starts.

Full reports from terrain studies will be presented by the contractors of the Assignor after final completion.

4. 11. Description, analysis and assessment of the likely significant impacts on the population. Health risk assessment**,** measures for health protection and risk management

Risk factors harmful to human health are identified and characterized taking into account the environmental components, the type of risk factors and conditions (the conditions for adverse effects).

The main risk factors for the health of workers involved in the implementation of the investment proposal are dust, toxic hazards, noise, general and local vibration, adverse microclimate and physical strain.

Risk factors for public health during construction and operation of the motorway are mainly polluted air and excessive noise levels.

The following substances are most important as chemical risk factors: polycyclic aromatic hydrocarbons (PAHs), heavy metals, carbon and nitrogen oxides, sulfur dioxide, tar, etc.

An assessment has been made the possibilities for combined, complex, cumulative and remote influencing factors that may lead to the development of respiratory diseases.

There is evidence of a complex influence - for example, a combination of noise and exposure to heavy metals (lead). This is a case of additive influence. i.e. adding to the effect. In this case there is a higher risk of health deviations for drivers of road construction equipment, regardless of low concentrations of chemical pollutants and noise.

Characteristics are presented of exposure (direct and indirect) that may take place simultaneously in several ways - by air, water, home-made food. The exposure of motorway construction workers is considered direct, but its nature will be periodic in both duration and intensity.

Prophylactic measures are proposed to protect the health of construction workers, including basic requirements for safe working conditions.

Preventive measures are presented to protect public health and the main factors representing risk to the health of the population living near the motorway route are determined to be noise and dust factors. Currently, with operation of road E-80, these factors are valid for many cities and the population is currently exposed to noise and dust significantly greater than that expected operation of investment intention.

Regarding hygiene, the fact that water intakes are located within the motorway route is considered. The motorway route passing near water supply zones is essential and technical measures have to be taken to preserve groundwater clean in order not to disrupt normal operation of the wells.

Regarding preventive health issues we may be conclude that implementation of the new route does not have the potential to harm human health, and even on the contrary - it is expected to significantly improve the utility and sanitary conditions in the area.

4.12. Cumulative effect

With regard to atmospheric air there are no investment proposals in the route proximity that would pollute it and because of this no cumulative effect on its purity is expected.

With regard to water - All investment proposals in the area of the "Maritsa" motorway route will not affect the water quality of the river "Maritsa" and its tributaries in the region and the environmental situation as a whole. They are relevant, perspective and do not contribute to occurrence of a cumulative effect on joint exploitation of "Maritsa" motorway.

The expected impacts on the quantitative status of groundwater is assessed as insignificant, low, with the exception of the physical destruction of water intake facilities in WPS Krum-Dobrich. It does not generate accumulation as it practically does not influence the existing quantitative status of groundwater depending on the natural conditions of feed and drainage and on operation of the existing water intake systems and equipment, water intake from which is in accordance with the Water Act and its Ordinances.

The expected impact on the chemical status of groundwater is also assessed as negligible, low, because the amount of infiltrating water contaminated during construction is minor and they practically do not contain harmful and dangerous substances. **It does not generate accumulation** and does not lead to a change of existing quality of groundwater depending on the quality of incoming ground water bodies in resources from River "Maritsa" and human impact of the above point and diffuse sources of pollution.

Wastes - no cumulative effect is expected from joint implementation of other investment proposal.

Subsoil - such is possible in the realization of roadside service complexes, petrol stations, car parks and other buildings and facilities in the area of "Maritsa" Motorway route. The impact on subsoil will be accumulated similarly, but in a lower degree.

Flora and Fauna- no cumulative effect is expected of the joint implementation of other investment proposals.

Land and soil - with investment proposals announced so far no cumulative effect is expected on land.

Impact of transport noise of the motorway is expected for the village of Polyanovo. Investment proposals for construction of future projects in the area of the village have not been submitted so far. In the future, in the area of the village of Polyanovo a major source of noise will operate - the traffic flow on "Maritsa" motorway. Cumulative effect with other facilities sources of environmental noise is not expected.

Landscape - with investment proposals announced so far no cumulative effect is expected on landscape.

Health and hygiene conditions of the environment - with previously announced investment proposals no cumulative effect on health of workers in construction and the population -during operation - of "Maritsa" motorway is expected.

5. Information on methods used to assess and forecast environmental impacts

Studies are carried out on the basis of the Bulgarian environmental legislation, adapted to European - Law on Environmental Protection, Law on Biodiversity and Protected Areas Act and resulting regulations - rules, regulations and tariffs for compensations in case of persistent damage. They are carried out using the method of observation - transactional and unintentional. Descriptions of localities of rare and endangered species of the Bulgarian flora (Red Book of Bulgaria, protected plants under the Biological Diversity Act), rare phytocenoses and habitats listed in Annex 1 Biodiversity Act. Subjective estimates based on information about the degree of impact as a percentage on the plant communities and habitats in the area of study.

6. Description of measures, designed to prevent, reduce or, where possible,, to stop significant adverse effects on environment, and a plan for implementation of these measures

Measures to reduce the negative impacts of the construction and operation of "Maritsa" motorway on the environment and living environment are described in a table / Table 6-1 /, and the plan for their implementation refers to column Period / implementation phase.

Measures to reduce the negative impacts of the construction and operation of "Maritsa" motorway on the flora and fauna and protected areas are given separately, given their greater detail, the general measures are presented in the EIA report, and in Annex 4.5.2-1 - the concrete and specific measures.

Table 6 – 1.

Measures to reduce the negative impacts of the construction and operation of "Maritsa" motorway on environment and living environment

No in orde	Measures planned/envisaged	Period/ implementation -phase	Result of implementing the measures
1.	**Atmospheric air**		
- construction machinery engine idle operation is not to be allowed; - use of faulty equipment is not to be allowed - facilities used to prepare and lay asphalt mixtures should not be kept heated after completion of the relevant work; - periodic spraying of the road bed in dry and windy days of work; - prevent abnormal loading of vehicles with loose materials (sand, earth masses , etc..);		Construction	Reducing environmental EVV; reduce dust from: excavation and embankment works, breakup of asphalt pavement, temporary storage of aggregates, etc.
- follow the intended design speed - organize traffic in a way that excludes congestion of long columns of vehicles.		**operation**	Reducing EVV in the environment maintenance in good working condition of the motorway; avoid discharge air pollution
2	**Surface and groundwater, geological environment**		
develop a plan with measures to prevent or overcome emergency, crisis situations and discharges of polluting substances		**During design phase-**	to prevent or overcome emergency, crisis situations and discharges of polluting substances
construction of water intake, monitoring facilities and waterworks in WPS Byalata voda, WSP Yabalkovo and WPS Krum-Dobrich;		**studies and technical design**	Compensated water supply
design solutions for reconstruction of the water supply, positioning of car parks, petrol stations		**Working**	Reduction of

and roadside service facilities;	**Design**	negative consequences;
validation of extraction of groundwater from water supply companies;	**Legal procedure**	Conservation of resources and groundwater quality
positioning of construction sites outside the territories of the sanitary protected zones of water intake facilities;	**Construction**	Preventing contamination of geological base and groundwater
construction of branches of pipeline connections of BPS 16 and BPS 17 to the common water pipeline of the water intake system Yabalkovo.	**Construction**	Preventing contamination of geological base and groundwater
building lined roadside ditches on the bridge over the river Maritza and after it to be discharged into pits outside belt II of the sanitary protected area;	**Construction**	Protection of facilities
renovation of pipelines underneath the route of the motorway;	**Construction**	Prevention of landslides
strict compliance with the design technology and inclinations of slopes of excavations and embankments, justified by appropriate stability estimates;	**Operation**	Preventing contamination of geological base and groundwater
limit traffic speed and prohibit parking of vehicles within belts II and III of the sanitary protection zones of drinking water sources;	**Operation**	Preventing contamination of geological base and groundwater
in emergency situations take action to reduce and mitigate the negative effects;	**Operation**	Preventing contamination of geological base and groundwater
monitoring of the WP SByalata voda and WPS Yabalkovo with increased frequency of sampling and testing of water	**Operation**	Preventing contamination of geological base and groundwater
do not allow storage of chemicals for winter maintenance of roads in the section of the motorway route from km 18 +800 to km 28 +000.	**Operation-seasonal-(autumn-winter)**	maintaining clean surface, groundwater, soil and vegetation along the route of "Maritsa" motorway
in case of emergency (earthquakes, discharge pollution in accidental spillage of petroleum and other hazardous substances and materials in road accidents, etc.) take action to reduce and mitigate the negative effects regulated by the acting laws and regulations and immediately alert officials directly involved in fighting disasters and accidents;	**Operational-immediately in emergency situations**	Limiting the consequences of incidents involving the spillage of toxic substances.
do not use faulty vehicles, do not change and discharge oil and fuel on the ground of the motorway and around it, in case of tank ruptures, leaks, etc. immediately take timely action by supervising the workers prevent the disposal of various waste dry gullies and gorges, if allowed, the company - contractor shall be obliged to carry out cleaning of the site and be sanctioned legally.		Limiting pollution of surface waters from oils, fuels and waste generated during construction. maintaining clean surface water along the route of "Maritsa" motorway
3 Geological environment		
regular beat of the motorway track with survey of the adjacent slopes for landslides and landslips;	**Operation**	maintain in good condition the constructed earth retaining structures and

-Monitor the condition of the roadway - broken pavement, fissures, etc. and take timely and adequate measures;		**Periodically, scheduled**	drainage system all along the motorway;
4	**Land and soil**		
- storage facilities outside the motorway with surplus excavation soils; designated areas to be complied with the respective municipalities and RIEW before the start of construction works; - removal and disposal of humus separately from the rest of earth mass designate landfill sites, to be agreed with the respective municipalities and RIEW prior to construction; - cleaning the roadside strip of waste of construction and operating materials ; - Planting and strengthening of the slopes after completion of construction works;		**Construction , established work schedules**	- subsequent use of humus in purpose - to restore the damaged areas ; - recultivation and turning over of all land and forest land occupied temporarily for construction sites, landfills for aggregates and others.;
- in case of soil pollution due to accidents - take timely measures to liquidate or mitigate the effects - dose preparations for winter maintenance of the road in the technological optimum;		**Operation Immediately-Emergency; Seasonal - in winter maintenance of the road**	Eliminating or reducing pollution of soil, which will be of local character;
5	**Flora and fauna, protected areas**		
5.1	**Flora**		
• monitor the conduct of the project and works with a view to maximum preservation of the natural vegetation and habitats. • Preparation, coordination with the competent authorities and acceptance of the recultivation project for restoration of damaged areas • As in the project implementation secondary vegetation will be partially destroyed, it is recommended for planting in the territory local species of plants to be used, with model configuration, taken from natural communities, which will ensure greater stability of recultivated land and will help for restoration of vegetation typical of the region.		**design phase**	Conservation of vegetation
• Make accurate marking of route approaches to the construction spots on the terrain; • Do not treat grass cover and roads with chemical substances. • Do not allow disposal of household and food waste, which can lead to poisoning soil and representatives of flora and fauna. • Conduct a comprehensive awareness campaign among the participants in the construction and		**Construction-**	Preventing further destruction of vegetation. Soil conservation and hence - the representatives of the flora, and also animals feeding on vegetation.

operational activities for the purpose and subject of protection areas to prevent damage to flora and fauna in the area. • Do not allow spills of fuels and lubricants from construction machinery. • Comply with fire safety rules. • Removal of surface humus layer of the area required for construction and deposit it in the territory in order to use it in landscaping activities;		
• Regulate additional load on the areas used outside the route of the motorway; • Protection of land in the area of the motorway from ruderal and synanthrop invasion by periodic cleaning of the gradual penetration of ruderal species in the area.	**Operation**	Minimizing cumulative effects on habitat areas around the route and these in the protected areas.
Wildlife		
River valleys and gullies to be bridged over with sufficiently long and high viaducts to maintain the water flow (even in dry gullies) and riparian vegetation and to allow free passage of animals, especially bats, amphibians and reptiles; • In recultivation of land plant only native species that occur in the surrounding territory, seed material shall be collected locally and grown in nursery-gardens until recultivation time. • Envisage passageways for different types of animals depending on the specific of habitats: A) Different types of dry subways for key species for conservation: wolf, tortoises, reptiles, small mammals, bats. B) Different types of passages under river bridges C) Providing pipes for crossing of turtles - every 200 meters if there is no other multi-purpose facility. • Set noise protection walls in certain risk areas In order to reduce significant negative impacts on bats (fragmentation to corridors and mortality on the route) and large mammals, envisage construction of plant belts of woody bushes to the approaches of all planned facilities (subways, overpasses) for crossing the route of the motorway through technical and road infrastructure. Planned construction of bridges over the "Maritsa" river, Banska river and Harmanliyska river to be protected against leakage of petroleum products and other pollutants in case of transport accidents to avoid pollution of the river and the river banks.	**During design phase-**	Creating secure conditions to protect wildlife.
• During the period March 15 to July 15, during the nesting period of most populations of birds breeding in Bulgaria, when they raise their little ones (Simeonov and others, 1990;	**Construction**	Protection of birds from discomfort. Restoring the natural

Nankinov 1997), do not undertake construction activities • In the section with bridges and in the section (the maximum proximity to protected areas) at Harmanli provide large-scale afforestation with suitable local moisture-loving trees and shrubs, but not closer than 25 meters from the lay-by of the motorway.		habitat to which the birds are accustomed.
• Monitoring of impacts on different classes of animals in areas that are most valuable to them, as well as monitoring the effectiveness of mitigating and compensating measures. As a result of monitoring, if necessary, actions for improving and supplementing them need to be taken.	**Operation**	Conservation of wildlife
5.3. Protected Areas		
• these areas are to be clearly marked on the ground in places where the route passes by exercising strict control over the implementation of specific, mitigation and compensatory measures described in Annex 6.5.2.	**Construction**	Conservation of these areas and zones in conditions close to that before construction of the motorway.
• strict control for implementing the specific, mitigation and compensatory measures described in Annex 6.5.2.	**Operation**	Conservation of these areas and zones in conditions close to that before construction of the motorway.
6. Harmful physical factors - noise		
- In the sections of the road near residential areas construction activities to be carried out only during daylight hours. -Observe the permissible speed of heavy transport servicing construction passes through residential areas; - Do not allow operation of construction equipment idling, especially at sites near residential areas.	**Construction**	Creating the conditions for protecting people from noise near the motorway route during construction.
- Situ measurements of noise levels after the establishment of a permanent traffic on "Maritsa" motorway - Assessment of the need for further noise protection of residential areas located near the motorway and if needed - a separate project with an individual project for each zone /village of Polyanovo/	**Operation**	Creating conditions for protecting people from noise near the motorway route during operation.
7. Landscape		
Implementation of projects for landscape design and planting	**Construction**	Naturally fit the route of the road in the surrounding landscape.
Observations on planting of saplings planned in the project for landscape design; - Replanting in case of damage or wilting of saplings; - Control to maintain cleanliness in the area around the road in order to maintain positive perceptions of the panoramic views.	**Operation , seasonal**	Aesthetic impact of the panorama around the road on the people using the road.
8. Waste		

organized collection, transportation and disposal of household and technological waste generated at construction sites; Coordination of schedules, organized way of transportation and places for disposal of generated waste (between the company-contractor and the municipalities) - Upon completion of construction of a subsection it should be promptly cleaned of waste which should be transported to designated disposal sites;	**Construction**	Preventing contamination of the geological base, surface and groundwater
- Provide containers for solid waste near rest stop places; - Organize regular cleaning, collection and disposal of waste from the road lanes, roadside area (easement), containers and roadside trenches and to the appropriate facilities for storage, processing or elimination. - prevent dumping of any waste in gullies and dry gullies which the route crosses or is tangent; - administrative responsibility and penalties for drivers and passengers polluting road lanes and roadside.	**Operation-permanent**	Preventing pollution from generated waste
9. Harmful substances		
Prevent spills of fuels, lubricants, etc. of faulty equipment	**Construction**	Conservation of the area of construction from contamination with dangerous substances
- Organizational and material provisions of the Civil Protection units for quick and adequate response in case of accidents involving hazardous substances along "Maritsa" motorway;	**Operation**	Limiting the area of spillage of hazardous substances in emergencies.
10. Cultural and historical heritage		
Report on results of full field beat route. Field beat sites for service activities, creation of deposit places for humus and unusable soils; determine pits for inert materials; In areas without sufficient information archaeological sites to be updated and mapped;	**Before starting construction works**	Clarify to what extent the route of the motorway would affect known archaeological sites;
For already known and located archaeological sites (see references) - full rescue archaeological survey, according to the Law on Cultural Heritage (LCH) Art. 147, para. 5, 1 and 148 para. 5, SG issue19/2009. - during excavation and construction works provide supervision by specialist archaeologists during removal of the humus layer and the process of excavations; -in the performance of co-construction activities: construction of bases and service construction sites, creation of soil deposits, using the existing or new pits, building temporary roads: identification and investigation of archaeological sites (application of Art. 56 and 147 para. 4 LCH).	**Construction**	Preservation of the cultural and historical heritage in construction of "Maritsa" motorway
- Maintain in good condition sign posts and boards with descriptions of the existence of cultural and historical heritage monuments;	**Operation**	Creating opportunities for cultural tourism and awareness of travelers along the road of the monuments

		of our cultural and historical heritage
11. Health and hygiene aspects of the environment		
Develop a Plan for Safety and Health (ABM) and organize the construction works so that the time for implementation be maximally reduced;	**Before construction works**	A prerequisite for effective prevention of occupational accidents and normal workflow.
- providing workers regulated holidays, special and seasonal work clothes and shoes , personal protective equipment; Conduct regular briefing for all workers. - use anti-vibration gloves during work with breaker machines; - in the hot summer days place fans in the cabins of excavators and bulldozers; - conduct regular check-ups aimed at the creation of labor-related diseases ; - developer of "Maritsa" "to enter into contracts with hospitals for providing emergency medical care to injured workers; - provide at each building site first aid kit with necessary medicines for first aid, the list of these medicines should be provided by hospitals, cited above; - the construction company of "Maritsa" motorway to make individual labor accident insurance of workers	**Construction**	Providing safe working conditions for workers on "Maritsa" motorway.
- Regular evaluation of the main parameters characterizing the state of health; - regular analysis of their determining factors in the environment and for their qualitative and quantitative characterization , search for causal dependence; - periodic comparison with the health indicators of population of the country to improve health status; - establishment of adequate environmental assessment, prevention and promotion of public health	**Operation**	Health protection of the population near the "Maritsa" motorway.

7. Self-monitoring plan

Atmospheric air

Self-monitoring should be performed on emissions. Analyses should be conducted by an accredited laboratory to carry out relevant research in accordance with the below schedule.

Measurement of the following harmful substances is suggested: nitrogen and sulfur dioxide, soot, hydrocarbons, ozone, dust - total suspended and PM10, cadmium aerosols.

An indicative timetable is given for carrying out control emission study - during construction and during operation.

Available tests can be performed with a mobile automatic station at the discretion of MEW RIEW and EEA. The procedures for recording and transmission of documents from measurements to the control bodies should be conducted in accordance with the guidelines of RIEW.

Surface water

Monitoring of surface water should be carried where the motorway route crosses over the "Maritsa" River and Hadjiiska River, conducting a full analysis, paying particular attention to the content of petroleum products into surface waters.

A schedule for control analysis of surface water area around the "Maritsa" motorway is presented

Groundwater

Groundwater monitoring should focus on water extraction wells in the river terrace of "Maritsa" river when examining the same indicators of surface water. Analysis of water should be made before and after the departure of the pumping station. Given that groundwater in the region contains manganese, its levels should be monitored at intervals set by the controlling authorities - Regional Inspectorate for the Preservation and Control of Public Health (RIOKOZ), RIEW, RIAOS.

Manganese removal from water is done by using bacteria - with manganese bacteria which requires adequate microbiological analysis and control.

Waste

Monitoring activities include maintaining cleanliness of "Maritsa" motorway and roadside space, the measures and plan for their implementation are presented in item 6.

Collection, transport and treatment of generated wastes will be part of the mandatory Program activities for management of generated waste and represents monitoring of their route. In this activity it is compulsory to keep strict records in the documentation in order to trace the route of waste to their disposal or recycling after separation.

Flora

Atmospheric pollutants subject to monitoring in green belt of the "Maritsa" motorway shall be:
$_{80\ 2}$, N02, CO, PM 10, total suspended particulate, CC1, RY, Si, 2p.

Wildlife

• During construction and operation monitoring shall be conducted of impacts on different classes of animals in areas that are most valuable to them, as well as monitoring the effectiveness of mitigating and compensating measures. As a result of monitoring, if necessary, actions for improving and supplementing them need to be taken.

Noise

After establishment of a permanent traffic on "Maritsa" motorway, conduct noise monitoring at the residential areas that are close to the route /village of Polyanovo and village of Aleksandrovo/. Depending on the results design individual noise protectors for any required area.

Monitoring after these actions to be consistent with the inspection bodies such as frequency and location of the posts. It is recommended that monitoring be done in

periods with a maximum noise (summer season) - for all periods of the day - day, evening and night. The frequency of measurement noise to be at least once every two years.

Land and soil

In preparing the plan for self-monitoring specify areas of land that are most at risk of emergencies; monitoring to be conducted once a year.

Cooperation with supervisory authorities to determine the scope of monitoring of soil near the motorway route - the number of sampling points and frequency of measurements. Depending on the results of monitoring to determine appropriate crops to grow near the route.

Health of the population

Guidelines for health monitoring of the population of the residential areas located near the route of the motorway consistent with generally accepted guidelines for the characterization of health status and with the presence of a road route in the proximity. They focus on the following areas of monitoring, namely:

- -Regular evaluation of the main parameters characterizing the state of health;
- -regular analysis of their determining factors in the environment and for their qualitative and quantitative characterization, search for causal dependence;
- -periodic comparison with the health indicators of population of the country to improve health status;

-establishment of adequate environmental assessment, prevention and promotion of public health.

8. Statements and opinions of the affected community, of the competent authorities for a decision on EIA and other specialized agencies and interested countries in a transboundary context, as a result of conducted consultations;

8.1 The Road infrastructure agency provided the following information:

- Opinion on prior consultations for

land use change and exclusion from forest areas, for construction of "Maritsa" motorway subproject Orizovo - Harmanli in part of the territory of town Haskovo. /regarding letter ref. No.5040/25.10.2007
, information from LUP of 2004.

- Opinion on prior consultations for

land use change and exclusion from forest areas, for construction of "Maritsa" motorway subproject Orizovo - Harmanli in part of the territory of town Haskovo. /regarding letter ref. No.5040/25.10.2007
, information from LUP of 2005.

- Act No.129 / 25.07.2007 on the categorization of agricultural lands to change their use - Regional Directorate of Agriculture and Forestry - city of Stara Zagora.

- Act No. 87-07 / 08.08.2007 on the categorization of agricultural lands to change their use - Regional Directorate of Agriculture and Forestry - town of Haskovo.

- Act No. 92-07 / 08.08.2007 on the categorization of agricultural lands to change their use - Regional Directorate of Agriculture and Forestry - town of Haskovo.

- Act No. 89-07 / 08.08.2007 on the categorization of agricultural lands to change their use - Regional Directorate of Agriculture and Forestry - town of Haskovo.

- Act No. 88-07 / 08.08.2007 on the categorization of agricultural lands to change their use - Regional Directorate of Agriculture and Forestry - town of Haskovo.

- Decision No. 779 of 30 November 2007 on expropriation of privately owned property for State needs for construction of site "Maritsa" motorway from km 5 +100 to km 117 +000, located on the territory of Stara Zagora and Haskovo regions.

- Letter from the Municipality of Parvomay, No. 24-03-20/24.08.2009 on investment intentions close to the limits of the approved route of "Maritsa" motorway

- Letter from BTC ref. No. 6913 / 11.07.2007 on the coordination of the plot plan for the site "Maritsa" motorway - 8 km section from km 8+800 to km 22 +700

- Letter from BTC ref. / 25.07.2007 regarding coordination of the plot plan for "Maritsa" motorway site- section from km 5 +100 to km 72 +260

- Letter of EVN KEC - Dimitrovgrad, ref. No. 418/16.07.2007 on the coordination of object "Maritsa" - Orizovo - Harmanli

- Letter of EVN KEC - Dimitrovgrad, ref. No. 192/05.07.2007 on the coordination of object "Maritsa" - Orizovo - Harmanli

- No. 1466 / 19.07.2007 by Water and sewerage Ltd - Haskovo regarding coordination of the parcel plan and pipelines crossed by "Maritsa" motorway in the territory of Haskovo region

- No. 911 / 09.07.2007 by Water and sewerage Ltd. - St. Zagora regarding positive opinion prepared for the parcel plan of "Maritsa" motorway site, subproject Orizovo - Harmanli

- Letter ref. No. TSU- 17/19.07.2007 by Water and sewerage Ltd. - Dimitrovgrad regarding coordination of the plot plan for "Maritsa" motorway site- section from km 5 +100 to km 72 +260

- Letter ref. No. 728/05.07.2007 by Irrigation Systems - SA Branch Haskovo regarding number of properties that are irrigating government sources

- Letter ref. No. 6299/16.07.2007 by Bulgargaz regarding PUP - plot plan for "Maritsa" motorway site crossing gas pipeline at km 6 +800

- Traffic on "Maritsa" motorway

8.2. We were given the following information by MEW

letter from MEW ref. No. ZDOID-8081/10.08.2009.

- Protocol for Access to Public Information No. 60/12.08.2009.

- Solutions to estimate the likely extent of adverse effects - for 2 investment proposals;

- Decisions on estimation of the need for EIA - "not to conduct" for 3 IP;

- List of EIA decisions issued by the Ministry - for 5 IP

- **Decision No. 04-OS / 2007 IP "Maritsa" motorway from km 2 +900 to km 73 +320 coordinated,** 'was estimated to have no significant negative impact on natural habitats, populations and habitats of species, subject to conservation in protected areas (Natura 2000 areas).'

- Information on deposits of mineral resources - from DZNPB, letter ref. No. ZDOID-8080 / 22.07.2009.

- Opinion on the assignment of "Maritsa" motorway, ref. No. 12-00-893 Sofia ... .
2009

8.3. We were given the following information by RIEW town St.Zagora -
letter ref. No. M - 502 / 08.25.2009:

- Decision on granting access to public Information No. 24/25.08.2009.

- Protocol for giving access to public Information No. 24/24.08.2009.

- Decisions on evaluating the need for EIA - "not to conduct" / 2 IP / and EIA procedure with the expected decision, after public discussion / 1 IP / village Dobri Dol.

- protected areas Natura 2000.

8.4. We were given the following information by RIEW town St.Zagora -
letter ref. No. RD-16-3353/17.08.2009:

- Decision No. RD-16-21/17.08.2009 on granting access to public information

- Decisions to estimate the extent of adverse effects under
Ordinance on procedures for assessing the compatibility of the plans,

projects and investment proposals with the object and purpose of protected areas conservation (2 decisions;

- Decisions on estimation of the need to conduct EIA of investment proposals - "not to conduct" /19 IP/;
- Issued statements of investment proposals, non-Annex 1 and 2 of the EPA / 19 IP/.

8.5. **We were given the following information by RIEW town Haskovo** - letter ref. No. 2061 / 25.08.2009:

- Summary of the PAA / protected areas within the boundaries of those lands for the last 4 years;
- List of decisions on EIA / EC / OS, solutions, assessment of need or advice on notifications for SO / 53 / within those lands. - total 58 IP / 53 decisions on EIA estimates, 4 EIA and 1 decision to assess the need for an EIA.

8.6. **From BDIBR- Plovdiv / Annex 8.6-1** /letter ref. No. RD-09-250/14.08.2009

- information about water sources, belts II and III -
- M 1:70000 map bearing the route of "Maritsa" motorway, outlines of bodies of groundwater in the area, sources of mineral water.
- Annex No. 2 to Art.10, para. 1 of Ordinance No. 3 of 16.10.2000.

8.7. **From the Executive Environment Agency** / Annex 8.7-1 /letter ref. No.26-00-3849/29.07.2009, Decision No. 66/29.07.2009 and protocols for granting access to public information No. 66 / 12.08.2009 and 74 /17.08.2009;

- monitoring data on the status of atmospheric air, surface water and soil

for the period 2004 - 2009

9. CONCLUSION, SUBJECT TO THE PRINCIPLES FOR REDUCTION OF RISKS TO HUMAN HEALTH AND ENSURING SUSTAINABLE DEVELOPMENT, ACTING IN ACCORDANCE WITH THE NATIONAL RULES ON QUALITY OF THE ENVIRONMENT

Investment proposal "Maritsa" Motorway from km 2 of +900 to km 70 +320 is for new construction and is of high priority public interest.

In this report, the EIA of the investment proposal a thorough examination is made of the proposal and its impact on the environment and human health.

The report was developed in accordance with the Law on Environmental Protection (am. SG No. 47 of 23 June 2009) and Ordinance on procedures for assessing the environmental impact (amended. and implemented SG issue 80/09.10.2009).

Opinions of competent authorities and the views of affected population have been taken into consideration in the development.

Necessary studies have been conducted around the route and concrete measures proposed to prevent and reduce adverse environmental impacts on environment, and an implementation plan of the measures. The findings of the experts are supported by evidence and photo materials.

The comprehensive expert analysis proved, that the investment proposal: Construction of "Maritsa" motorway from km 2 +900 - km 73 +320, consistent with the requirements for this kind of equipment is unlikely to have significant negative impacts on environmental parameters of the environment in the implementation of all proposed measures for its protection and carrying out necessary monitoring during operation.

Authors of the EIA report of the investment proposal: Construction of "Maritsa" motorway from km 2 +900 - km 73 +320 on the basis of the carried out analysis and evaluation in conformity with environmental legislation, recommend to the honorable SEEC of MEW to approve the implementation of the investment proposal for the proposed route, in accordance with the recommendations made by experts in the relevant sections of the EIA.

APPENDICES:

1.1 -1 I Situation of the route
Photographs showing the condition of the section from km 2 +900 to km 73 +320
3.5.1 - Typical vegetation along the route of "Maritsa" motorway
3.5.2-1-List of bird species and their conservation status
3.5.2.1 - 1 - Conservation status and suitable habitat for bats
3.5.2.2 - 1 - Photographs on wildlife
3.5.2.3 3.5.2.2 - 2 - Maps
6.5.2 - Specific, mitigation and compensatory measures
8.6.-1 - BDIBR. Letter ref. No. RD-09-250/14.08.2009 on water sources and facilities for drinking water supply and Sanitary Protection Belt, with a map of the region