

**Republic of Macedonia**  
**Public Enterprise for State Roads**



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**NON-TECHNICAL SUMMARY (NTS)**  
**CONSTRUCTION OF THE A3 EXPRESS ROAD,**  
**SECTION SHTIP (TRI CHESHMI) - KOCHANI**  
**Republic of Macedonia**

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# Contents

- 1 INTRODUCTION .....3
- 2 PROJECT NEED & BACKGROUND .....5
- 3 PROJECT DESCRIPTION.....9
- 4 ROUTE SELECTION & SELECTION OF ALTERNATIVES .....12
- 5 SUMMARY OF ENVIRONMENTAL & SOCIAL LEGAL & POLICY FRAMEWORK.....13
- 6 PROJECT EIA, STAKEHOLDER EGAGEMENT & LAND ACQUISITION PROCESS .....15
- 7 SUMMARY OF ENVIRONMENTAL BASELINE & SOCIAL CONDITIONS .....19
- 8 ENVIRONEMNTAL & SOCIAL BENEFITS, IMPACTS & MITIGATION MEASURE.....24
- 9 ENVIRONMENTAL & SOCIAL MANAGEMENT & MONITORING.....29
- 10. FURTHER INFORMATION & CONTACT DETAILS .....30

## List of Abbreviations

EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
ESAP	Environmental and Social Action Plan
ESIA	Environmental and Social Impact Assessment
ESP	Environmental and Social Policy
LARF	Land Acquisition and Resettlement Framework
MOEPP	Ministry of Environment & Physical Planning
NTS	Non-Technical Summary
O.G.	Official Gazette
PESR	Public Enterprise for State Roads
PR	Performance Requirement
RAP	Resettlement Action Plan
SEA	Strategic Environmental Assessment
SEP	Stakeholder Engagement Plan
TEN-T	Trans-European Network-Transport
TIDZ	Technology Industrial development Zone
CEIM	Civil Engineering Institute Macedonia
FS	Feasibility Study

# 1 INTRODUCTION

As part of the overall plan for the improvement of the national road network, outlined in the Republic of Macedonia's National Transport Strategy (2007-2017), the Public Enterprise for State Roads (PESR) is planning to upgrade part of the national road A3: Trebenista – Ohrid – Bitola – Prilep – Veles – Shtip –Kochani – Delchevo – Ramna Niva Border Crossing with realizing a project for construction of express road A3, section Shtip (Tri Cheshmi) - Kochani.

The Project is construction of a 28.1 km 2 lane carriageway “Express road”, connects the two cities of Shtip and Kochani and it is part of the national road A3 which starts in Trebenista (connection with A2) – Podmolje-Ohrid-Kosel-Resen-Bitola-Prilep-Veles (connection with A1) – Shtip (connection with A4) – Kochani – Delcevo – border with the Republic of Bulgaria. The Express road will connect with the Miladinovci-Shtip motorway which is presently under construction.

The European Bank for Reconstruction and Development (EBRD) is considering providing financing to the Macedonian Public Enterprise for State Roads (PESR) in support of construction the A3 express road Shtip – Kochani in the eastern region of the Republic of Macedonia (the “Project”). The Project is considered to be a Category B project in accordance with the EBRD’s Environmental and Social Policy (“ESP”2008). EBRD is working with the PESR to ensure that the Project’s environmental and social risks are appraised and managed in accordance with the required Policy.

The geographical location of the region for the planned “Project” is shown in Figure 1.



Figure 1. Location of the region for the planned “Project”

With its geographical location, this express road gravitates to corridor east – west, and beside national importance also has big international importance. The route of the designed express road section Shtip (Tri Chesmi) - Kochani stretches in the upper north part of the Kocani valley between the towns Shtip and Kochani, on the right side of the river Bregalnica through areas of agricultural land, interspersed by some non-cultivated land.

This **Non-Technical Summary (NTS)** describes the Project, and summarizes the findings of the environmental and social investigations conducted and the risks identified. A **Stakeholder Engagement Plan (SEP)** has been developed for the Project describing the planned stakeholder consultation activities and engagement process. A **Land Acquisition and Resettlement Framework (LARF)** has also been developed to set out PESR's commitments to national and EBRD requirements in relation to land acquisition, in addition a Resettlement Action Plan will be developed. An **Environmental and Social Action Plan (ESAP)** has been prepared in relation to the proposed Project, in order to structure the future Project preparation activities to be in line with EBRD's Environmental and Social Policy (ESP 2008). The NTS, ESAP, SEP and LARF are disclosed on the PESR website (<http://www.roads.org.mk/en/index.php>).

Full project preparation documents including the Environmental Impact Assessment (EIA) – were conducted as a part of larger project which envisaged a Motorway Solution on National Road M-5: Bulgarian Border (Crna Skala) – Tri Chesmi – Kadrifakovo - Otovica and it was approved in 2012 by MoEPP. The proposed Project is part of the Motorway Solution and it follows the same route. The Elaborate for Environmental Protection for deviation at v. Obleshevo is conducted and approved by MoEPP, and is uploaded to the PESR website.

## 2 PROJECT NEED & BACKGROUND

### Project need & benefits

The Republic of Macedonia is aspiring for EU membership, and is engaged in the development of Macedonia's national road network in conjunction with plans adopted by the EU, such as the Trans-European Network Transport (TEN-T) development plans up to 2020. The Republic of Macedonia Spatial Plan (2004) envisages construction of around 9,700 km of new roads by 2020. A high priority was assigned to the improvement of the secondary transportation axis which extends from the border crossing with Republic of Bulgaria, through Drenovo, Kochani, Shtip, Veles, Prilep and Bitola to the border crossing with Republic of Greece. The National Transport Strategy of the Republic of Macedonia (2007-2017) calls for completion of the Pan-European corridors passing through the country, and one of the short-term priorities is the improvement of the road connectivity.

The road section addressed by this Project is consistent with the overall plan outlined in the National Transport Strategy (2007-2017) and is part of the plan to upgrade the state road A3 (previously numbered M5), which connects the Bulgarian Border (Crna Skala) with Otovica via Tri Chesmi and Kadrifakovo. The objective of the project is to build the road connection between Shtip – Kochani.

Overall, the Project is expected to deliver a number of benefits:

- Improved external connectivity with neighboring countries;
- Improved internal connectivity in the eastern part of Macedonia with other regions (connection between two cities Shtip and Kochani);
- Improved safety along the road;
- Strengthening the national and local economy (short-term local employment opportunities during construction and in the long-term stimulating growth and investment in the area);
- Improving access to community services to the settlements along the route and
- Support opportunity for tourism development in the region.
- The improved connectivity will potentially contribute to stimulating growth and investment in the area in the long-term.

### Project Development & Planning History

Initially, for improvement of the transport infrastructure in the east region it was analyzed construction of Motorway solution (Bulgarian Border (Crna Skala) Tri Chesmi - Kadrifakovo -Otovica) that will also improve the connection with Republic of Bulgaria. In December 2011, "Feasibility Study with Traffic Analysis and Projected Traffic for Motorway Solution on National Road M-5: Bulgarian Border (Crna Skala)–Tri Chesmi-Kadrfakovo-Otovica" was prepared by consultant DIWI Macedonia Ltd. The study examines current traffic frequencies, projected traffic flows and potential social and economic improvements arising from better communication. This Motorway solution is mainly processed into three main sections:

- Crna Skala – Vinica;
- Vinica - Tri Chesmi and
- Tri Chesmi – Otovica.

Feasibility study considers two alternative solutions “right alternative” and “left alternative” in the terms of the flow of the river Bregalnica. Following FS, Environmental Impact Assessment Study (EIA) was prepared by DIWI Macedonia Ltd Technical No. Book IX in July 2012 (File No. 11354 in the PESR Archives) that has been approved by MoEPP (issued a Decision No. 11-1813/8 on 31.12.2012) and its validity has been extended for another two years until construction starts which is expected to be by the end of 2016 (Extension no. 11-951/2 dated 06.03.2015). Two alternative solutions are presented on the following Figure 2.



**Figure 2. Right and Left alternative of Motorway solution**

**Source: Feasibility Study from 2011**

Traffic forecasts presented in the Feasibility Study based on three scenarios for GDP growth, are given below for the period 2006-2025 for section of the Motorway that covers the alignment of the “Project”, assuming no investment in the roads network.

**Table 1. Forecasted Traffic Flows, 2010-2034, Shtip- Krupiste Section**

Year	Cars	Trucks without trailers	Buses	Trucks with trailers	Tractors	Total flow (2.50% GDP growth)	Total Flow (4.25% GDP growth)	Total (6.0% GDP growth)
2015	3731	541	198	1045	0	4909	5516	6184
2020	4540	658	241	1272	0	5420	6710	8275
2030	6720	975	356	1883	0	6607	9933	14820

**Table 2. Forecasted Traffic Flows, 2010-2034, Krupiste – Kocani Section**

Year	Cars	Trucks without Trailers	Buses	Trucks with Trailers	Tractors	Total Flow (2.50% GDP growth)	Total Flow (4.25% GDP growth)	Total Flow (6.0% GDP growth)
2015	4924	697	196	1134	0	6186	6951	7792
2020	5990	848	238	1380	0	6830	8456	10428
2030	8867	1255	352	2043	0	8326	12517	18674

*Source: Regional Balkans Infrastructure Study – Transport (REBIS7) Final Report*

Shtip (Tri Chesmi) –Kochani Expressway

One issue identified in the feasibility study was the frequency of traffic accidents on this section and the need for better traffic safety. The table below summarises the recent road accident statistics for the Stip-Kocani road section.

**Table 3. Statistics of road accidents on Stip-Kocani road section**

Year	2009	2010	2011	2012	2013	Total
mortality	0	1	3	1	1	6
Major Injury	35	18	19	20	21	113
Minor Injury	3	15	4	1	8	31

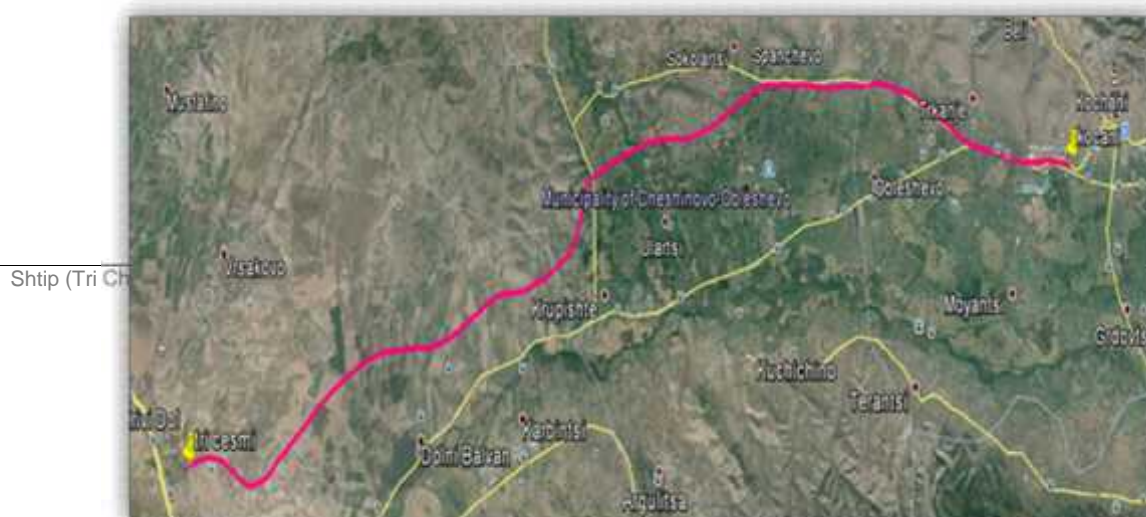
Source: Ministry of Internal Affairs

Later in 2014 second option was proposed considering widening and upgrading of existing road Shtip – Kochani up to the level because the projected traffic flows did not warrant a Motorway.

This technical solution for widening the existing road was considered unfeasible due to several reasons. Namely, to provide continuous connections for local traffic in nearby settlements it would be necessary to construct local roads in parallel with the existing road upgraded to an Express road. The area is used as agricultural land for production of rice thus there is a wide network of irrigation channels and the land is mostly under water. Due to this, construction could be undertaken after prior dewatering of the land. Due to elevated roads there is high risk from flooding. During public consultation citizens were strongly against this road widening option, stating that existing alignment is not very safe and higher speeds on the future express road would increase traffic accidents. Another reason for their objection was the need of expropriation of the land with very good quality agricultural land. At public hearings, the proposed technical solution for entrance into town of Kochani was also not accepted by citizens and by the local self-Government.

Due to the above mentioned reasons, this option was considered as unacceptable and this idea for construction of express road by extension of existing road was not pursued. As projected traffic flows did not warrant a Motorway, a semi motorway (Express road) was proposed on the same project area north of the existing road Shtip -Kochani, where the project impacts are expected to have lower negative impacts on social receptors.

The “ Project” proposed Express road is part of the section Vinica-Tri Chesmi from the Motorway solution (right variant). The Motorway was to be a dual carriageway (2-traffic lanes and a hard shoulder in each direction), wider and a faster design speed (120 km/h) than the proposed Expressway Project.





### **Figure 3 Selected preferable alignment**

A separate report developed by Design Engineers and verified by Opinion no. 12-08/123/3-15 from 21.01.2015 issued by Civil Engineering Faculty in Skopje, was accepted based on the development of infrastructure design for a semi-motorway (Express road) solution based on Motorway solution in 2011, had already been subject to an EIA and FS.

The Chosen alignment was selected to require that as little as possible irrigated farming land used for rice production will be affected by land acquisition. Soil on which the new express road would be constructed is of a lower category (lower compensation value) and will require less funds for land acquisition. The road will not go through settlements. It is expected that 840,000 m<sup>2</sup> of land is going to be affected, out of which 70% is owned by the state. Access to the existing local, earth roads and regional roads will be assured.

The existing national road Shtip - Kochani shall remain for use by mixed traffic (alternative route) considering the numerous settlements adjacent to the road. Those settlements shall be connected with the new express road via grade- separated road junctions as per the design. Traffic safety shall also greatly improve because the Express road shall be used exclusively for perpetual traffic of motor vehicles.

### 3 PROJECT DESCRIPTION

The Project involves the development of a 28.1km stretch of new Express road in the upper north part of the Kochani valley between Shtip and Kochani, on the right side of the river Bregalnica. The express road begins northwest from Shtip, place Tri Chesmi, passes above TIDZ "Shtip", then continues broadly in north-easterly direction through agricultural fields, passes between v.Krupiste and v.Zhiganci on distance of about 2-2.5 Km, than nearby v.Sokolarci, v. Spancevo, v.Banja, and v. Trkanje and ends at Kocani interchange.

Consultants CEIM and Chakar&Partner were commissioned on 03.04.2015 to prepare project documentation. The design and construction will be done to meet requirements of the current Macedonian road design standard. The project will have road markings, road signs and drainage in accordance with national design standards. Interchanges and access/local side road arrangements are included in the Project design because access must be maintained to local lands and villages. Surveys of the route and geotechnical investigations have been performed. The final alignment has now been determined and infrastructure design (preliminary design) is finished. Detailed design is finished for one half of the project from 0+000km to 14+300kmin and for the other half is expected to be finalised in summer 2016 year (Figure 4 and 5). Designer continuously consulted local authorities and other stakeholders and where feasible, took into consideration opinions and suggestions by stakeholders for improving the project design.

The Project fits within the European Bank for Reconstruction and Development (EBRD)'s Strategy for the country, which promotes regional transport integration and supports the development of strategic connections with neighboring countries.

The express road has the width of 11,40 m for v=110km/h and the following technical characteristics:

- driving lines  $2 \times 3,50 = 7,00\text{m}'$
- edging lines  $2 \times 0,20 = 0,40\text{m}'$
- hard shoulder  $2 \times 2,00 = 4,00\text{m}'$
- total width:  $11,40\text{m}'$ .
- Shoulders  $1,50\text{m}$
- Drain channel + berm  $0,75+1,0=1,75\text{m}$
- Subgrade in embankment  $11,40+2 \times 1,50=14,40\text{m}$
- Subgrade in cutting  $11,40+2 \times 1,75=14,90\text{m}$
- Maximal longitudinal gradient  $4\%$
- Maximal transversal gradient in curve  $7\%$
- Transversal gradient in straight line  $2,5\%$
- Minimal radius in horizontal curve  $R_{\min}=700\text{ m}$
- $A_{\min}=250$

The Project includes the creation of four interchanges: interchange "TIDZ Stip" km 1+075,00 , interchange "Krupiste" also known as "Vanco Prke" at km 13+551,21 interchange "Spanchevo" at km 21+218,50 and interchange "Kocani" at km 28+067,83.

Beside the route of the Express road, also are designed objects and accompanying contents with which the function of the express way is completed, such as:

- a) Interchanges for traffic distribution towards and from settlements and villages;
- b) Road crossings for providing the continuity of the existing road relations (local and other roads) left and right of the route, secured with underpasses or overpasses, box culverts etc. without connection to the express road.
- c) Structures for overcoming existing obstacles (bridges, overpasses and underpasses, viaducts etc.)
- d) Structures to span smaller part and providing the continuity of the lateral and storm waters (culverts)
- e) Structures to provide the continuity of the existing channel network (pipelines, channels and other infrastructural installations)
- f) Structures to protect the road body (retaining and veneered walls)
- g) Deviation of the existing roads, channels etc. conditioned by the express road route
- h) All structures and marks from the traffic regulation, safety and equipment of the road



**Figure 4 km 0 +000 to km 14+300**



**Figure 5 km 14+300 to km 28+100**

Table 4 List of objects on the Express road Shtip (Tri Chesmi)-Kochani

OBJECT	CHAINAGE
<b>INTERCHANGES</b>	
Tri Chesmi (subject of other document)	
Connection to TIDZ - Stip	km 1+075,00
Vanco Prke	<km 13+551,21
Spanchevo	<km 21+218,50
Kocani (reconstruction)	<km 23+067,83
<b>BRIDGES</b>	
RC Bridge	km 9+186,01
RC bridge L=30m	km 14+700
Rcbridge L=140m	<km 15+011,11
Rcbridge L=2x20m	<km 17+856,76
Rcbridge L=20m	<km 25+704,71
<b>UNDERPASS</b>	
RC overpass (local road ) v.Tri Cheshmi- v.Sarchievo	km 0+625,00
RC underpass on interchange TIDZ Stip	km 1+075,00
RC underpass (passage D.Balvan -Vrsakovo)	km 6+269,36
RC underpass (local road - access to agricultural plots)	<km 12+100,00
RC underpass (interchange Vanco Prke/Krupiste)	<km 13+554,24
v.Hlanci - v. Zhigonce	<km 15+425,31
v. Sokolarci v. Cheshinovo	Km18+313,00
v.Spanchevo - v. Cheshinovo	<km 21+218,50
The regional road P2372. V.Trkanje - Spanchevo -Pishica	<km 22+132,83
v.Banja – v.Ohlesevo	<km 23+388,77
v.Trkanje- road	<km 25+776,45
<b>OVERPASS</b>	
RC overpass (local road ) v.Tri Cheshmi- v.Sarchievo	km 0+625,00
RC overpass (local road ) v.Cardakija- v.Vrsakovo	km 3+535,00
<b>CROSSINGS AT FIELD ROADS RCP. OMISSIONS L = 5M WITH RESTRICTED FREE PROFILE</b>	
Vrbnichki dol	<km 15+815,00
Field road	km 16+850
Field road	km 19+550
Field road	km 24+350
Field road	km 26+165
Belski dol L=4m	km 27+118
<b>OTHER CONFLICTING SECTIONS</b>	
Intersection with gas pipeline Klechovce - Stip	km 6+787,81
Intersection their water supply pipeline for Stip and Karbinci- system Zletovica	km 7+796,08
Intersection with pipeline Ø400 and Ø200 for hot water Banja - D. Podlog	<km 23+554,61
Intersection with 110kV transmission line Stip - Kocani (relocation of a steel pillar is required)	km 18+500
Intersection with existing protected channel (local dislocation of the channel is required)	km 23+500

## 4 ROUTE SELECTION & SELECTION OF ALTERNATIVES

Several alternatives to the proposed Project route were considered during its development, some information is provided in the project description above and is also as summarised below:

**Route Concept- Motorway (Original Proposal) or Express road (Current Project):** PESR started with activities for improvement of traffic communication at this section in 2011 and the original proposal for this part of the A3 was a Motorway (Bulgarian Border (Crna Skala) Tri Chesmi - Kadrifakovo -Otovica). From Vinica to the locality Shtip (Tri Cesmi) the motorway through Kochani and Shtip to settlement Tri Chesmi is designed in two alternative solutions left and right variant. Thus are named variants regarding the flow of r. Bregalnica. The projected traffic flows did not warrant a Motorway so an Express road was proposed.

Methodology applied for considering the selection of alternatives considered impacts on land use, environmental impacts, community concerns and stakeholder feedback, road safety, traffic-spatial, technical and terrain conditions (constrains), Flood risk and climate change. The alternative “right “variant is considered and chosen for development.

**Alternative Concept of Express road:** PESR proposed considering widening and upgrading of existing road Shtip – Kochani up to the level of Express road was not pursued. This technical solution appeared to be unfeasible due to several reasons and was not pursued. Namely, to provide continuous connections for local traffic in nearby settlements it would be necessary to construct local roads in parallel with the existing road upgraded to an Express road in the agricultural land area with highest quality for production of rice. Network of irrigation channels is in the road area and the land is mostly under water which will cause complicated and expensive construction. Constructing elevated road in the area prone to flood, that is severe due to the climate change, can cause serious consequences and effects. The existing alignment is not very safe, passes true settlements and higher speeds on the future express road would increase traffic accidents.

**Alternative alignment at village Obleshevo:** One proposed alignment near village Obleshevo followed the alignment of the right variant of the Motorway solution. The alignment passes more far from Obleshevo and crosses trough agricultural land with mesh of pipes of the ameliorative canal. The adopted Project route has a deviation toward the village with length 5km and width 2 km in order to avoid impact on and cost of expropriation of agricultural land.

**Interchange at Spanchevo:** A new junction was considered to allow access to the village of Spanchevo due to need to connect the settlements of the municipality Chesinovo- Obleshevo and regional road P2342 Trkanje - Spanchevo - Pisica. Intersection is designed as an adaptation to existing traffic connections and needs of citizens.

## 5 SUMMARY OF ENVIRONMENTAL & SOCIAL LEGAL & POLICY FRAMEWORK

### National Legal Framework for Environmental and Social Protection

The environmental legal framework is defined by the Law on Environment<sup>1</sup>. This Law transposes the requirements of various EU requirements, including those within the EIA, Pollution Prevention & Control and the Industrial Accidents Directives.

National laws exist which cover social aspects, including Health Protection, Occupational Health & Safety, Labour Relations, Working Conditions, Employment, Wages, Social Protection, Land Acquisition, Child Protection and Equal Opportunities. The Republic of Macedonia has ratified many International Labour Organisation (ILO) Conventions.

The following laws are also of particular interest for the implementation of the Project: Law on Public Roads<sup>2</sup>, Law on Road Safety<sup>3</sup>, Law on Health and Safety<sup>4</sup> and Law on Fire Prevention<sup>5</sup>.

Macedonia has signed several international environmental and social treaties and conventions which are also relevant: Convention on Environmental Impact Assessment in a Transboundary Context (Bucharest, 2008), Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, Aarhus Convention, The Convention on Biological Diversity (CBD), Convention on the Conservation of Migratory Species of Wild Animals, Convention on the Conservation of European Wildlife and Natural Habitats.

### Summary of EIA & Permitting Process

The overall EIA process is regulated by the Law on Environment and several secondary regulations that define the screening and scoping process, the EIA content, the procedure for its evaluation and disclosure as well as adoption/rejection. Under Annex 1 of the 'Decree Determining the Projects and the Criteria under which the Requirement for Environmental Impact Assessment Procedure Performance is Established' (Official Gazette of R. Macedonia No.74/05), an EIA is mandatory for the 'construction of a new road of four or more lanes, or realignment and/or widening of an existing road of two lanes or less, in order to provide four or more lanes, where such new road or realigned or widened section of road would be 10 km or more in a continuous length'.

The overall length of the EIA procedure according to the Macedonian Law is a minimum of 105 days, which includes holding a public review and consultation within 30 days after the submission of the draft EIA, and an Adequacy Report issued within 60 days after the submission of the draft EIA, and a Decision on adoption/rejection of the EIA after the completion of the Adequacy Report.

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<sup>1</sup> OGRM No. 53/05, 81/05, 24/07, 159/08, 83/09 and 123/12, 93/13, 187/13 and 42/14

<sup>2</sup> OGRM Nos. 84/08; 52/09; 114/09; 23/11, 168/12

<sup>3</sup> OGRM Nos. 54/07; 86/08; 98/08; 64/09

<sup>4</sup> OGRM Nos. 92/07, 136/11, 23/13, 25/13

<sup>5</sup> OGRM Nos. 67/04, 81/07

Under the Law on Construction (Official Gazette of R. Macedonia No. 130/2009) the national responsible body for issuing the construction permit for this Project is the Ministry of Transport and Communication (MoTC).

### **Legal Framework for Nature Protection**

The Law on Nature Protection<sup>6</sup> sets out various principles including of: protection, restrictions regarding use of nature and natural resources, impact assessment, planning, compensation measures, protection of biodiversity, protection of internationally important species, wildlife conservation, genetic diversity, habitats and ecosystems, ecological networks, minimum environmental release, restrictions for construction activities in riparian habitats and littoral areas, protected areas, management plans for protected areas, landscape diversity, etc. The law transposes the following EU Directives: Habitats Directive 92/43/EEC, Birds 79/409/EEC & Council Regulation (EC) No 338/977 etc. The full transposition of the Habitats Directive and the Birds Directive is pending.

### **Legal Framework for Land Acquisition**

The Law on expropriation (“Official Gazette of Republic of Macedonia” No. 95/12, 131/12, 24/13, 27/14 and 104/15) <http://www.finance.gov.mk/mk/node/3102>, regulates the procedure for the expropriation of property for projects that are of public interest and the connected rights for real estates (immovable properties). Construction of the state road falls under a project of national/public interest. The legal justification of why the project is of public interest is submitted together with the request for expropriation (as part of the same process), by the expropriation beneficiary. The justification is submitted to the relevant offices for legal and property affairs which govern the project.

The following laws govern land tenure and property rights in Macedonia:

- Law on Real Estate Cadastre (“Official Gazette” of R. Macedonia 55/13) Law on amendments and addenda to the law on real estate cadastre (Official Gazette of RM’ No. 115/14)
- Law on national spatial data infrastructure of Republic of Macedonia (“Official Gazette” of R. Macedonia 38/14)
- Law on Obligations (“Official Gazette” of R. Macedonia 18/01, 78/01, 04/02, 59/02, 05/03, 84/08, 81/09, 161/09 )

According to the Macedonian Law on expropriation, compensation cannot be lower than the market value of the affected properties; compensation is assessed against recent market transactions in neighboring areas. The market value of the expropriated immovable property and the immovable property given as compensation shall be determined by an authorized appraiser in accordance with the Law on Appraisal. According to the law, compensation can be provided in the form of either a replacement property or in cash. Where another immovable property is offered as compensation for the expropriated immovable property, it should be proportional in the value to the expropriated immovable property. Macedonian law allows compensation for the loss profit/income for affected businesses, if this is incurred as a result of expropriation. The owner of the immovable property that is expropriated shall also have the right to compensation for the

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<sup>6</sup> OGRM Nos. 67/04, 14/06 and 84/07, 35/10, 47/11, 148/11, 59/12, /13, 163/13 and 41/14

<sup>7</sup> Council Regulation (EC) No 338/97 on the protection of species of wild fauna and flora by regulating trade therein

plantations, sown fields, forests on the land and the orchards, provided that they are not included in the market value of the land. Law recognizes temporarily land take.

## **6 PROJECT EIA, STAKEHOLDER EGAGEMENT & LAND ACQUISITION PROCESS**

The environmental considerations are considered during the overall Project preparation process through implementing Environmental Impact Assessment (EIA), and Strategic Environmental Assessment (SEA). The EIA and SEA have been commissioned. All required consultations and public hearings on the SEA and EIA were committed, and public disclosure of the SEA and EIA were in accordance with the Law on Environment.

### **Strategic Environmental Assessment**

A Sectoral Environmental Assessment was conducted in 2008 on the Regional and National Roads Programme. No Strategic Environmental Assessment (SEA) was requested by MoEPP for the original Motorway Solution on National Road A3 (previous M-5): Bulgarian Border (CrnaSkala) – Tri Chesmi – Kadrifakovo – Otovica that was carried out in February 2012 as the SEA requirement was still in its initial stages of application in Macedonia at that time.

SEA Report was performed in 2014 for the option that was not pursued: Project for reconstruction and rehabilitation of state road A3 section Shtip – Kochani at the level of express road.

Additional SEA Report was conducted for the preferred alignment of the project Construction of the A3 Express road Shtip (Tri Chesmi) – Kochani, and public hearing was held on 23.09.2015 in v. Obleshevo. The positive opinion on the adequacy of SEA was issued by the MoEPP on 13.11.2015.

### **Environmental Impact Assessment**

An Environmental Impact Assessment Study (EIA) was conducted in 2011/2012 on a proposed Motorway which followed almost the same alignment as the currently proposed Express road, although it continued to Vinica and ends at Crna Skala on one side, and on the other side continued to Otovoca. The EIA was prepared by DIWI Macedonia Ltd., Technical No. Book IX in July 2012, File No. 11-354 in the PESR Archives. This EIA study was performed after the process of screening and scoping were carried by PESR and MoEPP, followed the Macedonian requirements, and contains: information on the environmental characteristics of the area likely to be affected; environmental protection objectives for the area; likely environmental and social effects; measures to reduce and offset and monitor adverse effects; and an assessment of alternatives. The draft EIA was subjected to Public Hearings held in:

- 21.02.2012 in Veles
- 21.02.2012 in Sveti Nikole
- 22.02.2012 in Shtip
- 22.02.2012 in Kocani
- 24.02.2012 in Delcevo

More details available at: [www.moep.gov.mk/?page\\_id=1024](http://www.moep.gov.mk/?page_id=1024)

The EIA subsequently was approved by MoEPP (Decision No. 11-1813/8 on 31/12/2012). Given that the EIA was approved for the Motorway, and that the Express road follows almost the same alignment (but is not as



wide), the MoEPP made the determination and the validity has been extended for another two years until construction start (issued Extension no. 11-951/2 dated 06.03.2015 by MoEPP).

Although the chosen alignment is slightly different from the original Motorway solution alignment (chosen right alternative) with small deviation toward the near Obleshevo village, the MoEPP confirmed that there is no need for a new EIA study, but only Elaborate of environmental protection covering the deviation in Obleshevo with length of cca 5km (according to the decision with archive number 11-951/5 from 12.08.2015). Final decision for approval of the Elaborate for environmental protection was issued by MoEPP issued opinion with archive number 11-7946/2 on 11.11.2015.

### **Stakeholder Engagement**

Certain activities were undertaken with the public in 2012 year in relation to EIA for Motorway solution in the affected municipalities as written above. There has been also engagement between the designer and the Municipalities during the design for the Express road.

For the option of reconstruction and upgrading of existing road Shtip – Kochani, wide stakeholder engagement was carried out. Below is the list of the most important meeting:

- 30.09.2014 Presentation of SEA for widening of Shtip – Kocani road was held in village Obleshevo;
- 12.11.2014 Presentation of technical proposal for reconstruction and upgrading of the existing road, at Municipality Chesinovo – Obleshevo with representatives of all affected municipalities;
- 20.11.2014 Final consultation meeting. Representatives of affected Municipalities informed that residents and local administration are strongly against the proposed solution due to traffic –spatial, technical, ecological and social constraints and that the Investor should consider other, less damaging variant.
- 23.09.2015 Presentation and public hearing over the SEA for chosen preferable alignment for new alignment of express road. Hearing took place in Municipality of Obleshevo with participation of representatives of all affected Municipalities and other relevant stakeholders.

A Stakeholder Engagement Plan (SEP) has been prepared to identify key Project stakeholders and define relevant procedures and plans for engagement prior to and during construction PESR is implementing a grievance mechanism in line with the SEP. The PESR is committed to respond to all comments and complaints, either verbally or in writing. In the SEP, a contact point for grievances is given. A written form for submission of complaints is developed for the general public and workers. A worker`s grievance mechanism will also be established for the employees of construction companies. In the SEP, the following contact point for grievances is:

Mrs Biljana Lazevska, Department for Legal Affairs

Tel: + 389 (0)2 3118-044 ext.312

Fax: + 389 (0)2 3220-535

e-mail: biljanal@roads.org.mk

Address: Public Enterprise for State Roads

Beneficiary consultations will be conducted during the construction phase, and records of environmental and social issues raised and complaints received during consultations, field visits, informal discussions, formal letters, etc., will be followed up and the records will be kept in the project office at PESR.

In advance of the work commencing PESR will provide information in:

- Newspaper articles in one national and also in one local media.
- Posters on main notice board at all community centres of potential affected Communities
- Radio announcement of road diversions
- Provide contact details of community liaison officers who are appointed to work with local communities.

A Grievance Mechanism will be implemented to ensure that all complaints from local communities are dealt with appropriately, with corrective actions being implemented, and the complainant being informed of the outcome. It will be applied to all complaints from affected parties.

### **Land Acquisition & Resettlement Planning Process**

It is estimated that 840,000 m<sup>2</sup> of land is going to be affected by expropriation by the project, out of which 70% (588,000m<sup>2</sup>) is public land, and private land is 30% ( 252,000 m<sup>2</sup> ). According to Detailed design there will be no physical displacement. Some modifications on the alignment have been done purposely, to avoid physical displacement. The Land elaborate is prepared for the first half of the route from 0+000km to 0+14.300km, for the other half is under preparation and expected to be completed by June 2016.

Socio-economic survey was performed during October 2015. Based on land elaborate, public consultation with stakeholders and census was undertaken by PESR on 18 and 19 February 2016. The obtained data will be used for the production of the Resettlement Action Plan (RAP) which is going to be prepared by the end of summer 2016 as part of the land expropriation process in order to comply with EBRD's requirements.

The RAP will indicate which households and businesses will be affected by the physical and economic displacement (e.g from loss of agriculture land).

The RAP will set out the commitments of PESR relating to land acquisition, resettlement and livelihood restoration which will ensure compliance with both applicable Macedonian legislation and the requirements of the EBRD policies defined in the Environmental and Social Policy (2008), especially PR5 - Land Acquisition, Involuntary Resettlement and Economic Displacement. The RAP will include a clear commitment to provide replacement value for lost assets and land, and how to include those without formal land title/ownership. It will also include details of the grievance mechanism that will be available for use by project affected people.



## 7 SUMMARY OF ENVIRONMENTAL BASELINE & SOCIAL CONDITIONS

### Environmental baseline

The route of the designed express road section Shtip (tri Chesmi) - Kochani stretch in the north part of the Kochani valley (presented on Figure 6.) between Shtip and Kochani, on the right side of the river Bregalnica. The Express road is situated largely in the flat terrain, through areas of agricultural land, interspersed by some non-cultivated land. The main activity and land use in the road corridor of interest is agriculture, especially in Kochani valley where mainly cultivated is rice and land is mostly state property. The lands in the area are generally fertile and are farmed by local people. The climate is mildly continental, with an average monthly temperature of 28.8 °C in July and 1.4°C in January in Shtip. There are no sources of significant noise or air pollution along the road corridor.



Figure 6 Kochani valley (dark green area)

Several watercourses are passing near the road where Bregalnica River is largest and collects water from the all watercourses in the area. For most of the section, the road lies to the north (right) of the Bregalnica River that flows south-westward from the road corridor. At km 12+100,00 road crosses with earth channel from the ameliorative system, than crosses over Zletovska river at km 15 +068.80 that is major tributary to Bregalnica River. Than at 17 + 856.76 km the route of the Express road in roughly perpendicular angle intersect with the existing protective channel that conducts the side road waters from the foot of the Mount Osogovski to the discharge in Zletovska River. Heating pipeline system Banja - G.Podlog is situated and crosses the route at km 22 + 100. At km 25+704,71 road crosses over the Trkanjska river and irrigation channel.

The route is passing through the irrigation system Bregalnica for arable areas. All recorded pipelines that are in collision with the route of the Express road will be protected and connect with new manholes and valves out of the trunk road. For the canal network should will continuity be ensured beneath the road formation with the same profile, with culverts or other solutions.

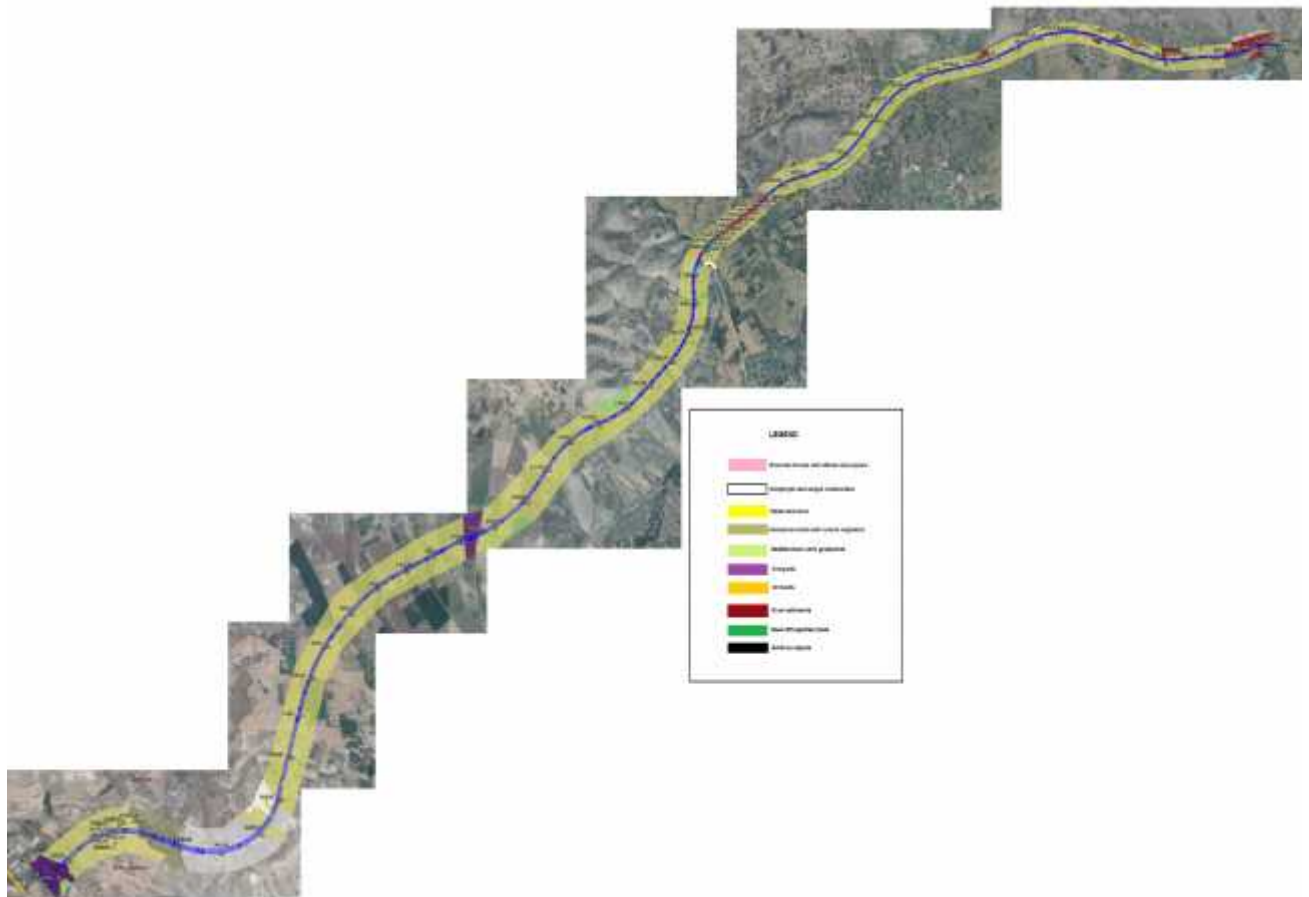


**Figure 7 View on the environment and agricultural fields at km 6+700**

The underlying geology is a mix of Precambrian metamorphic and magmatic Palaeozoic rocks, with tertiary and quaternary sediments in the river valley. Soils in the area are alluvial and of the diluvium type. Most of the area is agricultural land, with rice as one of the most common crops, as well as some vineyard and orchards. Fruit, oak and poplar trees are also found in the small woods in the area. These areas of vegetation may act as ecological corridors as the wooded areas tend to be interconnected. The linear corridor of the river valley may also act as an ecological corridor.

Biodiversity: The main habitats along the road section are: fields and acres (figure 7), orchards, vineyards, riparian willow-poplar belt, reed beds, halophytic steppe vegetation, dry grasslands, rivers etc.

The biodiversity baseline and habitat map (figure 8) was prepared following field and based studies.



**Figure 8 Habitat map**

The 13 different habitat types encountered in the Study Area were mapped. Some of the natural habitats are the equivalent of EU Annex I Habitats and habitats with priority biodiversity features, including an area of pseudo-steppe grassland (6220) and the riparian willow – poplar belts along the river channels (92A0), but not in its original natural (unmodified) shape.

Significant areas of the Study Area are modified and either agricultural, abandoned agricultural, or otherwise planted and/or urbanised. The road section mostly passes through areas of agricultural land, interspersed by some non-cultivated land. At times, it passes close to the periphery of several villages, and passes through the built up areas of Kochani. For most of the section, the road lies to the north (right) of the Bregalnica River. At some point, the road crosses over a major tributary of the river Bregalnica, the river Zletovska and some other rivers. Riparian habitats are found along the watercourses, represented by willow woodlands occurring in small belts along rivers and streams. The other main natural habitat types represented are different types of grasslands with shrubs.

There are no protected areas or areas proposed for protection in the planning scope (corridor) for the Express road. At distance of about 2-3km north from the route (encountered between chainage km 14+000 and 20+000) is located important ornithological site (IBA)), River Zletovska valley where as population of IBA trigger species is Eastern Imperial Eagle (3-4 breeding pairs). There is one bio-corridor that has been identified

in the vicinity of the road corridor by the Macedonian Ecological Society -The Shtip Corridor - a steppe-like corridor located between km 12+000 and 13+000. The degree to which this corridor currently functions is unclear, as there is a strip of anthropogenic habitat - agricultural and modified for dwellings - around the road at this location. Additionally, along the line of the corridor to the south west and west of the road, there is an agricultural area of over kilometers in width along the corridor direction, before the terrain changes back to halophytic steppe grassland. These, together with the narrow severance effect caused by the existing road suggest that the corridor has been significantly disrupted at this point, and its function in allowing the safe passage of animals and the propagation of plants is therefore questionable.

**Social baseline**

The Express road is located in Eastern Planning region of the Republic of Macedonia. It will pass through 4 municipalities: Shtip, Karbinci, Cheshinovo-Oblesevo and Kochani (with population of around 88,000 inhabitants – Census 2002). To the north of the planned express road the following rural settlements are located: Chardaklija, Gorni Balvan, Zhigantsi, Sokolarci, Spanchevo, Banja and Trkanje and to the south Dolni Balvan, Batanje, Krupishte, Karbinci, Ularci, Chesinovo, Obleshevo (Figure 9). Total population in Eastern planning region is 177.988.



*Figure 9. Settlements near the road corridor*

Comparing with some other rural settlements in Macedonia where there are a very small number of inhabitants or no inhabitants at all, project affected settlements are “alive”, with significant participation of young people. Population up to 18 years counts 17%, from 18-50 years almost 45%. Except of Trkanje and Obleshevo where they have 23 new inhabitants in last ten years (mainly due to marriages) there is a negative migration in Chesinovo, Banja, Sokolarci, Zhignatsi and Chardaklija with 58 people having moved away. Middle age people do not think of moving, especially those who are living from land, however younger and more educated people are taking into consideration moving due to unsatisfactory living standards.

Land along the route comprises of mostly agriculture and pasture/grassland. Socio-economic survey shows that almost all available land is cultivated. Uncultivated area is near settlements Banja, Sokolarci and Spanchevo, where there is a predominantly mountainous area. Another reason for uncultivated parts is lack of irrigation systems. The community is dependent on the A3 existing state road, and local roads that connects villages and the regional road P1205 (Probistip – Krupiste which are in bad condition.



## 8 ENVIRONMENTAL & SOCIAL BENEFITS, IMPACTS & MITIGATION MEASURE

### Assessment of impacts

During the EIA, Elaborate for Environmental protection and Social Assessment for v. Obleshevo and subsequent assessment process by EBRD certain environmental and social impacts were identified and assessed. Assessment topics include: ambient air, water, noise and vibration, biodiversity & habitats, landscape, local communities, employment and livelihoods, access and severance, cultural heritage, community, health, safety and security (including road safety and emergency response), flood risk and labor issues.

Key impacts will likely relate to:

- Risk of pollution of sedimentation of the River Zletovska and indirectly River Bregalnica during construction;
- The possible loss of small areas of natural habitats;
- Air and noise emissions during construction and operation, which can cause impacts to flora and fauna;
- Social impacts will likely include:
  - The impacts of land acquisition on land ownership, land use and agriculture-related livelihoods, community health and safety issues;
  - The impacts on arable area and rise fields, where are situated pipelines, channel and channel elements from the irrigation system Bregalnica.

With the application of the mitigation measures the majority of residual negative social effects are anticipated to not be of a significant nature.

Cumulative effects could potentially result from the induced changes to land use over the longer term, arising from the economic development induced by the new road scheme. These effects could include the development of industrial zones and the abandoning of agricultural land as people move to higher waged jobs. As travel time reduces, the surrounding land may become more attractive for the development of new structures adjacent to the express road (e.g. motels, petrol stations equipped with accommodation capacity, restaurants, etc.). Improved accessibility may trigger wider changes in the region. Such economic benefits are likely to have a positive effect on the local economy and on local livelihoods. Cumulative effects will be assessed in the EIA. Cumulative effects will be managed through the implementation of mitigation and monitoring measure, and are unlikely to be significant for this Project.

## Summary of Environmental and social impacts, benefits and mitigation

Topic	Summary of Impacts	Summary of Key Mitigation/Management Measures	Residual Impact Significance
<b>Environment</b>			
<b>Air Quality</b>	<p><b>During Construction:</b> emissions of dust from working areas, access roads, stockpiles and during loading/unloading activities; emissions from batching plants; exhaust emissions from construction machinery; emissions due to peaks in traffic movements.</p> <p><b>During Operation:</b> Emissions of particulates, gases, volatile organic compounds, and other hazardous air pollutants may result from increased road traffic.</p>	<p>Standard construction measures to reduce dust (wetting down dusty areas, covering vehicles, etc.).covering of vehicles carrying materials. Maintaining compliant vehicles and machinery.</p> <p>The Project generally moves through-traffic further from settlements, and may reduce emissions levels at key community receptors.</p>	<p>During construction - Negative impacts of already <b>low significance</b> reduced further with effective contractor management.</p> <p>Negligible/low significance impacts during operation expected.</p>
<b>Noise &amp; Vibration</b>	<p><b>During Construction:</b> Increased noise levels from construction plant and activities,</p> <p><b>During Operation:</b> Noise levels increasing over time from increased traffic flows, unlikely to be a significant immediate change as a result of the Project. The Project generally moves through-traffic farther from settlements, and may reduce levels at key community receptors.</p>	<p>Management controls typical for construction work including: notification to local communities, and use of protective equipment.</p>	<p>During construction - Negative impacts of <b>medium significance</b> reduced to <b>low significance</b> with effective contractor management.</p> <p>Negligible/low significance impacts during operation expected.</p>
<b>Biodiversity</b>	<p><b>During Construction:</b> Removal of vegetation, loss of habitat, and loss of some species from land taken for road corridor.</p> <p><b>During Construction:</b> Particular effects include removal of riverine habitata at River Zletovska, risk to breeding birds in the area of IBA, and risk to sensitive grasslands.</p> <p><b>During Operation:</b> Effects from road traffic on species crossing road corridor and severance effects at Stip steppe-like bio-corridor.</p>	<p>During construction: No storage of plant or spoil disposal to be permitted in areas of sensitive/protected habitats, notably riverine areas, and certain sensitive grasslands. Prohibition of blasting and rock breaking durign breeding season at IBA. Rehabilitation of all areas where vegetation was damaged.</p> <p>During Operation: At km 12+100,00 designer planned RC underpass (local road - access to agricultural plots) which can be used by animals</p>	<p>Negative impacts of <b>medium significance</b> reduced to <b>low significance</b> during construction.</p>

Topic	Summary of Impacts	Summary of Key Mitigation/Management Measures	Residual Impact Significance
<b>Water Resources</b>	<b>During Construction:</b> Risks to water quality in River Zletovska and indirectly in River Bregalnica from construction activities in watercourses.	Good construction management controls, prohibition of storage, refuelling, etc in watercourses. Monitoring of water quality during construction. Contractor to develop method statement to meet several stated criteria.	Negative impacts of <b>low significance</b> reduced with effective contractor management.
<b>Landscape &amp; Visual</b>	<b>During Construction and Operation:</b> Impairment of visual aesthetics and change to some features from the Expressway and spoil disposal.	Screening of construction sites <i>at sensitive locations (e.g. near villages)</i> , camps and areas, and management of temporary stockpiling locations on site. Re-vegetation of spoil disposal areas, and rehabilitation of all areas of natural habitat, including embankments and side slopes.	Negative risk of <b>low significance</b> reduced further with management controls.
<b>Soils and Geology</b>	<b>During Construction:</b> Risk of soil contamination from leaks of fuel, oil, chemicals, etc.	Good construction controls built into construction contract.	Negative risk of <b>low significance</b> reduced further with management controls.
<b>Social</b>			
<b>Local Communities</b>	<b>During Construction:</b> Local communities along the route (especially the settlements se zboruva za Stip-Kocani) may be subject to nuisance effects from construction, including noise and dust. Impacts on access could disproportionately affect elderly people remaining in villages and those on very low incomes where there is dependency on land-based activities. <b>During Operation:</b> For benefits, see above.	Good construction management and controls (e.g. traffic management plan, siting of worker accommodation), and careful engagement with the local communities by the Contractor. Careful sequencing of the works to maintain access. Assistance provided if there are effects on agricultural livelihoods due to access issues, and to vulnerable households (included in LARF).	Negative risk of <b>medium significance</b> of a short-term nature would reduce to <b>low significance</b> with adequate management controls.
<b>Employment &amp; Livelihoods</b>	<b>During Construction and Operation:</b> Some of the households in the local villages are somewhat dependent on land-based livelihoods, and could be affected by loss of land or access to land they use, including customary use with potentially no legal rights.	Provisions in the LARF supported by socio-economic surveys, and targeted assistance if necessary and eligible. Consultation with affected land owners/users including those with legal and no legal rights to the land they own or use/occupy.	Negative risk of <b>medium significance</b> would reduce to <b>low significance</b> with implementation of LARF.
<b>Land &amp; Property</b>	<b>During Operation:</b> Some loss of land, predominantly agricultural (both in-use and abandoned) and pasture/grassland areas with some forestry areas and pockets of small-scale cropping and vineyards and orchards being affected. The loss of land will result in some economic displacement impacts. A small number of structures may be physically affected, including a fuel station near Tri Cesmi and some commercial structures.	Provisions in the LARF, supported by socio-economic surveys. Also, consultation with affected land owners/users, including those with legal and no legal rights to the land they own or use/occupy.  The LARF contains provisions to ensure economic displacement effects on businesses are appropriately	Negative risk of <b>medium significance</b> would reduce to <b>not significant</b> assuming implementation of all requirements of the LARF, implementation of a RAP, and

Topic	Summary of Impacts	Summary of Key Mitigation/Management Measures	Residual Impact Significance
	<p>Some structures can remain in the road reserve provided they receive permission from PESR.</p> <p>Very few (if any) physical displacement of households is likely with the only risk identified to-date being a very small development of informal structures. The risks of physical displacement of residential properties has been minimised by the route alignment.</p>	<p>compensated for. The proposed socio-economic survey combined with the land &amp; asset inventory undertaken for the land acquisition process should enable any physical displacement to be confirmed. The LARF contains provisions for compensation and assistance for the loss of buildings or physical displacement of people.</p>	<p>payment of compensation prior to accessing land.</p>
<b>Access &amp; Severance</b>	<p><b>During Construction:</b> Some localised access effects in certain areas, which could result in severance of communities from areas of productive land or access to services in</p> <p><b>During Operation:</b> Some severance risks and access issues for local communities/land users where agricultural vehicles cannot use or cross the Expressway. Also, access issues may arise from limited access to Expressway only being from dedicated interchanges and not from all local roads. There may be a slight increase in journey length for some local communities, however road condition will be improved so overall effect on journey times may negligible.</p>	<p><b>Construction Measures:</b> A Traffic Management Plan supported with effective consultation, including with vulnerable communities, and careful sequencing of the works to ensure either the existing road is accessible or the local new parallel roads are available.</p> <p><b>Operation Measures:</b> Project design includes provisions to ensure access to local communities up the escarpment and along the existing road, by the inclusion of underpasses, overpasses and in Section V parallel local roads.</p>	<p>During construction - Negative risk of <b>medium significance</b> (short-term) reduces to <b>low significance</b> with adequate management controls.</p> <p>During operation - Negative risk of <b>high/medium significance</b> reduces to <b>low significance</b> with the adopted design proposals.</p>
<b>Cultural Heritage</b>	<p><b>During Construction:</b> Risk to buried sites (hitherto unknown) from excavation works.</p>	<p>Contractor to implement watching brief, in association with Ministry of Culture.</p>	<p>Risk is of <b>low significance</b>.</p>
<b>Community Health, Safety and Security (CHSS)</b>	<p><b>During Construction:</b> During construction there may be the small risk of influx from workers from outside the area which may give rise to certain CHSS risks. Construction activities at locations which are used by the local community or other road users and third-parties may increase safety risks.</p> <p><b>During Operation:</b> There is currently a low level of awareness within the local communities of what vehicles can and cannot use expressways (e.g. agricultural traffic cannot use Expressway). It is common practice for agricultural vehicles and sometimes livestock to access the existing A4 road from adjacent land uses, which gives rise to potential road safety risks.</p>	<p><b>Construction Measures:</b> Good site management, including management plans with security, health &amp; safety measures in line with standard practice on all such sites. HR Policy to encourage the use of local labour. Good workforce management, e.g. code of conduct, health surveillance &amp; healthcare access for workers, etc.</p> <p><b>Operation Measures:</b> Provision of a protection fence along the Expressway to reduce the risk of informal access from adjacent land (e.g. by vehicles and livestock). Road safety awareness raising initiatives to be undertaken in the local communities prior to the opening of the Expressway.</p>	<p>Negative impacts of <b>medium significance</b> reduced to <b>low significance</b> during construction and operation.</p>

Topic	Summary of Impacts	Summary of Key Mitigation/Management Measures	Residual Impact Significance
<b>Labour &amp; Workforce Issues</b>	<b>During Construction:</b> Health & safety risks to workers, typical of road construction works.	Good site management, security, health & safety measures, applied by the Contractor, in line with standard practice at such sites.	Negative impacts of <b>medium significance</b> reduced to <b>low significance</b> .

## 9 ENVIRONMENTAL & SOCIAL MANAGEMENT & MONITORING

### Environmental and Social Management

Measures to manage the environmental and social effects of the Project are included in the EIA, the Elaborates for Environmental Protection, and an Environmental and Social Action Plan (ESAP). The key elements have been summarised up in the table above. PESR is required to develop a Commitments Register, to document all design, construction and operation related mitigation measures cited in the EIA, Environmental Elaborates, NTS, LARF and SEP documentation, and identify how the commitments are addressed, and which party (e.g. PESR, Contractor, third parties etc.) is responsible.

An Environmental and Social Management System (ESMS) will be developed for the construction and operation of the road. This will include a Construction Environmental and Social Management Plan (CESMP), which will draw together all the management requirements to minimise disturbance to environmental and social receptors during construction (including habitats, flora and fauna, watercourses, land and livelihoods, community relations, etc.). An Operational Environmental and Social Management Plan (OESMP) will be produced to address mitigation and monitoring actions which will continue during road operation.

### Environmental and Social Monitoring

Monitoring will form an important part of the ESMS. During both construction and operation, certain activities, indicators and environmental and social resources will be monitored. Pre-Construction monitoring will include levels of noise and air quality at representative road side receptors. Monitoring during construction will include water quality in Zletovska River and Bregalnica River, as well as on temporary land take, and indicators of problems from influx of workforce into the area. Operations phase monitoring will include levels of noise and air quality at representative road side receptors, for a period of 2 years post-construction, and monitoring of all vegetation rehabilitation for 2 years.

Monitoring and management actions for the stakeholder engagement and the land & resettlement planning are proposed within the SEP and LARF. There will also be an ongoing requirement for PESR and (during construction) the Contractor to monitor stakeholder, individuals and community grievances and take appropriate management action should trends be identified or key issues occur.

Monitoring reports will be required from the Contractor and Operator during the construction and operational phases. These will be submitted to the relevant inspection authority. The monitoring results will be useful for assessing the long term cumulative effects, if any, especially in relation to biodiversity impacts. If ongoing problems occur, adaptive mitigation measures can be developed and implemented.

## 10. FURTHER INFORMATION & CONTACT DETAILS

### PROJECT TIMETABLE

The schedule for the upcoming key steps in Project development is as follows;

DD	July 2016
LARF	May 2016
SEP	May 2016
Disclosure of approved Elaborate for Environmental Protection (v. Obleshevo)	May 2016
RAP	August- September 2016

### CONTACT DETAILS

Full Project preparation documents, including the EIA, are available on the PESR website (<http://www.roads.org.mk/en/index.php>).

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