



Northern and Southern Sections
A5 Motorway
Croatia

Environmental and Social
Action Plan

Prepared for:
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1 Introduction

Hrvatske Autoceste d.o.o. (Croatian Motorways Limited) is the state-owned manager of the Croatian network of tolled motorways. Hrvatske Autoceste d.o.o (hereafter referred to as 'HAC' or the 'Company' intends to complete the Croatian part of the motorway network along the Corridor Vc, adjacent to the northern and southern borders with Bosnia and Herzegovina (the Project"). In order to achieve this goal, 2 sections will be constructed.

Northern section:

1. Sredanci - Svilaj (BiH border) 3.5km

Southern section:

2. Ploce - Metkovic (BIH Border) 9.0km

The European Bank for Reconstruction and Development (EBRD) is considering financing the project. In accordance with EBRD's Environmental and Social Policy (2008), the Project has been classified as a Category A project and accordingly requires the development of an Environmental and Social Action Plan (ESAP).

This document forms the ESAP. It captures mitigation measures, actions and future work requirements to be undertaken by the road construction contractor and/or the Company as part of the planned road construction and operation. The requirements have been identified through the review of environmental and social impact assessment documents that were prepared in accordance with Croatian law.

It is a prerequisite, established under EBRD policy, that the Project is constructed and operated in compliance with Croatian law. The requirements described in this environmental and Social Action Plan ("ESAP") therefore reference Croatian law, existing requirements of the EIA and supporting documentation such as the permitting documents. These requirements have then been supplemented where necessary with measures needed to meet international good practice¹. The measures outlined in this document, are intended to complement the requirements specified under Croatian law and should be fully implemented except where such implementation conflicts with Croatian Law.

The actual construction work will be undertaken by a road construction contractor(s) to be appointed by HAC. HAC is therefore likely to pass most of the requirements of this ESAP to the construction contractor who will be responsible for implementing many of the measures outlined in this ESAP. At the time of preparing this ESAP the road construction contractor (hereafter referred to as the 'Contractor') has not been appointed. It is unknown what sub contractors / suppliers will be involved and the nature of the workforce in terms of their origins, and consequently the potential social impacts associated with the workforce / contractor can not be defined. In the absence of any defined construction plans from the Contractor this ESAP outlines a number of precautionary measures to minimise social impacts. Furthermore, the EIA process for the Southern Section of the EIA is ongoing and a Decision Document in which detailed environmental protection measures will be prescribed,

¹ Relevant international guidance such as IFC Environmental, Health, and Safety (EHS) Guidelines (April 2007)

has not yet been prepared. This ESAP will therefore require an update if it is to incorporate additional requirements in the Decision Document.

HAC is ultimately responsible for the implementation of measures outlined in this document. Where actions are the primary responsibility of the Contractor, the Contractor will also be responsible for ensuring its sub contractors understand the requirements set forth in this ESAP and has robust contractual agreements in place which ensure applicable ESAP requirements are met.

The requirements are divided into the following sub-sections:

- Environmental requirements;
- Social requirements;
- Health and safety requirements; and
- Monitoring requirements.

For each of the individual requirements within the above sub-sections the following information is provided:

- **Ref. No.:** Unique Reference Number assigned within the ESAP.
- **Issue and applicability to northern and southern sections):** General description of the topic. One or more mitigation measures/actions may be included under an individual issue. The applicability of an issue to Northern and Southern sections of the Project is indicated within this column. Mitigation measures apply to both North and South Section unless otherwise specified.
- **Mitigation Measure/Action:** Describes the requirement.
- **Responsible Party and Investment/Resources required:** At this stage in the Project, i.e. prior to appointment of the Contractor, for the most part it is not possible to assign responsibility to specific employee roles. As a result overall responsibility is generally assigned to the Contractor, recognising the need to refine assigned duties once the Contractor is appointed. In addition, where considered possible and appropriate a recommendation has been provided as an indication of resourcing needs and/or where capital investment is likely to be required. This has been inserted to help HAC/the Contractor better understand potential resource issues. The information will also require refinement once the Contractor is appointed.
- **Applicability:** Where the mitigation measure/action is applicable to the whole project in terms of area and phase (i.e. construction & operation) the statement 'All phases, all areas' is given. Where it is only applicable to a particular phase or particular geographical area, i.e. northern and/or southern sections, this is specified.
- **Source Reference:** This states the source of the mitigation measure/action. This might be, for example, the Permitting requirements (Location/Construction permits) issued by the Ministry of Environmental Protection, Physical Planning and Construction (MEPPPC), described within EIA documentation or other existing project

documentation. Alternatively the mitigation measure/action may have been sourced directly from EBRD Performance Requirements or other International Good Practice documentation. The text from existing documentation is often summarised and the user should make reference to the original source documentation for the full requirements. Elsewhere additional material has been included to supplement the existing materials or provide clarification. A reference is therefore provided as a guide intended to direct the user to further information.

Mitigation measures from Project specific documents have also been supplemented in some instances with best practice environmental and social management measures to meet EBRD policy and International Good Practice. Where this is the case it has been indicated.

- This document should be treated as a 'live' document that can evolve with the Project. However, any changes to the document can only be made with a written consent from EBRD.

The ESAP follows a tabular structure as outlined below:

1. GENERAL REQUIREMENTS FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT
2. STAKEHOLDER ENGAGEMENT ISSUES
3. MANAGEMENT OF SPECIFIC ENVIRONMENTAL IMPACTS
 - 3.1 Air quality
 - 3.2 Protection of water
 - 3.3 Protection of soils
 - 3.4 Management of Hazardous Materials
 - 3.5 Waste management
 - 3.6 Protection of Biodiversity
 - 3.7 Management of Noise
 - 3.8 Cultural Heritage
 - 3.9 Emergency Preparedness and Response
 - 3.10 Management of Other Environmental Impacts and issues
4. MANAGEMENT OF SOCIAL IMPACTS
5. MANAGEMENT OF OCCUPATIONAL HEALTH AND SAFETY
6. MONITORING REQUIREMENTS
 - 6.1 Environmental Monitoring
 - 6.2 Social Monitoring
 - 6.3 Health & Safety Monitoring

2 ESAP for ALL PHASES (Pre construction, Construction and Operations)

Ref. No.	Issue	Mitigation measure/action	Responsible Party and Investment/ Resources required	Applicability (timeframe/geographical area)	Source Reference
TABLE 1. GENERAL REQUIREMENTS ENVIRONMENTAL AND SOCIAL MANAGEMENT					
1.1	Applicable Standards	<p>The Contractor shall manage the Project's Environmental, Social and Health and Safety matters in a manner that is compliant with applicable national, EU and international law. More specifically this includes:</p> <ul style="list-style-type: none"> • Croatian laws and regulations (see 1.2) • Lenders' Environmental and Social management requirements (e.g. EBRD Environmental and Social Policy, 2008) • Applicable EU Directives • International treaties and conventions • Industry good practice. 	<p>Contractor</p> <p>A designated Environmental (or EHS) Manager is required</p>	All phases	EBRD Performance Requirement 1 (2008)
1.2	Permit requirements	<p>The project will comply with all HSE and social permit requirements, including those contained within:</p> <ul style="list-style-type: none"> • The Project Decision [Ref.no:531-05/4-AM-04-6 Zagreb, February 05, 2004.] and any future Decision Documents • Location and construction permits 	<p>Contractor</p> <p>A designated Environmental (or EHS) Manager is required</p>	All phases	EBRD Performance Requirement 1 (2008)
1.3	Applicable Documentation	<p>The Contractor will implement all measures specified in the following document sources:</p> <ul style="list-style-type: none"> • The Project ESAP (this document) • The Project Compensation Action Plan (CAP) –to be prepared • The Project Stakeholder Engagement Plan (SEP) • Contractually binding documents, including the Contractor's Technical Specifications (to be prepared). 	<p>Contractor</p> <p>A designated Environmental (or EHS) Manager is required</p>	<p>All phases</p> <p>Within 3 months of Contractor appointment and prior to construction</p>	EBRD Performance Requirement 1 (2008)

Ref. No.	Issue	Mitigation measure/action	Responsible Party and Investment/ Resources required	Applicability (timeframe/geographical area)	Source Reference
1.4	Social & Environmental Management System (SEMS)	<p>Implement good management practices through the development of a social and environmental management system (SEMS), including:</p> <ul style="list-style-type: none"> • an audit programme, including road safety audits. • management plans (including supplementary plans e.g. waste management, stakeholder engagement) • monitoring plan (see Section 3 of this ESAP) • training programme • periodic reporting of HSE and Social performance in line with EBRD Performance Requirement 1. <p>Contractor should operate the Social and Environmental Management System in line with the international standards ISO14001 and SA 8000 as far as possible.</p> <p>The Contractor shall establish, implement and maintain one or more Construction Management Plans (CMPs) including at a minimum the measures described in this ESAP.</p>	<p>Contractor</p> <p>A designated Environmental (or EHS) Manager is required</p>	<p>Within 6 months of award of contract but at least 3 months prior to start of construction and then for the duration of the contractual period.</p>	<p>EBRD Performance Requirement 1 (2008)</p>
1.5	SEMS – Organisational Capacity	<p>The Contractor shall appoint an Environmental Manager (or HSE Manager) who will be responsible for the coordination of compliance with this ESAP and the CMPs. The Environmental Manager shall have the necessary training, authority and responsibility to ensure effective implementation.</p> <p>The Environmental Manager shall also assume the following responsibilities:</p> <ul style="list-style-type: none"> • implementation and maintenance of the ESAP and associated CMPs; • monitoring and coordination of internal CMP audits; • implementation and coordination of continuous improvement of the CMPs; • implementation, coordination and maintenance of a corrective and 	<p>Contractor</p> <p>A designated Environmental (or EHS) Manager is required</p>	<p>Within 6 months of award of contract but at least 3 months prior to start of construction and then for the duration of the contractual</p>	<p>EBRD Performance Requirement 1 (2008)</p>

Ref. No.	Issue	Mitigation measure/action	Responsible Party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
		<p>preventive actions system ;</p> <ul style="list-style-type: none"> • preparation of quarterly reports related to the CMPs and compliance with this ESAP and other Project standards; • establish and maintain an incident reporting system; and, • submit an annual environmental monitoring report to Lenders and Company in a format acceptable to Lenders, which includes a review of compliance with the ESAP obligations. 		period.	
1.6	Decommissioning plans	A decommissioning CMP is required for temporary construction sites to ensure they are returned at a minimum to the standard prior to the commencement of construction activities.	Contractor	All temporary construction sites Plans should be drafted before site construction	EBRD Performance Requirement 1 (2008)
1.7	Contractor/supplier management	<p>The Contractor will inform sub contractors under its control of their Environmental, Health & Safety (EHS) responsibilities, including requirements within this ESAP. Applicable EHS and Social requirements shall be specified within contractual agreements including the requirement to pass on requirements to any sub-contractors.</p> <p>Where contractors/suppliers are carrying out activities with the potential for environmental impact (e.g. material extraction, waste management etc) the Contractor must ensure these suppliers have all necessary permits in place and are meeting environmental, social and health & safety good practice. Where necessary appropriate training should be provided. These measures may be implemented via contractual agreements, including the option for auditing of these third parties to ensure compliance with requirements.</p>	<p>Contractor</p> <p>A designated Environmental (or EHS) Manager is required.</p> <p>A half day training course is likely to be appropriate.</p>	All phases Sub contractors to be informed via the procurement process	EBRD Performance Requirement 1 (2008)

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source reference
TABLE 2. STAKEHOLDER ENGAGEMENT ISSUES					
2.1	SEP - Stakeholder Engagement	<p>The Contractor shall establish communication channels, as part of a Stakeholder Engagement Plan (SEP), in order to engage with potentially affected people during the Project. The plan should be prepared in line with EBRD Performance Requirement 10 – Information Disclosure and Stakeholder Engagement. The plan should also consider the need for consultation on transboundary impacts in accordance with the requirements of the Espoo convention (see below).</p> <p>The Contractor will appoint a Community Liaison Officer (CLO) who will act as a contact point for members of the public and will maintain the SEP inclusive of a schedule of public communication activities. Maintenance of the SEP will require periodic review, update and reissue.</p>	<p>HAC Contractor</p> <p>A designated Community Liaison Officer is required</p>	<p>All phases</p> <p>SEP to be developed at the earliest opportunity ahead of Contractor selection</p>	<p>EBRD Performance Requirement 10 (2008)</p>
2.2	Stakeholder Engagement – Public Notifications	<p>As part of its communications activities, the Contractor shall provide information to all stakeholders identified in the SEP.</p> <p>The Contractor shall distribute information on a timely basis prior to construction work commencing concerning any anticipated:</p> <ul style="list-style-type: none"> Traffic and access obstructions Noise and/or dust caused by Works Disruption to public transport services 	<p>Contractor</p> <p>A designated Community Liaison Officer is required</p>	<p>Design and construction phase</p>	<p>EBRD Performance Requirement 10 (2008)</p>
2.3	Emergency Preparedness - response	<p>In the event of a major incident the Contractor will assist all involved institutions including the police, fire fighters and other emergency response providers and will undertake communication with the local community as appropriate.</p>	<p>Contractor</p> <p>A designated Community Liaison Officer is required</p>	<p>Construction & Operations</p>	<p>Good practice</p>

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source reference
2.4	Espoo	<p>The Project shall ensure that the requirements of the Espoo convention are met. Specifically this involves disclosure and consultation with neighbouring countries where the project may affect the neighbouring country.</p> <p>For the southern section of motorway the EIA should be shared with BiH and comments from BiH authorities actively sought.</p> <p>For the northern section, the EIA or pertinent sections of the EIA should be shared again with BiH. Potential transboundary issues include:</p> <ul style="list-style-type: none"> • The border crossing location(s) • Impacts associated with extraction of aggregates from the River Sava • Potential impacts on shared groundwater resources • Potential accidents and spillages and emergency provisions <p>These requirements should be further described in the SEP.</p>	HAC (followed by Contractor once appointed)	<p>All phases, but primarily prior to final design</p> <p>Required during the EIA process at the earliest opportunity and certainly prior to the start of construction</p>	<p>EBRD Performance Requirement 10 (2008)</p> <p>Espoo Convention (EIA for Transboundary impacts)</p>
2.5	Grievance Procedures	A formal grievance procedure should be put in place by the Contractor for the duration of the Project (to be included within the SEP). The procedure should be available to all stakeholders including members of the public.	<p>Contractor</p> <p>A designated CLO is required</p>	<p>All phases</p> <p>See SEP</p>	EBRD Performance Requirement 10 (2008)

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/ Resources required	Applicability (timeframe/geographical area)	Source reference
TABLE 3. MANAGEMENT OF SPECIFIC ENVIRONMENTAL IMPACTS					
3.1	Air Quality	OBJECTIVE – air quality will be managed throughout construction and operations such that emissions are minimised. Air quality and emissions shall not exceed applicable national and international limits.			
3.1.1	Emissions from vehicles and equipment	The machinery used during construction works must be in accordance (minimum) with the standards EU Stage II (Emission Standards for Non-road Diesel Engines). Regular maintenance of the machinery must be ensured in accordance with the manufacturer’s recommended maintenance programmes. Maintenance records shall be maintained.	Contractor	All phases	South EIA Executive Summary International Good Practice
3.1.2	Dust Control	The Contractor should minimise dust from open area sources, including storage piles, by using control measures such as installing enclosures and covers, and increasing the moisture content. Dust suppression techniques should be implemented, such as applying water or non-toxic chemicals to minimize dust from vehicle movements. The optimum routes shall be chosen for the vehicles which service the site, especially for those which carry building materials which can release fine particles into the atmosphere. Movement of heavy machinery and vehicles shall be organised in such a way that impacts on residential areas from dust (and noise) caused by vehicle movements are minimised i.e. routes avoid proximity to residential areas. Construction materials will be transported covered, if possible. Dusty roads must be periodically wetted as required. Periods during which the road surfaces are unpaved and exposed to winds and erosion shall be minimised.	Contractor Specific responsibilities for undertaking these measures need to be defined	All phases	IFC EHS Guidelines for Toll Roads (2007) South EIA Executive Summary

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source reference
3.1.4	Air Quality – Waste Burning	Contractor should avoid open burning of any wastes.	Contractor	Construction and operations	EU Good Practice
3.1.5	Air quality – production of concrete and asphalt	<p>During the detailed design phase, when production of concrete and asphalt is being planned, the Contractor shall consult with the relevant environmental authorities to determine permitting requirements.</p> <p>In the event that the Contractor is responsible for concrete and asphalt production, in addition to national requirements, as far as practicably possible, the Contractor should follow the Environmental Guidelines on Best Available Techniques (BAT) for the Production of Asphalt Paving Mixes (European Asphalt Pavement Association, June 2007) in relation to the production and application of asphalt paving.</p> <p>Where the contractor procures these materials from an established supplier, the Contractor should encourage the supplier to meet BAT guidelines.</p> <p>In the thermal stations and in the asphalt mixture stations natural gas or light liquid fuel (LLF) with maximum sulphur content of 1% should be used. This shall be addressed through internal audit of the procurement process.</p>	Contractor Environmental (or EHS) Manager	<p>Design & Construction phase</p> <p>During procurement of 3rd party services</p>	<p>Industry good practice</p> <p>European Asphalt Pavement Association, June 2007</p>

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geo graphical area)	Source Reference
TABLE 3. MANAGEMENT OF SPECIFIC ENVIRONMENTAL IMPACTS					
3.2	Protection of Water	<p>OBJECTIVE: To manage activities to minimise adverse impacts on water resources. This includes:</p> <ul style="list-style-type: none"> • activities to be undertaken in accordance with national regulatory requirements • protection of surface and ground waters from pollutants • the use of a sustainable water supply • installation of drainage systems/flood prevention measures • reinstatement of watercourses 			
3.2.1	Water Management – Water Supply	No surface or ground water resources shall be utilised as a water supply source for the Project unless previously agreed with the Company and authorised by the relevant environmental authorities.	Contractor Environmental (or EHS) Manager	Construction and operations phases	International Good Practice
3.2.2	Materials extraction	<p>Local materials shall be used during project construction works. This refers to the use of sand and sandy gravel materials from the Sava River for the Northern Section, and to use excess soil and stone material from the closest A1 motorway section Ravča - Interchange Ploče.</p> <p>The existing natural ecosystem shall not be impaired during the exploitation of local materials. More specifically, in order to minimise environmental impacts, a study should be prepared to identify specific protection measures and confirm the planned material extraction represents an acceptable environmental practice. Protection measures need to be defined in accordance with the location of extraction and sensitivities at the chosen extraction point. These might include:</p>	Contractor	<p>Preliminary works – organisation of the construction site</p> <p>North (and possible South section)</p>	Decision document

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
		<ul style="list-style-type: none"> all material extraction will be performed strictly in accordance with location permit conditions restrictions on extraction during certain times of the year, in certain water flow conditions and the volumes that can be extracted use of specialised equipment working from a barge/the banks, in line with extraction conditions by Croatian Waters Company <p>For in-river construction activities see row 3.6.2.</p>			
3.2.3	Surface water drainage (during road operation)	<ul style="list-style-type: none"> There should be no discharge to Zone II groundwater resources or other protected areas e.g. the Sava foreshore <p>Detail on surface water management is provided in the Decision Document (for the Northern Section) and the Southern EIA.</p>	Contractor HAC	Design and then operations North & South Sections	Decision document South EIA Executive Summary
3.2.4	Surface water drainage	<p>In the Southern section the location(s) for water discharge must be investigated by micro-zoning and the filtration quality of the chosen locations must be proven through hydro-geological investigation works.</p> <p>The Project will fully consider the findings of the micro studies in the Project's detail design and if necessary amend environmental protection and monitoring measures accordingly.</p> <p>The Project must remain compliant with national laws concerning development in high quality groundwater areas.</p>	Contractor HAC	Design Southern Section only Micro zoning studies shall be completed in a timely manner so that they can be considered during the issuance of	South EIA Executive Summary

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
				Location Permits.	
3.2.8	Temporary facilities	<p>All temporary sites shall only be located in areas following consideration of potential environmental and social impacts. In particular, temporary sites shall not be located within sensitive or vulnerable areas such as protected areas or sensitive groundwater/surface water zones.</p> <p>All temporary facilities will adhere to documented operational controls to prevent pollution</p>	Contractor	<p>Construction</p> <p>During site selection phase</p>	International good practice
3.2.9	Water quality - Road Paving	<p>Paving should be undertaken in dry weather to prevent runoff of asphalt or cement materials. The Contractor shall also:</p> <ul style="list-style-type: none"> • use appropriate staging techniques to reduce the spillage of paving materials during the repair of potholes and worn pavement. This may include covering storm drain inlets and manholes during paving operations; using erosion and sediment control measures to decrease runoff from repair sites; and utilizing pollution prevention materials (e.g. drip pans and absorbent material on paving machines) to limit leaks and spills of paving materials and fluids; • minimise the amount of water used to control dust by using sweeping practices rather than washing. Swept materials should be collected and returned to the aggregate base or disposed of as solid waste; • seek to avoid the generation of contaminated runoff from cleaning of asphalt equipment by considering substituting diesel with vegetable oil as a release and cleaning agent; containing cleaning products and contaminated asphalt residues; • scrape before cleaning; and, • conduct cleaning activities away from surface water features or drainage 	<p>Contractor</p> <p>A designated Environmental (or EHS) Manager is required</p> <p>Specific responsibilities for undertaking these measures need to be defined</p>	<p>Construction and operations (maintenance) phases</p>	IFC EHS Guidelines for Toll Roads (2007)

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
		structures.			
3.2.10	Drainage - Sanitary Wastewater	Adequate portable or permanent sanitation facilities serving all workers should be provided at all construction sites. No sanitary wastewater shall be discharged to ground or water courses or the municipal sewer network without the permission of the Company and relevant environmental authorities.	Contractor Such facilities may need to be hired for the duration of the construction	In place for the construction phase	EBRD Performance Requirement 2 (2008)
3.2.11	Drainage System – Ditches and other Structures	During the service time, the drainage system including the vegetated drainage ditches shall be kept in functioning condition in order to collect the rainfall water. Any sediment removed from drainage structures during maintenance should be first visually inspected and if necessary chemically analysed prior to disposal in order to identify possible contamination (e.g. by oil). The material should then be disposed of in line with relevant waste disposal legislation.	Contractor A separate third party contract may be required to ensure these measures are undertaken	Operational phase	International Good Practice
3.2.12	Seasonal Pollution - Water	The following measures for reducing the pollution of the underground and surface waters in winter months should be considered: <ul style="list-style-type: none"> • primary use of mechanical de-icing methods (e.g. ploughs); • sodium chloride, as well as all of the other materials that are used during the winter season, must be stored in covered warehouses, on surfaces with no penetrability, in order not to create pollution; • optimization of the quantity of salt that is used and training employees in the optimal application; • protection of sensitive areas, throughout avoiding the use of substances with high concentrations and selecting the type of anti-icing and de-icing agents based on the location of environmentally sensitive areas and the 	Contractor	Throughout operations phase	International Good Practice

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
		potential impacts of the particular agent; and <ul style="list-style-type: none"> • the use of the snow protection screens (including vegetation screen). 			

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
TABLE 3. MANAGEMENT OF SPECIFIC ENVIRONMENTAL IMPACTS					
3.3	Protection of Soils	Soils should be managed in order to minimise adverse environmental and social impacts. This includes: <ul style="list-style-type: none"> • minimising the Project footprint • protection of soils from pollutants • erosion control measures & slope stabilisation (where necessary) • re-instatement/landscaping of disturbed ground 			
3.3.1	Soil protection plan	Soil protection measures are provided in the Decision document(s) and EIAs, including stockpiling of top soil and erosion control measures. These measures should be consolidated along with the further measures outlined in this ESAP within a Soil Management Plan which should be in place prior to earthworks and meet international good practice requirements.	Contractor	Construction	Good practice
3.3.2	Soil protection - reinstatement	The Soil Management Plan shall include re-instatement plans. After the completion of the works, surfaces shall be reinstated to the original form and condition. The contractor shall also: <ul style="list-style-type: none"> • stabilise the cleared areas, such as road embankments, in order to avoid sediment release; and • ensure that if topsoil is imported from off-site, it is free from contamination by polluting substances and invasive plant species, The Contractor will develop a reinstatement plan, taking account of the requirements in the Decision Document(s), EIAs and any forthcoming permit conditions.	Contractor	Construction phase Reinstatement plans should be in place prior to the start of earthworks	International Good Practice

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geo graphical area)	Source Reference
TABLE 3. MANAGEMENT OF SPECIFIC ENVIRONMENTAL IMPACTS					
3.4	Hazardous materials	OBJECTIVE – to handle, transport and store hazardous materials in a safe and environmentally responsible manner, in line with international good industry practice and Croatian legislative requirements.			
3.4.1	Management of Hazardous Materials - General	<p>The management of hazardous materials will comply with applicable national legislation and EU Directives.</p> <p>The overall management of hazardous materials will fall under the responsibility of a suitably trained designated responsible person.</p> <p>The Contractor will develop a Hazardous Materials Management Plan which captures the conditions detailed in this section of the ESAP and meet EU requirements and IFC EHS Guidelines where relevant. The plan should consider the nature and volume of hazardous materials used by the project and outline responsibilities and procedures for procurement, labelling, transportation, signage, storage and use of hazardous chemicals, use of less hazardous alternatives where possible, disposal of Hazardous Materials and emergency response arrangements.</p> <p>Hazardous materials will be transported in accordance with national legislative requirements [Law on Transportation of Hazardous Materials, OG 97/03, 151/03].</p>	<p>Contractor</p> <p>A designated Environmental (or EHS) Manager is required or another suitably trained person.</p>	<p>All phases</p> <p>Plan to be in place prior to construction activities/procurement of hazardous materials</p>	<p>EBRD Policy</p> <p>IFC General EHS Guidelines (2007)</p>
3.4.2	Storage of materials	At the Traffic Control and Maintenance Centre and temporary construction sites of the Corridor Vc motorway the storage of materials must be in line with the requirements specified in the Decision document. The storage area must be roofed and completely fenced to protect against the weather and the base must be impermeable, with an intercepting pit for collection of any run off.	<p>Contractor</p> <p>A designated Environmental (or EHS) Manager is</p>	<p>Preliminary works</p> <p>North (but applicable to storage areas)</p>	<p>Decision document</p> <p>Northern EIA,</p>

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
		Interception pits are required for other substances e.g. oils. Provisions for sewage and accidental discharges must also be in place. Detailed requirements are provided in the Decision Document	required or another suitably trained person.	elsewhere)	Sec. 4.6. (for sewage treatment)

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
TABLE 3. MANAGEMENT OF SPECIFIC ENVIRONMENTAL IMPACTS					
3.5	Waste Management	OBJECTIVE – to manage Project wastes in accordance with regulatory requirements and good industry practice, including the development of a waste management strategy for hazardous and non hazardous wastes and the use of licensed waste contractors and treatment/disposal facilities. Efforts shall be made to minimise, reuse and recycle wastes.			
3.5.1	Waste Management - Plan	<p>The Contractor will develop a Waste Management Plan for construction and operations outlining as a minimum:</p> <ul style="list-style-type: none"> • Regulatory requirements and classification • Responsible parties • Types and volumes of waste anticipated • Waste avoidance and minimisation measures • Waste re-use measures • Where avoidance, minimisation or re-use on-site is not possible options for recycling, treatment or disposal of the waste including proposed final destinations • Means of collection, transport, labelling and temporary storage of wastes prior to transport off-site • Specific measures for the management of hazardous waste • Procedures for recording waste transfers through the development of a waste tracking and documentation system 	A designated Environmental (or EHS) Manager	<p>All phases</p> <p>The WMP shall be in place before the generation of construction related Project wastes</p>	<p>IFC General EHS Guidelines (2007)</p> <p>IFC EHS Guidelines for Toll Roads (2007)</p> <p>Decision Document(s)</p> <p>EBRD Policy EIAs</p>

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
		<ul style="list-style-type: none"> Awareness training for staff and contractors <p>Only appropriately licensed waste contractors shall be used by the Contractor in order to ensure Project waste is transported and treated and/or disposed at appropriately designed and licensed facilities.</p> <p>The plan should be in place before construction works begin. It will be fully compliant with national legislation and include all requirements in the decision document(s), international conventions such as the Basel Convention and good practice requirements, for example, those outlined within the IFC EHS guidelines for Toll Roads.</p>			
3.5.2	Disposal of munitions	<p>Mine suspected areas on the motorway route are surveyed by the certified demining company (certified by Croatian Demining Centre). Mines are removed and the company takes care of their safe disposal.</p> <p>For chance finds of mines during earthworks, the certified mine clearance company should be informed. The mine company is then responsible for the safe disposal of the ordnance.</p>	Contractor	During design development and construction.	A5 Summary of Study (EIA summary for northern section)

Ref. No.	Issue	Mitigation measure/action	Responsible Party and Investment/ Resources required	Applicability (timeframe/geo graphical area)	Source Reference
TABLE 3. MANAGEMENT OF SPECIFIC ENVIRONMENTAL IMPACTS					
3.6	Protection of Biodiversity	<p>OBJECTIVE – to minimise ecological impacts by:</p> <ul style="list-style-type: none"> • Avoiding sensitive areas and species • Avoiding fragmentation (maintaining migratory routes) • Minimising the Project’s footprint and habitat loss • Reinstatement of temporarily disturbed land • Good site management 			
3.6.1	Biodiversity Management Plan	<p>The Decision document(s) provide measures for the protection of biodiversity, including but not limited to:</p> <ul style="list-style-type: none"> • Minimisation of land take and tree felling • Reinstatement needs • Use of native species for re instatement purposes • Re-siting of hunting structures (northern section) • Offset measures e.g. creation of new hunting grounds • Construction of fences and animal passages • Lighting • Maintenance during operational phase • The Contractor shall abide by the requirements specified in the Decision Document(s) and associated EIAs • Preparation of a Landscape Restoration Study <p>A time bound management plan for the conservation of natural habitats and habitats of species (including wild birds) defining i) proactive, preventative,</p>	HAC	<p>All phases</p> <p>A Biodiversity Management Plan should be in place prior to construction works.</p>	<p>Decision Document(s) and associated EIAs.</p>

Ref. No.	Issue	Mitigation measure/action	Responsible Party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
		<p>procedural and stakeholder engagement requirements for site conservation and protection, ii) all compensatory measures necessary to ensure that the overall coherence of any Natura 2000 is protected and iii) responsibilities, both internally and externally, for biodiversity management."</p> <p>The BMP shall make use of existing ecological data, supplementing with additional ecological monitoring data where necessary, and complement protection measures identified in the EIAs and decision documents. It shall also be made available for review and comment by Lenders before finalisation and public disclosure.</p>			
3.6.2	Sava River Crossing	<p>Further assessment of impacts and development of mitigation measures is required for the Sava river. Consideration should be given to the impacts during construction (activities in the foreshore area and the actual river) and operations (road drainage, bird strikes, impact from lights, loss of vegetation etc).</p> <p>For in-river construction activities, environmental impacts and risk shall be minimised through the development of a River Crossing Management Plan. The plan should include environmental protection measures that protect ecological resources, water and sediment quality, riverbed and river bank morphology and hydraulic characteristics. Protection measures might include:</p> <ul style="list-style-type: none"> • the time spent working in the river will be minimised as far as possible and restricted to non sensitive times of the year and certain flow conditions. • use of specialised equipment working from a barge/the river bank • measures put in place to prevent river bank erosion and ensure full reinstatement of river banks shall take place where necessary. • Measures will be in place to prevent the release of construction 	<p>Contractor</p> <p>The River Crossing Management Plan shall be submitted to EBRD for review and comment prior to construction</p>	<p>Construction and operation</p> <p>North Section only</p>	<p>EIA Directive</p> <p>EBRD Performance Requirements 1</p>

Ref. No.	Issue	Mitigation measure/action	Responsible Party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
		<p>materials, sediments and wastes in the river.</p> <ul style="list-style-type: none"> Avoidance of noisy in-river operations <p>The project should demonstrate via the River Crossing Management Plan that any impacts identified have adequate mitigation measures in place; findings should be publicly disclosed. Monitoring is required to confirm the effectiveness of mitigation measures (see section 6.1.4 and 6.1.12).</p> <p>The requirements listed above should be addressed via the BMP.</p> <p>Emergency response plans will also take account of potential incidents during in-river construction.</p>			
3.6.3	Protected areas – dry grasslands and coastal forests	<p>The mitigation measures identified in the EIA and any subsequent measures from the forthcoming decision document must be implemented in full.</p> <p>These requirements should be addressed via the BMP.</p>	HAC	<p>Construction and operation</p> <p>South Section only</p>	EIA Directive EBRD Performance Requirements 1
3.6.4	Terrestrial Habitat Alteration	<p>Native species should be planted in disturbed areas. Where possible, local species should be used in order to replicate the habitat which was lost during the construction works. Whilst native vegetation is becoming established it is important that these areas are inspected and any invasive plants are removed. The Contractor should consider the development of a vegetation plan in order to incorporate these measures.</p>	<p>Contractor</p> <p>Native species will need to be sourced and purchased</p>	<p>Construction</p> <p>For timeframes see 3.6.1</p>	EBRD Performance Requirement 6 (2008)
3.6.5	Aquatic Fauna	<p>The Contractor should have spill response equipment in place if working close to or in a water course.</p>	Contractor	Construction	Good practice
3.6.6	Scavenging Animals	<p>Under no circumstances will construction workers harass or hunt any animals, nor shall they feed wild animals. Such restrictions shall be communicated to</p>	Contractor	Construction and operations	EBRD Performance

Ref. No.	Issue	Mitigation measure/action	Responsible Party and Investment/Resources required	Applicability (timeframe/geo graphical area)	Source Reference
		construction workers.			Requirement 6 (2008)
3.6.7	Use of Herbicides	In the event that herbicides or pesticides are used the guidance provided in The IFC EHS Guidelines for Toll Roads should be followed, including efforts to minimise the use of pesticides/herbicides by use of alternative methods. Pesticides should be used only in accordance with local conditions, and in particular should not be used for right of way maintenance in sensitive or vulnerable groundwater areas e.g. zone II areas.	Contractor	Operations	Croatian Legislation IFC Guidance for Toll Roads

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geo graphical area)	Source Reference
TABLE 3. MANAGEMENT OF SPECIFIC ENVIRONMENTAL IMPACTS					
3.7	Noise	OBJECTIVE – to minimise construction and motorway noise using a variety of measures to meet applicable national and international noise limits at sensitive receptors.			
3.7.1	Noise - General construction	<p>The Contractor will implement the noise mitigation measures for construction and operational phases as identified in the decision document(s) and associated EIAs in which location and specification of noise barriers is provided.</p> <p>In addition, during construction, the Contractor shall:</p> <ul style="list-style-type: none"> • Use noise suppression shields and mufflers • Locate noise generating equipment away from residential or other noise-sensitive receptors • Choose among all the types available (and whenever possible), equipment that generates the least amount of noise possible and shall reduce, when necessary, the speed of vehicles at the worksite. • Drive in sheet piles with the help of hydraulic vibrators rather than pneumatic pile-driving rigs • Ensure that construction workers are provided with appropriate noise reduction headwear for the operation of machinery. 	Contractor Capital cost of appropriate infrastructure	Construction phase	International Good Practice and IFC General EHS Guidelines (2007)
3.7.2	Use of Explosives/ other noisy activities	<p>The use of explosives is not anticipated (but can not be ruled out).</p> <p>In the event that consent is given for the use of explosives (or other particularly noisy activities such as piling) are used, special care is required to avoid adverse affects on wildlife. In particular, explosives shall not be used during the</p>	Contractor	Construction	EBRD Performance Requirement 6 (2008)

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geo graphical area)	Source Reference
		winter period whilst animals are hibernating. Where piling is required in proximity of social or environmental sensitivities, quieter techniques such as vibro-piling should be used in preference to pneumatic piling.			
3.7.3	Noise minimisation – noise barriers	Where noise barriers are required, the Contractor should carefully select the materials to be used and consider masking the barriers with existing/new vegetation in order to minimise the visual impact of the barriers.	Contractor	Design and construction phases	International Good Practice
3.7.4	Noise – Work Schedule	For any route sections close to the residential areas, the site activities shall be carried out only during day time (i.e. between 0800 and 2000 hrs Monday to Friday). Plan activities in consultation with local communities so that residents are aware of the commencement of activities with the potential to generate noise disturbance.	Contractor Environmental (or EHS) Manager is required.	Construction phase	International Good practice

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/ Resources required	Applicability (timeframe/geo graphical area)	Source Reference
TABLE 3. MANAGEMENT OF ENVIRONMENTAL IMPACTS					
3.8	Cultural Heritage	OBJECTIVE – to protect sites of cultural and /or archaeological importance in line with applicable Croatian law.			
3.8.1	Protection of Existing Cultural Sites and Chance Finds	Sites of cultural heritage value shall be managed in accordance with Croatian law. The proposed route is subject to comprehensive studies to determine the presence of known or potential cultural heritage sites. Protection measures, including further investigations or preservation actions at specific locations, are described in the Decision Document(s) and associated EIA materials shall be fully implemented by the Contractor.	HAC	Investigations to be complete before ground works.	International Good Practice
3.8.2	Chance finds	A Chance Finds procedure shall be prepared that outlines actions to be taken in the event that previously undetected archaeological sites/artefacts are found (a 'chance find').	Contractor	Procedure to be in place prior to any ground works	Decision document

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/ Resources required	Applicability (timeframe/geo graphical area)	Source Reference
TABLE 3. MANAGEMENT OF ENVIRONMENTAL IMPACTS					
3.9	Emergency Preparedness & response	OBJECTIVE – to have the necessary provisions in place to respond to abnormal incidents during all phases of the project, including measures to deal with and minimise the impacts of accidental leaks and spillages.			
3.9.1	Emergency Preparedness – Planning (general)	<p>Prior to commencing any road works, the Contractor will develop a written plan for accidental and emergency situations in a manner appropriate to the risks and the need to prevent their potential negative consequences. This plan shall consider all potential emergency scenarios (spills of oil/other hazardous materials or loss of salt) including in relation to the environment and health & safety (to workers & the community), both during construction and operation. Consultation will be undertaken with stakeholders during its development. The plan will be approved prior to issue by a third party or independent person. In addition, a copy of this plan shall be provided to EBRD for review and approval upon request. This plan will at a minimum include:</p> <ul style="list-style-type: none"> • All requirements specified in the Decision Document(s) and associated EIAs/future permit requirements. • Measures to contain and control incidents so as to minimise the effects and to limit damage to humans, the environment and property. • Details of lines of communication to be used where necessary to communicate with the emergency services, public authorities and the public. • Measures for the restoration and clean-up of the environment following an incident as well as monitoring of results. • Training requirements for emergency responders. 	Contractor A designated Environmental (or EHS) Manager is required.	Construction and Operations phases Early emergency plans should be in place prior to the start of construction activities.	EBRD Performance Requirement 3 (2008) plus EIA (2006)

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
		<ul style="list-style-type: none"> The plan will be appropriately communicated with potentially affected communities and local governing agencies and tested as necessary. <p>Separate plans can be prepared for construction and operation phases. These should be integrated with other plans e.g. the County Intervention Plan. The emergency response plans should also consider potential transboundary impacts, e.g. fuel spill to a river, and the need to notify and collaborate with neighbouring countries in the event of an incident.</p>			
3.9.2	Management of Hazardous Materials - Spills	<p>Portable spill containment and cleanup equipment shall be provided on site where hazardous materials are stored and training in the equipment deployment shall be provided.</p> <p>Suitable personal protection equipment shall also be provided.</p>	<p>Contractor</p> <p>Appropriate spill response equipment and PPE will need to be purchased if not available</p>	<p>All phases</p> <p>For timeframes see 3.9.1</p>	IFC General EHS Guidelines (2007)
3.9.3	Emergency response - recording	All leaks/spillages should be reported to the Environmental Manager to be logged. The Environmental Manager will identify trends or recurrent incidents and investigate incidents where appropriate.	Contractor	<p>Construction phase</p> <p>Reports shall be made within 24 hours of an incident.</p>	International Good Practice

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geo graphical area)	Source Reference
TABLE 3. MANAGEMENT OF SPECIFIC ENVIRONMENTAL IMPACTS					
3.10	Other Environmental Impacts	Objective: This section addresses any other environmental impacts not assessed above.			
3.10.1	Mud on Public Highways	<p>Efforts shall be made to prevent the accumulation of soils on public roads. To help prevent such accumulations busy construction sites will be provided with vehicles tyre wash facilities. Any soil accumulations will be cleared from public roads to prevent nuisance or a driving hazard.</p> <p>Effluents from any tyre wash facility must be treated before discharge. It should not share the site storm water drainage system. Tyre wash facilities should not be located in sensitive ground water zones.</p>	<p>Contractor</p> <p>A specialist road contractor may be required</p>	<p>Construction</p> <p>Facilities shall be in place at the start of construction.</p>	International Good Practice
3.10.2	Natural Resource Management	<p>Wherever possible resource use should be minimised including raw materials and energy/fuel minimisation by:</p> <ul style="list-style-type: none"> Detailed planning of transport routes to minimise distances travelled (whilst taking into account minimisation of disturbance); Re-use/recycling of any excavated materials as fill materials within the Project; Re-use/recycling of waste within the Project or via third party contractors wherever possible. 	<p>Contractor</p>	<p>Construction</p> <p>Measures should be defined prior to the start of main construction activities.</p>	EBRD Performance Requirement 3 (2008)

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/ Resources required	Applicability (timeframe/geo graphical area)	Source Reference
TABLE 4. MANAGEMENT OF SOCIAL IMPACTS					
OBJECTIVE: to minimise negative social and community health impacts and enhance positive impacts wherever possible.					
4.1	Social Impacts Assessment	<p><i>At the time of preparing this ESAP there are some uncertainties regarding the Project's detailed design and Contractor's construction plans. It is therefore unknown what sub contractors/suppliers will be involved and the nature of the workforce in terms of their origins, and therefore the potential impacts associated with the workforce/contractor can not be defined. In the absence of any defined plans this ESAP outlines a number of precautionary measures to minimise social impacts.</i></p> <p>The contractor shall further consider social impacts via a Social Management Plan and refine mitigation measures accordingly depending on the number and location of workers/suppliers/transport needs (see also 4.8). Measures to enhance social benefits must also be considered e.g. employment opportunities for local people, provision of supplies etc.</p> <p>In addition to any protection measures already outlined in the project Decision Document(s), the Social Management Plan should include:</p> <ul style="list-style-type: none"> • A description of baseline socio-economic conditions; • A project description relevant to social impacts, including workforce numbers, timeframes and planned provision of accommodation and services); • Management of construction/accommodation camps, including minimum accommodation standards and site security (see 4.4, 4.5 and 4.10) • Measures to avoid impacts associated from the influx of workers (see 4.6); • Measures to avoid other construction related social impacts, including 	Contractor	<p>Construction and operations</p> <p>Further Social Assessment shall be a priority once the contractor is appointed.</p> <p>Mitigation measures should be defined within 3 months of Contractor's award of contract and a Social Management Plan submitted to EBRD for review and comment prior to construction</p>	Good practice

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
		<p>access restrictions, nuisance issues etc</p> <ul style="list-style-type: none"> • Measure to enhance social benefits • Workers' code of conduct (see 4.11) • Grievance procedures (see 4.14) <p>Resettlement/economic displacement issues shall be addressed via the Compensation Action Plan (CAP) as described below.</p>			
4.2	Physical and Economic Displacement	<p>In the event that the Contractor decides to deviate from the route defined in the EIA, the Contractor shall collaborate with the Company to avoid physical displacement or adverse economic impact (including loss of assets/resources) where possible. Where unavoidable the Contractor shall proceed in line with requirements set out in the Project's CAP.</p>	Contractor	Construction	EBRD Performance Requirement 5 (2008)
4.3	Compensation Action Plan	<p>HAC will develop and implement a Compensation Action Plan (CAP) based on the existing Framework Resettlement Action plan (FRAP). The CAP will, amongst other issues:</p> <ul style="list-style-type: none"> • Identify affected parties (affected by physical or economic displacement) • Outline compensation entitlements and assistance available to affected parties • Describe the consultation process • Describe the legal framework and appeals process • Establish a monitoring programme <p>Full details are provided in EBRD's Performance Requirement 5.</p>	HAC	Prior to Construction during expropriation process	EBRD Performance Requirement 5 (2008)

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
4.4	Construction Sites - Security	The Contractor will provide a Site management and security plan that ensures compliance with EBRD's Performance Requirement 4. This includes requirements to protect the public (e.g. site security arrangements to prevent access by the public) and security personnel requirements.	Contractor A designated HR Manager is required	Construction (during recruitment/selection of security personnel)	EBRD Performance Requirement 4 (2008)
4.5	Construction site management protection measures	Construction traffic should be routed to avoid sensitivities where ever possible. For example, routes shall be selected that avoid unsuitable roads, residential areas, schools etc. Consideration shall also be given to vehicle movements during different times of the day, with certain routes being excluded during night time hours.	Contractor Environmental (or EHS) Manager	At least 1 month prior to start of construction	Decision document and good practice
4.6	Influx of workers – general management	Contractor should assess the numbers and origin of construction workers and implement suitable measures to manage the workforce in order to minimise social impacts. If appropriate (e.g. if large numbers of non local construction workers will be involved in the project), the Contractor should develop a plan to manage the influx of workers employed on the Project, to ensure environmental and social impacts are identified and managed. The plan should take account of the number and origin of the workers and consider: <ul style="list-style-type: none"> • Provision of accommodation (including minimum standards) (see below) • Provision of medical facilities • Provision of utilities. • Provision of recreational facilities. • Cultural Issues (if foreign workers employed). 	Contractor A designated Environmental (or EHS) Manager is required.	Construction For timeframes see 4.1	EBRD Performance Requirement 2 (2008) and EBRD Performance Requirement 4 (2008)

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
		<ul style="list-style-type: none"> Medical fitness standards (including control of infectious diseases). <p>This plan shall be reviewed by a third party or independent person (this might be a Construction Supervisor) in line with 1.9 of this ESAP.</p> <p>EBRD shall also be provided with a copy of the plan for review and approval upon their request.</p>			
4.9	Influx of workers - disease prevention	<p>The Contractor shall implement measures, commensurate to the level of risk, to prevent and control of communicable and vector-borne diseases, including where appropriate:</p> <ul style="list-style-type: none"> medical checks to confirm workers are fit or work immunisation program/use of workers that aren't immunised against communicable diseases (for non nationals from high risk countries) educating project personnel on disease risks, prevention, and available treatment, and provision of condoms to reduce the risk of sexually transmitted disease <p>These measures shall be detailed within the plan to be developed as part of 4.8 above.</p>	<p>Contractor</p> <p>Appropriate persons with medical training may be required on a temporary basis</p>	<p>Construction</p> <p>During recruitment and induction process.</p>	<p>EBRD Performance Requirement 4 (2008)</p>
4.10	Construction Camps	<p>Accommodation camps are not expected although can not be ruled out.</p> <p>Depending upon the number and origin of workers, dedicated construction accommodation camps might be required. In the event that construction camps are required the Contractor shall:</p> <ul style="list-style-type: none"> Agree locations with the appropriate local authorities taking into account 	<p>Contractor</p> <p>Capital costs for appropriate infrastructure</p>	<p>Construction</p> <p>For timeframes see 4.1</p>	<p>EBRD Performance Requirement 2 (2008) and EBRD Performance Requirement 4</p>

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/ Resources required	Applicability (timeframe/geo graphical area)	Source Reference
		<p>potential social and environmental impacts;</p> <ul style="list-style-type: none"> • Ensure accommodation is appropriate for its location and ensure it is clean, safe and at a minimum meets the basic needs of workers. • Ensure waste, power and sewerage facilities are available (checks should be made with utility companies where necessary). • Ensure appropriate national (or where not available international) standards are met in particular in relation to: <ul style="list-style-type: none"> - Minimum space per worker requirements; - Provision of sanitary, laundry and cooking facilities; - Provision of potable water; - Provision of heating & ventilation; - Provision of appropriate health and safety measures; and - Provision of first aid and medical facilities • Ensure the camp’s needs are met whilst not affecting existing services to local communities. <p>The minimum standards for workers’ accommodation outlined in ‘Workers’ Accommodation: Processes and Standards, A guidance note by IFC and EBRD, August 2009, shall be met. The document is available at: http://www.ebrd.com/enviro/tools/workers.pdf</p>			(2008)
4.11	Code of conduct	Contractor shall prepare a code of conduct for project workers. The code will outline basic requirements and minimum expectations of workers both on-site and in surrounding communities to reduce the chance of any	Contractor	Construction For timeframes	International Good Practice

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
		worker/community conflicts. It will also include restriction on fishing and hunting, harassment and feeding of wild animals.		see 4.1	
4.12	Social Benefits - Employment	The Contractor should use a local workforce where possible to maximize direct and secondary local employment opportunities where possible.	Contractor	All phases For timeframes see 4.1	International Good Practice
4.13	Labour Issues - General	<p>The Contractor will act as a responsible employer to staff and contractors and adopt (or maintain) human resources policies appropriate to its size and workforce. It will ensure that contractors (including in relation to any non-employee workers) apply the same standards, and that they and/or their contractors provide:</p> <ul style="list-style-type: none"> • fair wages; • fair working hours; • facilities; and • health and safety provisions <p>These shall be in accordance with Croatian laws and with the Multilateral Development Bank Harmonised Edition of the 'Conditions for Contract for Construction – General Conditions, Section 6. International Federation of Consulting Engineers, March 2006.</p>	Contractor A designated HR Manager is required	All phases Immediately following Contractor's appointment	EBRD Performance Requirement 2 (2008)
4.14	Labour Issues – Grievance Mechanism	The Contractor shall develop and implement a grievance mechanism for workers (& their organisations where applicable) to enable individuals/groups to raise reasonable workplace concerns. The grievance mechanism shall be communicated to employees at the time of hire and shall be easily accessible to all parties. It will include at a minimum:	Contractor A designated HR Manager is required	All phases The Grievance mechanism should be in place as a	EBRD Performance Requirement 2 (2008)

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
		<ul style="list-style-type: none"> • A requirement for the involvement of a person at an appropriate level of management. • Details of how issues raised will be dealt with (including timescales, which shall be prompt). • An understandable and transparent process that provides feedback to those concerned without any retribution. • Use of the grievance mechanism should not impede access to other judicial or administrative remedies that might be available under law or through existing arbitration procedures. 		priority (prior to Contractor selection) and updated subsequently following Contractor's appointment	
4.15	Labour Issues - Standards	All contractors will comply with relevant requirements of the International Labour Organisation (ILO) as ratified by Croatia.	Contractor A designated HR Manager is required	All phases Immediately upon appointment	EBRD Performance Requirement 2 (2008)
4.16	Labour Issues – Supply Chain	The Contractor shall take reasonable steps to inquire about the use of child labour and forced labour in its supply chain in relation to goods and materials which are central to the core functions of the Project.	Contractor	All phases Continuously	EBRD Performance Requirement 2 (2008)
4.17	Traffic/ Road safety	<p>The road must meet appropriate safety standards required by Croatian legislation, EU Directives and where appropriate the standards given in the IFC Guidelines for Toll Roads, particularly in relation to:</p> <ul style="list-style-type: none"> • Installation and maintenance of signs, signals, markings and other devices used to regulate traffic. • The setting of speed limits appropriate to the road and traffic conditions. • Maintenance of the road to prevent mechanical failure of vehicles due to road conditions. 	Contractor	Design phase	Local Legislation and IFC EHS Guidelines for Toll Roads (2007)

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geographical area)	Source Reference
		<ul style="list-style-type: none"> The use of real time warning systems with signage to warn drivers of congestion, accidents, adverse weather or road conditions. 			
4.18	Traffic/ Road safety	<p>The Contractor shall develop a Road Safety Management Plan. This plan shall include provision for education and awareness training for the workforce in relation to traffic/road safety. Adoption of best transport safety practices across all aspects of project operations with the goal of preventing traffic accidents and minimizing injuries suffered by project personnel and the public. Measures should include:</p> <ul style="list-style-type: none"> Emphasizing safety aspects among drivers Improving driving skills and requiring licensing of drivers Adopting limits for trip duration/length of working day and arranging driver rosters to avoid overtiredness Avoiding dangerous routes and times of day to reduce the risk of accidents Use of speed control devices (governors) on trucks, and remote monitoring of driver actions Regular maintenance of vehicles and use of manufacturer approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure. Road safety audits. <p>Driver qualifications and fitness to drive should be confirmed. The Contractor will also develop and implement a policy on alcohol and drug use across the project that will apply to all drivers.</p>	<p>Contractor HAC A specialist contractor may be required to provide such training in a one day course.</p>	<p>All phases Training to be given as part of drivers' induction</p>	<p>EBRD Performance Requirement 2 (2008)</p>
4.19	Traffic/ Road	The construction areas shall be signalled with warning panels that inform the	Contractor	Construction	International

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geo graphical area)	Source Reference
	safety	drivers that they must reduce their speed in the area of the construction site, and pay more attention to the traffic, in order to avoid any accidents with the locals that drive on the connecting roads.		phase	Good Practice

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/ Resources required	Applicability (timeframe/geo graphical area)	Source reference
TABLE 5. MANAGEMENT OF OCCUPATIONAL HEALTH & SAFETY (OHS)					
Objective <ul style="list-style-type: none"> • To protect the Health and safety of all construction staff • To develop and fully implement robust H&S management • Establish a work ethic that recognises the importance of safe working practices or both individuals and their work colleagues • To have a safety record that meets or exceeds industry standards 					
5.1	OHS Management System - General	Implement good management practices through the development of an occupational health and safety management system in line with OHSAS 18001. This management system will include (but not be limited to): <ul style="list-style-type: none"> • Identification of potential hazards to workers and measures to eliminate or where not practicable to minimise them. • Training in the use of machinery and equipment and personal protective equipment (PPE) • Measures to encourage and enforce the use of PPE. • Procedures for the documentation of incidents and accidents. • An audit programme. • Performance monitoring. The Contractor should also manage Health and Safety in line with IFC General EHS Guidelines (April 2007).	Contractor A designated H&S (or EHS) Manager is required	All phases Contractor should appoint a HSE manager and implement safety MS as a priority following appointment	EBRD Performance Requirement 2 (2008)
5.2	OHS Management System -	The Contractor will prepare and submit to HAC on a quarterly basis Health and Safety reports which include:	Contractor/HAC A designated H&S (or EHS)	All phases	EBRD Performance Requirement 1

Ref. No.	Issue	Mitigation measure/action	Responsible party and Investment/Resources required	Applicability (timeframe/geo graphical area)	Source reference
	reporting	<ul style="list-style-type: none"> • KPI statistics (LTI's and near misses) • H&S training • Noteworthy H&S initiatives • Corrective actions following any incident investigations <p>This report may be combined with the environmental report (see ESAP Ref. 1.11) and may be part of the monthly report required by the Technical Specifications for the Contractor (Section 2.3.4.3.2.1). Summaries of these reports will be included in the Annual Environmental Report to be submitted to EBRD.</p>	Manager is required		(2008)
5.3	Workers Health and Safety – Overall requirements	<p>The Contractor will manage workers including sub contractors to ensure a safe and healthy working environment, promoting best occupational health and safety practice. Adoption of safe working practices shall be undertaken in accordance with Croatian requirements, for working:</p> <ul style="list-style-type: none"> • in confined spaces • at heights • with moving machinery • in dusty environments • with electrical equipment • as a vehicle driver <p>Workers shall only perform tasks that they are trained and competent to undertake. Signage and barriers shall be used to alert workers of any hazards.</p>	Contractor A designated H&S (or EHS) Manager is required	All phases	EBRD Performance Requirement 2 (2008)

3 Monitoring Requirements

Ref. No.	Monitoring Requirement	Timeframe	Responsible Party and Investment/ Resources required	Source Reference
TABLE 6. ESHS MONITORING				
6.1 ENVIRONMENTAL MONITORING				
General Requirements (all phases of the project)- Environmental and Social Management				
M6.1.1	<p>A comprehensive monitoring programme shall be developed. The program will cover construction and operation/maintenance phases and include information regarding parameters, number and location of monitoring sites, monitoring frequency taking seasonality and non continuous nature of emissions and discharges into consideration. The monitoring programme should be developed to meet national and Lenders' monitoring requirements and include the monitoring specified in this ESAP.</p> <p>The monitoring plan shall meet all the requirements outlined in the Decision documents and permits and should be implemented in a timely manner.</p> <p>The Contractor should have adequate resource to implement the monitoring programme, including environmental and social field officers during the construction phase.</p>	All phases	<p>Contractor</p> <p>A designated Environmental (or EHS) Manager is required.</p> <p>For construction, the monitoring programme should be in place prior to construction starting.</p>	International Good Practice
Stakeholder Engagement				
M6.1.2	See M6.1.1 above and M6.2.4 below on the monitoring and reporting of grievances	-	-	-
Environmental Impacts - Protection of Air Quality				
M6.1.3	<p>The Contractor will estimate the emission of Greenhouse Gases from vehicles based on the number and composition of vehicles (light and heavy vehicles) using the road.</p> <p>Air quality shall be measured around concrete batching and asphalt facilities, including</p>	Operations	<p>Contractor or third party supplier.</p> <p>See M6.1.1</p>	EBRD Performance Requirement 3

	dust, VOCs and combustion products. Site inspections should take place periodically to ensure dust levels are acceptable/dust suppression measures are being used.			
Environmental Impacts - Protection of Water Quality				
M6.1.4	<p>In line with the Decision document the Company/Contractor shall design a monitoring programme, compliant with national regulations, and in cooperation with the relevant water protection authorities. This will include:</p> <ul style="list-style-type: none"> • monitoring of the waste waters that are discharged into the watercourses, especially into class I and II zones. Parameters should include, but not be limited to, hydrocarbons, salinity and metals. Parameters should be defined in the monitoring programme. • a ground waters monitoring programme including groundwater level monitoring. • Monitor of potentially affected surface water resources, including the Sava river. • Monitor the condition of river banks (to ensure reinstatement is successful). <p>Prepare special monitoring requirements for sensitive areas (valuable water resources and other sensitive resources) in accordance with the Decision document(s).</p>	Construction and operations	For timescales See M6.1.1	Decision document A5 Summary of Study (EIA summary for northern section)
M6.1.5	<p>The monitoring programme should include monitoring of surface water quality and include the collection and analysis of baseline samples.</p> <p>Requirements are outlined in the Decision document(s) and EIAs.</p> <p>The monitoring should also be extended to include monitoring to determine the environmental impacts associated with the extraction of aggregates from rivers.</p> <p>Water quality should also be monitored in the Bebica-baste/Polje Jezerac area.</p>	Construction and operations	For timescales See M6.1.1	A5 Summary of Study (EIA summary for northern section)
M6.1.6	The Contractor shall undertake (or ensure supplier undertakes) monitoring of all	Construction	Contractor	International

	<p>significant effluents from asphalt production and concrete batching areas and construction camps (including storm water drainage). Discharges will meet national legislative requirements.</p> <p>In the event that concrete and asphalt is sourced from a third party supplier the Contractor should ensure the supplier is a licensed operator with relevant environmental permit approvals in place.</p>		For timescales See M6.1.1	Good Practice
M6.1.7	Grease/oil traps shall be regularly inspected visually and any captured oil and sludge removed periodically. Removed material should then be disposed of in line with relevant waste disposal legislation.	Operations	Contractor For timescales See M6.1.1	International Good Practice
Environmental Impacts - Protection of Soils				
M6.1.8	Reinstatement of affected land should be monitored. Monitoring should continue until reinstatement criteria are met (i.e. exposed land has regained 80% vegetative coverage, and confirm the use of native plant species as specified in this ESAP).	Construction and post construction	Contractor	International Good Practice
Environmental Impacts - Management of hazardous materials				
M6.1.9	The management of hazardous materials (as described in ESAP Ref. 3.4 above) will be subject to regular inspections the periodic audits e.g. 6 monthly audits	All phases	Contractor	International Good Practice
Environmental Impacts - Waste Management				
M6.1.10	The management of wastes (as described in ESAP Ref. 3.5 above) will be subject to the regular inspections and periodic (6 monthly) audits and waste arisings will be recorded and reported.	All phases	Contractor	International Good Practice
Environmental Impacts - Protection of Biodiversity				
M6.1.11	Monitoring of animals killed by traffic to be carried out. The effectiveness of animal passages should also be monitored, based on the number and type of animals using the passages and the number of road kills. Further details are provided in the Decision document.	Operations	HAC Monitoring to start shortly after commissioning.	International Good Practice

M6.1.12	Ecological monitoring is required for the Sava area (northern section) to confirm that the mitigation measures are effective. These should be defined in the Biodiversity Management Plan.	Construction and operations	Contractor and HAC	International Good Practice
M6.1.13	Ecological monitoring is required in the dry grassland and coastal forest areas (southern section) transacted by the route to confirm that the mitigation measures are effective. These should be defined in the Biodiversity Management Plan.	Construction and operations	Contractor and HAC	International Good Practice
Environmental Impacts Noise				
M6.1.14	<p>Establish a comprehensive pre-construction noise baseline in the vicinity of any sensitive receptors (i.e. residential properties)</p> <p>During the first year of motorway use, noise level measurements shall be done at the locations pointed out in the Study as potential zones of possible noise influence.</p> <p>Verify post-construction that compliance with relevant Croatian noise limits have been achieved (i.e. that noise barriers, new surfacing, building façade protection measures etc have been successful). If the target noise values are not achieved, further mitigation may be required.</p>	Pre-construction and post-construction	<p>Contractor</p> <p>A specialist contractor is likely to be required to undertake this monitoring requirement.</p> <p>Baseline data to be collected prior to construction activities.</p>	<p>International Good Practice</p> <p>Decision document</p>
Environmental Impacts - Emergency Response				
M6.1.15	Monitoring may be required where an incident results in potential environmental damage. The nature and extent of the monitoring will depend upon the environmental and/or social severity of an incident. Emergency Preparedness – Planning (General) (ESAP Ref. 3.9) provides for post incident monitoring.	All phases	<p>Contractor</p> <p>A designated Environmental (or EHS) Manager</p> <p>Monitoring is only required following an environmentally damaging incident.</p>	International Good Practice

Ref. No.	Monitoring Requirement	Timeframe	Responsible Party and Investment/ Resources required	Source reference
TABLE 6. ENVIRONMENTAL MONITORING				
6.2	SOCIAL MONITORING			
Employment opportunities				
M6.2.1	The number of job vacancies resulting directly from the project and taken up by i) local residents and ii) Croatian nationals should be recorded on a monthly basis. The data should be used to compile total number of man months on an annual basis.	All phases	Contractor A designated HR Manager is required. To be monitored monthly	International Good Practice
Grievances				
M6.2.2	The number of grievances recorded should be monitored and reported on a periodic basis. Where possible these should be categorised e.g. complaints relating to security staff. The time taken to acknowledge and then satisfactorily resolve grievances should also be monitored. Grievances should be analysed to categorise grievance types and determine the incidence of repeat grievances.	All phases	HAC and Contractor A HR Manager/ Community Liaison Manager is required	International Good Practice
Social Monitoring Plan - Road safety				
M6.2.3	The Contractor will collate data concerning Road Traffic Accidents (RTA) and near misses involving construction vehicles. RTA shall be monitored to ensure lessons learned (following accident investigations) result in improved road safety. Accidents rates should be compared benchmarked against industry averages.	Construction	Contractor Data to be collated monthly	International Good Practice

Ref. No.	Monitoring Requirement	Timeframe	Responsible Party and Investment/ Resources required)	Source reference
TABLE 6. ENVIRONMENTAL MONITORING				
6.3	HEALTH & SAFETY MONITORING			
M6.3.1	The Contractor will prepare Health and Safety reports on a periodic basis which include KPI statistics (LTI's and near misses). Suitable metrics shall be developed within by the Project's Health & Safety Manager.	Construction	Contractor A designated H&S (or EHS) Manager is required Data to be collated monthly	International Good Practice