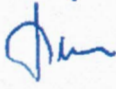

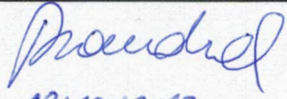


ENVIRONMENTAL & SOCIAL MANAGEMENT PLAN

PPP MOTORWAY PROJECT, D4R7 BRATISLAVA

EDITION N°	6.0
Date	31 st August 2017
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APPROVED BY	Independent Engineer (FCP) MARTIN BRANDNER  1211012017
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Revision History

Edition	Date	Status and Purpose	Changes Overview
1.0	8/07/2016	Approved (letter reference 16-1123-ZBL-002 from IE, dated 10 th August 2016)	First version
2.0	13/09/2016	Approved	Updates: Complete content review according to EBRD's requirements. ESMP Monitoring Programme. Chapter 1.4. Chapter 1.6, Chapter 2.1, Chapter 3.2, Chapter 3.4 Minor changes: typos and formatting.
3.0	15/12/2016	Approved	Updates: Appendices renamed as plans. Corrections in names of locations and names of plans, Chapter 7 Supply Chain management updated and completed. Minor changes: formatting.
4.0	15/03/2017	Resubmit in new revision	Updates: Implementation of LARF requirements into Chapter 6, amendment of provision of EPC Contract to Chapter 3.6, minor changes in Chapter 3.1, 3.2 and 3.5
5.0	13/04/2017	Approved	Updates: Amendment of provision of Concessionaire Agreement to Chapter 3.6
6.0	31/08/2017	For approval	Updates: Reference to Grievance mechanism policy in Chapter 3.10; Updated ESMP Monitoring programme (Table 1) Added skill requirements in Chapter 1.4; Reference to RER at the end of Chapter 2.1; Reference to List of necessary consents in Chapter 2.3 and to database of consents on ThinkProject! in Chapter 2.3 and 3.5; Additional cross reference to LARF in Chapter 3.1, 3.3 and 3.9; Update of information about Buttercup occurrence in Chapter 3.2; SQE documentation from subcontractors in Chapter 7; Change of invasive control interval in ESMP Monitoring programme (Table 1). KPI have been included in Chapter 9

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TERMS AND DEFINITIONS

AESR	Annual Environmental and Social Report
AQDMP	Air Quality and Dust Management Plan
BMP	Biodiversity Management Plan
BPD	Building Permit Documentation
CTMP	Construction Traffic Management Plan
DCMP	Design Change Management Procedure
EBRD	European Bank for Reconstruction and Development
EMP	Environmental Monitoring Plan
ESAP	Environmental and Social Action Plan
E&S	Environmental and Social
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
E&SM	Environmental and Social Manager
GD	General Designer
HRM	Human Resources Manager
HR MS	Human Resources Management System
H&S	Health and Safety
LARF	Land Acquisition and Resettlement Framework
MoE	Ministry of Environment of the Slovak Republic
NDS	National Motorway Company (<i>Národná diaľničná spoločnosť</i>)
OHS	Occupational Health and Safety
POV	Construction Organisation Plan (<i>Plán organizácie výstavby</i>)
PR	Performance Requirements
SEP	Stakeholder Engagement Plan
WMP	Waste Management Plan

1 INTRODUCTION

1.1 Project Overview

The D4 Highway and R7 Expressway PPP Project ('the Project') is the construction of a southern and eastern section of the ring road surrounding the City of Bratislava. Additionally, part of the southern expressway network, linking western and eastern parts of the Republic of Slovakia is proposed. The Government of Slovakia considers implementation of the Project as a strategic priority for strengthening the country's importance in the international transportation network, as well as resolving long-standing transportation issues in the City of Bratislava and surrounding communities.

The Project involves construction of these sections:

- 1st Section - Highway D4 Jarovce – Ivanka sever
- 2nd Section - Highway D4 Ivanka sever – Rača
- 3th Section - Expressway R7 Prievoz Ketelec
- 4th Section - Expressway R7 Bratislava – Dunajská Lužná
- 5th Section - Expressway R7 Dunajská Lužná – Holic
- 6th Section - Relocation of the road II/572 in extension of Galvaniho street
- 7th Section - Relocation of the road II/572, highway D4 - Most pri Bratislave
- 8th Section - Highway D1 Bratislava, Intersection Prievoz - reconstruction

The scope of construction works is defined by structure of construction objects for individual sections as defined by zoning/building permit documentation and zoning/building permits.

1.2 Objectives and scope of Environmental and Social Management Plan (ESMP)

EPC Contractor has developed this ESMP in order to identify the environmental and social management and mitigation actions required to implement the Project in accordance with the applicable requirements of Slovak legislation and other environmental and social requirements.

The ESMP is primarily based on the findings of the environmental and social assessment process and the outcomes of stakeholder engagement and its aim is to develop and implement a programme of actions to address the identified environmental and social impacts of the Project

This ESMP covers also the issues identified in the Environmental and Social Action Plan (ESAP). This document has been developed by EPC Contractor in order to meet requirements of the EBRD's Performance Requirements.

This ESMP forms part of an overall management scheme and is to be read in conjunction with other environmental, social and other documentation prepared for EPC Contractor staff and subcontractors working on this Project.

It is to cover the management of a contractor's activities and those of any subcontractor working under the main contractor's control. ESMP has been developed to avoid, minimise or mitigate any construction effects on the environment and the surrounding community. The ESMP defines the legal and other requirements that have to be met and the way how they are to be managed.

The objective of the ESMP is to set out clearly the key components of environmental and social management for the Project with the following concept:

- Negative E&S impacts are mitigated.
- Benefits that will arise from the development of the Project are enhanced.
- Compliance with existing legislation and consistency with best practice is achieved.

The ESMP is applicable to the design and construction phase of the Project.

In the scope of the ESMP the management of current environmental and social aspects relevant to the Project is included. Safety, health or security aspects pertaining to the Project and human resources issues are not addressed in this ESMP and are discussed in the H&S and Human resources part of EPC Contractor's documentation.

1.3 ESMP Structure

The ESMP is comprised of this document (the ESMP main document) and a series of plans that complement it (referred to below).

This ESMP main document describes the overall environmental and social management processes applicable to the Project and covers topics which are common to all environmental and social disciplines.

Supporting this ESMP main document is a set of plans which comprise topics specific of ESMP documents. These plans are listed as follows:

- **Design Change Management Procedure** (D4R7-G000-CON-ES-PLA-0-0009)
- **Method Statement for Topsoil Treatment** (D4R7-G000-CON-ES-PRO-0-0001)
- **Biodiversity Management Plan** (D4R7-G000-CON-ES-PLA-0-0005)
- **Noise and Vibration Management Plan** (D4R7-G000-CON-ES-PLA-0-0010)
- **Air Quality and Dust Management Plan** (D4R7-G000-CON-ES-PLA-0-0007)
- **Hazardous Substance and Materials Management Plan** (D4R7-G000-CON-ES-PLA-0-0003)
- **Contaminated Materials Management Plan** (D4R7-G000-CON-ES-PLA-0-0004)
- **Waste Management Plan** (D4R7-G000-CON-ES-PLA-0-0006)
- **Chance Finds Procedure** (D4R7-G000-CON-ES-PLA-0-0011)
- **Emergency Preparedness and Response Plans** (D4R7-G000-CON-ES-PLA-0-0013 to 0017)
- **Flood Emergency Plan** (D4R7-G000-CON-ES-PLA-0-0012)
- **Environmental Monitoring Plan** (D4R7-G000-CON-ES-PLA-0-0008)
- **Stakeholder Engagement Plan** (D4R7-G000-CON-ES-PLA-0-0002)

1.4 Responsibilities

Responsibility for measures related to the design and construction phase lies with the EPC Contractor.

E&SM is responsible for the compliance with Environmental Impact Statement, necessary consents, the requirements of the EPC Contract and this ESMP. His/her skill requirements are 15 years of experience.

The **Construction Manager** will ensure that the work is planned and managed so that it is undertaken in a manner consistent with the requirements of this ESMP.

The provisions of this ESMP will be incorporated into all construction contracts. Each subcontractor will be required to comply with the terms of the ESMP.

1.5 Intended Users

The ESMP is a document that aims to communicate to Company's Project Team and subcontractors the environmental and social management requirements, mitigation measures and commitments pertaining to construction execution of the Project.

Company's Project Team shall utilize this document during Project execution to achieve effective environmental and social management.

Subcontractors shall utilize this document to ensure their respective ESMP documents address the environmental and social management and monitoring requirements as applicable to each Contract scope of work.

1.6 Document Control

ESMP is a living document that must consider predicted environmental and social impacts, monitoring data and programs, and means for compliance (present and future) to applicable guidelines and regulations. Planning allows for proactive decision making with regards to mitigation of potential impacts.

The ESMP and its plans are controlled documents stewarded by Quality & Environment Department. Changes requiring modifications to the ESMP and its plans will be incorporated in accordance with the process defined in company's management of change procedure.

The ESMP will be updated periodically especially when the different phases of the Project progress and at a minimum, on 6-monthly basis within first 2 years of construction, and then, on an annual basis.

Changes to the ESMP and its plans will be notified to relevant parties, including the Concessionaire, Independent Engineer and Subcontractors.

2 ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL IMPACTS

Applicable legislation

- Act No. 24/2006 on Environmental Impact Assessment as subsequently amended
- Building Act No. 50/1976 as subsequently amended

Applicable EBRD's PRs

- PR1: Assessment and management of environmental and social impacts and issues

EPC Contractor approach

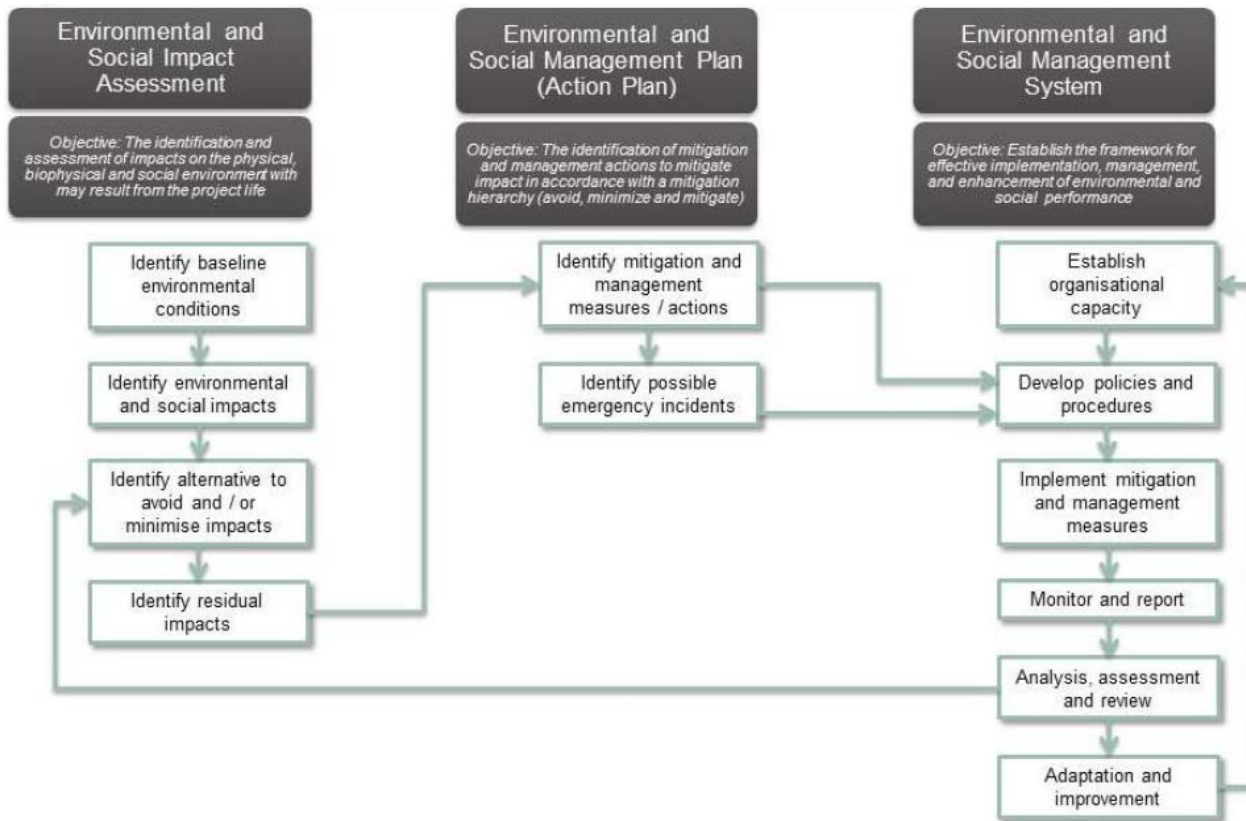
EPC Contractor's environmental and social management framework allows for the identification of environmental and social impacts, the development of mitigation and / or management actions and the establishment of a structure to ensure the effective implementation and adaption of mitigation and management measures.

This ESMP is developed to provide measures and actions to mitigate / manage potential adverse impacts, or to enhance positive or beneficial impacts based on the following mitigation hierarchy:

- Avoidance;
- Minimization; and
- Compensation.

Contents of the ESMP are integrated in the overall **Quality, Environmental, Health and Safety Management System** which has been implemented for the project.

The scheme of management of significant environmental and social aspects applied in the Company is as follows:



2.1 Environmental and Social Impact Assessment

The potential impacts and associated mitigation measures and management procedures presented in this ESMP are based on the baseline information and assessments provided in the Environmental Reports which were prepared for all sections of Project throughout the Environment Impact Assessment (EIA) process according to EIA Act 24/2006. The EIA procedure and mitigation measures are summarised in Final Statements of Ministry of Environment of the Slovak Republic.

Final statement of Ministry of Environment is a necessary document for following process of development consent under Building Act 50/1973. It is not possible to achieve zoning permit without this document. This procedure has been finished in all sections of D4/R7 Project.

Sections 1&2 (D4) and Sections 3, 4 & 5 (R7) went through the complete EIA process and obtained a favourable Final Statement of the Ministry of Environment (MoE).

The additional two sections of road relocation did not require EIA as per Act 24/2006. The Screening Decision was issued by the District Office in Bratislava.

Documentation for the Zoning and Building Permit application demonstrate further implementation of mitigation measures identified in the Final Statements of the MoE.

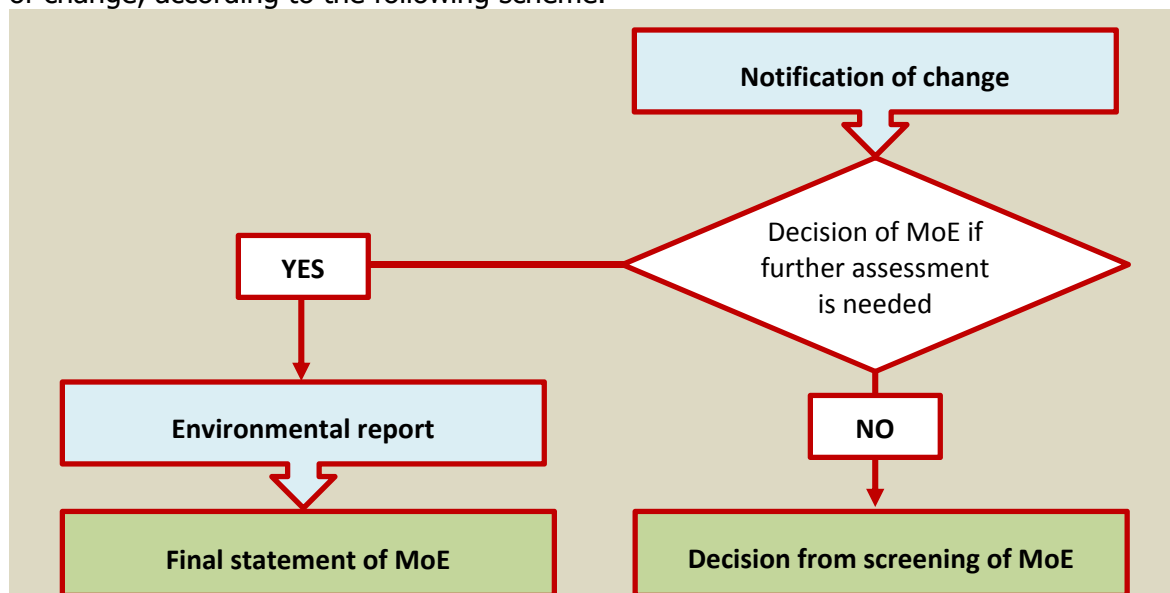
The Public Authority has an obligation to provide Existing Zoning Permits, Existing Building Permits and Remaining Building Permits for the Project. The Public Authority has currently provided the Existing Zoning Permits and partially the Building Permits

The Building Permits and Remaining Building Permits refer to the Project Documentation provided by the Public Authority. However, the extent of the new Building Permits is dependent on the amount of changes to the construction design. For a significant deviation of a new technical solution from the solution approved within the Building Permit, the EPC Contractor must obtain a Permit for a building change (amendment) before the start of construction of that part of the Works.

Existing Zoning Permits cover all five sections of the Project Road. However, the Existing Zoning Permits have been granted with conditions, which were adopted in the Building Permit Documentation.

All the mitigation measures relevant to design and construction phase recommended in the Final Statements, Zoning and Building Permit documentation are included in the **“Register of environmental requirements”** (D4R7-G000-CON-ES-REG-0-0002), which has been developed as ESMS record.

In the design phase, the final design together with some changes will be prepared by GD. This process will be managed by **“Design Change Management Procedure”** (D4R7-G000-CON-ES-PLA-0-0009). If any change of documentation is made, the EIA procedure has to be open again through Notification of change, according to the following scheme.



Requirements resulting from the decision of the MoE SR will be incorporated into the Register of Environmental Requirements (Chapter 2.2) and will be taken into account in further preparation of detail design and construction.

2.2 Managing environmental aspects

Environmental aspects relevant to design and construction phase are managed via ESMS. The “**Register of the environmental and social aspects**” (D4R7-G000-CON-ES-REG-0-0001) has been developed as an ESMS record.

As the most significant environmental and social aspects associated with the construction of D4R7, the following were evaluated:

- Cutting non-forest vegetation, particularly riparian vegetation;
- Cutting forest vegetation;
- Interference in Natura 2000 sites (Section 1);
- Interference in the habitats of national importance and European importance;
- Demolition of residential buildings;
- Handling of oil products and other chemicals with the potential risk of contamination of ground and water;
- Production of waste, including hazardous;
- Dust generation from demolitions;
- Dust generation when moving construction mechanisms and vehicles in the dry season;
- Generation of greenhouse gases;
- Noise and Vibration.

The E&SM keeps a register of the environmental aspects as a continuously updated record. The register is updated with respect to:

- Changes of activities;
- Changes of legal and other requirements;
- Results of monitoring, and
- Results of environmental programmes.

2.3 Managing legal and other requirements

One of the EPC Contractor’s main commitments is to fully comply with the requirements set out in:

- All applicable environmental Laws that are in force in the Slovak Republic;
- Any environmental permits, conditions or requirements issued regarding the Project as identified in any EIA Final Statement, the Existing Zoning Permits, Existing Building Permits or in any Necessary Consent;
- Any permission, compelling declaration, instruction or consent of an environmental nature issued by any Relevant Authority concerning the Project (or any part thereof);
- Any requirements of an environmental nature of the Public Authority / Concessionaire; and
- Environmental Policy of EBRD and its Performance Requirements.

The company has identified the need for the necessary permits resulting from individual environmental legislation, which are summarized in the **List of necessary environmental consents** (D4R7-G000-CON-ES-REG-0-0004)

Database of all consents has been implemented and is maintained on ThinkProject!

The company has established and maintains procedures to ensure that all applicable environmental legal and other requirements applicable to design and construction works are identified and met. The principal tools for legal and other requirements management are:

- **Register of environmental legislation** (D4R7-G000-CON-ES-REG-0-0003) - continuously updated record containing all legislative applicable to the project;
- **Register of environmental requirements** (D4R7-G000-CON-ES-REG-0-0002) - continuously updated record containing all requirements resulting from development consent agenda - requirements stated in EIA Final Statements, Existing Zoning Permits, Existing Building Permits or in any Necessary Consent;
- **Analysis of requirements of EPC Contract** - summarising all environmental and social requirements arising from EPC Contract;
- **ESAP** - Environmental and Social Action Plan developed in order to meet requirements of EBRD's Performance Requirements.

3 ENVIRONMENTAL AND SOCIAL CONTROL PROCEDURES

3.1 Agricultural land and forests protection

Applicable legislation

- Act No. 220/2004 on the protection and use of agricultural land as subsequently amended
- Decree of the Ministry of Agriculture No. 508/2004 for the implementation of § 27 of the Act 220/2004 on the protection and use of agricultural land amended by decree No. 59/2013
- Act No. 326/2005 on Forests as subsequently amended
- Decree of Ministry of Agriculture No. 232/2006 on the marking of the timber, labelling timber and timber origin documentation

Applicable EBRD's PRs

- PR3: Resource Efficiency and Pollution Prevention and Control

EPC Contractor approach

Any intervention to the agricultural and forest land is possible only after entering the building permit for respective section into force!

Any intervention to the agricultural and forest land of an extent beyond the building permit specifications must be approved by respective authority and will require a change of building permit.

In order to manage the agricultural land protection issues, the EPC Contractor has established the procedure "**Method Statement for Topsoil Management**" (D4R7-G000-CON-ES-PRO-0-0001) to ensure the protection of agricultural land pursuant to provisions of the Act No. 220/2004 on the protection and use of agricultural land.

Other agricultural soil protection arrangements are set out in the documentation for building permit for each section of D4/R7 motorway Project, reflecting applicable national legislation and also conditions set out by respective authorities. It includes:

- Designation of areas for temporary topsoil depositions;
- Care of humus topsoil disposals during construction;
- Erosion control;
- Technical and biological re-cultivation of areas of temporary land use.

Monitoring and reporting of these arrangements during the construction phase is incorporated into the ESMP Monitoring programme (Table 1).

In relation to the land occupation and topsoil protection requirements arising from the LARF, EPC Contractor, in cooperation with the concessionaire, will carry out the following measures under the LARF Action Plan:

- If design change results in **additional permanent land take** being required which affects structures then the Concessionaire will undertake and share the results of socio-economic surveys with NDS/Public Authority to inform the compensation and resettlements assistance to ensure the provisions of the LARF are met.
- It is assumed that the Concessionaire will not **temporarily seek to occupy land** where residential structures are present.
- EPC Contractor has established a **top soil management** for permanent and temporary use of land. In Sections 4 and 5 EPC Contractor engaged with agricultural companies in order to use surplus of agricultural topsoil. Top soil management plan will be disclosed by Concessionaire on Project website.
- EPC Contractor will review alternative routes **for access to agricultural land** during construction and engage with the agricultural companies/cooperatives to avoid loss of business. Access roads were agreed in advance and included in BPD. Traffic management plan to be prepared.
- The Concessionaire / EPC Contractor are responsible to firstly **avoid disturbance to crops**, engage with the agricultural company and compensate for damage/loss to crops. In Sections 4 and 5 the EPC Contractor in advance announced the commencement of construction to ensure that no crop is planned on areas of land occupation. The same approach will be applied on others sections.

3.2 Biodiversity protection

Applicable legislation

- Act No. 543/2002 on nature and landscape conservation as subsequently amended
- Decree of the Ministry of Environment No. 24/2003 for the implementation of the Act No. 543/2002 on Nature and Landscape Conservation as subsequently amended
- Standard STN 83 7010 Protection of wood
- Technical procedure TP 035 (TP 04/2010) Landscaping of roads
- Technical procedure TP 067 (TP 04/2013) Migration corridors for animals

Applicable EBRD's PRs

- PR6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

EPC Contractor approach

The Project implementation will be associated with some significant impacts in fauna and flora and their habitats. As the most significant aspects were evaluated:

- Cutting non-forest vegetation, particularly riparian vegetation;
- Cutting forest vegetation;
- Interference in Natura 2000 sites (Section 1);
- Interference in the habitats of national importance and European importance;

The management and mitigation of these adverse effects will be governed by “**Biodiversity Management Plan**” (D4R7-G000-CON-ES-PLA-0-0005). It includes also monitoring of Compensatory measures which will be implemented due to construction of the Section 1.

At the section 1 D4 Highway Jarovce – Ivanka Sever, a pre-construction ecological survey will also be performed prior to cutting trees. The purpose of the survey is to identify protected species (in particular birds) in the territory of permanent and temporary land occupation and consequently to ensure rescue transfers of protected species in cooperation with the ŠOP SR (State Nature Conservation of the Slovak republic), if applicable.

In the Section 2 potential occurrence of Buttercup species (*Ranunculus lateriflorus*) has been identified in km 3.700 in the stage of EIA. Prior to construction an ecological survey of the locality was performed by the ecologist (report Ekojet, 05/2017). The presence of protected species was not confirmed.

Outcome of surveys will be included in the BMP.

Impact on valuable habitats in the vicinity of the construction site will be monitored at selected places according to the “**Environmental monitoring plan**” (D4R7-G000-CON-ES-PLA-0-0008).

3.3 Noise and vibration

Applicable legislation

- Act No. 355/2007 on Public health protection as subsequently amended
- Decree of the Ministry of Health No. 549/2007 establishing details on the permissible values of noise, infrasound and vibration and on the requirements for the objectification of noise, infrasound and vibration in the environment as amended by decree No. 59/2013
- Government Regulation No. 416/2005 on the minimum health and safety requirements to protect workers from the risks related to exposure to vibration
- Government Regulation No. 115/2006 on the minimum health and safety requirements to protect workers from the risks related to exposure to noise
- Technical procedure TP 052 (TP 15/2011) Proposal and assessment of noise measures for roads

Applicable EBRD’s PRs

- PR3: Resource Efficiency and Pollution Prevention and Control

EPC Contractor approach

Designing phase

Protection of residential areas and other sensitive places will be ensured by construction of noise barriers which were included in the design documentation according to the results of Noise studies. Any change of the road alignment or change of parameters of noise barriers proposed in BPD necessitates updating of Noise study.

EPC Contractor **will review design and noise protection measures** based on updated noise studies, which will include the municipalities of Jarovce, Rovinka, Most near Bratislava, Ivanka pri Dunaji, Vajnory and the gardening area between Prievoz and Ketelec. Proposed measures will be communicated with affected municipalities in accordance with SEP and LARF.

Construction phase

Residential properties, schools and other facilities in the vicinity of the motorway construction will be sensitive to noise effects during the demolition and construction of the motorway. During the

construction, the heavy machinery and the transportation of construction material to the construction site and within the immediate construction area will inevitably generate noise. In addition, the traffic on the existing road will be a permanent source of noise generation. Construction machinery and trucks used for the transportation of construction materials usually generates noise with an intensity of 85-90 dB at the source.

In order to mitigate adverse effect of the construction noise and vibration on inhabitants, the EPC Contractor has established set noise control measures included in the document "**Noise and Vibration Management Plan**" (D4R7-G000-CON-ES-PLA-0-0010). Compliance with these rules will be monitored according to the ESMP Monitoring programme.

In addition to this, the noise levels will be monitored in the period of construction two times per year according to the "**Environmental monitoring plan**" (D4R7-G000-CON-ES-PLA-0-0008).

3.4 Air quality protection

Applicable legislation

- Act No. 137/2010 on Air as subsequently amended
- Decree of the Ministry of Environment No. 244/2016 on Air quality
- Decree of the Ministry of Environment No. 410/2012 on which implements certain provisions of the Act on air as amended by the Decree No. 270/2014
- Act No. 321/2012 on the Protection of Ozone Layer as subsequently amended

Applicable EBRD's PRs

- PR3: Resource Efficiency and Pollution Prevention and Control

EPC Contractor approach

Emissions to the atmosphere in terms of gaseous and particulate pollutants from vehicles and machinery used on the site and dust from construction activities will be controlled and limited. Potential sources, and sensitive receptors will be identified and appropriate control techniques will be applied. The set of rules to manage the air pollution with the emphasis on mitigation of dust generation are provided in the "**Air Quality and Dust Management Plan**" (D4R7-G000-CON-ES-PLA-0-0007), and also the manner of greenhouse gases control is described.

Quality of ambient air will be monitored during construction according to the "**Environmental monitoring plan**" (D4R7-G000-CON-ES-PLA-0-0008).

3.5 Water protection

Applicable legislation

- Water Act No. 364/2004 as subsequently amended
- Decree of the Ministry of Environment No. 100/2005 laying down details on the handling of hazardous substances, the particulars of the emergency plan and the procedures for dealing with extraordinary deterioration of water
- Government Regulation No. 269/2010 laying down the requirements to achieve good water status as amended
- Government Regulation No. 46/1978 on the protected area of natural accumulation of water on Žitný ostrov
- Act No. 538/2005 on Natural medicinal water resources as subsequently amended

- Decree of Ministry of Health No. 552/2005 declaring a protective zone of natural medicinal resources in Čilistov
- Technical procedure TP 017 (TP 13/2005) Drainage designing on roads
- Technical quality conditions TKP 3/2013 Culverts

Applicable EBRD 's PRs

- PR3: Resource Efficiency and Pollution Prevention and Control

EPC Contractor approach

Designing phase

During the operation of the motorway the water from surface runoff from the road will be discharged into surface water or groundwater which may be associated with the risk of water pollution. The substantial part of the D4 and R7 route crosses the Water management protected area Žitný ostrov. In addition, Section 4 and 5 passes through the Protective zone of natural medicinal water resources Čilistov. Due to this fact discharging the rain water into groundwater (which is proposed in these sections) is enabled only after its appropriate treatment.

Any change of the drainage design has to be consulted with respective Water administration body (District Authority, Department of Environmental Care).

Construction phase

Water Efficiency

All water supplies are to be metered, with monthly water consumption monitored and reported. Measures shall be put in place to ensure water is used efficiently on site. Site welfare will use low flow fittings for WCs and taps. Wheel wash facilities will be recirculating to minimise water consumption.

Water Pollution

Measures to prevent the water pollution will be implemented:

Not to establish the construction yards on the territories where more permeable rock environment protrudes directly to the surface or is closely to the surface or in a close proximity of surface streams.

To ensure vehicle cleaning at their exit from the site on the reinforced impermeable surface with the entrapping of contaminated water and its safe disposal.

To ensure possible repairs and cleaning of construction machines on the reinforced areas with the entrapping of contaminated water and its safe disposal.

Not to place the storerooms of material, construction waste and car fleet outside the area of the construction of the assessed activity.

To release waste water from the production of concrete, cleaning of means of transport and mechanisms (or from their repairs) to the streams with sufficient flow rate only after their de-sedimentation and removal of oil in the ORL so that the concentrations specified by the relevant regulations would not be exceeded.

It shall be necessary to accumulate the sewage water from social and sanitary facilities in water-tight sump tanks and to take them to a suitable water treatment plant.

To thoroughly de-sediment and de-oil the waste water from the storerooms of oils and dispensaries of fuel.

The washing from storerooms of construction chemicals and other chemical preparations should be accumulated in water-tight reservoirs and driven away to be disposed of in the relevant facilities.

Crossing of watercourses will be restricted due to possible contamination of surface water and riparian habitats by leaking oil substances. Bridges or culverts will be used for these purposes.

Handling of hazardous substances

Storage and handling of oil products and other chemicals constitutes potential risk of contamination of ground, surface water and groundwater. In order to avoid this risk the EPC Contractor has developed the "**Hazardous Substance and Materials Management Plan**" (D4R7-G000-CON-ES-PLA-0-0003). Monitoring and reporting of arrangements laid down in this document will be carried out through ESMP Monitoring programme (Table 1).

Construction works will be executed in accordance with approvals and requirements of water management authorities which are registered in the database of consents on ThinkProject!

Quality of surface water and groundwater will be monitored during construction according to the "**Environmental monitoring plan**" (D4R7-G000-CON-ES-PLA-0-0008).

3.6 Contaminated land

Applicable legislation

- Act No. 409/2011 on Certain measures in the field of contaminated sites (environmental burden) and on amendments to certain laws
- Act No. 569/2007 on Geological works as amended
- Act No. 79/2015 on Waste

Applicable EBRD's PRs

- PR3: Resource Efficiency and Pollution Prevention and Control

Current information on contaminated sites

In the route of the expressway R7, a geological survey in 2014 revealed in the borehole VJ-26 at km 2.4 of R7, pollution of gravel layer by oil substances on the groundwater table at a depth of 5.9 meters. Analysis of groundwater samples showed exceedance of the intervention criteria according to Methodological Guidelines of Ministry of the Environment.

Based on the survey results, the site in question was included in the register of environmental burdens as a confirmed environmental burden of high priority. In this case, it is evident that the contamination represents old environmental burdens, the resolution of which falls under the Act No. 409/2011 on some measures in the field of contaminated sites. According to the Article 4 of the Act if the polluter is not known, the regional environmental authority shall designate as the liable person the owner of the property on which there is environmental load.

It is not possible to designate the person who owns the property as a liable person if he proves that at the time of entry into the property he could not know about the environmental burden. In this case the Government of the Slovak Republic on the proposal of the Ministry of the Environment will have to decide which ministry is competent to ensure the implementation of measures under the law.

As analysed in the report of 14.09.2015, the mere existence of environmental burden in a given locality is not an obstacle in the construction of the expressway. The competent authority should however decide in advance about procedures to address the environmental burden in question in order not to disrupt the timing of the Project implementation.

EPC Contractor approach

The procedure in the event of discovery of dangerous material is described in following clauses of **EPC Contract**:

15.25 In all respects related to the EPC Works, in the event of discovery, during the Construction Period (or, in the area affected by the Defect Remediation Works, during any Defect Remediation Period), of any dangerous, toxic or contaminated materials or substances on the Site, the EPC Contractor shall:

- (a) subject to Clause 15.26, immediately notify the Relevant Authority and the Concessionaire; and
- (b) take all necessary steps to ensure the safety of persons and property.

15.26 The EPC Contractor shall take all steps required for the removal and/or liquidation of such materials or substances (in compliance with the Necessary Consents, Standards and Laws). For the purpose of removal and/or liquidation of such materials or substances the EPC Contractor shall allow the Relevant Authority access to the Site and shall carry out the instructions of the Relevant Authority.

During the construction of motorway, particularly in the Section 3 along the Slovnaft, contaminated soil or other contaminated material may be discovered. The procedure dealing with such a situation has been established in document "**Contaminated Materials Management Plan**" (D4R7-G000-CON-ES-PLA-0-0004).

In the procedure provisions of Clause 16.3 "Dangerous Materials" of **Concession agreement** will be considered:

16.3.1 In the event of discovery of any dangerous, toxic or contaminated materials or substances on the Site, the Concessionaire shall:

- (a) subject to Clause 0, immediately notify the Relevant Authority and the Public Authority; and
- (b) take all necessary steps to ensure the safety of persons and property.

16.3.2 The Concessionaire shall take all steps required for the removal and/or liquidation of such materials or substances (in compliance with the Necessary Consents, Standards and Laws). For the purpose of removal and/or liquidation of such materials or substances the Concessionaire shall allow the Relevant Authority access to the Site and shall carry out the instructions of the Relevant Authority.

16.3.4 If in the course of performing the Works, the Concessionaire discovers on Site of part of the Section 3 from Malý Dunaj to the beginning of Ketelec Interchange any dangerous, toxic or contaminated materials or substances which were not brought onto the Site as a result of any act or omission by the Concessionaire or any Concessionaire Party, the Concessionaire shall proceed as follows:

- (a) request SLOVNAFT, a.s., Vlčie hrdlo 1, 824 12 Bratislava, identification number: 31 322 832, or its legal successor ("Slovnaft") to (i) ensure removal of the discovered materials or substances to the

extent necessary for the performance of the Works in accordance with the Law, or (ii) pay the cost of removal of the discovered materials or substances to the extent necessary for the performance of the Works in accordance with the Law (the "Request");

(b) if, within sixty (60) days following the delivery of the Request, Slovnafit undertakes to remove the discovered materials or substances or to pay the relevant cost of their removal, even in part (the "Slovnafit Commitment"), the discovery of such dangerous, toxic or contaminated materials or substances shall not be a Compensation Event to the extent of the Slovnafit Commitment;

(c) if Slovnafit fails to provide the Slovnafit Commitment or the Slovnafit Commitment only covers a part of the cost, the discovery of the unforeseen dangerous, toxic or contaminated materials or substances shall be deemed a Compensation Event to the extent not covered by the Slovnafit Commitment.

3.7 Waste management

Applicable legislation

- Act No. 79/2015 on Waste
- Decree of the Ministry of Environment No. 365/2015 establishing a Waste Catalogue
- Decree of the Ministry of Environment No. 366/2015 on record keeping obligations and reporting requirements
- Decree of the Ministry of Environment No. 371/2015 which implements certain provisions of the Waste Act

Applicable EBRD's PRs

- PR3: Resource Efficiency and Pollution Prevention and Control

EPC Contractor approach

In order to manage waste during construction works "**Waste Management Plan**" (D4R7-G000-CON-ES-PLA-0-0006) has been developed as part of an overall environmental management scheme. The plan will ensure that all waste arising from the construction is managed in a sustainable manner, maximising the opportunities to reduce, reuse and recycle waste materials. The plan therefore defines the legal and other requirements that have to be met and the way how they are to be managed. It is to cover the management of a EPC contractor's activities and those of any subcontractor working under the main contractor's control.

3.8 Cultural heritage

Applicable legislation

- Act No. 49/2002 on Protection of Monuments
- Building Act No. 50/1976 as subsequently amended

Applicable EBRD's PRs

- PR8: Cultural heritage

EPC Contractor approach

The EPC Contractor has been provided with interim reports from survey within stage I. of phase I. of archaeological survey on Project and related documents. The subsequent phases of archaeological

survey are to be provided according to provisions of EPC Contract with the aim to protect cultural heritage in the course of construction.

The principal role of EPC Contractor is managing chance finds, defined as physical cultural heritage encountered unexpectedly during Project implementation. For this purpose “**Chance Finds Procedure**” (D4R7-G000-CON-ES-PLA-0-0011) has been developed. The provisions of the plan include notification of relevant competent bodies of found objects; alerting project personnel to the possibility of chance finds being discovered; and securing the area of finds to avoid any further disturbance or destruction. The EPC Contractor will not disturb any chance finds until an assessment by a qualified specialist is made and actions consistent with national legislation are provided.

3.9 Construction traffic

Applicable legislation

- Building Act No. 50/1976 as subsequently amended

Applicable EBRD’s PRs

- PR3: Resource Efficiency and Pollution Prevention and Control

EPC Contractor approach

Construction traffic will be a source of nuisances, in particular by noise and dust generation. In order to minimise the adverse effect of traffic to local communities the general designer has prepared the “**Construction Traffic Management Plan**” (CTMP) as a part of the “**Plan of construction organization**” (POV). This plan is included as an Annex of BPD for all sections of the Project.

It is intended that the plan will be updated in accordance with the development of the construction strategy and re-issued as appropriate. The CTMP will be consulted on with the local authorities and the emergency services. In accordance with relevant planning conditions attached to planning permissions and construction permits for site construction works the CTMP will be subject to the approval of the Building Authority.

In CTMP EPC Contractor **will avoid haul routes through communities** as far as possible and narrow roads that present risks over the safety of the community members and review **measures to reduce/prevent construction disturbance** (e.g. working times, dust control, haulage routes etc.) for the communities living close to the construction working areas and road corridor in accordance with LARF requirements.

3.10 Labour and Working Conditions

Applicable legislation

- Labour Code No. 311/2011 as subsequently amended

Applicable EBRD’s PRs

- PR2: Labour and Working Conditions

EPC Contractor approach

The EPC Contractor management recognises that for the Project implementation the proper human resources management and a sound worker-management relationship based on respect for workers’ rights are key ingredients to the sustainability of business activities. By treating workers fairly and

providing them with safe and healthy working conditions, the company creates tangible benefits, such as enhanced efficiency and productivity of their activities. These are the main principles of the company's human resources policy.

In order to manage the human resources policies, the EPC Contractor has developed these principle management documents: **"Employment Policy Document"**, **"Employee Handbook"** and **"Grievance Mechanism"**.

The procedures constitute the framework of **Human Resources Management System** which has been established as part of overall management system.

Grievance mechanism of EPC Contractor's and subcontractor's employees is described in **"Stakeholder Engagement Plan"**.

3.11 Occupational Health and Safety

Applicable legislation

- Act No. 124/2006 on Occupational Health and Safety as amended
- Act No. 355/2007 on Protection, support and development of public health and on amendments to certain laws
- Act No. 67/2010 Chemical Act as amended
- Government regulation of SR No. 396/2006 on minimum safety and health requirements for construction sites
- Regulation of MLSAF SR No. 147/2013 by which are regulated details for safety and health during construction work and work related and details about professional competence to perform certain work activities
- Regulation of MLSAF SR No. 508/2009 on establishing details on ensuring safety and health at work with technical pressure, lifting, electrical and gas and establishing tech. equipment, which are considered as reserved tech. equipment as amended
- Regulation of MLSAF SR No. 356/2007 laying down details on the requirements and scope of educational activities, the project of education and training, keeping of documentation and verification of knowledge of participants of educational activities, as amended

Applicable EBRD's PRs

- PR4: Health and Safety

EPC Contractor approach

Management of health and safety risk is an important part of an integrated management system. The company management is aware of its responsibilities and obligations towards employees and the importance of prevention and mitigation of adverse impacts. H&S management principles have been incorporated into the **Manual of occupational health and safety** in accordance with the standard OHSAS 18001 and into **Health & Safety Management Plan** which has been prepared in accordance with Government Regulation No. 396/2006.

4 EMERGENCY PREPAREDNESS AND RESPONSE

Applicable legislation

- Water Act No. 364/2004 as subsequently amended

- Decree of the Ministry of Environment No. 100/2005 laying down details on the handling of hazardous substances, the particulars of the emergency plan and the procedures for dealing with extraordinary deterioration of water
- Act No. 7/2010 on Flood Protection as subsequently amended
- Act No. 314/2001 on Fire protection as amended

Applicable EBRD 's PRs

- PR3: Resource Efficiency and Pollution Prevention and Control

EPC Contractor approach

Prevention of soil surface water and groundwater pollution

In order to prevent and mitigate the environmental impacts of accidents with potential of soil, surface water and groundwater pollution, the EPC Contractor has established procedures to respond to these situations. "**Emergency Preparedness and Response Plans**" (D4R7-G000-CON-ES-PLA-0-0013 to D4R7-G000-CON-ES-PLA-0-0017) have been developed for each section of D4/R7. The Emergency plans define:

- Systems for notifying EPC Contractor's personnel and appropriate emergency services;
- Arrangements for notifying competent statutory bodies and local authorities of pollution incidents;
- Procedures and appropriate information required in the event of any incident such as a spillage or release of a potentially hazardous materials.

Flood risk

The company has developed "**Flood Emergency Plan**" (D4R7-G000-CON-ES-PLA-0-0012, -0019, -0020) according to the Act no. 7/2010 on flood protection.

Occupational health and safety risk

The company has drawn up separate internal documents, which determine preventive measures and provide the necessary means and procedures to protect the life and health of employees in carrying out operations, particularly to:

- establish procedures for the case of rescue works, evacuation and occurrence of the damages to health, including providing first aid,
- equip the workplaces with necessary equipment including first aid and registration of medical material,
- ensure sufficient number of competent persons to carry out the rescue, evacuation and first aid, as well as firefighting,
- ensure the necessary contacts with the relevant medical facilities, emergency departments and fire units.

While working at the customer's workplace the reactions to the emergencies follow the procedures specified in the contracts, respectively internal documentation of the customer. Emergencies caused by third parties or natural disasters shall be governed pursuant to instructions of emergency responders.

The documents are known to all employees and persons with the knowledge of the company at the workplaces / construction sites (visits, suppliers etc.) through acquaintance with the regulations for ensuring OHS.

5 ENVIRONMENTAL MONITORING

Applicable legislation

- Act No. 24/2006 on Environmental Impact Assessment as subsequently amended
- Technical procedure TP 050 (TP 13/2011) Manual for monitoring of environmental impact of roads

Applicable EBRD´s PRs

- PR3: Resource Efficiency and Pollution Prevention and Control

EPC Contractor approach

Construction of motorway is associated with the impacts on individual elements of environment - soil, air quality, noise, surface water, groundwater, fauna, flora and their habitats. Major potential adverse effects of the construction on human health and the environment, which were identified in the environmental impact assessment, will be monitored periodically. EPC Contractor has developed "**Environmental Monitoring Plan - EMP**" (D4R7-G000-CON-ES-PLA-0-0008), the objective of which is to manage activities related to the implementation of environmental monitoring, as required under the legislation, the requirements of permits and opinions issued by the competent authorities in the permitting process, technical standards and technical regulations applicable to the implementation of environmental monitoring.

Additional requirements of the EPC Contract for monitoring of contaminated sites near Slovnaft plant are incorporated into the EMP.

6 STAKEHOLDERS ENGAGEMENT

Applicable legislation

- Act No. 24/2006 on Environmental Impact Assessment as subsequently amended
- Building Act No. 50/1976 as subsequently amended
- Act No. 669/2007 on Special regulation concerning expropriation pursuant to one - off extraordinary measures in preparation of certain motorway and expressway projects as amended

Applicable EBRD´s PRs

- PR10: Information Disclosure and Stakeholder Engagement

The provision of public information **throughout the EIA procedure** was ensured according to SK EIA Act by the affected municipalities. The public were able to submit their written viewpoint within the period of the Environmental report was displayed.

The Environmental report was distributed by the MoE to the competent authority, permission authority, affected authorities and affected municipalities. The affected municipalities informed the public about the EIS and where and when the EIS may had been viewed. The report was accessible to the public for at least four weeks after delivery. The public could present its written standpoint also directly to the MoE within two months from the time when it was informed about the Environmental report.

The affected municipalities in co-operation with NDS arranged public hearings during the period of EIA report display.

Relevant Slovak public consultation requirements and regulations **in the stage of building proceeding** are governed by the Building Act and the Act on Administrative Procedures, which amongst others regulate building permit procedure. This legislation provides that everyone who is an owner of a plot neighbouring land to be used for the project and whose rights might be affected by the proposed project (both conditions to be met cumulatively) should participate in public consultation procedures.

Each participant has the following rights:

- Access to full documentation for review at the relevant project authority;
- The right to raise objections;
- The right of appeal.

Objections raised during the building permit process must be dealt with in the permits themselves. They are either accepted and then they become binding for an investor; alternatively, if objections raised within the permitting process are not accepted by the relevant authority in charge of the Project, the reasons for dismissal must be given in the part "Justification" of the building permit.

During the building proceedings, all relevant environmental authorities expressed their opinion. All eligible and technically realisable objections and comments of the participants to proceeding were incorporated in the project documentation by the designer.

EPC Contractor approach

In the next stage design changes will be implemented. This process will be managed by "**Design Change Management Procedure**" (D4R7-G000-CON-ES-PLA-0-0009) - see also chapter 2.1. Stakeholder engagement will be ensured pursuant to EIA Act No. 24/2006 by Notification of change displaying on the web site of MoE.

On the other hand, EPC Contractor has developed "**Stakeholder Engagement Plan**" (D4R7-G000-CON-ES-PLA-0-0002), objective of which is to ensure that all stakeholders with an interest in the Project are identified, and are meaningfully consulted with during the development and life of the Project.

EPC Contractor will cooperate with Concessionaire to fulfil relevant requirements of "**Land acquisition and resettlement framework**" (LARF) in relation to stakeholder engagement, in particular:

- If design change results in **additional permanent land take** being required which affects structures then the Concessionaire will undertake and share the results of socio-economic surveys with NDS/Public Authority to inform the compensation and resettlements assistance to ensure the provisions of the LARF are met.
- It is assumed that the Concessionaire will not **temporarily seek to occupy land** where residential structures are present.
- EPC Contractor has established a **top soil management** for permanent and temporary use of land. In Sections 4 and 5 EPC Contractor engaged with agricultural companies in order to use surplus of agricultural topsoil. Top soil management plan will be disclosed by Concessionaire on Project website.
- EPC Contractor will review alternative routes **for access to agricultural land** during construction and engage with the agricultural companies/cooperatives to avoid loss of business. Access roads were agreed in advance and included in BPD. Traffic management plan to be prepared.
- The Concessionaire / EPC Contractor are responsible to firstly **avoid disturbance to crops**, engage with the agricultural company and compensate for damage/loss to crops. In Sections 4 and

5 the EPC Contractor in advance announced the commencement of construction to ensure that no crop is planned on areas of land occupation. The same approach will be applied on others sections.

- EPC Contractor will review design and **noise protection measures** based on updated noise studies. Proposed measures will be communicated with affected municipalities.
- EPC Contractor **will avoid haul routes through communities** as far as possible and narrow roads that present risks over the safety of the community members. EPC Contractor will prepare Construction Traffic Management Plan (CTMP) which will be approved by respective municipalities.
- EPC Contractor reviewed **measures to reduce/prevent construction disturbance** (e.g. working times, dust control, haulage routes etc.) for the communities living close to the construction working areas and road corridor and prepared this ESMP in order to mitigate negative impacts of construction.
- Concessionaire in cooperation with EPC Contractor prior to construction commencing will engage with the **cycling association** to discuss impact on cycle routes along the construction site during construction (i.e. on - duration of closure, disturbance, availability of alternatives, etc.) and support information campaign online and offline for provision of alternatives during construction period
- Concessionaire in cooperation with EPC Contractor will engage with the **two businesses located on the cycling route** in Jarovce to inform them of the timing and duration of construction and explore the possibility to provide their services to construction workers for the duration of the construction in the area.
- Prior commencement of construction the Concessionaire in cooperation with EPC Contractor will liaise with the Water Authority (SVP) to support with the engagement process with **houseboat owners** to confirm the construction width, identify the houseboats which need to move temporarily and permanently and encourage and advise the houseboat owners of key project milestone dates. Ultimately measures are required to avoid forced intervention to remove houseboats in order to clear the safety perimeter needed for the construction of the highway.

7 SUPPLY CHAIN MANAGEMENT

This chapter describes how the environmental and social issues arising from construction of the Project are integrated into EPC Contractor's supply chain strategy. EPC Contractor is aware that proper supply chain management helps mitigate adverse impacts of the construction on environment and helps avoid the reputational risks as well.

Appropriate supply chain management has a special importance as the construction might have a significant and irreversible impact on the environment. These environmental and social issues are those of great importance in respect to supply chain risk assessment:

- Use of raw material and other natural resources;
- Use of chemical substances including hazardous;
- Generation of waste including hazardous;
- Noise generation and air pollution influencing local communities;
- Greenhouse gas emissions;
- Potential impacts on biodiversity.

Overall it is EPC Contractor's responsibility to implement and meet the environmental and social commitments included in this ESMP. It is understood that subcontractors will be working on site during the construction therefore EPC Contractor will need to ensure that all subcontractors are fully aware of the relevant ESMP requirements and adequate measures are implemented in order to meet these requirements.

EPC Contractor will implement an effective supply chain management, to include following:

- Identifying and assessing environmental and social risks associated with the subcontractor's work;
- Including relevant requirements in tender documents;
- Awarding the contract to contractors who have demonstrated they have the knowledge and skills to perform their tasks in accordance with the requirements; and
- Monitoring the subcontractors' performance and compliance.

General contractual conditions

The following contractual conditions apply to the site subcontractors employed by EPC Contractor:

- All tendering subcontractors will be required to provide a formal commitment to comply with the Environmental policy and requirements of this ESMP and plans applicable to the subcontractor's work;
- The EPC Contractor shall clearly identify the areas that must be protected from disturbance by the subcontractors' activities at the commencement of the subcontractors' contract. The subcontractor shall restrict all its activities, materials, equipment and personnel to within the area/s specified;
- The subcontractor will be responsible for notifying EPC Contractor (via E&SM) of any complaint or grievances received and of any corrective actions identified and implemented;
- The subcontractor will report all data applicable to the subcontractor's work necessary to EPC Contractor's monthly and annual reports (raw material consumption, water, electricity and fuel consumption, waste generation etc.).

For each group of subcontractors specific set of conditions will be developed considering character of their performance. There are two major groups of subcontractors:

- Raw materials suppliers - can be characterised as primary supply chain;
- Subcontractors providing main construction activities.

The general rules for "green" environmental performance regarding raw material supply chain are summarised in the Chapter 8 below.

The basic criteria for assessment of subcontractors providing main construction activities are as follows:

- Preference of using environmental friendly chemical substances and avoiding use of chemicals that are internationally banned;
- Preference using products that disclose their environmental attributes, such as those which have been eco-labelled;
- Recyclability of waste generated;
- Using of low-noise construction machinery;
- Using of vehicles and equipment in good operable condition, ensuring no leakage of oil or fuel;
- Providing environmental best practices for vehicles and machinery maintenance avoiding an excessive emissions;
- Certification of supplier's EMS to standard ISO 14001.

The company requires each subcontractor to provide SQE documentation, which is summarized in Schedule 10 of the contract with every subcontractor.

8 GENERAL RULES FOR SUBSIDIARY FACILITIES

Borrow pits

The Project is characterized by a lack of materials needed to road embankments. Efforts should be made to use opened borrow areas for construction of the road. Another goal is to use material obtained from excavation and demolition within a project as far as possible into embankments of the road.

At this stage of the project design, the sources of embankment material are not known. Borrow pits however, can cause a significant environmental impact if they are not sensitively located and properly managed. They are also major source of dust and truck traffic.

When selecting suppliers of material, these principles should be taken into account in order to prevent nuisances and reduce the carbon footprint:

- transportation distance to the construction site should be as short as possible;
- transportation routes should not disturb the population;
- borrow pits must be located at a sufficient distance from the living area so as not to disturb the population by means of noise and dust (recommended distance is more than 500 m);
- all borrow pits must be assessed through the EIA process;
- all borrow pits must have permission for operation.

Crushing plants, Asphalt and Concrete mixing plants

Other issues of concern are subsidiary facilities such as Crushing plants, Asphalt and Concrete mixing plants. They may be also a major source of noise and air pollution. These should not be situated at a distance less than 500 m from the residential zones. Asphalt and Concrete mixing plants Subsidiary facilities must be assessed by EIA process and all subsidiary facilities must have permission for operation.

9 KEY PERFORMANCE INDICATORS

The following KPIs have been established for the project to track performance against the project objectives. These are to be monitored by the Quality & Environment Manager and reviewed on a monthly basis with the General Manager.

ENVIRONMENTAL METRICS		
Principle	Key Performance Indicator (KPI)	Target Measure
Best Practice catalogue	Collecting experiences and good practices to include in a Best Practice catalogue	Elaboration of 2 sheets at least per year
Implement InSite	Implementation of InSite to manage Environmental performance	100% of Observations/Incidents
Noise and Vibration Control	Speed control will be in place with drivers instructed and training on good driving behavior	Zero observations of bad driving behaviour on site
Energy efficiency	Reduce consumption of paper and fuel. Trainings and awareness campaigns	Kg paper/employee


10 ESMP MONITORING

Once construction commences, monitoring is an integral part of evaluating the effectiveness of this ESMP. Monitoring and analysis of monitoring results then allow for adaptive management of the site and adjustment of management plans or mitigation measures to reduce or eliminate potential for impact should the monitoring results differ from predictions.

Implementation and effectiveness of measures involved in this ESMP shall be monitored regularly. The overall monitoring scheme is provided in the Monitoring programme in the Table 1 below.

Table 1 ESMP Monitoring Programme

Environmental/Social Topic	Mitigation/Management	Monitoring/Method/Performance Indicators	Schedule	Responsible party	Records/Reporting
Soil management	Soil protection is ensured by arrangements set out in the Topsoil Management Plan, Biodiversity Management Plan and documentation for building permit for each section of D4/R7, reflecting applicable national legislation	Visual control of erosion and invasive species	Monthly	Site Engineers and Foremen	Records in site diary / Internal announcements to E&SM
		Routine inspection of construction site	During scheduled inspections (when applicable)	Q&E Dpt.	Inspection Reports
Noise generation - effects on residents in the vicinity	Observance of the Noise and Vibration Management Plan (NVMP) establishing site working hours, monitoring of noise and other conditions	Observance of working hours according to NVMP	Daily	Site Engineers and Foremen	Records in site diary
		Monitoring of noise on selected sites, evaluation against the national standards	According to the Environmental monitoring plan	Monitoring supplier	Reports from monitoring
Impact on surface water and groundwater quality - hazardous material handling, refuelling, transport - potential soil and water pollution from the spillage of oils and other chemicals	Provisions of storage areas with spillage protection in conformance with national Act on water, observance of Hazardous Substances and Materials Management Plan, emergency preparedness, inspection of technical state of mechanisms, monitoring of groundwater and surface water quality	Regular evaluation of requirements observance, suitable corrective actions to be taken if required	Daily	Site Engineers and Foremen	Records in site diary / Internal announcements to E&SM
		Routine inspection of construction site	During scheduled inspections (weekly)	Q&E Dpt.	Inspection Reports
		Monitoring on selected sites, evaluation against the national standards	According to the Environmental monitoring plan	Monitoring supplier	Reports from monitoring

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Environmental/Social Topic	Mitigation/Management	Monitoring/Method/Performance Indicators	Schedule	Responsible party	Records/Reporting
Air quality - dust generation during construction work - air pollution, affecting of inhabitants and vegetation	Observance of the Construction Traffic Management Plan (CTMP) and Air Quality and Dust Management Plan (AQDMP): access roads cleaning, water-spraying during dry conditions to minimise dust raising; if required, vehicles carrying dusty materials have to be sheeted to prevent materials being blown from vehicles	Visual inspection, suitable corrective actions to be taken if required	Daily during dry conditions	Site Engineers and Foremen	Records in site diary / Instructions to subcontractors
		Routine inspection of construction site	During scheduled inspections (weekly)	Q&E Dpt.	Inspection Reports
		Measurement of air quality on selected sites, evaluation against the SK standards	According to the Environmental monitoring plan	Monitoring supplier	Reports from monitoring
Impacts on biodiversity	Observance of the Biodiversity Management Plan (BMP)	Regular evaluation of requirements observance, routine inspection of construction sites	Inspections in protected areas and in the vicinity of rare habitats (weekly, particularly in vegetation season)	Ecologist	Inspection reports / Internal announcements to E&SM
			Invasive species control (monthly in vegetation season)	Ecologist	Inspection reports / Immediate announcements to E&SM
		Monitoring on selected sites	According to the Environmental monitoring plan	Monitoring supplier	Reports from monitoring
Waste management	Waste handling in accordance with requirements of national Act on wastes, Waste Management Plan, keeping records, shipment of hazardous waste, announcing of data	Regular control of waste handling of subcontractors	Permanently	Site Engineers and Foremen	Records in site diary / Instructions to subcontractors / Internal announcements to E&SM
		Routine inspection of construction site	During scheduled inspections (weekly)	Q&E Dpt.	Inspection Reports
Environmental Accidents	Emergency Preparedness and Response Plans, emergency preparedness equipment, training of personnel	Routine inspection of construction site	During scheduled inspections (monthly)	Q&E Dpt.	Inspection Reports Occurrence of accidents to be reported in Monthly report
Archaeology findings, Relief events	Requirements set down in the Article 28 of the Concession Agreement	Weekly inspections during earthworks	Weekly	Archaeologist	Monthly records