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for Reconstruction and Development



KAZAKHSTAN: BEINEU-BOZOY-SAKSAULSK
ROADS - PROJECT FEASIBILITY ASSESSMENT
PR 017140

Environmental and Social Management Plan

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COUNTRY	KAZAKHSTAN
CLIENT	EBRD
OFFICER RESPONSIBLE	Harry Karandinos
CONSULTANT	SYSTEMA CONSULTING S.A.
PROJECT MANAGER	Natalia Tselenti
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Abbreviations and Definitions

ADB	- Asian Development Bank
BMP	- Biodiversity Management Plan
CESMP	- Construction Environmental and Social Management Plan
CHSMP	- Community Health and Safety Management Plan
CLO	- Community Liaison Officer
CoC	- Code of Conduct
CoR	- Committee for Roads (of Kazakhstan)
DBM	- Design-Build-Maintain
DBK	- Development Bank of Kazakhstan
E&S	- Environmental and Social
EBRD	- European Bank for Reconstruction and Development
EHS	- Environment, Health and Safety
EIA	- Environmental Impact Assessment
EPRP	- Emergency Preparedness and Response Plan
ESIA	- Environmental and Social Impact Assessment
ESAP	- Environmental and Social Action Plan
ESHS	- Environmental, Social, Health and Safety
ESMP	- Environmental and Social Management Plan
ESP	- Environmental and Social Policy (of the EBRD)
ESMS	- Environmental and Social Management System
ESR	- Environmental and Social Requirement
EU	- European Union
FS	- Feasibility Study
GET	- Green Economy Transition
GIP	- Good International Practice
GBVH	- Gender-Based Violence and Harassment
GM	- Grievance Mechanism
HR	- Human Resources
IBRD	- International Bank for Reconstruction and Development
IFC	- International Financing Corporation
IFI	- International Financing Institution
ILO	- International Labour Organization
JSC	- Joint Stock Company
QAJ	- KazAvtoZhol
LARF	- Land Acquisition and Resettlement Framework
LARP	- Land Acquisition and Resettlement Plan
LMP	- Labour Management Plan
MSDS	- Material Safety Data Sheet(s)

OHS	- Occupational Health and Safety
OHSА	- Occupational Safety and Health Administration
PPE	- Personal Protective Equipment
RSA	- Road Safety Audit
RoK	- Republic of Kazakhstan
SEP	- Stakeholder Engagement Plan
WHO	- World Health Organisation

1 Introduction

1.1 Project Overview

The construction of the 559-km Beineu-Bozoy-Saksaulsk (BBS) Road to Category II technical standards will form part of the Transport Corridor Europe-Caucasus-Asia (TRACECA), transport corridor, facilitating overland trade between China and Western Europe via Kazakhstan. The BBS Road will enhance the transport and logistics potential of the Mangystau and Aktobe regions by improving the road's technical standards, increasing its capacity, and reducing travel times. As part of the "Centre-West" Transport Corridor, the road will also contribute to the development of modern transport infrastructure, thereby supporting improved regional connectivity and more efficient movement of people and goods.

The European Bank for Reconstruction and Development (the "EBRD" or the "Bank") has considered providing a sovereign-guaranteed loan to JSC¹ National Company "KazAvtoZhol" (the "Company", the "Developer", or "QAJ"), a 100% state-owned national road operator in Kazakhstan, to finance the design, construction and maintenance of Lots 1 to 4 (km 0+000 to km 160+000; approximately 161.5 km) of the BBS Road Project, including its components (such as access roads, road maintenance units, and other ancillary infrastructure).

The Bank engaged a consultant (the "Consultant") to undertake the **Environmental and Social Impact Assessment (ESIA) and prepare the full ESIA disclosure package for Lots 1 to 7 (km 0+000 to km 286+000)** of the Project in accordance with the EBRD Environmental and Social Policy (ESP, 2024) and the Environmental and Social Requirements (ESRs). **Under a Reliance Letter agreed between EBRD, the Consultant and the World Bank, the World Bank may rely on these ESIA deliverables, in the same way as EBRD, for its own financing, appraisal and supervision of Lots 5 to 7.**

The Project has the potential to result in significant adverse future environmental and/or social impacts. Accordingly, under the EBRD Environmental and Social Policy (ESP, 2024), it has been classified as a **Category 'A'** project. As such, **the Project is subject to a comprehensive ESIA, together with the preparation of associated environmental and social documentation.** The ESIA disclosure package will be made publicly available for a minimum period of 120 days prior to the Project being considered for approval by the EBRD Board of Directors.

The 559 km BBS Road is financed by the EBRD, the International Bank for Reconstruction and Development (IBRD) / World Bank, the Asian Development Bank (ADB), and the Republic of Kazakhstan, through the Development Bank of Kazakhstan (DBK), with the road divided into four financing sections (lot groups), each allocated to a different financier:

- EBRD: Lots 1 to 4 (km 0+000 - km 160+000),
- IBRD / World Bank: Lots 5 to 7 (km 160+000 - km 286+000),
- ADB: Lots 8 to 10 (km 286+000 - km 410+000),
- DBK: Lots 11 to 14 (km 410+000 - km 559+166).

The alignment of the BBS road and its planned connections with Kazakhstan's existing road network are shown in **Figure 1**. The proposed BBS Road crosses the Mangystau, Aktobe and Kyzylorda regions. **Figure 2** provides a more detailed overview of the road alignment, showing its distribution across the three regions and the respective sections to be financed by the EBRD, IBRD, ADB and DBK.

¹Joint Stock Company

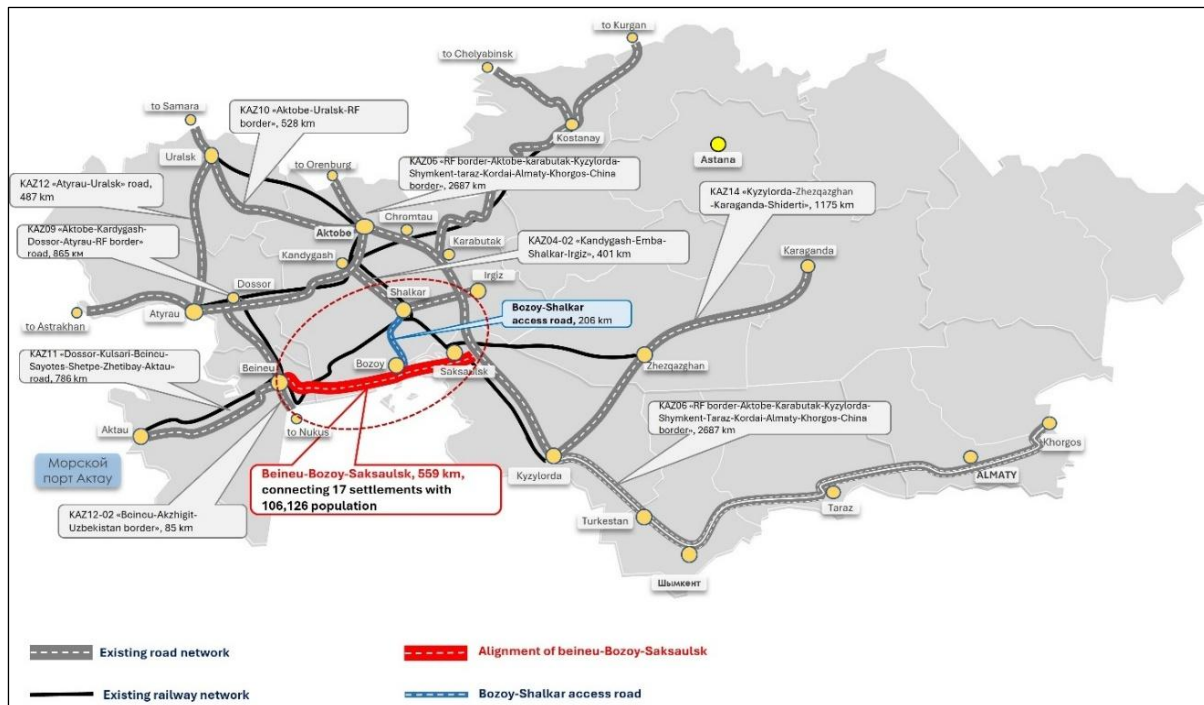


Figure 1 - Existing road network in the wider Project area and the location of the BBS road

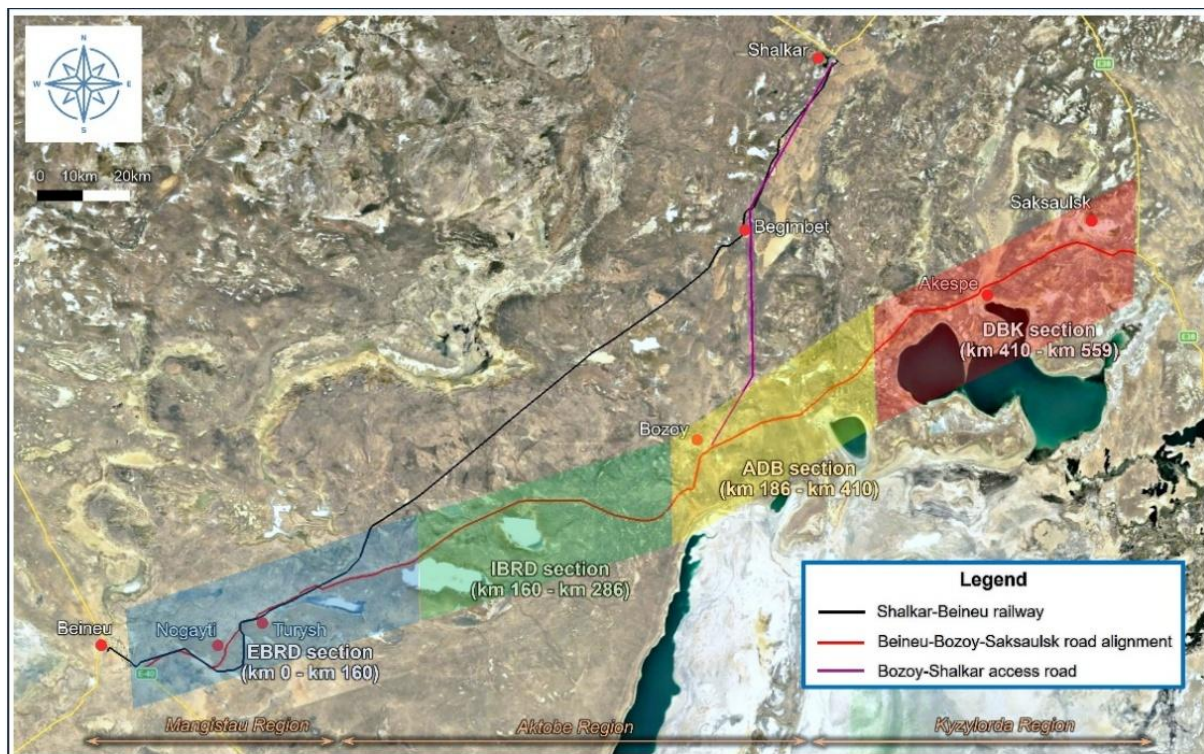


Figure 2 - BBS road alignment and division of the EBRD-, IBRD-, ADB-, and DBK-financed sections

1.2 Project Promoter

JSC NC "QazAvtoZhol" is a state-owned joint-stock company responsible for the management and development of the national road network of the Republic of Kazakhstan (RoK). The Company was

established in 2013 pursuant to Government Resolution No. 79 dated 1 February 2013² and was subsequently designated as the National Operator responsible for the management of republican roads.

The Government of Kazakhstan is the sole shareholder of the Company, represented by the Committee for Roads of the RoK Ministry of Transport. The Company's activities are undertaken within the national road-sector institutional framework and in accordance with Government-approved strategic development plans.

The QAJ head office is located in Astana, Kazakhstan. The Company operates through its regional branches and specialised organisational units responsible for particular areas of road infrastructure management and operations. The Company has 17 regional branches, covering all regions of Kazakhstan, as well as the cities of Astana, Almaty and Shymkent. The regional structure enables the Company to coordinate the implementation, maintenance and monitoring of road projects across Kazakhstan.

The last organizational structure of the JSC NC "QazAvtoZhol" was approved by the Decision of the Board of Directors No 137/26 dated 12 June 2026 (**Figure 3**).

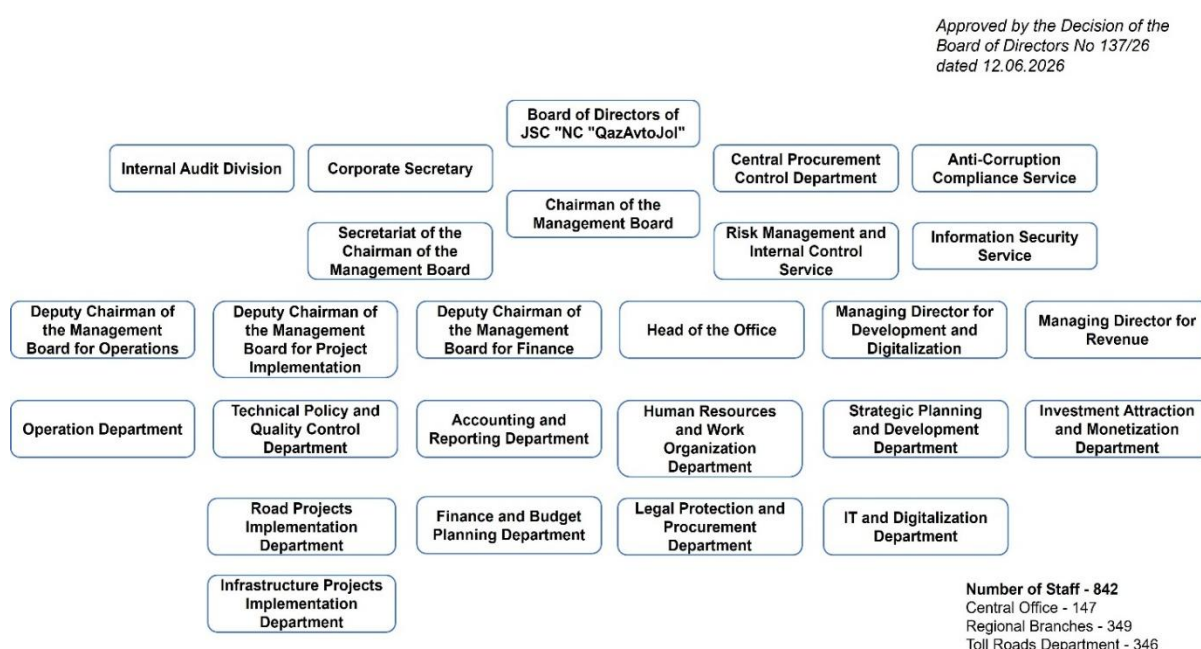


Figure 3 - Current Organizational Structure of the JSC NC "QazAvtoZhol"

The mission of the Company is to provide fast, safe, and comfortable travel for all road users by connecting regions, protecting the environment, and reducing government expenditure³.

The road maintenance works are carried out by LLP⁴ "QazService" that established pursuant to Resolution No 393 of the RoK Government dated 23.06 2017. The sole participant (shareholder) of the LLP "QazService" is JSC NC "QazAvtoZhol". The QazService comprises 17 regional branches, 95 Road Maintenance Units (RMUs), 102 Road Maintenance Points (RMPs) and staffed with 4,912 employees.

²<https://adilet.kz/laws/doc-70731/>

³https://ru.qaj.kz/company/?utm_source=chatgpt.com

⁴Limited Liability Partnership

1.3 Project Lender

One of the Project's financing institutions is the European Bank for Reconstruction and Development (EBRD), which will provide financing for the km 0 - km 160 section of the BBS Road. Accordingly, the procurement of works for this Project is expected to comply with the EBRD's Procurement Policies and Rules, including its Environmental, Social, Health and Safety (ESHS) requirements.

The ESHS requirements must be incorporated into the procurement and contract documentation and tailored to reflect the specific environmental, social, health and safety risks and impacts associated with the implementation of the works under the contract.

1.4 Objective of the Environmental and Social Management Plan (ESMP)

This ESMP is an umbrella document that gives direction to the development of the full complement of management plans necessary for the Project. The broad aims of the ESMP are:

- To ensure compliance with national regulatory authority stipulations and guidelines, as well as ensuring compliance with the EBRD Environmental and Social Policy (ESP, 2024) and ESRs;
- To describe the practical requirements in sufficient detail that resources can be easily assessed and allocated;
- To state the agreed E&S objectives for the Project and verify environmental and social performance through information on impacts as they occur;
- To respond to changes in Project implementation not considered in the impact assessment process thus far or to respond to unforeseen events.

To achieve these objectives, the ESMP contains the following information:

- Definition of the environmental and social commitments and mitigation strategy identified in the E&S assessment;
- Overview of the management actions necessary to implement the commitments and mitigation strategy;
- Description of the means of monitoring and assessing the performance of the E&S actions, so that they can be adapted and/or improved; and
- Definition of responsibilities: roles, communications and reporting process required for the implementation of the ESMP;
- The methods and processes provided in this ESMP will form part of the contractual agreement between KazAvtoZhol and once appointed, the Contractor(s).

1.5 Who is this ESMP for?

The ESMP is an operational document that is available to the public for information as foreseen in the Project's Stakeholder Engagement Plan (SEP)⁵. It is linked to the ESIA Report and is intended for several parties:

- EBRD (the Lender): The ESMP provides evidence that the commitments made through the E&S assessment documentation and the financing process, which reflect the Lender's E&S policy requirements, are actually implementable and can be monitored and audited;

⁵KAZAKHSTAN: BEINEU-BOZOY-SAKSAULSK ROADS - PROJECT FEASIBILITY ASSESSMENT, PR 017140, Stakeholder Engagement Plan, September 2026

- Administrative authorities responsible for monitoring the environmental and social impacts of the Project and the effectiveness of the mitigation measures. It is also a reference document that central and local authorities can use to check that KazAvtoZhol honours its commitments in the construction and operations phases;
- KazAvtoZhol and their Supervision Consultant (Engineer)⁶. The ESMP acts as the E&S roadmap for construction and operation of the Project. It sets out the commitments made by KazAvtoZhol before the authorisation to start the main construction works and establishes the logic behind the environmental and social actions. In so doing it sets out the obligations on KazAvtoZhol and those that are delegated to their Supervision Consultant; and
- Developers of other projects in the vicinity of the Project. The ESMP informs such parties of the objectives of each E&S action. In this way, it helps to facilitate possible synergies or avoid interference with other project ESMPs, and to develop collective solutions, where appropriate.

The Contractor(s) will develop the Construction Environmental and Social Management Plan (CESMP) which will be aligned with this ESMP.

1.6 Source Documents and Outputs

The ESMP is the framework document that summarises all E&S measures recommended in, or required by, the various project documents (i.e. the source documents) and which translates them into management actions. Detailed specific management plans will be further developed and/or executed as outputs of the ESMP during the construction phase or during the operation period. The **Figure 4** below illustrates the source documents and outputs of the present ESMP.

The source documents include:

- E&S policy and requirements of the Lender (EBRD);
- Legal requirements of the RoK;
- Respective technical / engineering documentation - upcoming detailed design(s) - to be prepared to meet national regulations as well as the best international practice.
- ESIA Report and the accompanying documents (ESIA package), and upcoming updates.

The output documents are:

- The Contractor CESMP - to be prepared by the Contractor(s) to achieve the E&S performance objectives during Project's construction;
- The Environmental and Social Management System (ESMS) of KazAvtoZhol, required to implement and monitor the management actions described in the ESIA Report;
- Detailed E&S management plans or procedures required to address the mitigation and compensation measures identified through this E&S assessment; and
- Various documents that will be produced and disclosed during the Project's implementation to inform on the Project's construction and operation activities and the results of the environmental and social monitoring activities.

⁶"Supervision Consultant" (or the "Supervision Engineer") will provide technical / quality supervision of the construction works according to the respective FIDIC Book conditions of the contract.

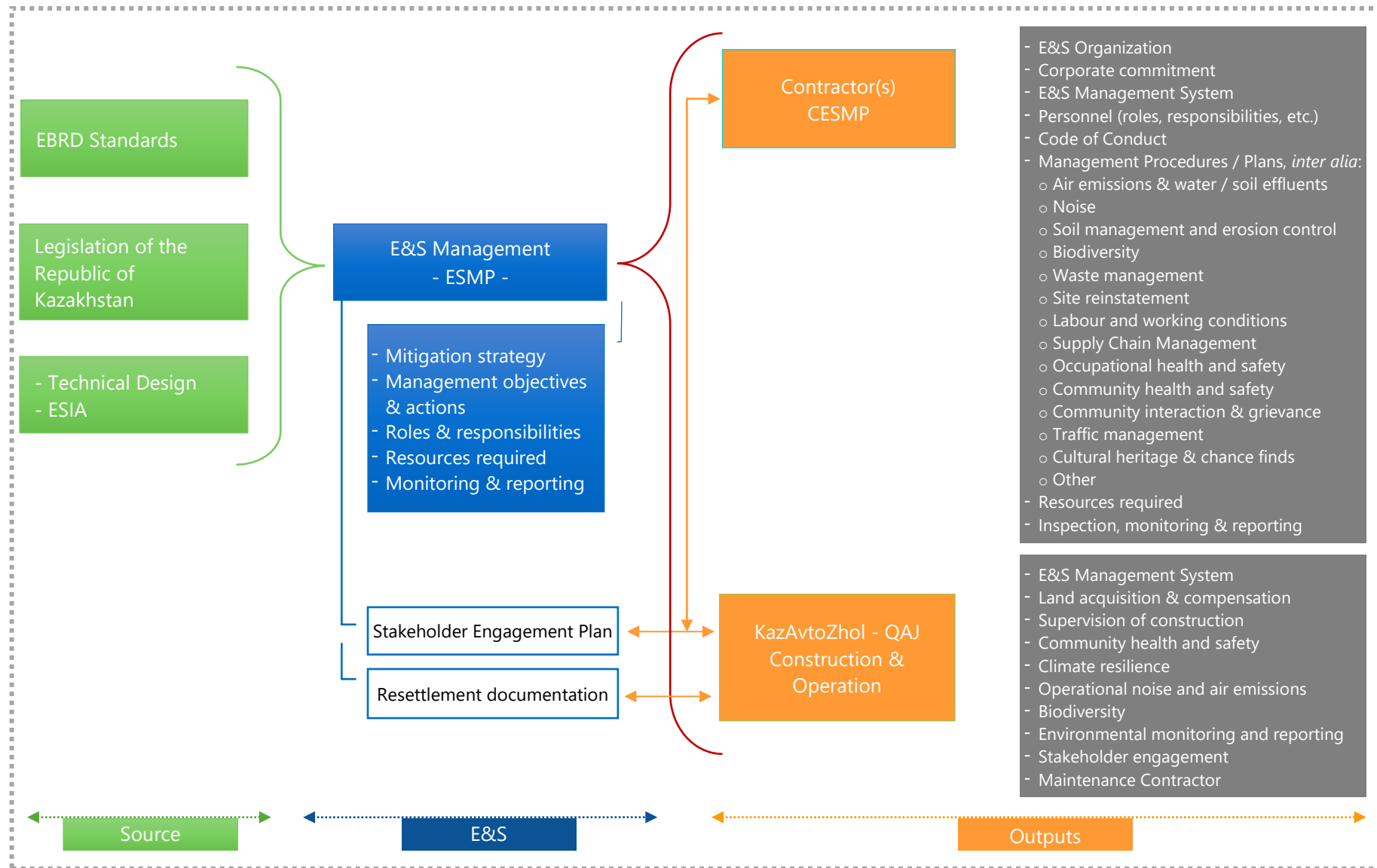


Figure 4 - Core structure and organization of the Project's Environmental and Social Management (source documents and outputs)

2 Environmental and Social Management Philosophy

This section describes the approach and philosophy of the ESMP. The ESMP is based on good international practice, EBRD ESRs and approaches used on similar projects.

2.1 Principles of Environmental and Social Management

The ESMP describes a set of measures or specifications that have been originated following the outcomes of the Project's E&S assessment, but also measures that are considered to reflect Good International Practice (GIP)⁷.

KazAvtoZhol takes overall responsibility for the implementation of the E&S mitigation and compensation measures of the Project. Further development and effective implementation of these specifications before and during the construction phase will be delegated to the Contractor(s) and supervised by a Supervision Consultant who is to be appointed by KazAvtoZhol. KazAvtoZhol will be responsible and take ownership of the measures relevant to the operation and maintenance phase of the Project.

2.1.1 ESMP during Pre-Construction

Each requirement resulting from the process of obtaining a specific project-related decision (approval, permit, consent) from the state and/or local statutory stakeholders / competent bodies (municipalities, ministries, agencies, etc.) and/or EBRD during the pre-construction stage will be included in the final documentation for construction.

2.1.2 ESMP during Construction

KazAvtoZhol delegates to the Contractor(s) the implementation of the E&S mitigation measures relating to the construction phase⁸. This delegation is ruled by the respective E&S specifications in this ESMP (**Section 4**) that will form part of tender documents/ procurement process and the Contractor's contract.

It will be the responsibility of the appointed Contractor(s) to further develop and detail the measures and requirements set out in the ESMP, in line with the progress of Project planning prior to and throughout the construction phase. This will include, as applicable, the establishment of construction zones and temporary workforce facilities, arrangements for the storage and handling of construction materials and other supplies, traffic and transport management, environmental protection and waste management, labour management, occupational and community health and safety, emergency preparedness and response, and other construction-related E&S management measures.

2.1.3 ESMP during Operation and Decommissioning

The operation phase will start with the full commissioning of the Project. At that stage, all works will have been taken over from the Contractor by KazAvtoZhol who will implement most E&S management measures to ensure compliance with the Project's mitigation strategy, using their environmental management system, in order to meet respective regulations and guidelines.

⁷Good international practice refers to the exercise of professional skill, diligence, prudence and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally.

⁸Construction phase of the Project includes all construction works, transport and facilities associated with the Project.

In addition, the implementation of the key E&S mitigation measures relating to the maintenance works would be delegated to the respective Contractor (i.e. the Contractor for maintenance of the highway⁹). This delegation will be ruled by specific contractual arrangements.

E&S management actions for the decommissioning phase of the Project cannot be planned at the time of writing of this ESMP due to the anticipated lifespan of the proposed structures.

After construction, the Project will become an integral part of the road network of Kazakhstan. As such, the lifespan of the Project elements may be longer than the anticipated time, depending on their condition, refurbishment and the future road network requirements. Decommissioning will, therefore, be undertaken in accordance with the regulations and guidelines applicable at that time.

2.2 Level of Detail

At this stage, the Project is developed to feasibility study level - to a detail considered sufficient to establish that the proposed development is technically feasible and to allow assessment of its environmental and social integrity and effects, i.e. to a level of a (Local) Feasibility Study¹⁰ according to the legislation and regulations of Kazakhstan. Therefore, the level of detail of the present ESMP is compliant with that of the Project's Feasibility Study.

As part of the ongoing project assessment activities, the primary objective is to assist the EBRD in its Due Diligence of the proposed Investment Project, assessing the investment risks and advising how to reduce them, as well as incorporating the Bank's Green Economy Transition (GET) requirements into the baseline studies and technical reports. This will assist the Bank to evaluate the overall impact of the project, also supporting the decision-making process for co-financing its implementation. More specifically, the Technical and Economic Due Diligence includes:

- Thorough assessment of project baseline and rationale, project operation and traffic demand analysis, as well as of project design and cost estimate, including any provisions for climate resilience actions, electric vehicles and/or toll collection systems.
- Review of appraisal framework of existing feasibility studies for the investment, providing also a financial and economic analysis including disaggregated costs and benefits of the project, sensitivity testing for changes in key parameters, as well as qualitative assessment of wider indirect impacts.
- Climate resilience assessment of the project investment, taking into account national regulations and guidelines, EBRD's GET Handbook, as well as the Paris Agreement requirements.

The Project will utilize a design-build-maintain (DBM) contract strategy, with the design and construction phases financed by the EBRD and maintenance costs supported by the Government of Kazakhstan, thus optimizing long-term sustainability of the Project.

The Project is to be developed further through reference design stages according to the national legislation in Kazakhstan which will form the basis for the detailed / advanced ESIA aligned with the EBRD E&S requirements and application to the national competent authority for EIA consenting purposes.

⁹LLP "QazService" as per the contract between the QazServie and JSC NC "QazAvtoZhol"

¹⁰Технико-экономическое обоснование (ТЕО)

2.3 Contractor Construction ESMP and KazAvtoZhol ESMS

The Contractor shall develop a CESMP and associated management plans (sub-plans) or procedures (**Section 4**). On behalf of KazAvtoZhol, the Supervision Consultant will review and approve the documents.

With the support of the Supervision Consultant, KazAvtoZhol will implement the requirements and standards set out in their corporative ESMS. The ESMS establishes the organisational structure responsibilities, practices and resources necessary for implementing and/or monitoring the Project-specific management plans and procedures set out in this ESMP, covering the construction and/or the operation (maintenance) phase of the Project.

2.4 Project-related Environmental and Social Performance Standards

The Project's internal stakeholders (KazAvtoZhol, Supervision Consultant and Contractor(s)) will comply with all norms, standards as defined in the relevant national regulations of Kazakhstan.

The Project will also comply with the environmental and social policies of the EBRD, i.e. its ESP (2024) and ESRs.

KazAvtoZhol will also apply and require its Contractor(s) (and subcontractors) to comply with good international practice while managing ESHS issues during the Project's construction phase.

2.5 ESMP Document Schedule

The **Table 1** lists the document schedule that will be prepared by the Contractor(s) and KazAvtoZhol/ Supervision Consultant as part of the ESMP implementation. The requirements and the content of these documents are further described in this ESMP.

A typical outline/ structure of a Management Plan is provided in **Annex I** that can be used for preparing the specific plans, to be part of the Construction Environmental and Social Management Plan.

Table 1 - Document schedule of the Environmental and Social Management Plan

Contractor(s) (Management Plans and Procedures) ¹¹	KazAvtoZhol (ESMS)
Construction Environmental and Social Management Plan (CESMP): - Part 1 - ESHS Organisation and Expertise (shall be approved by KazAvtoZhol and EBRD) - Part 2 - Site Environmental, Health and Social Overview - Part 3 - Environmental and Social Procedures, to include the following specific Management Plans: ▪ Topsoil Management Plan ▪ Spoil Management Plan ▪ Hazardous Materials Management Plan ▪ Spill Prevention and Response Plan ▪ Soil Quality Monitoring Plan ▪ Waste Management Plan ▪ Air Quality Monitoring Plan ▪ Noise Monitoring Plan ▪ Site-specific biodiversity mitigation procedures aligned with the present Biodiversity Management Plan ▪ Site Reinstatement Plan ▪ Labour Management Plan (shall be approved by KazAvtoZhol and EBRD) ▪ Worker Code of Conduct (shall be approved by KazAvtoZhol and EBRD) ▪ Worker Grievance Mechanism (shall be approved by KazAvtoZhol and EBRD) ▪ Construction Workers Accommodation Camp Management Plan ▪ Local Employment Programme ▪ Gender Based Violence and Harassment (GBVH) Prevention and Response Plan ▪ Gender Action Plan ▪ Supply Chain Management Plan ▪ Construction Health and Safety Plan ▪ Emergency Preparedness and Response Plan ▪ Community Health, Safety and Security Plan ▪ Traffic Management Plan ▪ Supply Chain E&S Assessment and Management Plan ▪ Cultural Heritage Management Plan ▪ Chance-Find Procedure, for archaeological discovery ▪ Stakeholder engagement and community liaison procedures, based on the Project's SEP	▪ Internal procedures to ensure sound E&S performance of the Project, compliant with the Environmental and Social Management System (ESMS) of KazAvtoZhol ▪ Final Land Acquisition and Resettlement Plan (LARP) based on the present Land Acquisition and Resettlement Framework (LARF) and LARP completion and monitoring reports ▪ Climate Resilience Action Plan ▪ Biodiversity Management Plan, reviews and updates of the present BMP (shall be approved by the EBRD) ▪ Labour Management, including Worker Grievance Mechanism ▪ Stakeholder Engagement Plan (SEP), reviews and updates of the present SEP ▪ A company GBVH Policy with procedure for reporting on incidents ▪ Community Health and Safety ▪ Waste Management Plan (for the operation phase)
Monitoring Reports	E&S Performance Reports

¹¹These management plans will be prepared by the Contractor(s) as outlined in **Section 4** below, and submitted to the Supervision Consultant for review and approval.

3 Roles and Responsibilities

The broad role of each party involved in the Project in relation to the ESMP is identified in this section and the minimum ESHS resources that will be required to appoint to ensure effective implementation of the Project ESHS requirements.

3.1 KazAvtoZhol

KazAvtoZhol will have ultimate responsibility for the Project, i.e. implementation of this ESMP, and will oversee the implementation of the Lender's requirements during construction by overseeing Construction Contractor(s), construction subcontractors and their involved third parties. Whilst the most of the requirements of the ESMP will need to be fulfilled by the Contractor(s) (and subcontractors) KazAvtoZhol will retain overall accountability for the E&S performance of the Project.

In order to fulfil this goal, KazAvtoZhol will delegate to the Contractor(s) the further development and implementation of the E&S mitigation measures relating to the upcoming Project detailed design and to the Project execution, i.e. preconstruction and construction phases. Hence, the Contractor is expected to set up appropriate ESHS structure by appointing relevant expertise and defining clear procedures as further described in this ESMP.

KazAvtoZhol will take the overall responsibility of the land acquisition and resettlement process. Therefore, KazAvtoZhol will ensure that suitably qualified resettlement expertise is provided to support the process of preparation of the Project LARP.

3.2 Supervision Consultant

KazAvtoZhol will appoint a Supervision Consultant, consisting of a range of expertise, to supervise the activities of the Contractor on a day-to-day basis. The Supervision Consultant will appoint the following:

- Supervision Contract Manager - Responsible for supervising the Contractor(s) to ensure that recommendations and requirements, as set out in the disclosure package, are applied. He/she will be responsible for continuous monitoring of the processes and activities undertaken by the Contractor(s), and specifying measures to be implemented by the Contractor(s), to address any areas of non-compliance. This includes periodic audits, inspections, and/or spot checks of project locations or work sites and/or of records and reports compiled by contractors.
- Environmental Supervisor - Responsible for supervising the Contractor(s), and their subcontractors, management of environment related matters. Including regular site inspections and regular reporting to KazAvtoZhol.
- Biodiversity Supervisor - Responsible for supervising the Contractor(s), and their subcontractors' implementation of the mitigation measures outlined in the Biodiversity Management Plan (BMP), including regular site inspections and regular reporting to KazAvtoZhol.
- Social Supervisor - Responsible for supervising and monitoring the Contractor(s) management of social matters including the stakeholder engagement by CLOs.
- Labour, Health and Safety Supervisor - Responsible for supervising the Contractor(s), and their subcontractors management of labour and health and safety, including regular site inspections and reporting to KazAvtoZhol as well as supervising the labour performance provisions set in Labour Management Plan (LMP).

3.3 Contractor(s)

The Contractor(s) will predominantly be responsible for ensuring that all their work and staff activity is compliant with the legislation, policies and standards for ESHS and the permits provided by national (and local) regulators and the Project ESHS requirements. Key responsibilities for the Contractor include:

- Update this ESMP based on available Detailed Design(s) and of national disclosure and consultation as required;
- Assist KazAvtoZhol in obtaining relevant environmental permits (e.g. obtaining national EIA consent(s) and other relevant permits);
- Utilising this ESMP to prepare and implementing the CESMP and associated sub-plans;
- Undertaking stakeholder engagement as set out in the SEP. This includes the establishment of a worker's grievance mechanism.

The Contractor(s) will be responsible for appointing specialists to ensure ESHS mitigation is implemented in accordance with the Project ESHS requirements. These ESHS specialists will include as a minimum:

- ESHS Manager - responsible for further overall ESHS planning, E&S mitigation, implementation of ESHS management/activities, including CESMP (shared responsibility with Project's technical/engineering team (e.g. Contractor Project Manager, Construction Site Manager(s)).
- Environmental Specialist - responsible for further planning of the detailed environmental mitigation, reporting and supervising environmental activities.
- Biodiversity Specialist - responsible for further planning of the detailed biodiversity-related mitigation and implementation of the BMP, providing biodiversity support in advance of, and throughout construction, including pre-construction surveys.
- Social Specialist - responsible for further planning of the detailed social mitigation, reporting and supervising social activities, stakeholder engagement and grievance management.
- Labour and OHS Specialist - responsible for the implementation of health and safety practices during construction and labour related provisions set in LMP, ESMP and the Guidance Note - EBRD ESR 2: Labour and working conditions¹².
- Community Liaison Officers (CLOs), for each road section, (at least one CLO will be a woman) will be appointed to be responsible for supporting the implementation of the SEP during construction, by conducting regular consultation with affected communities on any concern regarding the Project and handling grievances.
- Archaeologist or Cultural Heritage Specialist will be appointed to be responsible for training / induction for workers, reporting requirements as well as for maintaining logs of chance finds during construction.

All personnel shall be proposed to the KazAvtoZhol for non-objection in advance of hiring, to ensure they comply with the requirements of this ESMP.

3.4 Lender

The Lender (EBRD) is considering financing the Project. The Lender will require the submission of progress reports that monitor the ESHS performance of the Project against its set of specific ESRs for key areas of environmental and social sustainability.

¹²[https://www.ebrd.com/content/dam/ebd/assets/pdfs/environment---sustainability/implement-performance-requirements/esrs-2025/EBRD Environmental and Social Requirement 2 Guidance note Labour and working conditions.pdf](https://www.ebrd.com/content/dam/ebd/assets/pdfs/environment---sustainability/implement-performance-requirements/esrs-2025/EBRD%20Environmental%20and%20Social%20Requirement%20Guidance%20note%20Labour%20and%20working%20conditions.pdf)

3.5 Overview of expected Environmental and Social Expertise

The key E&S positions across the Project have particular responsibilities to some extent as outlined in this ESMP. These vary in relation to duties described and are summarised in **Tables 2** and **3**.

However, it should be noted that everyone has a base level duty of care to prevent adverse E&S impacts as described in the relevant national legislation and good international practice. Therefore, it is considered that employees at every level in the Project parties, including management, are responsible and accountable for the overall environmental and social initiatives outlined in this ESMP.

Table 2 - Overview of expected E&S personnel of Supervision Consultant for ESMP implementation

Project party	
Supervision Consultant	
Position	Scope (Role & Responsibilities)
Supervision Contract Manager	Responsible for supervising the Contractor(s) to ensure that recommendations and requirements, as set out in the disclosure package: - continuous monitoring of the processes and activities undertaken by the Contractor(s), and specifying measures to be implemented by the Contractor(s), to address any areas of non-compliance, and - periodic audits, inspections, and/or spot checks of project locations or work sites and/or of records and reports compiled by contractors.
Environmental Supervisor	Responsible for: - supervising the Contractor(s), and their subcontractors, management of environment related matters - regular site inspections, and - regular reporting to KazAvtoZhol.
Biodiversity Supervisor	Responsible for: - supervising the Contractor(s), and their subcontractors implementation of the mitigation measures outlined in the BMP - regular site inspections, and - regular reporting to KazAvtoZhol.
Social Supervisor	Responsible for supervising and monitoring the Contractor(s) management of social matters including the stakeholder engagement by Community Liaison Officer(s).
Labour, Health and Safety Supervisor	Responsible for supervising the Contractor(s) management of labour and health and safety, including regular site inspections and reporting to KazAvtoZhol as well as supervising the labour performance provisions set in LMP and provisions of the Guidance Note - EBRD ESR 2: Labour and working conditions ¹³ by the Contractor.

¹³[https://www.ebrd.com/content/dam/ebd_dxp/assets/pdfs/environment---sustainability/Implement-performance-requirements/esrs-2025/EBRD Environmental and Social Requirement 2 Guidance note Labour and working conditions.pdf](https://www.ebrd.com/content/dam/ebd_dxp/assets/pdfs/environment---sustainability/Implement-performance-requirements/esrs-2025/EBRD%20Environmental%20and%20Social%20Requirement%20Guidance%20note%20Labour%20and%20working%20conditions.pdf)

Table 3 - Overview of the expected E&S personnel of the Contractor(s) for implementation of the Environmental and Social Management Plan

Project party		
Contractor(s)		
Position	Scope (Role & Responsibilities)	Required Qualifications & Input
ESHS Manager	Responsible for further overall ESHS planning, E&S mitigation, implementation of ESHS management/activities, including CESMP (shared responsibility with Project's technical/engineering team (e.g. Contractor Project Manager, Construction Site Manager(s), etc.): - Overall accountability for ESHS permitting (e.g. obtaining national EIA consent(s) and other relevant permits) and performance, including delivery in line with applicable national and international standards. - Provide ESHS resources for implementation of the Project ESHS management requirements. - Overall responsibility for contractors' ESHS Management Plans. - Provide support in the review and acceptance of topic-specific Management Plans by the Supervision Consultant. - Inform contractors/subcontractors staff on ESHS responsibilities as defined in this ESMP¹⁴ and detailed in the topic-specific Management Plans and ensure these are understood and implemented throughout all stages. - Ensure that ESHS risks are systematically identified and managed (assessed, avoided or mitigated). - Ensure the ESHS oversight of contractors/subcontractors staff including training, auditing and corrective actions. - Manage the ESHS budget and ensure that ESHS activities are effectively executed. - Provide ESHS management advice, guidance and assurance. - Communicate the content of this ESMP to KazAvtoZhol and contractors/subcontractors staff and act as the overall ESHS focal point to promote implementation, performance monitoring and provide guidance and support. - Inform contractors/subcontractors staff on ESHS responsibilities as defined in this ESMP and detailed in the ESHS Management Plans and ensure these are understood and implemented throughout all Project stages. - Act as focal point for contractors/subcontractors ESHS oversight in accordance with this ESMP. - Ensure that all ESHS-related incidents are reported and dealt with effectively and lessons learned are shared in accordance with a respective incident reporting procedure.	Type: International Qualification: Degree in environmental sciences or equivalent. Preferably seven (7) years' experience in conducting ESIA's and implementation of E&S management (mitigation and monitoring) plans, including at least two (2) road projects funded by IFIs. Time Period: A full-time position over the duration of the design-build period.
Environmental Specialist	Responsible for further planning of the detailed environmental mitigation and implementation of environmental management/activities: - Support the ESHS permitting (e.g. obtaining national EIA consent(s) and other relevant permits) and performance, including delivery in line with applicable national and international standards.	Type: International Qualification: Degree in environmental sciences or equivalent. Preferably five (5) years' experience in conducting ESIA's and implementation of environmental

¹⁴For the purpose of this table/overview, the ESMP also refers to any updates that may occur in the course of the implementation of this Project

	- Provide support in the review and acceptance of environmental Management Plans by the Supervision Consultant. - Provide environmental management advice, guidance and assurance. - Ensure appropriate planning and execution of operational noise modelling and inclusion of its results in the Detailed Design / design-based mitigation of the Project. - Communicate the content of the ESMP to the KazAvtoZhol and contractors/subcontractors teams and act as the focal point on environmental management to promote implementation, performance monitoring and provide guidance and support. - Ensure the environmental management responsibilities as defined in this ESMP and detailed in the environmental Management Plans are understood and implemented throughout all stages. - Ensure that mitigation measures are properly implemented. - Support to Supervision Consultant in the field-based environmental oversight of the contractors/subcontractors, as required.	management (mitigation and monitoring) plans, including at least two (2) road projects funded by IFIs. Time Period: A full-time position over the duration of the design-build period.
Biodiversity Specialist	Provide biodiversity support focusing on ensuring required ecological mitigation is appropriately undertaken and measures are maintained, in accordance with the ESMP and BMP: - Support the ESHS permitting (e.g. obtaining national EIA consent(s) and other relevant permits) and performance, including delivery in line with applicable national and international standards. - Communicate the content of the BMP to the KazAvtoZhol and contractors/subcontractors teams and act as the focal point on biodiversity protection to promote implementation, performance monitoring and provide guidance and support. - Ensuring that the preconstruction data collection surveys are completed sufficiently. - Ensuring that walkthrough (rapid assessment) surveys are being undertaken by qualified personnel immediately prior to works commencing in an area. - Providing tool box talks to contractors/subcontractors to ensure compliance. - Monitoring the works and ensuring that any species discovered are safely relocated. - Monitoring that day-to-day checks are occurring such as checking trenches for fauna and ensuring the other components of the BMP are followed. - Ensuring that findings from the field are reported back to relevant stakeholders at regular intervals (at least every month). - Reviewing species data in the field to ensure that the receptors selected for monitoring are appropriate. - Ensuring adequate data is captured to inform the biodiversity monitoring as per the BMP. - Ensure that mitigation measures are properly implemented. As per the requirements of the BMP, additional biodiversity specialist(s) could be engaged, when and where necessary.	Type: International Qualification: Degree in biodiversity sciences. Preferably five (5) years' experience in conducting ESIA's and implementation of BMPs, including at least two (2) road projects funded by IFIs. Experience in monitoring of biodiversity mitigation is essential. Time Period: A full-time position over the duration of the design-build period.
Social Specialist	Responsible for further planning of the detailed social management and implementation of the SEP (stakeholder engagement and grievance management): <u>Social management:</u>	Type: International Qualification: Degree in social sciences or equivalent. Preferably five (5) years'

	- Support the ESHS permitting (e.g. obtaining national relevant permits) and performance, including delivery in line with applicable national and international standards. - Provide support in the review and acceptance of social Management Plans by the Supervision Consultant. - Provide social management advice, guidance and assurance. - Communicate the content of the ESMP to the KazAvtoZhol and contractors/subcontractors teams and act as the focal point on social management to promote implementation, performance monitoring and provide guidance and support. - Ensure the social management responsibilities as defined in this ESMP and detailed in the social Management Plans are understood and implemented throughout all stages. - Ensure that mitigation measures are properly implemented. - Support to Supervision Consultant in the field-based social oversight of the contractors/subcontractors, as required. <u>Stakeholder engagement and grievance management:</u> - Provide training to CLO(s) and oversee their activities/works. - Coordinate implementation of the Project's SEP, and perform monitoring of its implementation outcomes. - Provide timely information to communities on all Project works through regular meetings with stakeholders and ensure that long term relationships are not negatively impacted. - Provide information on potential issues with local communities and stakeholders and contribute to implementing specific measures to prevent and mitigate risks - Identify key stakeholders, requiring engagement in the frame of the Project's stakeholder engagement processes/activities. - Monitor local developments with potential to impact Project activities, and report to the ESHS Manager. - Training of contractors/subcontractors staff on SEP and its implementation process, including the Grievance Mechanism - Coordinate and manage implementation of the project Grievance Mechanism: - o Ensure Project's grievance meetings are formally documented and recorded - o Prepare responses to grievance raisers - o Responsible for ensuring responses to grievance raisers are provided in line with the Grievance Mechanism provisions - o Report to ESHS Manager on grievance management. - Responsible for the project general information disclosure, mass media coverage/press releases.	experience in conducting ESIs and implementation of social management (mitigation and monitoring) plans, including at least two (2) road projects funded by IFIs. Experience in stakeholder engagement is essential. Time Period: A full-time position over the duration of the design-build period.
Labour and OHS Specialist	Provide labour management support and responsible for implementation OHS practices focusing on ensuring required mitigation/actions are appropriately undertaken and measures are maintained throughout construction, in accordance with the ESMP and LMP: - Develop, review, and update OHS policies and procedures specific to this Project. - Act as the primary focal point for contractors/subcontractors on safety-related issues on the project. - Oversee the implementation of OHS policies and procedures across the Project.	Type: Local Qualification: Degree in H&S or equivalent. Preferably five (5) years' experience in preparation and implementation of H&S Plans and/or LMPs, including at least two (2) road

	- Ensure compliance with local, national, and international safety regulations and standards (e.g. OSHA, ISO 45001). - Ensure all workers and contractors are aware of and adhere to safety protocols. - Identify potential hazards (e.g., heavy equipment operation, working at heights, traffic exposure). - Implement control measures to mitigate risks, such as personal protective equipment (PPE), signage, and barriers. - Conduct risk assessments and hazard analyses specific to the construction activities. - Conduct safety inductions and training sessions for workers. - Promote a culture of safety through toolbox talks, safety meetings, and awareness campaigns. - Monitor construction sites, work zones, and traffic management plans to ensure safety protocols are followed. - Address safety concerns related to heavy machinery, excavation, roadworks, and traffic flow. - Ensure that environmental hazards (e.g., dust, noise, chemical spills) are managed effectively to protect workers and the surrounding community. - Develop and implement emergency response plans for incidents such as accidents, fires, or natural disasters. - Investigate accidents, near-misses, and incidents to determine root causes and prevent recurrence. - Maintain accurate records of incidents and prepare reports for regulatory authorities. - Collaborate with traffic management teams to ensure safe traffic flow around construction zones. - Ensure proper signage, lighting, and barriers are in place to protect workers and road users. - Ensure all safety documentation, including permits, licenses, and safety plans, are up to date. - Liaise with regulatory bodies and ensure the project meets all legal requirements. - Provide regular safety reports to project managers and stakeholders. - Coordinate emergency drills and ensure all workers are familiar with evacuation procedures. - Respond promptly to emergencies and provide guidance during incidents. - Monitor and evaluate the effectiveness of safety measures and recommend improvements. - Conduct Worker accommodation inspections and fulfil Accommodation inspection list, part of Annex I of the LMP. - Regularly conduct check on contractors/subcontractors performance compliance against EBRD PR2 and the LMP. - Regularly fulfil Contractor Reporting Form set in Annex II of the LMP.	projects funded by IFIs. Holder of national H&S authorization/license is essential. Knowledge of English is essential. Time Period: A full-time position over the duration of the construction period (36 months).
Community Liaison Officer(s)	Responsible for supporting the implementation of the SEP during construction, by conducting regular consultation with affected communities on any concern regarding the Project and handling grievances: - Provide functional support to the field staff to implement the stakeholder engagement requirements of the Project. - Provide timely information to communities on all Project activities/works through regular meetings with stakeholders and ensure that long term relationships are not negatively impacted. - Provide information on potential issues with local communities and stakeholders and contribute to implementing specific measures to prevent and mitigate risks.	Type: Local Qualification: Degree in social sciences or equivalent. At least two (2) years' experience in stakeholder engagement is essential. Knowledge of English is essential.

	- Update regularly the stakeholder mapping in response to stakeholders activities and their relationship with the Project, and report to the Social Specialist. - Monitor local developments with potential to impact Project activities, and report to the Social Specialist. - Ensure that stakeholder engagement activities are documented and evidence (e.g. Minutes of Meetings) are kept on file.	Time Period: A full-time position over the duration of the construction period (36 months).
Archaeologist or Cultural Heritage Specialist	Responsible for ensuring required mitigation is appropriately undertaken and measures are maintained throughout construction, in accordance with the ESMP: - Perform oversight of the contractors/subcontractors activities to ensure Chance Find Procedure implementation. - Provide training // induction for workers on Chance Find Procedure to relevant contractors/subcontractors staff. - In charge of enforcing required chance find site protection measures. - Documents (maintaining logs of chance finds) and reports on daily activities and chance finds to ESHS Manager. - In charge with liaising, coordination and reporting to cultural heritage authorities in line with regulatory provisions.	Type: Local Qualification: Degree in archaeology or equivalent. At least two (2) years' experience in road projects funded by IFIs. Knowledge of English is essential. Time Period: A full-time position over the duration of the construction period (36 months).

4 E&S General Management Measures under responsibility of the Contractor(s)

4.1 Introduction

This section outlines the general E&S management measures that must be adopted by the Contractor(s) employed to deliver the Project. In conjunction with the obligations defined under the Contract, the Contractor(s) will plan, execute and document construction works pursuant to the Environment, Social, Health and Safety (ESHS) specifications set out in this section of the ESMP.

4.2 Environment, Health and Safety Management

4.2.1 Responsibilities and Liabilities

- The Contractor shall be liable for all damage to the environment and to people arising from the execution of the construction works or from the methods used to carry out the works, unless it is demonstrated that such execution or methods were required under the provisions of the Contract or were instructed by the Supervision Consultant.
- The Contractor shall ensure that all subcontractors and suppliers (in particular those for major supply items) are familiar with the valid ESHS requirements and guidelines.
- The term "Project Area" used in this ESMP refers to the following:
 - The land where permanent installations are made (i.e. footprint of the highway and local roads); or
 - Temporary construction working areas required for the Project shall include, as applicable, construction work sites, contractor's compounds, construction camps, concrete batching plants, asphalt plants, workers' accommodation camps (if any), and areas adjacent to access roads required for construction activities. They shall also include borrow pits (if any) for sand, aggregates, and other selected materials; stockpiling areas for topsoil, backfill, and construction materials; hazardous and non-hazardous waste storage areas; and any other temporary locations required for the construction of the Project.
- The Project Area defines an area within which the Contractor(s) are required to comply with environmental, social, health and safety obligations defined in this Section of the ESMP.
- The ESHS specifications refer to:
 - Protection of the natural environment (air, water, soil, biological diversity) and cultural heritage in areas within any Project Area and its surroundings.
 - Community and occupational health and Safety conditions to be maintained for the Contractor's personnel and population living near the Project Area but exposed to the general disturbance caused by construction works.

4.2.2 Environmental and Social Standards

The Contractor(s) shall comply with all national environmental laws (including air, water, soils, noise, vibration, waste, fauna, flora) and social laws (including labour affairs and standards on health and safety), as well as all European Union (EU) Framework and International Labour Organization (ILO) Directives.

In addition, the Contractor(s) shall ensure that all works comply with good international practice and the following E&S policies and standards of the International Financing Institutions (IFIs):

- The EBRD ESP (2024);
- The standards of the World Health Organisation (WHO);
- The Core Labour Standards of the International Labour Organisation (ILO).
- EBRD Guidance Notes for:
 - ESR 1: Assessment and management of environmental and social risks and impacts (March 2026);
 - ESR 2: Labour and working conditions (November 2025);
 - ESR 3: Resource efficiency and pollution prevention and control (November 2025);
 - ESR 4: Health, safety and security (November 2025);
 - ESR 5: Land acquisition, restrictions on land use and involuntary resettlement (December 2025);
 - ESR 6: Biodiversity conservation and sustainable management of living natural resources (November 2025);
 - ESR 7: Indigenous peoples (June 2025);
 - ESR 8: Cultural heritage (November 2025);
 - ESR 10: Stakeholder engagement (December 2025).

The Contractor(s) shall comply with all the above when developing the management plans (sub-plans) and procedures required under this ESMP.

4.2.3 Contractor Construction ESMP

The Contractor(s) is expected to have their own ESMS, but the Project requires the Contractor(s) to develop a Project-specific Contractor's Construction Environmental and Social Management Plan (CESMP). This CESMP will take precedence over the Contractor's ESMS.

KazAvtoZhol will require the Contractor(s) to include in subcontracts the requirement for subcontractors to be bound and to comply with all ESHS requirements (responsibilities, methods and processes) and with relevant E&S Management Plans defined in this ESMP and the subsequent CESMP that are appropriate for the works being subcontracted and consistent with the KazAvtoZhol's and the Contractor(s) E&S management systems. The Contractor(s) will take proactive steps to ensure that all subcontractors are introduced and familiarised with the ESHS requirements and Management Plans provided in this ESMP and further detailed in the CESMP. Contractor(s) will provide evidence that the subcontractors had knowledge of and assented to the terms incorporated in the subcontracts.

4.2.3.1 Planning Requirements

Indicatively, the CESMP will comprise three parts:

- Part 1- Environmental and Social Organisation

The Environmental and Social Organisation is to be an umbrella document which includes the Contractor's ESMS documentation: E&S Policy; Document Map; personnel organisational chart (organogram) with reporting lines as well as roles and responsibilities; inspection schedule and checklist; reporting schedule; E&S training programme.

- Part 2 - Site Environmental and Social Overview

The Site Environmental and Social Overview shall provide a site-specific description of all key sites within the Project Area. It shall accurately delineate these sites (e.g. the road alignment, local roads,

construction compounds, storage areas, camps, etc.) and sensitive receptors or areas of concern identified in the Project's E&S Assessment or during site visits undertaken during the pre-construction period (e.g. settlements and houses, community facilities and infrastructure, graveyards, and watercourses) on appropriate topographical maps.

■ Part 3 - Environmental and Social Procedures

The Environmental and Social Procedures will comprise specific management and control plans, including:

- Topsoil Management Plan
- Spoil Management Plan
- Hazardous Materials Management Plan
- Spill Prevention and Response Plan
- Soil Quality Monitoring Plan
- Waste Management Plan
- Air Quality Monitoring Plan
- Noise Monitoring Plan
- Site-specific biodiversity mitigation procedures aligned with the present Biodiversity Management Plan
- Site Reinstatement Plan
- Labour Management Plan
- Worker Code of Conduct
- Worker Grievance Mechanism
- Construction Workers Accommodation Camp Management Plan
- Local Employment Programme
- GBVH Prevention and Response Plan
- Gender Action Plan
- Supply Chain Management Plan
- Construction Health and Safety Plan
- Emergency Preparedness and Response Plan
- Community Health, Safety and Security Plan
- Supply Chain E&S Assessment and Management Plan
- Traffic Management Plan
- Cultural Heritage Management Plan
- Chance-Find Procedure, for archaeological discovery
- Stakeholder engagement and community liaison procedures, based on the Project's SEP.

These plans will describe the procedures how E&S issues are to be controlled, managed and reported on. They will also include monitoring programmes¹⁵ to control the implementation of the E&S mitigation measures, i.e. the means of monitoring actions and assessment of the performance of the measures, so that they can be adapted and/or improved. The Contractor(s) shall prepare and implement E&S procedures detailing the actions to be implemented to eliminate or reduce potential impacts on the physical and natural or human environment resulting from the construction works.

¹⁵These programmes should include the following information, at a minimum: impact/effect to be addressed, management action (mitigation or enhancement), monitoring action and its frequency, responsibility and key performance indicator.

4.2.3.2 *Submission and Approval*

The procedure for submission and approval of the CESMP will be based on the following key principles:

- The Contractor(s) shall submit the CESMP to KazAvtoZhol/ Supervision Consultant no less than 30 days prior to the planned commencement of Project construction works. KazAvtoZhol/ Supervision Consultant shall provide comments on the CESMP within 20 days of its receipt. Where required, the Contractor(s) shall revise the CESMP to address the comments received and resubmit it to the KazAvtoZhol/ Supervision Consultant for final review within 7 days of receiving the comments.
- No construction activity for the Project shall commence prior to the CESMP being finalised except as authorised by KazAvtoZhol/ Supervision Consultant. The commencement of construction shall be authorised by KazAvtoZhol/ Supervision Consultant only after the related E&S procedures are approved.
- During the construction phase, unless otherwise agreed with KazAvtoZhol/ Supervision Consultant, the CESMP shall be revised by the Contractor(s) as required and reissued for review and approval.
- The Contractor(s) will be responsible for:
 - communicating the contents of the CESMP to their subcontractor(s) and supplier(s) and workers and training them to ensure that they understand their respective responsibilities,
 - ensuring that adequate specialist resources are mobilised to implement the specific management and control plans (procedures), necessary to ensure effective planning and implementation of measures,
 - implementing effective monitoring measures listed in the CESMP to ensure that the effectiveness of the actions is assessed, and any issues of non-compliance are promptly detected and addressed / corrective actions taken,
 - keeping KazAvtoZhol / Supervision Consultant fully informed of any ESHS issues.

4.2.3.3 *Key ESHS Personnel*

The minimum required human resources to meet the E&S management obligations on the Project are proposed below:

- Each main Contractor shall appoint an Environmental, Health & Safety Manager (EHS Manager) in charge of implementing the mitigation measures under the responsibility of the Contractor. His/her major responsibilities and powers are as follows:
 - Creation of necessary EHS documents and plans; overall coordination of EHS measures and actions during construction; ESHS training aspects; ensure the compliance with E&S construction requirements (pollution prevention, labour standards, health and safety; emergency preparedness and response, etc.);
 - Hold the power to suspend the works if considered necessary in the event of severe non-conformities, and allocate all resources, personnel and equipment required to take any corrective action considered necessary;
 - Maintain close cooperation with KazAvtoZhol / Supervision Consultant;
 - Reporting to KazAvtoZhol and EBRD, as necessary.
- Each main Contractor shall appoint a Labour and OHS Officer (Coordinator) at the start of construction activities to monitor consistency of the construction of the Project with the overall

occupational health and safety relevant regulatory requirements. The OHS Officer will ensure that the works are completed in compliance with these requirements, their respective terms and conditions as well as in compliance with the Construction OHS Plan. His/her major responsibilities are as follows:

- Carry out regular and random inspection to ensure compliance with the OHS requirements at all parts of the construction site;
 - Coordinate OHS officers of the subcontractors and suppliers involved in the construction of the Project;
 - Conduct regular OHS control visits at construction sites;
 - Reporting to EHS Manager;
 - Maintain close cooperation with KazAvtoZhol/ Supervision Consultant.
- Each main Contractor shall appoint a Biodiversity Specialist prior to commencement of the construction activities to monitor the implementation of the mitigation measures with regard to the protection of the biodiversity under the responsibility of the Contractor. His/her major responsibilities are as follows:
 - Ensure compliance with the BMP;
 - Train the relevant personnel on biodiversity risks and areas to avoid;
 - To undertake pre-construction surveys of habitat loss for planning site reinstatement;
 - To undertake pre-construction surveys and approve the commencement of construction works in breeding seasons;
 - To undertake any required additional surveys to inform the design-related aspects which are responsibility of the Contractor(s) (e.g. access roads, construction compounds, workers camps (if any), etc.);
 - To maintain close cooperation with and report to KazAvtoZhol/ Supervision Consultant, as necessary.
- Each main Contractor shall appoint a Social Specialist at the commencement of construction activities. The Social specialist shall be responsible for monitoring the Project's compliance with applicable social requirements and provisions. The key responsibilities of the Social Specialist shall include the following:
 - **Social management:** Provide social management advice, guidance and assurance, and support implementation of the social requirements of the ESMP and relevant social procedures;
 - **Social performance and mitigation:** Monitor and support the implementation of social mitigation measures and requirements by the Contractor(s) and subcontractors, including field-based social oversight;
 - **Stakeholder engagement:** Coordinate and monitor implementation of the Project's SEP, identify key stakeholders, and ensure timely and appropriate communication with affected communities and other stakeholders.
 - **Grievance management:** Coordinate and manage the Project Grievance Mechanism (GM), including recording and tracking grievances, preparing and providing responses, and reporting on grievance management.
 - **Training and capacity building:** Provide training and guidance to the Contractor(s), subcontractors and CLOs on social requirements, stakeholder engagement and the GM and oversee CLO activities.

- **Information disclosure and reporting:** Coordinate Project information disclosure and media communications, monitor relevant local developments and community issues, and report social performance and emerging risks to the EHS Manager.
- Each main Contractor shall appoint a Community Liaison Officer (CLO) responsible for relations with external stakeholders (e.g. state or local administrative / competent authorities, agencies, administrations of concerned protected areas, etc.) and concerned local communities. His/her major responsibilities are as follows:
 - Stakeholders and communities information and consultation;
 - Person in charge for implementation of the stakeholder engagement and community liaison procedures during the construction, based on the Project's SEP;
 - Person in charge for resolving community construction-related grievances in a timely manner;
 - Reporting to EHS Manager;
 - Maintain close cooperation with KazAvtoZhol/ Supervision Consultant.
- Each main Contractor shall ensure the relevant administrations, local authorities and concerned communities are informed of the appointed prior to the start of construction and provide them with the contact details.
- Each Main Contractor shall ensure that the relevant administrations, local authorities, and affected communities are informed of the appointed Contractor's key staff prior to the commencement of construction works and are provided with their contact details.
- The general and specific qualifications of the aforementioned key EHS personnel, including the required specific authorisations and/or licenses, will be consistent with the national legislation of Kazakhstan as well as agreed with KazAvtoZhol, Supervision Consultant and EBRD.
- The aforementioned key EHS personnel will be equipped with the necessary resources to operate independently and get to all locations of the Project Area without delay. This equipment will be commensurate with the size and location of the Project. Lists of equipment will be maintained on site for inspection by KazAvtoZhol/ Supervision Consultant.

4.2.3.4 Inspection

Planned E&S inspections of the performance and compliance with the regulatory consents obtained from the competent authorities is required throughout the construction phase. This enables the overall effectiveness of the environmental and OHS controls to be determined and allows areas of non-compliance to be identified so corrective actions can be taken.

The inspection schedule will be agreed with KazAvtoZhol/ Supervision Consultant and will include:

- Regular construction inspection - routine (i.e. weekly) inspections of site conditions, activities and general compliance with E&S requirements that apply.

The Contractor(s)' ESHS Manager(s), supported by appropriate ESHS staff and specialists, shall carry out regular E&S inspections of the construction works, e.g. on a weekly basis. These inspections shall be organised and conducted jointly with the Supervision Consultant. KazAvtoZhol may also participate in the E&S inspections, as required.

Inspection forms (checklists), in a format approved by KazAvtoZhol and the Supervision Consultant, shall be completed during each inspection and shall include supporting photographs,

where appropriate, to document the inspection findings. The completed forms shall be submitted to KazAvtoZhol and the Supervision Consultant within three days of completion of the inspection.

- Unscheduled construction inspection - will be undertaken when certain E&S non-compliances or incidents are encountered. Unscheduled inspections will be undertaken in response to the following:
 - Feedback - upon receiving information on an environmental issue / incident;
 - Extreme weather - site control measures will be inspected immediately before, during and after extreme weather for any non-compliance with administrative consent conditions;
 - Non-compliance - inspections will be undertaken immediately following spills or other incidents or emergencies and after 'near miss' events¹⁶.

In addition to the above minimum inspections and monitoring requirements, other inspections and monitoring measures required by the management plans and procedures shall be implemented.

Any non-compliance shall be immediately addressed by corrective actions.

4.2.3.5 Reporting

The Contractor(s) shall comply with the process for the collection and storage of data to manage Project's EHS aspects as agreed with KazAvtoZhol/ Supervision Consultant. The Contractor(s) will set up systems which facilitate coherent and consistent reporting and data analysis in line with requirements set by KazAvtoZhol/ Supervision Consultant.

In general, the reporting (e.g. monthly or quarterly progress reports) will comprise: (i) summary of all E&S measures / initiatives implemented in relation to the construction works; (ii) the results of inspections and monitoring analysis (if any) carried out during the reporting period; (iii) the status of environmental and OHS non-compliances opened or closed during the reporting period; (iv) the status of community grievances opened or closed during the reporting period; (v) any other relevant E&S information requested by KazAvtoZhol/ Supervision Consultant.

The Contractor will prepare monthly and quarterly progress reports in respect of compliance with ESMP/ CESMP requirements that will be submitted to KazAvtoZhol through the Supervision Consultant.

Indicatively, the report will contain sections relating, but not limited, to the topics presented below:

Table 4 - Indicative reporting requirements of Contractor(s)

Reporting frequency	Indicative contents
<u>Indicative monthly reporting</u>	▪ Interactions with statutory stakeholders / regulators (e.g. state/regional/local institutions and agencies, municipalities, etc.) and reporting the subject and outcomes; ▪ Status of all permits and other consenting documentation: ○ list and status of key permits/consents (e.g. environmental and construction permits, permits in regard to waste management, emissions to the environment, etc.); ○ list and status of areas/sites/facilities with permits required (e.g. quarries, asphalt and batching plants), dates of application and of obtaining (actions to follow up if not obtained) ○ status of areas/sites/facilities (waiting for permits, working/operational, decommissioned, etc.); ○ list and status of areas with landowner agreements required (e.g. top-soil and spoil disposal areas, camp sites);

¹⁶Near miss event as an incident in which no property was damaged and no personal injury was sustained, but where, given a slight shift in time or position, damage or injury easily could have occurred.

Reporting frequency	Indicative contents
	○ identify major activities undertaken in each area/site/facility at the reporting month and overview of environmental and social protection measures/status (e.g. land clearing, boundary marking, topsoil storage, traffic management, decommissioning planning, decommissioning implementation, etc.); ■ Trainings: ○ number of new workers, number receiving induction training, dates and brief reports of induction training; ○ number and dates of toolbox talks, number of workers receiving OHS, environmental (including biodiversity) and social training; ■ Key ESHS personnel, e.g.: days worked, areas/sites/facilities inspected and numbers of inspections of each road section, construction camp (concrete and batching plants), accommodation camps, quarries, borrow areas, top-soil and spoil storage areas, water discharges, etc.), summary of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to Supervision Consultant; ■ Community Liaison Officer(s), e.g.: days worked, number of people met, summary of activities (issues raised, etc.), reports to Social Specialist. ■ Environmental mitigations and issues - report on measures taken/implemented, e.g.: ○ dust: number of working bowsers, number of waterings per day, number of complaints, warnings given by EHS Manager, actions taken to resolve; overview of quarry dust control (covers, sprays, operational status); % of rock/spoil trucks with covers, actions taken for uncovered vehicles; ○ erosion control: controls implemented by location, status of water crossings, EHS Manager inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation; ○ quarries, borrow areas, spoil areas, batch plants: identify major activities undertaken during the reporting month, and summary of environmental and social protection (e.g. land clearing, boundary marking, topsoil storage, traffic management, decommissioning planning, decommissioning implementation); ○ spill cleanups, if any: material spilled, location, amount, actions taken, material disposal, report all spills that result in water or soil contamination; ○ biodiversity protection: controls implemented by location, status of sensitive areas and water crossings, seasonal restrictions, Biodiversity specialist inspections and results, actions taken to resolve issues; ○ chemicals and hazardous substances management: types and quantities stored, review of MSDS, spill response kits and fire extinguishers, etc.; ○ waste management: types and quantities generated and managed, on-site waste management actions, waste amount taken offsite (and by whom) or reused/recycled/disposed on-site; ○ details of site reinstatement measures, e.g.: landscaping/re-vegetation and other mitigation required undertaken during the reporting month; ○ environmental incidents or non-compliances with contract requirements, including contamination, noise / vibration due to construction, cultural heritage site, sensitive areas, etc.; ■ Health and safety: ○ report on number of workers, work hours, PPE usage status, worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any); ○ report on number days worked, number of full inspections & partial inspections; ○ report/statistics (near misses, lost time injuries, road traffic accidents, fatalities, medical treatment cases, failed medical/drugs/alcohol tests); ■ Labour management: ○ employment statistics (total number of workers (by gender, nationality and age), total number of hours worked (normal time, overtime), numbers of warnings issued and dismissals; ○ results of any monitoring undertaken in relation to working and accommodation conditions;

Reporting frequency	Indicative contents
	○ worker grievances raised in relation to working or accommodation conditions and how these have been addressed (cross-referenced with other reporting sections as needed). ○ details of any training provided to the workforce on labour standards and working conditions (cross-referenced with other reporting sections as needed). ○ details of any non-compliances with the requirements of the Project's LMP and corrective measures implemented. ○ any material on-going issues relating to labour and working conditions, and a summary of any necessary incident/accident investigations undertaken, and preventative actions implemented as a result. ■ Worker accommodation: ○ number of expats housed in accommodations, number of locals; ○ date of last inspection, and summary of inspection including status of accommodation compliance with national legislation and good international practice, including sanitation, space, etc.; ○ actions taken to recommend/require improvement of conditions ■ Traffic management and equipment: ○ traffic accidents involving project vehicles & equipment: date, location, damage, cause, follow-up; ○ accidents involving non-project vehicles or property: date, location, damage, cause, follow-up; ○ overall condition of vehicles/equipment, non-routine repairs and maintenance needed to improve safety and/or environmental performance (e.g. control exhaust gases, traffic noise, etc.). ■ Grievances (worker grievances, community grievances) - list of present and unresolved past grievances by date received, complainant, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up; ○ number of expats housed in accommodations, number of locals; ○ date of last inspection, and summary of inspection including status of accommodation compliance with national legislation and good international practice, including sanitation, space, etc.; ○ actions taken to recommend/require improvement of conditions ■ Compliance status ○ An overview of the compliance status for conditions of all relevant consents/permits: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance; ○ Compliance status of ESMP/CESMP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance, status of all identified non-conformances and corrective actions to address the gaps identified, including open actions, and those actions that have been closed in the reporting month (where satisfactory evidence to the Supervision Consultant was available).
<u>Indicative quarterly reporting</u>	This report will summarize the Contractor(s) environmental, social and health and safety performance based on the monthly reports. It will be structured in concise and tabular format, providing the key findings in the course of the reporting period with emphasis on E&S compliance status of the Project and the status of the implementation of the corrective actions agreed with the Supervision Consultant. This report will serve as basis for the preparation of reports prepared by the Supervision Consultant which will be submitted to KazAvtoZhol.
<u>Ad-hoc reporting</u>	The Contractor will have a duty to immediately and within 24 hours report to the Supervision Consultant if any serious environmental breach has occurred during construction, e.g., clearing of sensitive areas, serious oil spills etc. This also includes serious labour or health and safety accident cases and fatality.

4.2.3.6 Training

The Contractor(s) shall prepare and implement an E&S training programme for its personnel and detail it in the CESMP.

In general, five types of E&S training sessions shall be provided:

1. Induction training prior to workers commencing work on the Project;
2. Periodic ESHS training, conducted on a quarterly basis;
3. Specific OHS training for activities involving specialised equipment, hazardous operations, or requiring specific skills;
4. Unscheduled ESHS training following accidents or incidents and in response to emergencies, as necessary; and
5. Technical training, as required, in relation to the execution of the construction works.

Information will be provided on environmental and social procedures as set out in the specific E&S management plans.

The training activities are to be documented in the respective reports (i.e. monthly or quarterly progress reports, to be agreed with KazAvtoZhol/ Supervision Consultant).

4.2.3.7 Code of Conduct (CoC)

A mandatory requirement for potential Contractor(s) to develop a Workers' Code of Conduct (CoC) should be included in the Project's tender documentation. It will define acceptable behaviour and social norms that workers should adopt on a day-to-day basis. The CoC will outline a set of expectations and rules regarding workers' behaviour towards others (colleagues, supervisors and overall organization) as well as towards the representatives of KazAvtoZhol, local communities and other interested parties (e.g. competent authorities, KazAvtoZhol's construction consultants). The expectations and rules set in the CoC will also apply to the subcontractors and suppliers involved in the construction of the Project.

The CoC will include a clear list of acts considered as serious misconduct which must result in dismissal from the Project (e.g. drunkenness during working hours, leading to risks for the safety of local population, the Project personnel, etc.; drug use and trafficking; violent behaviour and physical aggression; intentional damage to the assets and interests of others, or the environment; entering properties without permission; etc.)

The Code of Conduct serves to establish the broad framework within which a default / misconduct by any party in the construction value chain may be determined.

- Key Management Actions:
 - Ensure that the workers are made aware of the CoC and the associated provisions and that they acknowledge their understanding of the CoC.
 - The ESHS protection rules set out in the Workers' Code of Conduct shall be clearly displayed at well visible places in key locations across the construction site.
 - The ESHS protection rules provisions shall be provided in the workers' working contracts.
 - All serious misconducts shall without delay be reported to the KazAvtoZhol/ Supervision Consultant.
 - Establish a record for each case of serious misconduct, providing a copy to the personnel in question, indicating all action taken to terminate the misconduct and to bring the attention of other personnel to the type of incident detected. This record will

be provided in the respective report (i.e. monthly or quarterly progress reports, to be agreed with KazAvtoZhol).

4.2.4 Environmental Management Plans, Procedures and Mitigation Measures

4.2.4.1 Visual Impacts

Visual impacts during construction will arise from the presence and movement of construction equipment, heavy vehicles, workers, temporary construction camps and facilities, parking areas, material stockpiles, and unfinished structures such as junctions, livestock passages, bridges, and transmission lines pylons. As a linear infrastructure project, these visual impacts will progressively move along the road alignment as construction advances. Additional impacts may result from vegetation and topsoil removal and the establishment of temporary storage areas for topsoil, excavated spoil, and construction waste. The location, size, and management of temporary facilities, stockpiles, and storage and parking areas shall therefore be carefully selected to minimise visual intrusion and, where practicable, avoid or reduce impacts on sensitive visual receptors.

According to the RoK Sanitary Rules "Sanitary and Epidemiological Requirements for Sanitary Protection Zones of Facilities that Impact the Environment and Human Health", facilities of category IV and V shall have a maximally landscaped Sanitary Protection Zone (SPZ), with at least 60% of its area allocated to landscaping, including the mandatory establishment of a strip of trees and shrubs along the side facing residential development. This requirement applies to the RMU in Turysk but does not apply to the road construction works.

The measures recommended to mitigate the visual impact of the Project include:

- Inclusion of landscaping requirements in Project design:
 - Include the establishment of tree belts, using native and drought-tolerant tree and shrub species, where technically feasible and compatible with local climatic conditions, in the Project design documentation for road sections passing in close proximity to the Sam and Nogayti settlements.
- Construction phase:
 - Install visual screening (e.g., solid screens, hoarding or fencing) around the perimeter of construction camps, active construction areas and parking areas. The screens/fences should use muted, non-reflective colours that blend with the surrounding landscape;
 - Cover stockpiles of construction materials and topsoil, where practicable, with canvas or other suitable covers in muted colours compatible with the surrounding landscape;
 - Limit the height and dimensions of stockpiles to minimise their visual prominence, particularly from the Sam and Nogayti settlements and other sensitive receptors;
 - Locate stockpiles, temporary facilities and parking areas, where practicable, in visually screened or less prominent locations and away from viewpoints from nearby settlements;
 - Limit construction activities to daytime hours, except where night-time work is technically unavoidable. Where night-time lighting is required, use directional, low-intensity lighting aimed only at the work area and avoid unnecessary light spill towards nearby settlements;
 - Maintain construction sites in an orderly condition, with waste, equipment and materials stored systematically and unnecessary temporary structures removed promptly;
 - Avoid highly reflective materials and surfaces on temporary facilities, fencing and equipment where practicable.

The Contractor(s) shall prepare and implement a **Site Reinstatement Plan** as part of the CESMP to ensure the proper reinstatement and rehabilitation of temporary construction working areas following completion of the relevant construction activities and to minimise their residual landscape and visual impacts. The Plan shall define the restoration objectives, methods, responsibilities, and implementation schedule for the progressive reinstatement of disturbed areas as construction progresses. It shall include requirements for the timely removal of temporary facilities, waste and surplus materials, regrading and stabilisation of disturbed surfaces, replacement of stored topsoil, and restoration of vegetation and other land uses, as appropriate. Progressive reinstatement shall be undertaken as soon as practicable after completion of works at each location to minimise the duration and extent of visual disturbance and restore the landscape to a condition compatible with the surrounding environment.

- Key Mitigation Measures / Management Actions, as a minimum:
 - Where possible, all areas disturbed by the construction works shall be reinstated to their original (pre-construction) condition upon completion of construction. The reinstatement shall be performed in compliance with the regulatory consents obtained from the competent authorities. For this purpose, close collaboration with all competent authorities will be established in cooperation with KazAvtoZhol during the reinstatement.
 - Depending on the site-specific conditions at areas disturbed by the construction works, the reinstatement work shall include two principal elements:
 - Technical reinstatement, involving landscaping, permanent erosion control and drainage schemes, where necessary;
 - Biological reinstatement, involving spreading of topsoil and seeding/planting the area appropriately. This biological reinstatement shall be subject to a detailed monitoring programme that records the effectiveness of vegetation establishment;
 - All temporary works / facilities (compounds, camps, structures, equipment, including the demolition waste and spoil), with the exception of some access roads (those required for operational maintenance of the Project), will be removed and the sites restored to original (pre-construction) condition, based on these principles:
 - Land is graded and contoured to ensure that runoff water drains without eroding soil;
 - Reinstated sites must not represent hazards for people;
 - All residual materials from the working sites will be removed and disposed in an acceptable manner, according to the Waste Management Plan ([Section 4.2.4.6](#));
 - All roads used for the construction purposes, and which have been damaged by the Project vehicles and machinery, will be restored immediately after completion of the construction to their original (pre-construction) condition;
 - Landscaping and re-vegetation of areas disturbed by the construction works shall be undertaken;
 - Re-vegetation works shall be planned in advance to ensure sustainable reinstatement, and these will be described accordingly in the CESMP. Re-vegetation shall be undertaken progressively throughout the duration of the construction and is not limited to the reinstatement at the completion of the construction of the Project.

4.2.4.2 Impact on Air Quality

The Contractor(s) shall take all reasonably practicable measures to prevent atmospheric air pollution arising from the construction works or, where prevention is not practicable, to minimise, control, and mitigate such impacts to the extent reasonably achievable. Particular attention shall be given to activities and sources with the potential to generate dust and other air emissions, including earthworks, excavation, grading, material handling, stockpiling, operation of batching and asphalt plants, and the movement of construction vehicles and machinery.

To monitor the potential impacts of construction activities and operations on air quality and to support the timely implementation of appropriate management measures, the Contractor(s) shall prepare and implement an **Air Quality Monitoring Plan** as part of the CESMP. The Plan shall define the monitoring locations, parameters, frequency, monitoring methods, applicable standards and action levels, responsibilities, reporting requirements, and procedures for responding to exceedances or identified deterioration in air quality.

The Contractor(s) shall also identify and implement appropriate measures to minimise Greenhouse Gas (GHG) emissions associated with the construction works, in accordance with the applicable EBRD ESRs and proportionate to the scale and significance of the Project's potential GHG emissions. Such measures shall include, as applicable, efficient use of fuel and energy, proper maintenance of vehicles and construction equipment, minimisation of unnecessary idling, optimisation of material and vehicle movements, and the use of energy-efficient equipment and technologies where reasonably practicable.

The proposed air pollution mitigation measures for the construction phase include:

- Regulatory compliance:
 - The Contractor(s) shall comply with all applicable emission limits and environmental conditions established by the Project's environmental permit and approved project documentation.
Particular attention shall be given to emissions from stationary sources associated with construction activities, as well as to the control and mitigation of fugitive dust and emissions from mobile sources.
- Pre-construction phase:
 - Prepare and put into effect the Air Quality Monitoring Plan for the Project;
 - Conduct pre-construction baseline air quality monitoring for at least 21 days prior to the commencement of construction activities.
- Construction phase:
 - Use construction machinery and heavy vehicles meeting at least Euro IV emission standards, where available;
 - Conduct regular inspection and maintenance of construction machinery and vehicles;
 - Cover trucks transporting friable materials with securely fastened tarpaulins;
 - Cover or regularly dampen dust-generating stockpiles and topsoil storage areas;
 - Apply regular water-based dust suppression on construction sites and unpaved roads during dry and windy conditions;
 - Limit vehicle speeds to 20-30 km/h on unpaved construction and haul roads;
 - Suspend dust-generating works during strong winds when effective dust control cannot be maintained;

- Install windbreaks and shelterbelts around the construction site to reduce the dispersion of dust by wind;
 - Locate construction camps, batching/asphalt plants and material stockpiles away from sensitive receptors, taking prevailing wind directions into account;
 - Prohibit open burning of construction waste, packaging or other materials;
 - Monitor visible dust emissions and implement additional controls where excessive dust is observed.
- Monitoring:
 - Provide regular air monitoring during the entire construction phase and conduct corrective measures where and when necessary;
 - Observe dust levels and amount of dust settling in sensitive areas and take action to reduce dust generation if there is excessive dust emission. The abatement measures shall include but are not limited to: (i) provision of dedicated vehicles to implement the regular spray of water or any other non-hazardous dust suppression agents to maintain humidity of the road and the cohesion of fine particles; (ii) reduction of vehicle speed in and near sensitive receptor areas; (iii) covering loaded haulage trucks;
 - When there is visible dust being generated by vehicles and other activities, wet dust suppression will be applied to reduce dust.
 - Community Engagement:
 - Communicate with the local community to keep them informed about construction activities and the measures being taken to mitigate air pollution.
 - Address community concerns and feedback promptly.

4.2.4.3 *Impact on Water and Geology*

The Project Road section is located outside the established water protection zones and water protection belts of surface water bodies. Nevertheless, construction activities may present a potential risk of indirect impacts on water resources, particularly through soil disturbance, erosion, uncontrolled runoff, accidental spills and leaks of fuels, oils and other hazardous substances, and inappropriate management of excavated materials, stockpiles and wastes. In this regard, appropriate measures for the protection of soil quality and prevention of soil contamination are also relevant to the protection of water resources, as they will help prevent the mobilisation and transport of pollutants to surface water bodies and other drainage pathways.

The mitigation measures proposed to address the Project impacts associated with the disturbance and removal of near-surface geological materials, local modification of landforms, and potential changes to erosion and drainage patterns shall, at a minimum, include the following:

- Impact on geological settings:
 - Limit vegetation clearance, stripping, excavation and other ground-disturbing activities to the approved Project footprint and clearly demarcate construction boundaries before works commence,
 - Carry out excavation, grading, cutting and filling in accordance with the approved design, with particular attention to the stability of road embankments, slopes and other earth structures,

- Promptly compact and stabilise completed embankments, slopes and other exposed areas to minimise erosion, wind erosion and sediment mobilisation. Where technically feasible, progressively reinstate disturbed areas,
- Design and construct drainage systems, culverts and erosion-control measures to prevent concentrated runoff, scour and localised erosion of soils and geological materials,
- Avoid unnecessary obstruction or diversion of existing drainage pathways during construction and ensure that temporary drainage arrangements maintain appropriate surface-water flows,
- Reuse suitable excavated spoil materials within the Project wherever practicable. Surplus materials should be transported to approved disposal or storage locations and should not be placed in natural drainage channels or other environmentally sensitive areas,
- Source aggregates, borrow materials and other geological resources from existing authorised commercial suppliers, as envisaged by the Feasibility Study (FS), and avoid development of new borrow pits or quarries specifically for the Project,
- Locate and manage soil and geological-material stockpiles so that they do not obstruct drainage or become subject to excessive wind or water erosion. Stockpiles should be stabilised or covered where necessary.

4.2.4.4 *Impact on Soil Quality and Stability*

The Contractor(s) shall implement all reasonably practicable measures to protect soil quality and maintain soil stability throughout the construction phase of the Project. Construction activities have the potential to affect soil resources through vegetation clearance, topsoil stripping, excavation, grading, filling, operation of construction machinery, establishment of temporary construction facilities, and the storage and handling of construction materials and hazardous wastes.

To ensure the effective management and control of potential impacts on soil during the construction phase, the Contractor(s) shall prepare and implement the following management plans as part of the CESMP:

- **Topsoil Management Plan** to secure that topsoil is stripped, handled, stored, protected, reused, and reinstated in a manner that preserves its physical, chemical, and biological properties. The Plan shall establish procedures for:
 - Identifying topsoil stripping areas;
 - Separating topsoil from subsoil and spoil;
 - Managing temporary stockpiles;
 - Preventing erosion, compaction, contamination and loss of fertile soil;
 - Ensuring the appropriate reuse of topsoil during site restoration and rehabilitation.

The Plan shall also define responsibilities, monitoring requirements, and restoration measures to minimise permanent loss of soil resources and support successful reinstatement of disturbed areas following completion of the construction works.

- **Spoil Management Plan** to ensure that excavated subsoil, unsuitable materials, and other spoil generated during construction are managed in an environmentally and socially responsible manner. The Plan shall establish procedures for:
 - Identification and approval of designated spoil storage and disposal areas;
 - Segregation of reusable and non-reusable materials;

- Transportation and handling of spoil, erosion and sediment control;
- Protection of surrounding land and water resources;
- Final disposal or beneficial reuse of spoil where appropriate.

The Plan shall also include measures to prevent soil contamination, dust generation, slope instability, and impacts on nearby settlements and environmentally sensitive areas, and shall define monitoring and restoration requirements for temporary and permanent spoil disposal sites.

- **Hazardous Materials Management Plan** to ensure the safe and environmentally responsible procurement, transportation, storage, handling, use, and disposal of hazardous materials during construction. The Plan shall also define requirements for:
 - Secondary containment;
 - Designated storage and refuelling areas;
 - Labelling and safety data sheets;
 - Spill prevention and response;
 - Emergency preparedness;
 - Inspection and monitoring;
 - Safe disposal of contaminated materials and hazardous wastes.

Construction activities also present a risk of soil contamination from accidental spills or leaks of fuels, oils, lubricants, concrete washout, chemicals, liquid wastes, and other hazardous materials, as well as from inadequate waste management practices. Contaminants released to the ground may affect near-surface soils and, depending on local conditions, may migrate into deeper soil layers and underlying geological materials. To prevent and effectively manage such incidents, a **Spill Prevention and Response Plan** shall be developed and implemented as either a standalone document or a sub-plan under the **Hazardous Materials Management Plan**.

The Contractor(s) shall assess site-specific conditions and determine the appropriate application of the erosion and sediment management and control measures set out below. The identified measures shall be implemented at the relevant construction areas and locations to prevent or minimise soil erosion, sediment mobilisation, and the discharge of sediment-laden runoff to surrounding areas and watercourses. Their application shall take into account local soil and terrain conditions, drainage patterns, the nature and duration of construction activities, and potential geological hazards, including slope instability and landslide risks, where applicable. The effectiveness of the measures shall be regularly monitored in accordance with the **Soil Quality Monitoring Plan**, with additional or corrective measures implemented where monitoring indicates that existing controls are insufficient.

- Soil management and control measures:
 - Store topsoil separately to prevent mixing with subsoil, maintaining it in a condition that preserves the natural seed bank, until construction works are completed,
 - Avoid placing topsoil stockpiles near planned excavation areas,
 - Limit the height of stockpiles to a maximum of 3 m, and ensure the slope gradient does not exceed 25°,
 - Clearly label all topsoil stockpiles to ensure easy identification,
 - Cover topsoil stockpiles to prevent soil erosion, where natural revegetation has not occurred,

- Fence off topsoil stockpiles to prevent unauthorized access and compaction by Project vehicles,
 - Reuse the stored topsoil for landscaping the disturbed areas and/or tree planting,
 - Store all hazardous materials in clearly labeled, secure, and ventilated areas,
 - Hazardous materials containers to be clearly labelled according to contents and hazards,
 - Equip sites with spill response kits and train workers on emergency response,
 - Maintain Material Safety Data Sheets (MSDS) for all hazardous materials on-site,
 - Incompatible hazardous materials must not be stored together,
 - Hazardous materials storage areas will be equipped with eye wash kits and fire extinguishers,
 - Use appropriate PPE.
 - Transport friable materials using trucks equipped with waterproof canvas covers,
 - Store construction and other friable materials in separately designated areas that are fenced and covered with waterproof tents,
 - Store oil products and chemicals separately, in special drums or tanks placed on secondary containment systems or trays (110% of the volume of the container),
 - Carry out refueling of oil, fuel, and other chemicals only on specially prepared protective berms,
 - Equip storage facilities for oil and chemicals, as well as heavy trucks transporting these materials, with appropriate spill kits,
 - Immediately stop work in the event of uncontrolled spillage of fuel, engine oil, or chemicals. Remediate contaminated soil by removing the affected layer (to be treated as hazardous waste) and replacing it with clean soil,
 - Train all staff on the safe execution of construction works and on response procedures for environmental incidents such as spills and leaks,
 - Ensure spoil piles do not exceed 3 m in height, and maintain slope gradients not exceeding 25°. Manage spoil piles to prevent erosion and runoff.
- Regulatory compliance:
 - Obtain approval for the selected spoil disposal area from the relevant akimats, where required;
 - Strip, handle, store and use topsoil in accordance with the requirements of the RoK Law on Soil Protection,
 - Identify and designate appropriate locations for the disposal or reuse of excavated spoil and obtain the agreement of the relevant Akimat, where required.
 - **Soil Quality Monitoring Plan Monitoring Plan shall be implemented to:**
 - Establish baseline soil conditions at potentially sensitive locations at least 21 days prior to the commencement of construction activities;
 - Monitor changes in soil quality and stability resulting from earthworks, excavation, grading, vehicle movements, material storage, and other construction activities;
 - Identify soil contamination, erosion, compaction, or degradation at an early stage and enable timely corrective action;

- Verify the effectiveness of soil protection and erosion-control measures specified in the ESMP and CESMP;
- Monitor areas with a higher risk of contamination, including construction compounds, equipment maintenance and parking areas, refuelling areas, hazardous-material and waste storage areas, and spoil disposal areas;
- Provide documented evidence of compliance with applicable environmental requirements and the Project's E&S commitments, and support the implementation of additional mitigation measures where monitoring identifies adverse impacts.

4.2.4.5 *Noise and Vibration Impacts*

Noise impacts during the construction phase will depend on a number of factors, including the intensity and characteristics of construction traffic and activities (e.g. traffic volume, vehicle type and composition, vehicle speed, equipment and machinery used, and road surface conditions), as well as the location, number, and sensitivity of noise-sensitive receptors within the Project's Area of Influence.

Noise levels generated by construction machinery and equipment may exceed the occupational exposure limits established by applicable national requirements and international good practice. Consequently, appropriate noise mitigation and occupational noise management measures shall be implemented during the construction phase, including the provision and mandatory use of suitable Personal Protective Equipment (PPE), such as hearing protection, for workers exposed to elevated noise levels.

Construction-related vibration is not expected to adversely affect human health or compromise the structural or seismic stability of existing buildings and structures, given the distance between the sources of vibration and the relevant receptors.

The noise impact mitigation measures presented below, together with appropriate engineering and administrative controls, including regular inspection and maintenance of equipment, use of effective mufflers and noise-control devices, minimisation of unnecessary equipment idling, appropriate scheduling of noisy activities, and management of workers' exposure time, shall be implemented to minimise noise impacts on workers and nearby communities and to protect the health and safety of construction personnel.

■ Pre-construction phase

- Conduct noise modelling for the areas where the road alignment passes in close proximity to the Sam and Nogayti settlements;
- If the modelling results indicate that noise levels at sensitive receptors are expected to exceed the applicable 53 dB Lden and/or 45 dB Lnight criteria, incorporate appropriate noise mitigation measures into the Project design, including noise barriers near the Sam and Nogayti settlements, as necessary;
- Prepare **Noise Monitoring Plan** to monitor compliance with the applicable national and Project noise criteria at representative noise-sensitive receptors and to verify the effectiveness of mitigation measures.

■ Construction phase

- Keep all diesel-powered vehicles and equipment (such as generators and air compressors) at a high level of maintenance. This will particularly include the regular inspection and, if necessary, replacement of intake and exhaust silencers;
- Shut down or throttle back construction machinery and vehicles during periods when they are not in active use;

- Whenever possible: enclose noisy equipment, restrict non-stop operation of noisy equipment, avoid simultaneous operation of noise generating equipment;
- Avoid unnecessary idling times;
- Minimising the need for equipment to reverse. This will reduce the frequency at which disturbing but necessary reverse warnings will occur;
- Avoid unnecessary horn hooting from the used construction machinery;
- Limit truck speeds - not to exceed 40 km/h, when driving through local community roads;
- Prohibit movement of heavy trucks along residential areas (if any) between 9 PM and 9 AM near residential areas;
- Implement Noise Monitoring Plan.
- Proposed PPE and additional break:
 - Enforce the use of PPE and in particular, the protective devices capable to reduce the sound level at the ear to acceptable levels;
 - Provide employees engaged in 'noisy' operations with additional 15 minutes break per 2 hours.
- The Noise Monitoring Plan shall be implemented to:
 - Establish baseline noise conditions, where required, at locations potentially affected by construction activities;
 - Monitor noise levels generated by construction works, machinery, equipment, and construction-related traffic at noise-sensitive receptors;
 - Verify compliance with applicable national noise standards, Project requirements, and relevant international standards and guidelines;
 - Assess the effectiveness of noise mitigation measures implemented under the ESMP/CESMP and identify the need for additional controls;
 - Identify and respond to exceedances and complaints from workers, local communities, and other potentially affected receptors through timely corrective measures;
 - Document and report monitoring results and provide evidence of the Contractor's implementation of the Project's noise management requirements.
- Community engagement
 - This applies informing nearby residents about construction activities and expected noise levels and establishing a communication channel to address concerns and receive feedback from the community.

4.2.4.6 Waste Management

These general requirements apply to waste management during the construction phase. They establish a framework for sound waste management practices aimed at minimising waste generation, maximising opportunities for waste reduction, reuse, recycling and recovery, and preventing construction waste and litter from entering the environment.

The Contractor(s) shall prepare and implement a **Waste Management Plan** as part of the CESMP. The Plan shall define the site-specific measures and procedures to be implemented during the construction works for the identification, segregation, collection, temporary storage, transportation, reuse, recycling, treatment, and disposal of all waste generated by the Project. The Plan shall also define responsibilities,

applicable waste management requirements, monitoring and record-keeping arrangements, and training requirements for workers and relevant personnel.

The guiding principle of waste management shall be waste minimisation and the sustainable use of resources, with priority given to preventing waste generation and maximising opportunities for reuse, recycling, and recovery. Accordingly, waste management activities during construction shall follow the principles of the **3R waste hierarchy: Reduce, Reuse, and Recycle**, with recovery and, where necessary, treatment and final disposal applied to waste that cannot reasonably be prevented, reused, or recycled.

- Regulatory compliance:
 - Implement waste management requirements incorporated into the Environmental Permit issued for the Project, at a minimum including:
 - Waste Management Programme;
 - Waste accumulation limits.
- Pre-construction phase:
 - Prepare and put into effect the Waste Management Plan (WMP) for the Project.
- Construction phase:
 - General measures:
 - Train the workers engaged in waste management on provisions of the WMP;
 - Apply waste hierarchy approach (prevention, minimization, reuse, recycling, energy recovery, disposal) while implementing the construction activities;
 - Elaborate and implement waste handling procedures for the construction operations;
 - Equip the construction site and construction camps with the waste separate collection / storage containers and locations;
 - Furnish the waste storage / collection facilities with fences, fire extinguishers, secondary containment trays, oil and chemicals spill clean-up kits, etc.;
 - Store liquid waste leak-proof, sealed containers;
 - Sign contracts with the licensed waste handling (recycling, treatment, disposal) companies to hand them over the generated wastes;
 - Waste transportation:
 - Transport all types of wastes using adequate, sealed and covered trucks to avoid the leakage or dispersal of the waste on roads and surroundings;
 - Ban fly tipping waste on the route and/or their disposal in unauthorized locations;
 - Choose the routes involving the least risk for the transportation of waste from the area of its generation to its storage and recycling / disposal area;
 - Instruct the waste truck drivers on waste transportation safety rules;
 - Include waste transportation streams in the Traffic Management Plan (TMP).
 - Household waste management:
 - Equip the construction site with household collection containers / bins;
 - Establish a contract with an authorised regional municipal waste management service for the regular removal of household waste from the construction site and construction camps;
 - Proposed PPE:

- Enforce the use of PPE and in particular, the protective clothes, shoes, gloves, respirator / masks for the workers dealing with the waste.

4.2.4.7 Traffic Management

Construction of the BBS Road will result in increased movement of construction vehicles, heavy trucks, construction machinery, and personnel along the Project Road alignment and connecting local and regional roads. Traffic-related impacts may include increased traffic volumes, temporary disruption of existing traffic flows, road safety risks, increased dust and noise emissions, deterioration of local roads, and potential risks to local communities, road users, pedestrians, and livestock.

The Contractor(s) shall plan and manage construction-related traffic to minimise disruption to existing road users and prevent or reduce risks to workers, local communities, and other road users. Traffic management measures shall be proportionate to the nature and intensity of construction activities and shall take into account existing traffic conditions, road capacity, sensitive receptors, and the condition and function of roads used for construction access.

The Contractor(s) shall prepare and implement a **Traffic Management Plan (TMP)** as part of the CESMP prior to the commencement of intensive construction activities. The TMP shall define construction traffic routes, access arrangements, traffic control measures, vehicle and driver requirements, speed limits, requirements for transportation of oversized or heavy loads, road safety measures, temporary traffic diversions and signage, community safety measures, emergency arrangements, and procedures for monitoring and responding to traffic-related incidents and complaints.

■ Traffic management key mitigation measures:

- Establish procedures for managing abnormal loads and the transportation of oversized or heavy equipment;
- Include emergency response procedures for road accidents, vehicle breakdowns, adverse weather conditions, and other traffic-related incidents;
- Establish and maintain safe access roads to construction sites, construction camps, material storage areas, borrow pits, and other ancillary facilities before intensive construction activities commence;
- Provide adequate road width and passing places on narrow access roads, particularly where two-way traffic is expected;
- Maintain access roads in a safe and serviceable condition throughout construction, including grading, watering, and repair of damaged sections as necessary;
- Install appropriate traffic signs, warning signs, delineators, and other road-safety measures at construction access points and areas of increased traffic risk;
- Require all Project drivers and contractors to comply with Kazakhstan's road traffic regulations and Project-specific traffic safety requirements;
- Provide defensive-driving and road-safety training for drivers of Project vehicles, with particular emphasis on driving on unpaved and narrow roads and in semi-desert conditions;
- Prohibit driving while fatigued and establish appropriate working-hour and rest requirements for professional drivers;
- Maintain records of Project-related traffic volumes, traffic incidents, road accidents, complaints, and damage to public roads.

4.2.4.8 Biodiversity Management Plan

All infrastructural projects should aim to avoid impacts, but where impacts cannot be avoided, they should be minimised. In principle, if impacts cannot be reduced to a non-significant level, further mitigation, restoration, and offset compensation may be necessary under the guidance of the Project Lender.

A Biodiversity Management Plan (BMP) serves to define the mitigation that will have to be implemented during the implementation of the Project. The primary objective of this BMP is to ensure clear understanding and adequate implementation of all actions outlined in the mitigation strategy of the Project. Provisions are established to minimize residual risks and impacts on biodiversity and natural resources within an appropriate timeframe.

The BMP outlines a comprehensive strategy for implementing recommendations from the Project ESIA, detailing actions to be undertaken by the Company and its Contractor(s). The BMP is prepared as a standalone document which defines goals, aim, main beneficiaries, presents mitigation measures and proposed monitoring activities.

The BMP is a dynamic document meant to evolve alongside the progress of the Project. Unforeseen impacts identified during the Project will be incorporated into the BMP for mitigation, aligning with the mitigation hierarchy: avoidance, reduction, restoration, and offsetting. Trained staff, supervised by the Biodiversity Supervisor, will ensure accurate implementation of mitigation measures.

The core of the document is a tabulated list of mitigation and management measures, arising from the ESIA, which have been agreed to by the Company. The BMP provides a framework for delivering:

- **High-standard on-site mitigation and management measures** commensurate with the biodiversity values of the Project area, aimed at avoiding and minimising biodiversity impacts identified in the ESIA;
- **Application of the mitigation hierarchy** to biodiversity impacts in accordance with the Lender Requirements. This shall include a strong emphasis on avoidance at all stages of detailed design, construction planning, and Project implementation, followed by minimisation and, where applicable, restoration and offset measures;
- **Application of an adaptive management approach** to enable the development and implementation of additional or modified control measures where monitoring indicates that unforeseen impacts are occurring or that impacts are greater than those anticipated in the ESIA. This shall require rigorous monitoring of biodiversity outcomes, with particular attention to natural and critical habitat and other biodiversity values identified as potentially sensitive;
- **Clear guidance on biodiversity management** and its integration with other relevant environmental and social management plans, procedures, and monitoring programmes implemented as part of the Project.

The broad-level mitigation measures required for the Project to avoid, minimise, and otherwise manage potential impacts on biodiversity are as follows:

- Involve biodiversity specialist during the construction period as part of the Contractor(s) team;
- Measures of good construction practice (e.g. avoid important and sensitive habitats (e.g. alluvial terrains, riparian areas), avoid destruction of natural habitats, avoid temporal occupation and destruction of adjacent land; sound storage of hazardous substances, provide fire-protection measures and equipment / vehicle, provide spill-kits in construction and transport vehicles, sound material and waste management practices, etc.);

- Temporary land-take (including access roads, construction compounds, storage areas, etc.) would include adequate areas of land set away from sensitive biodiversity areas;
- Area and habitats affected by the construction should be minimized during construction works;
- Seasonal restriction of the construction works to minimise impacts on particular species. The seasonal restrictions should also apply for some specific habitats (e.g. temporary running waters);
- Avoid construction works at night;
- Felling of old trees has to be avoided;
- Establish sound waste management and actions to ensure contaminated material is identified, isolated and removed to appropriate treatment sites or landfill to avoid any impacts on the biodiversity;
- Promoting practices for restoration of native habitats when needed;
- Prohibition of illegal hunting from workers/visitors;
- Mandatory utilisation of rehabilitation and reinstatement methods on areas temporarily affected by the works for the purposes of construction. In that regard, a Site Reinstatement Plan ([Section 4.2.4.1](#)) as part of the CESMP for the reinstatement of temporary construction working sites will be prepared and implemented.

4.2.5 Social Management Plans and Procedures

4.2.5.1 Labour Management

Overview of Expected Labour Use in the Project

Three categories of workers are expected to be engaged on this Project:

- Direct workers (people employed or engaged directly by the Company) will be KazAvtoZhol employees.
- Contracted workers (people employed or engaged through third parties to perform work related to core functions of the Project, regardless of location) will be employed as deemed appropriate by contractors, subcontractors, and other intermediaries, details of which will be known as and when activities' implementation begins.
- People employed or engaged by the Company's primary suppliers. Suppliers that provide goods on an ongoing basis that are essential to the functioning of the Project shall be considered primary suppliers. These shall include companies that manufacture or import assets and materials required for the Project and supply them for delivery to Project beneficiaries.

Labour and Working Condition Policies

The Contractor(s) must create and implement relevant labour and working conditions policies (all in compliance with national Labour law and its bylaws and EBRD ESR 2), such as:

- Company's Human Resources (HR) Policy;
- Non-discrimination and Equal Opportunities Policy;
- Policy against GBVH (including procedure for reporting and responding to GBVH);
- Policy on Workers' organization;
- Policy against Child and Forced Labour;

- Grievance Mechanism for engaged workers on this project during construction phase;
- Code of Conduct (for all workers, including those of subcontractors).

All these policies should be shared with the Contractor's and subcontractors' workers engaged on the Project, in a language understandable to the workers, and documents should be signed by each engaged worker on the Project (including subcontractors' workers engaged on this project and workers in the client's supply chain).

'Patent based' workers cannot be accepted under EBRD ERS 2 and all workers should have signed written contracts, and social, pension and health benefits guaranteed, as per national laws.

It is necessary for Contractor to engage independent consulting company that will perform Compliance Assessment of Contractor's HR and other labour related policies with national labour law and bylaws and ESR 2, as well as to demonstrate efforts of elimination of these gaps prior commencement of any construction or civil works.

All personnel engaged in the construction of the proposed project, regardless of the level of contracting/subcontracting, will need to be entitled with full social, pension and medical insurance paid by the employer (contractor or subcontractor, or subcontractor to any subcontractor).

The contractor must organize annual training to its employees on GBVH, and this training must also include subcontractors' workers engaged on this project.

The Contractor(s) will follow labour related provisions set in the Project's Labour Management Plan (LMP). The Guidance Note - EBRD ESR 2: Labour and working conditions, along with the LMP's provisions, will be mandatory for the Contractor(s) when they will perform reporting on labour, particularly templates/checklists that should be followed when submitting monitoring reports to Supervision Consultant and KazAvtoZhol.

Labour Conditions

The Contractor(s) shall ensure decent labour conditions for workers and notably compliance with applicable law and regulations in Kazakhstan¹⁷, the EBRD requirements and with the fundamental conventions and ILO Fundamental Conventions. This includes workers' rights related to wages, working hours, rest and leave, overtime, minimum age, regular payment, compensation and benefits, equal opportunities, a non-discriminatory workplace, best practice on human resource management and occupational health and safety plans. Wages, benefits and conditions of work will be comparable to those of KazAvtoZhol in the regions of the Project and expertise provided.

The Contractor(s) shall issue and implement internal policies and procedures to assure that no employee or job applicant will be subject to discrimination and/or harassment.

The Contractor/s should develop and implement a **Gender Action Plan** setting out specific measures and procedures to promote women's participation in Project-related employment and business opportunities, including targeted communication of available opportunities, equal and transparent recruitment procedures, measures to facilitate participation by women with childcare responsibilities, and monitoring of women's participation in Project employment and business opportunities.

Worker Grievance Mechanism

¹⁷The Labour Code of the Republic of Kazakhstan (№ 414-V, adopted on 23 November 2015, last amendment dated February 11, 2024)

The Contractor(s) shall respect and facilitate workers' rights to organise and provide a Worker Grievance Mechanism for all workers, including the workers of subcontractors, based on the following management actions, as a minimum:

- The grievance mechanism shall be available to all workers, including subcontractors;
- The workers shall receive an induction on their rights and on this grievance mechanism;
- The Contractor(s) will display the contact details of the Worker Grievance Mechanism at well visible places in key locations across the construction site;
- The workers shall be able to raise their grievance by referring to their representative or by filing a form and posting it in the complaint boxes located in key locations across the site or online;
- The grievances will be registered and recorded in the workers' grievance database. A formal response to each grievance shall be provided and recorded in the database;
- A formal response to each grievance shall be provided and recorded in the database. The Contractor(s) shall transmit the grievance resolution to the personnel and document the resolution and the personnel's acceptance.

4.2.5.2 Local Employment Programme

The Contractor(s) will create and implement a **Local Employment Programme**, thus favouring local workers, (from affected settlements), and ensure equal opportunities are provided to men and women in terms of employment. A target of at least 50% of local workers is to be adopted by the Project and implemented by the Contractor(s).

Workforce Recruitment, Development and Training

The Workforce Recruitment, Development and Training Sub-plan during construction should be prepared by the Contractor(s) in order to facilitate effective and efficient enrolment of workforce on this Project. This Sub-plan should hold transparent procedures in line with the national legislation and EBRD ESRs.

Worker's Accommodation

The Contractor(s) will ensure that the accommodation of the workers meets the relevant national legislation in Kazakhstan and international requirements on workforce accommodation and in particular be compliant with the IFC/EBRD guidance on workers accommodation¹⁸.

In addition, the Contractor(s) and subsequently their subcontractors will not use modular accommodations (i.e. containers) for accommodation of workers. The living facilities for the workers engaged on this Project, when provided by their employer (contractor or subcontractors to this project), must be built with adequate materials, kept in good repair and kept clean and free from rubbish and other refuse. In this case, the accommodation shall be appropriate for its location and be clean, safe and, at a minimum, meet the basic needs of workers. In particular, the provision of accommodation shall meet national legislation and international good practice in relation, but not restricted, to the following: the practice for charging for accommodation; the provision of minimum amounts of space for each worker; provision of sanitary, laundry and cooking facilities and potable water; the location of accommodation in relation to the workplace; any health, fire safety or other hazards or disturbances and local facilities; the provision of first aid and medical facilities; and heating and ventilation. Workers' freedom of movement to and from the employer-provided accommodation shall not be unduly restricted.

¹⁸EBRD/IFC Workers' Accommodation: Processes and Standards' A guidance note by IFC and the EBRD, August 2009
https://www.ebrd.com/downloads/about/sustainability/Workers_accommodation.pdf

Contractor should use templates and checklists for monitoring and reporting of Worker accommodation provisions set in LMP and the Guidance Note - EBRD ESR 2: Labour and working conditions¹⁹.

4.2.5.3 Supply Chain Management Plan

The Contractor(s) will create and implement a **Supply Chain Management Plan**, consisting of policy statement and associated procedures aimed at supply chain traceability and assurance. This Plan will ensure sustainable coordination of business functions across businesses within the supply chain, for the purposes of delivering and improving the short and long-term performance of the individual companies and the supply chain as a whole during the construction of the Project.

The Plan will identify, manage and remediate material supply chain risks associated with E&S impacts, including labour risks, and specific requirements (e.g. third parties to be reputable and legitimate enterprises and have an appropriate ESMS that will allow them to operate in a manner consistent with the EBRD ESRs and GIP). The subcontractors for particular construction works and suppliers of goods and construction materials (e.g. sand, gravel, asphalt, concrete, reinforcement steel, etc.) and road equipment shall have respective permits in place and only authorised/licensed waste contractors are to be engaged for waste collection/disposal partners.

As well, the Plan needs to cover the child labour and forced labour aspects, by providing information on how compliance with child and forced labour requirements will be ensured on the Project, via its supply chain. Where labour rights violations such as underpayment or unsafe working conditions are uncovered, Contractor(s) should ensure workers are fairly compensated, and their conditions improved. This may include back payment of wages, improved safety measures, or relocation from hazardous work environments.

The Supply Chain Management Plan will serve the following main purposes:

- Identifying roles and responsibilities with regards to Contractor(s) supply chain management;
- Providing processes and criteria for Contractor(s) suppliers selection (including risk assessment to identify the presence or significant risks of child labour or forced labour in the operations of the subcontractors and suppliers in contravention of ILO standards) and further performance evaluation;
- Detailing processes, procedures and systems that will be utilised by the Contractor(s) in regard to the supply chain engagement and management;
- Setting how cooperation between Contractor(s) and suppliers in the supply chain will be achieved with regards to E&S management in compliance with EBRD ESRs (i.e. development of additional actions in case of non-compliances or to enhance overall E&S performance of the Project);
- Setting monitoring, reporting and review requirements for implementation of the Plan, including monitoring and reporting requirements;
- Setting training requirements for effective implementation of the Plan.

The Contractor(s), including the subcontractors and suppliers in their supply chain, will ensure compliance with the Project's ESRs through contractual terms.

¹⁹[https://www.ebrd.com/content/dam/ebd_dxp/assets/pdfs/environment---sustainability/implementation-performance-requirements/esrs-2025/EBRD Environmental and Social Requirement 2 Guidance note Labour and working conditions.pdf](https://www.ebrd.com/content/dam/ebd_dxp/assets/pdfs/environment---sustainability/implementation-performance-requirements/esrs-2025/EBRD%20Environmental%20and%20Social%20Requirement%20Guidance%20note%20Labour%20and%20working%20conditions.pdf)

4.2.5.4 Occupational Health and Safety

The Contractor(s) is/are responsible for the health and safety of all persons involved in the construction of Project and all appropriate precautions shall be made to prevent accidents and personal injuries.

The Contractor(s) shall prepare and implement a **Health and Safety Management Plan** (HSMP) as part of the CESMP, pursuant to their corporate health and safety management system, and in compliance with the respective Kazakhstan legislation²⁰. The HSMP will also apply to the subcontractors and suppliers involved in the construction of the Project.

The HSMP will identify all the risks during construction and will provide guidance and procedures on how to control them, based on a respective risk assessment process. These procedures relate to the safe and secure handling of construction vehicles and machinery and provide guidance and instructions for safe execution of operations associated with health and/or safety risk (e.g. excavations, scaffolding, welding, assembly work, etc.). In addition, the HSMP will prescribe procedures for dealing with hazardous materials and prescribes measures on the use of Personal Protective Equipment (PPE).

Indicatively, the content of the HSMP will, inter alia, address the following main areas:

- Construction site (layout, facilities, access, materials storage, electricity and water supply, lighting, etc.);
- Organization of construction works and methods of construction (description of construction works, construction phasing, technologies and methods, supply of construction materials, machinery and equipment needs);
- Identification of OHS risks and preventive measures for avoidance of those risks during various construction stages (preparatory works (e.g. formation of the construction site, clearing of vegetation, geodetic surveys and control); construction-related transport; earth works; concrete works; instalment of substation equipment, erection of transmission lines towers, stringing of OHL conductors, management of hazardous materials and hazardous waste, etc.);
- Requirements related to proofs for professional competence (work permits, certificates) for specific (high-risk) working positions (e.g. specific construction machinery operators, working at height, working with lifting equipment, working with electrical equipment, working around and on energised high-voltage line, etc.);
- Work permit procedure for those working positions which require a work permit/ authorization;
- Notification and warning signalization;
- Use of PPE by all personnel, visitors and third parties (minimum requirements; specific requirements; provision, storage and availability of PPE; training aspects for use of PPE, etc.);
- Emergency plans to be implemented in the case of accidents;
- Grievance mechanism for workers involved in the construction of the Project ([Section 4.2.5.1](#)).
- OHS progress reporting requirements, including, as a minimum:
 - the reporting periods (e.g. monthly or quarterly progress reports);
 - the content of the progress reports (i.e. list and brief description of all incidents and dangerous occurrences; number of fatalities; serious incidents; number of injuries; number of "near-miss" events; theft incidents; security incidents; etc.);

²⁰The Labour Code of the Republic of Kazakhstan (№ 414-V, adopted on 23.11.2015, last amendment dated 11.02.2024)

- the manner of documenting all accidents, dangerous occurrences and investigations;
- the manner of investigating any incident;
- the manner recording and reporting the relevant findings and recommendations.
- Forms of communication and consultation on the health and safety matters with all personnel involved in the construction of the Project (e.g. toolbox meetings prior to the start of the work, meetings at construction site on a regular basis, etc.);
- Security strategy and arrangements required for all working areas across the construction site.

In addition, the Contractor(s) will assess and identify the hazardous substances²¹ planned for use for the construction of the Project. Based on this assessment, as part of the HSMP, the Contractor(s) will provide details of risks associated with the respective dangerous substances and, consequently, management procedures in terms of their:

- Transport and handling (e.g. prior authorisation for transport, storage and use; use of impervious surfaces equipped with spill retention; provision of suitable facilities for handling and storage; data and record keeping);
- Storage (e.g. plan for storage; technical requirements and rules for storage areas; safety distances between storage areas and nearby residential areas; precaution measures to prevent spillages of hazardous substances).

4.2.5.5 *Emergency Preparedness and Response*

The Project Road corridor traverses remote and sparsely populated areas where access to emergency medical, fire and rescue services may be constrained by the distance from settlements and emergency response facilities, potentially prolonged response times, limited mobile network coverage, and adverse weather conditions. These circumstances may complicate emergency communication, access to incident sites, and the timely delivery of assistance, potentially exacerbating the impacts of road traffic accidents, occupational injuries, fires, hazardous-material spills, and other emergencies during the construction and operation phases. Severe weather conditions, such as snowstorms, strong winds, extreme temperatures, and poor visibility, may further hinder access to affected areas and delay emergency response.

A site-specific **Emergency Preparedness and Response Plan** (EPRP) shall be developed to identify credible emergency scenarios, define response responsibilities, establish notification procedures and escalation arrangements, and ensure coordination with external emergency services. The EPRP shall cover construction camps, work fronts, mobile work crews, and material transport activities. The EPRP shall at a minimum include:

- Georeferenced emergency response maps identifying road chainages, construction work areas, emergency access points, available medical facilities and emergency service providers, and sections with limited communications coverage,
- An assessment of the availability, capabilities and expected response times of external emergency services, including the identification of sections where delays may require additional on-site response resources,

²¹A substance is considered dangerous if one or several of its properties render it hazardous (e.g. corrosive, flammable, explosive, spontaneously combustible, toxic, irritant, oxidising, water-reactive, dangerous for the environment).

- A medical emergency and evacuation strategy covering first aid, stabilisation, ground ambulance arrangements, receiving medical facilities and the feasibility of air medical evacuation where warranted,
- Reliable communication arrangements for remote work teams, including satellite communication devices or equivalent systems where conventional communications are insufficient, together with backup power and equipment testing requirements,
- Defined coordination and notification procedures agreed, as practicable, with the relevant emergency services, including arrangements for incident location identification, responder access and handover of casualties,
- Emergency procedures addressing severe weather, loss of communications, road traffic accidents, serious occupational injuries, fire, hazardous-material spills and other credible emergency scenarios,
- A programme of emergency training and periodic drills, with documented findings and corrective actions.

The EPRP will cover the following emergency situations:

- Natural hazard, including extreme weather event - flood, storm, ice or geological hazard - earthquake, landslide, soil erosion, etc.;
- Fire, whether natural or caused by construction activity (e.g. clearing and cutting of vegetation, sparks from construction equipment, improper management of flammable matter (solvent, fuel, etc.), negligence and non-compliance with prohibitions and warnings (careless actions of workers at work sites, such as throwing of burning cigarette, etc.));
- Risk of traffic accident. Trucks and heavy machinery will be used during the construction. During their movement on public and access roads the following events may occur: collision with vehicles, assets or animals of local population; collision with members of the local population; collision with other project machinery or collision with the members of the project workforce;
- Risk of hazardous substances spill causing water or soil pollution. Hazardous materials include any controlled or potentially hazardous substances used on the construction site. These materials may cause environmental damage, fires, explosions, or health problems;
- Injury of workers, associated with: incidents with heavy machinery / vehicle used for the Project construction; operations at height; collapse of structures or scaffoldings; electrocution near electrical equipment; pollution with used chemicals; exposure to dust, noise and vibration from excavation, drilling, transport;

The Contractor(s) will ensure that all personnel involved in the construction of the Project are trained, informed and aware of how to react in an emergency situation as well as that responsibilities in the case of emergency are clearly defined.

The EPRP will also apply to the subcontractors and suppliers involved in the construction of the Project.

- Fire Protection
 - The Contractor(s) shall carry out a fire safety risk assessment. Based on this assessment, the Contractor(s) will ensure that adequate and appropriate fire safety measures are in place to minimise the risk of injury or loss of life in the event of a fire, including at a minimum:

- Keeping sources of ignition (e.g. electrical equipment) and flammable substances apart;
- Forbidding fire as a method of forest and vegetation clearance;
- Avoiding accidental fires;
- Making arrangements with local fire-brigades for emergencies;
- Installing fire warning systems, where deemed necessary;
- Having tested and functional suitable fire-fighting equipment (e.g. extinguishers);
- Ensuring workers receive appropriate training on procedures they need to follow, including fire drills.

4.2.5.6 *Community Health and Safety*

Protection of the communities affected by the construction of the Project will be ensured through the environmental, health and, safety measures specified in this ESMP and further detailed in the management plans and procedures which will be prepared and implemented as part of the CESMP.

The Contractor(s) shall prepare and implement a **Community Health and Safety Management Plan** (CHSMP) as part of the CESMP and submit it to the KazAvtoZhol/ Supervision Consultant for review and approval prior the commencement of any works or traffic related to works. This Plan will provide guidance for protection of health and safety of the local population during the construction period, based on a respective risk assessment process.

The plan will include a site-specific schedule of planned construction activities which may impact a neighbouring community, describing these activities and the approach to the interaction with the community. In that respect, the plan will include a schedule of regular community meetings, announcement in advance of major construction and transport activities, restriction of access to working sites and other relevant aspects.

The CHSMP will comply with the **Worker's Code of Conduct**.

The Contractor(s) shall establish a fenced safety zone around construction zones and facilities.

The CHSMP should also include provisions for Public Safety Campaign that is expected to be conducted on a semi-annual basis by the Contractor, in the schools and public spaces of the affected settlements.

- Road Safety Audit

Design phase

The recommendations of the Road Safety Audit (RSA) should be considered during the Detailed Design(s) of the Project and there should be compliance to the criteria set for the key road safety problems identified.

Construction phase

As part of the CHSMP, the Contractor(s) shall prepare and implement a separate Road Safety Audit to ensure that the construction will be in compliance with the appropriate road safety requirements.

- Public Grievance Mechanism

The Contractor(s) shall strictly follow the Public **Grievance Procedure** set out in the Project's **Stakeholder Engagement Plan**. This procedure is designed to record all grievances coming from local communities and other stakeholders (not workers, whose grievances are managed in a separate system).

For any grievances seen to be the obligation of the Contractor(s), corrective action will be undertaken as directed by KazAvtoZhol. The corrective action shall be reviewed and approved by KazAvtoZhol/Supervision Consultant.

4.2.5.7 Supply Chain Environmental, Social, Health and Safety Risk Assessment and Management

The construction of the Project Road will require the supply and transportation of aggregates, sand, gravel, crushed stone, asphalt, cement, and other construction materials, potentially resulting in E&S risks and impacts beyond the immediate project footprint, particularly at third-party quarries, borrow areas, and other extraction sites. These risks may include inadequate labour conditions and practices, occupational health and safety hazards at extraction and processing facilities, adverse impacts on biodiversity and natural habitats, non-compliance with environmental permits and regulatory requirements, and road safety risks associated with material transportation along public roads and project haul routes.

The Construction Contractors shall establish and implement a risk-based E&S assessment and management plan for the selection, approval and monitoring of construction material suppliers, including suppliers engaged through subcontractors. The assessment shall be proportionate to the nature, scale, and significance of the potential E&S risks associated with each source and shall include, as a minimum:

- Supply chain E&S management procedure for screening approving and monitoring suppliers,
- Supplier and quarry E&S due diligence,
- Labour and working conditions,
- Biodiversity screening of material sources,
- Supplier OHS performance,
- Material haulage and road safety,
- Monitoring, reporting and corrective action.

In addition to the management of material suppliers, the Project will involve subcontractors providing construction works and related services. The engagement of subcontractors may give rise to E&S risks associated with inadequate labour and working conditions, occupational health and safety, environmental management, community health and safety, and non-compliance with Project E&S requirements. Therefore, the Construction contractors shall:

- Conduct E&S screening of subcontractors, incorporate Project E&S requirements into subcontract agreements, ensure implementation of relevant management plans, and regularly monitor compliance and corrective actions.

4.2.5.8 Cultural Heritage and Chance-Find Procedure

The Project will require the development and implementation of appropriate mitigation and management measures to protect the directly affected Heritage Unit No. 3, together with precautionary measures to safeguard the remaining three heritage units. Although no direct impacts on these three units are anticipated, they may be susceptible to accidental damage during construction, particularly from the movement and operation of construction machinery and vehicles. The measures shall be developed in accordance with the applicable legislation of the RoK and relevant international good practice and, where appropriate, incorporated into the **Cultural Heritage Management Plan (CHMP)**.

- Pre-construction phase

- Develop a **Cultural Heritage Management Plan** (CHMP) for the Project, to be agreed upon by the Supervision Consultant, the Company, the Bank and the authorized state body;
- Carry out a detailed archaeological survey before the start of construction works, including:
 - Conduct test excavations (trial trenching);
 - Delineate the impacted areas, identify the surface area and volume requiring safeguard excavations, and carry out such excavations to preserve the affected units, if relevant;
 - Assess the possibility of relocating monuments to areas outside the reservoir impoundment;
 - Assess the structural resistance to vibration-generating activities;
 - Propose specific protection measures to prevent damage during construction activities, including construction of protection walls, restriction of vibration-generating activities, etc.;
 - Recommend appropriate preservation measures for each of the identified cultural heritage sites.
- Hire a qualified cultural heritage expert from an authorized institution to be present during the construction works and implement archaeological surveillance for all construction sites, as well as to help implement all heritage focused mitigations and reporting to the Company/ Bank,
- Prior to construction works, develop a **Chance Finds Procedure** (CFP)²² for the Project and train the relevant workers in applying it (so that they can identify the chance finds, stop the works and notify the management); keep the training log up to date and include reporting on it in monitoring reports.

■ Construction phase

- Implement the CHMP,
- Implement the CHP.

If archaeological or heritage resources are discovered during the pre-construction or construction phases, work will be stopped until a professional archaeologist has assessed the find and a course of action is determined, in accordance with the discovery protocol as described below:

- All construction activities in the vicinity of the remains are ceased immediately;
- The discovery is reported to EHS Manager;
- The location is recorded, and all remains left in place and in condition they were found;
- The location is secured to protect the discovery against any potential damaging and against unauthorized access;
- The exposed area is covered with a tarp (especially if raining / snowing);
- Stabilize the slope, if soil is exposed due to excavation or vegetation clearance;
- The competent authorities for protection of cultural heritage are contacted and informed;

²²Guidance note - Environmental and Social Requirement 8: Cultural heritage (November 2025), https://www.ebrd.com/content/dam/ebd_dxp/assets/pdfs/environment---sustainability/implement-performance-requirements/esrs-2025/EBRD%20Environmental%20and%20Social%20Requirement%208%20Guidance%20note%20Cultural%20heritage.pdf

- Digital photographs taken from several angles would be helpful.

Once the discovery is made, the Contractor(s) on site is/are responsible for protecting the discovery and preventing further disturbance. The site must be protected from direct effects on the discovery (theft, vandalism, further excavation, clearance, driving or walking on it, exposure to precipitation, etc.) or indirect effects (exposure to sun, wind, chemical decomposition, etc.). If action or inaction damages or destroys the discovery, the workers / Contractor(s) on site may be subject to prosecution.

- o Deliver regular briefing to all workers involved in implementing heritage focused mitigations.

5 E&S General Management Measures under responsibility of KazAvtoZhol/ Supervision Consultant

5.1 Introduction

This section outlines the general environmental and social responsibilities of KazAvtoZhol throughout the life cycle (phases) of the Project.

5.2 Environmental and Social Management System

KazAvtoZhol will implement this Project according to its ESMS.

- Environment Protection Policy

KazAvtoZhol shall establish a policy, summarising the commitments to manage the environmental risks. It will identify the Company's environmental objectives and principles which define the goals and directions applicable to all company's personnel. This policy will provide a framework for KazAvtoZhol's environmental management system.

In support to the environmental protection policy, KazAvtoZhol will develop and document a set of internal procedures, including but not limited to, the key topics described below.

- EHS organisational structure and personnel - Procedure for resources, roles, responsibilities, and authorisations.

KazAvtoZhol shall establish an organisational structure with defined roles, responsibilities, and authority to implement the management system. This structure will incorporate specific personnel with clear lines of responsibility to monitor the maintenance and implementation of the environmental management system. These key personnel will be appointed and responsible for implementation of the ESMP of the Project.

- EHS procedures

The EHS procedures identify the key environmental aspects of relevance for KazAvtoZhol's scope of operations and provide relevant management and control actions. The key hazards likely to be identified by these procedures include:

- Air pollution risk due to emissions of pollutants and dust
- Pollution risk for land, groundwater and surface water
- GHG emissions
- Noise emission
- Community and Occupational Health and Safety risks
- Waste generation and management

- Gender-Based Violence and Harassment

KazAvtoZhol shall organize annual training to its employees on GBVH, and this training must also include subcontractors' workers engaged on this project. Workers engaged on other KazAvtoZhol projects are welcome to participate on GBVH trainings.

5.3 Procedures for Implementation of the Project

In support to the E&S policies, KazAvtoZhol will develop internal procedures to ensure sound E&S performance throughout its life cycle (phases) of the Project and this ESMP, including the following key topics:

- Mobilisation of the designated KazAvtoZhol project personnel.
- Allocation of sufficient human and financial resources to implement E&S requirements.
- Allocation of the key roles and responsibilities within the appointed KazAvtoZhol Project personnel.
- Coordination and clear division of responsibilities among the appointed KazAvtoZhol Project personnel for review of CESMP documents and procedures, and monitoring of their implementation.
- Progress reporting, record keeping, databases (e.g. photographs, grievances, environmental incidents, health and safety issues, etc.).
- Implementation of mitigation measures throughout the operation phase of the Project.

5.4 Climate Resilience

KazAvtoZhol shall ensure that design-based and operational adaptation measures for minimising residual risk and increase the climate change resilience of the Project and its operation are implemented, as proposed in the ESIA Report, at a minimum,

- Adaptation measures against flooding risk;
- Hydraulic modelling;
- Drainage;
- Adoption of asset management practices;
- Emergency planning.

In addition, KazAvtoZhol shall develop and adopt a Climate Resilience Action Plan to address corporate climate risks, including procedures to:

- Update data regarding climate change;
- Monitor of climate change impacts / risks;
- Incorporate lessons learned from events during operation;
- Select / adopt additional measures.

5.5 Resettlement

The Project requires land acquisition and restriction of land use. These issues could induce adverse impacts for the affected land owners and users. The Project Land Acquisition and Resettlement Framework (LARF) has been prepared in compliance with the EBRD ESP (2024) and ESR5 that sets out a framework by which the impacts will be mitigated and how compensation will be made.

This section summarises the key management actions in relation to land acquisition and resettlement due to the Project execution.

- Key Management Actions prior to Construction:

As soon as Detailed Design(s) are completed, preparation and implementation of the LAPR will be carried out during the pre-construction phase of the Project, based on:

- Obtaining the final land take needs based on the data / drawings from the respective Detailed Design(s) of the Project.

The LAPR will guide the resettlement process, by implementing the following key actions:

- Identify the affected individual landowners and property users and the impacts on them due to the Project activities;
- Conduct a socio-economic survey to assess the resettlement impacts and vulnerable groups' needs;
- Provide compensation for loss of assets at replacement cost;
- Ensure that displacement of economic activities is implemented with appropriate disclosure of information, consultation, and the informed participation of those affected;
- Improve or, at a minimum, restore the livelihoods and standards of living of displaced persons to pre-project levels, so as to facilitate sustainable improvements to socioeconomic status;
- Pay particular attention to the needs of vulnerable groups;
- Monitor the implementation of the LAPR by recording the details of all affected persons, their compensation entitlements and the status of payment.

The preparation of the final LAPR and its implementation require completed list of property to be acquired / expropriated (acquired from the competent authorities in Kazakhstan (e.g. real estate agencies) or other relevant sources (e.g. real estate public books) and verified by site-visit checks), assessment of the value of the property loss (Value Assessment, conducted by certified assessors according to the relevant national regulation²³), conducted socio-economic survey and consultations with the project affected people.

■ Key Management Actions during operation

During operation of the Project, the impacts will be related to maintenance activities, and potential need to use land for temporary purposes (e.g. for access tracks or lay-down areas). Should any land acquisition be needed during the operation, the requirements of the relevant national regulation, EBRD and the principles defined in the Resettlement Framework will be followed.

■ Establish Grievance Redress Mechanism (GRM)

Prior to commencement of expropriation process as defined in the LARF, KazAvtoZhol should establish GRM. This GRM should be kept active during the construction period in case some affected land owner/ user raise claims. GRM must be promoted among affected land and property owners during consultations held with them (for LAPR purposes) and prior to commencement of the expropriation process.

Related to those who cannot provide ownership documentation, it is highly recommended to establish Resettlement Committee comprised from representatives from each rural settlement. The role of this Resettlement Committee is to assist in identification of real owners/users/tenants of the affected property, and to provide assistance in communication with these affected individuals/households during preparation of LAPR (conducting socio-economic survey with the affected persons/households).

²³The Land Code of the Republic of Kazakhstan (RK Code No. 464-IV adopted on 20 June 2003, last amendment dated 21 January 2019)

Vulnerable groups should receive additional assistance for vulnerable persons, apart from the compensation for lost property or livelihood related provisions.

5.6 Stakeholder Engagement

A Stakeholder Engagement Plan (SEP) for the Project has been developed in the course of the present assessment to be implemented by KazAvtoZhol for the Project. The SEP has been prepared in compliance with the EBRD ESR 1 and ESR 10 regarding stakeholder engagement and relevant legislation in Kazakhstan.

The SEP consists of overall identification of the need for maintaining continuous communication with the main stakeholders, among which are the local residents and governmental institutions responsible for control and facilitation of the Project. The SEP also sets out the proposed information disclosure process, and details of future meetings and consultations with affected public and communities and other interested stakeholders. It outlines the management and planning responsibilities of stakeholder engagement activities throughout various phases of the Project thus including planning, construction and operational phases.

It will be updated regularly, and new stakeholders identified through the Project implementation will be added and considered within the SEP. Therefore, the SEP will continue to evolve as the Project progresses through construction and operation. The SEP includes a grievance mechanism so that stakeholders and the public can raise any concerns, provide feedback and comments about the Project.

- Key Management and Monitoring Actions:
 - Stakeholder engagement
 - KazAvtoZhol will implement and update SEP as required.
 - KazAvtoZhol will publicly disclose the SEP and the ESIA package. The documents will be published online on the web site of KazAvtoZhol (www.qaj.kz).
 - KazAvtoZhol will liaise and propose to affected districts (Beineu district of Mangistau Region, Baiganin and Shalkar districts of Aktobe Region) to publish online on their web sites the SEP and the ESIA package, in Kazakh, Russian and English language, as well as physically in agreed key relevant Akimats locations.
 - KazAvtoZhol will appoint and mobilise specific personnel for implementation of the SEP with clear lines of responsibility and authority, including community liaison officer (CLO).
 - KazAvtoZhol will ensure that reporting requirements set out in the SEP are fulfilled.
 - Regular Community Liaison
 - KazAvtoZhol will regularly with the Contractor(s) carry out community liaison activities;
 - KazAvtoZhol will engage with local settlements and the general public of Kazakhstan using a variety of public engagement tools (e.g. meetings, web presence, social media, press releases, information materials, etc.) to provide reliable information in a transparent and accessible way on all relevant Project issues;
 - KazAvtoZhol/ Supervision Consultant will organise with the Contractor(s) informative events to disseminate construction traffic movement information to the public as well as to inform the communities regarding of traffic related risks and measures being adopted to control traffic during the construction period, where and when appropriate;

- An important measure will be the implementation of a public information programme to introduce the local settlements the construction schedule, with particular accent on the traffic on the roads to be used for construction of the Project. The local settlements will be informed in a timely manner of all potential necessary changes in the regime of the traffic. In consultation with KazAvtoZhol, the Contractor will be required to disseminate construction traffic movement information to the public, particularly in advance of the busiest phases of activity or in advance of movements of special loads (if any).
- Public Grievance Mechanism
 - KazAvtoZhol will implement a Public Grievance Mechanism set out in the SEP;
 - Project Grievance Leaflet and Grievance Form provided in the SEP will be available on the web site of KazAvtoZhol (www.qaj.kz). Also printed copies will be available in the local KazAvtoZhol premises;
 - KazAvtoZhol will liaise and propose to affected districts (Beineu district of Mangistau Region, Baiganin and Shalkar districts of Aktobe Region) to publish online on their web sites the Project Grievance Leaflet and Grievance Form, as well as to make it available physically in their premises;
 - KazAvtoZhol will record all grievances / complaints in a Grievance Registry set out in the SEP;
 - KazAvtoZhol will provide feedback by e-mail or mail to all stakeholders who have filed a grievance / complaint by filled Grievance Form;
 - KazAvtoZhol will ensure that the Contractor(s) strictly follow the Public Grievance Procedure set out in the SEP. For any grievances seen to be the obligation of the Contractor(s), corrective action will be undertaken as directed by KazAvtoZhol. The corrective action shall be approved by KazAvtoZhol / Supervision Consultant;
 - KazAvtoZhol will monitor the way in which grievances will be handled and keep recording the process in Grievance Registry including those under responsibility by the Contractor(s).

5.7 Operational Noise Prevention

The key action during the further Project design from the Company is to:

- Conduct noise modelling for the areas where the road alignment passes in close proximity to the Sam and Nogayti settlements;
- If the modelling results indicate that noise levels at sensitive receptors are expected to exceed the applicable 53 dB Lden²⁴ and/or 45 dB Lnight criteria²⁵, incorporate appropriate noise mitigation measures into the Project design, including noise barriers near the Sam and Nogayti settlements, as necessary.

Lden and Lnight criteria are set in the WHO "Environmental Noise Guidelines for the European Region" (2018)²⁶.

The existing levels of ambient noise along the existing road will need to be measured based on the traffic noise to identify the necessary measures for reducing noise impacts from the future highway

²⁴Lden - Day-evening-night-weighted sound pressure level

²⁵Lnight - Equivalent continuous sound pressure level when the reference time interval is the night

²⁶<https://iris.who.int/server/api/core/bitstreams/f53c45ba-11d3-4502-a424-c1cf49f5a053/content>

operations (i.e. primary mitigation incorporated into the project design), based on the following main strategies:

- Mitigation at the noise source (use of low noise surfacing);
- Mitigation along the source-to-receptor propagation path with noise abatement devices – noise barriers;
- Mitigation at receiver (e.g. acoustic treatment of buildings with insulation, etc.).

Monitoring of ambient noise levels should be conducted during the operational phase to confirm the effectiveness of the selected mitigation measures or to apply corrective actions, where and when necessary. As well, a management system for complaints needs to be established and implemented to include a response procedure in case of complaints on excessive traffic noise.

5.8 Biodiversity Protection

An integrated approach to biodiversity management involves a range of stakeholders, including the competent authorities for nature / biodiversity protection in Kazakhstan, the Company i.e. KazAvtoZhol, the Contractor(s) (and subcontractors) as well as local authorities, regulatory agencies and the general public. Such a system therefore requires information dissemination, training, and designation of responsibility, management actions, monitoring, control, and corrective actions. Generic roles and responsibilities for the Company and Contractor(s) are detailed below.

5.8.1 Key Management Actions during further Project Design

The key action during the further Project design to be carried out from the Company is to update the present Biodiversity Management Plan during the Detailed Design stage, based on findings from supplementary biodiversity surveys, if required due to significant changes in the project design.

5.8.2 Key Management Actions during Construction

The following table present Key Management Actions, during the construction phase.

Table 5 - Key management actions on biodiversity during the pre-construction and construction phases

Activities	KazAvtoZhol	Contractor	Supervision Consultant
Supplementary biodiversity surveys (if needed)	A	R	M
Update the BMP	A	R	M
Develop and implement CESMP aligned with respective BMP construction-related actions	A	R	M
Dissemination of information and training to workforce	A	R	M
BMP implementation	A	R	M
Supervision of Contractor(s) performance	C	N/A	N/A
Corrective actions	A	R	M

Note: R = responsible, A = accountable, I = Informed, C = Consulted, M = monitoring role

- Key Management Actions, as a minimum:

- KazAvtoZhol/ Supervision Consultant will ensure that all relevant administrative / consenting documents (approvals, decisions, permits) related to nature and biodiversity protection from the competent authorities are timely obtained and verified.
- KazAvtoZhol/ Supervision Consultant shall supervise any construction works in sensitive biodiversity areas. In the course of this work, close cooperation with the Biodiversity Specialist(s) appointed by the Contractor(s) will be established and maintained.
- KazAvtoZhol/ Supervision Consultant shall monitor on-site the vegetation removal prior to commencement of the construction works and the sitting of the construction works in sensitive areas to ensure that measures for avoidance and minimization of the vegetation removal are implemented.
- KazAvtoZhol/ Supervision Consultant will carry out, jointly with the Biodiversity Specialist(s) appointed by the Contractor(s), pre-construction surveys for sensitive areas, supervise the implementation of the mitigation measures outlined in the BMP, during the whole construction work period, ensure biodiversity documentation compliance as well as regular coordination with the Contractor(s), competent authorities and concerned stakeholders.
- KazAvtoZhol/ Supervision Consultant, jointly with the Biodiversity Specialist(s) appointed by the Contractor(s), will oversee the implementation of the BMP.
- KazAvtoZhol/ Supervision Consultant will inform the Contractor(s) / Biodiversity Specialist(s) about seasonal restrictions of the construction in particular areas due to the purposes of biodiversity protection, so the Contractor(s) are expected to take precautionary measures and align the construction schedule with the foreseen restrictions.

5.8.3 Key Management Actions during Operation

In the operation phase, all works will have been taken over by KazAvtoZhol who will implement the necessary biodiversity management measures to ensure compliance with the Project's mitigation strategy, using their environmental management system, in order to meet respective regulations and guidelines.

- Key Management Actions, as a minimum:

Table 6 - Key management actions on biodiversity during the operational phase

Activities	KazAvtoZhol
Update BMP for operational phase	R
Biodiversity Monitoring	R

Note: R = responsible

Also, principal measures of good maintenance practice need to include, at a minimum:

- Once operational, establish sound waste management, including removal of food and carcasses from the highway, in order to minimise attractiveness to animals and reduce collisions. Waste arising from the operational highway is expected to be managed using the established procedures and facilities that are used across the road network in Kazakhstan.
- Afforestation with native species of plants (trees and herbs). The planting may also be designed to contribute to the mitigation of visual impacts and impacts on the landscape character.
- Regular maintenance of the vegetation along the highway; prevention of invasive species spread; avoid utilization of pesticides.

5.9 Environmental and Social Monitoring of Construction

The environmental and social management measures under responsibilities of the Contactor(s) as described in this ESMP are complex and will require detailed planning and supervision to ensure timely and efficient execution. The key responsibilities of KazAvtoZhol / Supervision Consultant for the environmental and social monitoring of the construction are provided below.

- Key Management Actions:
 - Permitting: Verify that all legal environmental permits are obtained prior to the start of the construction works;
 - Review and approval of the CESMP:
 - Confirm mobilisation and suitability of EHS resources allocated by the Contractor(s) as per contract requirements: key EHS personnel (qualification and experience including specific authorisations and/or licenses), logistics, equipment, etc.;
 - Require timely submission of CESMP specific E&S management plans and procedures as described in this ESMP prior to the start of the construction works, including vegetation clearing;
 - Check and review the compliance of the management plans and procedures with the relevant ESHS standards and specifications and, subsequently, approve the plans and procedures;
 - Require timely revision of CESMP specific E&S management plans and procedures.
 - Site inspection:
 - Organise regular scheduled inspection of the different construction sites jointly by the EHS Manager(s) of the Contractor(s).
 - Review the respective reports based on the inspection assessment sheets, including EHS incident reporting and ensure that appropriate corrective measures are undertaken;
 - Coordination meetings: Organise regular E&S coordination meetings with the Contractors(s) to address all E&S issues relevant for the construction of the Project;
 - Stakeholder engagement: Ensure the implementation of the requirements of the SEP including the Public Grievance Procedure, which are under the responsibility of the Contractor(s), are timely and appropriately carried out.

5.10 Labour and Working Conditions

KazAvtoZhol/ Supervision Consultant must implement and maintain Grievance Mechanism for workers into its ESMS.

KazAvtoZhol/ Supervision Consultant must organize annual training to its employees on GBVH, and this training must also include subcontractors' workers engaged on this project. Workers engaged on other KazAvtoZhol projects are welcome to participate on GBVH trainings.

Contractor(s) and the subcontractors responsible for maintenance of the road will be required to develop and implement written management procedures related to labour, including procedures to establish and maintain a safe working environment as per requirements of EBRD ESR 2.

5.11 Community Health and Safety

Mitigation measures that should be implemented in order to thoroughly contribute to the health and safety of the passengers, local community and workers by KazAvtoZhol, will include:

- Health and Safety Management Plan during operation;
- Community Health and Safety Management Plan during operation, with campaign of traffic safety for local population and school children;
- Conducting regular control and maintenance of traffic signalization;
- Conducting regular inspection and maintenance of the fence along the highway in order to reduce the risks of illegal crossing of the population, wildlife and livestock, as well as the number of accidents;
- Monitor the technical conditions of the road during its operational phase, provide timely maintenance if necessary;
- Apply appropriate traffic and work-zone safety measures during maintenance and repair activities to protect road users and nearby communities;
- Implementation of Emergency Preparedness and Response Plan (EPRP) during operation, Community Health and Safety Management Plan (CHSMP) during operation and EPRP. CHSMP and EPRP must be in compliance with EBRD ESR, and particularly with ESR 1, ESR 4 and ESR 10.

Road Safety

Before the opening to traffic and during the operation of the highway, regular inspections of the road safety shall be conducted by KazAvtoZhol and respective reports should be prepared.

6 E&S General Management Measures under responsibility of the Statutory Stakeholders

6.1 Land Acquisition and Resettlement

The overall responsibility of the land acquisition and resettlement process lies within KazAvtoZhol. According to national legislation, and based on a proposal from the expropriation beneficiary, the Government of Kazakhstan is responsible for declaring public interest. Real estate rights under public or governmental ownership may be revoked or limited by a regional administration decision and transferred to another public or state entity if deemed necessary in the public interest (i.e., administrative transfer).

The LARP will be coordinated by the Committee for Roads (CoR), while its implementation will fall under the responsibility of KazAvtoZhol. The regional Akimats will request budget allocations based on independent valuation reports, with funding sourced from the Republican Budget. This process will be carried out in agreement with the Committee for Roads and approved by the Ministry of Finance and the Republican Budget Commission. Monitoring of LARP implementation will be conducted by KazAvtoZhol and the Supervision Consultant, at the request of CoR.

The CoR holds full responsibility for the preparation, implementation, funding, reporting, and assessment of the LARP. CoR's duties include reviewing and approving the LARP, making decisions on land acquisition and compensation, coordinating with government agencies and Akimats, ensuring proper budget allocations, and involving experts to support LARP preparation and monitoring, in collaboration with KazAvtoZhol staff.

KazAvtoZhol NC JSC is responsible for the day-to-day implementation of the LARP. A designated representative at QAJ will oversee the preparation and implementation of the LARP, assist with census and socioeconomic surveys, coordinate with government authorities, monitor progress, and manage grievance redress committees.

The Akimat of the affected region is responsible for allocating the budget and covering all expenses related to land acquisition. This includes property valuation by licensed appraisers, issuing land acquisition decrees, and managing compensation payments.

The Supervision Consultant will support CoR and KazAvtoZhol in ensuring LARP implementation and compliance with mitigation measures. Both entities will also conduct internal monitoring, prepare monthly progress reports, and assist in resolving grievances.

6.2 Monitoring of Compliance with Environmental Permit(s)

The key environmental permit issued by the competent authority in Kazakhstan - and other decisions issued by the competent authorities, will establish conditions associated with the Project. The competent authorities will supervise the effective compliance of the Project with these conditions during the construction and operation phases based on the following key actions:

- Verify timely and qualitatively submission of various progress and monitoring reports from KazAvtoZhol, as required by the permits / decisions;
- Review documentation of the Project and ensure compliance with conditions stipulated in the permits / decisions
- Conduct regular monitoring site inspections during the construction period as well as during operational period to monitor the Project compliance with the legal requirements and standards (**Chapter 7**).

7 Environmental and Social Monitoring Requirements

The tables below outline the E&S monitoring actions that should be undertaken during the implementation of the Project, to ensure that the requirements of the respective E&S Management Plans, EBRD ESP (2024) and national legal requirements as well as the ESIA commitments are being met.

Table 7 - Environmental and social construction phase monitoring

Topic	Parameters to be monitored / Limit values (where applicable)	Location(s)	Frequency	Method	Responsibility
Environmental Monitoring					
Air Quality (to be further detailed in the Air Quality Monitoring Plan)	The following parameters shall be measured by the Contractor, at a minimum: Particulate Matters (dust, including PM2.5 and PM10), Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) and Carbon Monoxide (CO). Other parameters may be warranted as and when requested by the Supervision Consultant. Limit values: - As per national regulation - As per WHO Global Air Quality Guidelines²⁷ (2021)	- Closest settlements / residential properties and sensitive receptors (e.g. schools, health care facilities, religious temples, etc.) exposed to construction activities / transport routes - At proximity to auxiliary Project facilities (e.g. quarry(ies), asphalt plant(s), batching plant(s)).	- Prior to construction (baseline) - Monthly during construction. Different frequency may be suggested by the Contractor and agreed with the Supervision Consultant. - Continuous dust monitoring during dry / windy conditions - As a response to an event of a complaint (community grievance).	- Instrumental measurement campaigns to determine the concentrations of the targeted parameters. - Continuous visual observations of dust levels (e.g. dust fallout monitoring using dust buckets).	Contractor to perform (analysis to be conducted by an accredited testing laboratory ²⁸ and staff with the appropriate qualifications, in accordance with recognized international practice and relevant national legislation). Supervision Consultant to check the compliance.
Topsoil and soil management and erosion control	- Topsoil removal and erosion	- Topsoil storage areas - Erosion-prone areas (e.g. steep slopes)	Monthly, as a minimum	- Visual site inspections / observations of erosion indicators.	Contractor to perform. Supervision Consultant to check the compliance.

²⁷WHO Global Air Quality Guidelines - particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide, 2021.

<https://www.who.int/publications/i/item/9789240034228>

²⁸Accreditation by a competent accreditation body (Accreditation Certificate of Testing Laboratory, EN ISO 17025) is deemed required

Topic	Parameters to be monitored / Limit values (where applicable)	Location(s)	Frequency	Method	Responsibility
(to be further detailed in the Topsoil Management Plan and CESMP)				- Inspection against the requirements of the Topsoil Management Plan and CESMP.	
Spoil management (to be further detailed in the Spoil Management Plan)	- Spoil management - All requirements of the Excavated Material / Spoil Management Plan	Spoil temporary storage and disposal areas	Monthly, as a minimum	- Continuous visual site inspections/observations of spoil management requirements. - Unannounced site inspections during construction. - Inspection against requirements of Spoil Management Plan and CESMP.	Contractor to perform. Supervision Consultant to check the compliance.
Soil quality (to be further detailed in the Soil Quality Monitoring Plan)	The following parameters shall be determined in the soil by the Contractor, at a minimum: As, Pb, Hg, Cr, Co, elemental S, KCl, H₂S, Benzo(a)pyrene, Formaldehyde. Other parameters maybe warranted as and when requested by the Supervision Consultant. Limit values: - Hygienic Criteria for Soil Quality in the Republic of Kazakhstan	Areas in and around the construction sites Areas near the settlements and other sensitive receptors	Monthly, as a minimum	- Sampling and chemical analysis by the accredited laboratory, - Continuous visual observations of spills and leaks (oil products, other chemicals).	Contractor to perform (analysis to be conducted by an accredited testing laboratory ²⁹ and staff with the appropriate qualifications, in accordance with recognized international practice and relevant national legislation). Supervision Consultant to check the compliance.
Construction noise (to be further detailed in the	The following noise indicators shall be measured by the Contractor: - Leq,T (Equivalent noise level) - Average Daily Noise level	- Closest settlements / residential properties and sensitive receptors (e.g. schools, health	- Monthly at locations where construction activities are taking place and in nearby	Type 1 sound level meter that meets all appropriate International Electro-technical Commission's standards and is subject to annual	Contractor to perform. Supervision Consultant to check the compliance.

²⁹Accreditation by a competent accreditation body (Accreditation Certificate of Testing Laboratory, EN ISO 17025) is deemed required

Topic	Parameters to be monitored / Limit values (where applicable)	Location(s)	Frequency	Method	Responsibility
Noise Monitoring Plan)	Other indicators maybe warranted as and when requested by the Supervision Consultant. Limit values: - As per national regulation - WHO Guidelines for Community Noise³⁰ (1999) - WHO Environmental Noise Guidelines for the European Region³¹ (2018)	care facilities, religious temples, etc.) exposed to construction activities / transport routes - At proximity to auxiliary Project facilities (e.g. quarry(ies), asphalt plant(s), batching plant(s).	residential areas. Different frequency may be suggested by the Contractor and agreed with the Supervision Consultant. - As a response to an event of a complaint (community grievance).	calibration by an accredited laboratory. It is to be operated under the conditions specified by the manufacturer.	
Biodiversity	As per the Project's Biodiversity Management Plan (BMP) and the related Management Plans	All Project facilities and construction sites.	Daily walkovers	Visual site inspections / observations of the construction activities and their compliance with BMP.	Contractor to perform. Supervision Consultant to check the compliance.
Waste management (to be further detailed in the Waste Management Plan)	- Volume of waste generated (by waste stream) - Solid waste handling and disposal facilities - Volume of waste re-used - Volume of waste recycled (by waste stream) - Volume of waste disposed-off to landfill - Welfare facilities for wastewater / sewage collection and sewage disposal - Hazardous wastes management - All requirements of the Waste Management Plan are being met.	All Project facilities and construction sites.	Weekly	- Continuous visual site inspections/observations of waste management requirements. - Unannounced site inspections during construction. - Review of waste transfer notes. - Audit against requirements of Waste Management Plan.	Contractor to perform. Supervision Consultant to check the compliance.
Chemicals and hazardous substances	- Management of the chemicals and hazardous substances (transport, storage and handling) on construction sites	- All Project facilities and construction sites (risk of spills/leaks)	Weekly	- Inventory for chemicals and hazardous substances and their storage areas.	Contractor to perform. Supervision Consultant to check the compliance.

³⁰<https://www.who.int/publications/i/item/a68672>

³¹WHO Environmental Noise Guidelines for the European Region, 2018. <https://www.who.int/europe/publications/i/item/9789289053563>

Topic	Parameters to be monitored / Limit values (where applicable)	Location(s)	Frequency	Method	Responsibility
(to be further detailed in Hazardous Materials Management Plan and Spill Prevention and Response Plan)	- Number of spills/leaks of hazardous materials reported. - Required number of fully and appropriately stocked spill kits is provided. - All requirements of the Chemicals and Hazardous Substances Management Plan are being met	- Chemicals and hazardous substances storage areas, including fuel storage areas.		- Regular control and inspection of documentation and facilities. - Review records of environmental incidents. - Visual site inspection of spill kits. - Inspection against requirements of Hazardous Materials Management Plan and Spill Prevention and Response Plan.	
Drainage and Hydraulic Structural Integrity	- Physical obstruction or sedimentation volume inside concrete box culverts. - Extent of channel bed erosion, scouring depth around pier foundations. - Presence of standing water/ponding on the roadway. - Structural integrity of bridge deck drainage outfalls. - <i>Limit values:</i> 0% blockage of culvert barrels; zero roadway ponding.	All culverts, natural drainage pathways, depressions, and river crossing bridge structures.	- Monthly during dry seasons. - Weekly during spring snowmelts (freshets). - Immediately following acute extreme precipitation events (>20 mm/day).	- Visual site inspections. - Technical bathymetric/topographic structural surveys of bridge pier foundations.	KazAvtoZhol or contracted qualified third-party engineering inspectors.
Bridge Hydraulic Scour & Foundation Stability	- Scour depth and channel bed erosion around intermediate piers and abutment toes. - Structural integrity of riprap aprons and concrete toe revetments.	Intermediate piers and abutments at the River Bridge (km 63+980) and Major Valley Bridge (km 148+560).	- Monthly during dry periods. - Weekly during spring snowmelts (freshets). - Immediately following acute heavy precipitation events (>20 mm/day).	- Technical bathymetric and topographic structural surveys. - Visual underwater or remote-sensing pier inspections.	KazAvtoZhol or contracted qualified third-party structural engineering specialists.
Thermal and Structural Asset Performance	- Formation depth of pavement ruts, plastic deformation, or longitudinal cracking due to extreme heat stress. - Frequency of thermal contraction cracking or frost heave spalling due to winter freeze-thaw cycles.	Along the whole road alignment, with priority focus on heavy freight truck corridors, bridge overpasses, and Layer 5 frost-protection zones.	Quarterly (seasonally capturing maximum summer heat peaks >45°C and maximum winter freezing lows <-30°C).	- Instrumental measurement using pavement profilometers. - Structural engineering audits.	KazAvtoZhol or contracted qualified third party.

Topic	Parameters to be monitored / Limit values (where applicable)	Location(s)	Frequency	Method	Responsibility
Sand Slope Geocells & Subgrade Piping Controls	- Physical displacement, displacement vectors, or structural tearing of HDPE geocells. - Signs of internal soil piping (suffusion) or subgrade erosion under the drainage layer.	High-exposure fine sand dune slopes and internal piping protection zones.	- Monthly. - Immediately following significant wind/dust storm events exceeding 15 m/s.	- Visual site inspections and slope stability profiling. - Sand accumulation depth measurements.	KazAvtoZhol with support of contracted Maintenance Contractor(s).
Emergency Preparedness and Response Effectiveness	- Total downtime (number of days/hours per year) where sections of the highway are rendered entirely inoperable or closed due to acute weather events (wildfires, flooding washouts, sand blockages, or severe icing). - Response and mobilization time of emergency vehicles and maintenance recovery equipment to reach a collision site or vehicle breakdown. - Progress metrics on updating climate models based on operational "lessons learned".	Entire road corridor alignment.	Quarterly.	- Review of operational logbooks and emergency response exercise evaluation records. - Audit of Climate Resilience Action Plan updates.	KazAvtoZhol in cooperation with the Center for Emergency Situations and Disaster Risk Reduction.
Social Monitoring					
Labour and employment issues (aligned with Labour Management Plan and further detailed in Local Employment Programme)	- All engaged workers to have employment contract with the contractor or subcontractor company that hired/engaged them. - Full social, pension and medical insurance for the engaged/hired workers on this project, paid by the employer (contractor or subcontractor) - All required training has been provided to all workers depending on the activities they will perform. - Trends in worker grievances relating to working conditions, contractual	All Project facilities and construction sites	Monthly, except for: forced labour and hazardous child labour; use of Personal Protective Equipment (PPE), and hazardous work activities, where daily activities are required.	- Review of training records. - Review of worker Grievance Register. - Review of Project employment statistics. - Review of new employee contracts, to ensure all have signed the Worker Code of Conduct. - Review of all new employee documents to ensure they are not under age. - Inspection of worker's accommodation facilities (LMP's	Contractor to perform. Supervision Consultant to check the compliance.

Topic	Parameters to be monitored / Limit values (where applicable)	Location(s)	Frequency	Method	Responsibility
	arrangements, GBVH, and accommodation. - Percentage of female workers employed on the Project. - Percentage of foreign versus local workers employed. - All employees have been provided with a copy of their contract and signed the Worker Code of Conduct. - No employees are minors. - Worker's accommodation management plan fulfilment (LMP's Accommodation inspection checklist). - All requirements of the Labour Management Plan and of the Local Employment Programme are met. - Provisions and templates set in the LMP (Annex III) and EBRD PR2 Toolkit ³²			Accommodation inspection checklist) - Use of checklists and templates set in LMP and EBRD Guidance note - ESR 2: Labour and working conditions.	
Occupational health and safety (to be further detailed in the Health and Safety Management Plan and in Emergency Preparedness and Response Plan)	- Number of near misses reported. - Number of lost time injuries. - Number of fatalities. - Number of traffic accidents involving Project employed drivers. - Required number of in date, fire extinguishers are provided. - Required number of fully stocked first aid kits is provided. - All electrical equipment is in good working order and testing is up to date. - All workers have received required OHS training for their role(s).	All Project facilities and construction sites	Monthly	- Review of training records - Review of records of emergency drills held - Review of incident reports - Review records of near misses - Inspection of first aid kits - Inspection of fire extinguishers. - Inspection of electrical equipment. - Review worker Grievance Register. - Review medical records of Project drivers.	Contractor to perform. Supervision Consultant to check the compliance.

³²Guidance note - Environmental and Social Requirement 2: Labour and working conditions, https://www.ebrd.com/content/dam/ebrd_dxp/assets/pdfs/environment---sustainability/implementation-performance-requirements/esrs-2025/EBRD_Environmental_and_Social_Requirement_2_Guidance_note_Labour_and_working_conditions.pdf

Topic	Parameters to be monitored / Limit values (where applicable)	Location(s)	Frequency	Method	Responsibility
	- Trends in worker grievances relating to OHS. - Number of medical checks undertaken on Project drivers. - Number of emergency drills held for fire and tunnel evacuation. - All required PPE has been provided and is being used. - All requirements of the Occupational Health and Safety Plan are met. - All requirements of the Emergency Preparedness and Response Plan are met.				
Community health, safety and security (to be further detailed in Community Health and Safety Plan in Traffic Management Plan and in Emergency Preparedness and Response Plan)	- Trends in community grievances including in relation to dust, noise, traffic, water, security, waste and the project workforce. - Number of traffic accidents on the local road network or Project access roads, and any traffic accidents involving Project vehicles. - Number of instances of unauthorised access to construction sites. - All requirements of the Community Health and Safety Plan and of the Traffic Management Plan are met. - All requirements of the Emergency Preparedness and Response Plan are met.	All Project facilities and construction sites	Monthly	- Review Community Grievance Register - Review incident reports.	Contractor to perform. Supervision Consultant to check the compliance.
Cultural heritage (to be further detailed in the Cultural Heritage Management Plan)	- Chance finds	- In case of archaeological or heritage resources are discovered	Daily visual observation of structural conditions	Visual observation	Contractor to perform. Supervision Consultant to check the compliance.

Topic	Parameters to be monitored / Limit values (where applicable)	Location(s)	Frequency	Method	Responsibility
		- At proximity to existing cultural heritage sites			

Table 8 - Environmental and social operational phase monitoring

Topic	Parameters to be monitored / Limit values (where applicable)	Location(s)	Frequency	Method	Responsibility
Environmental Monitoring					
Air Quality	The following parameters shall be measured by the Contractor, at a minimum: Particulate Matters (dust, including PM2.5 and PM10), Sulphur Dioxide (SO ₂), Nitrogen Dioxide (NO ₂) and Carbon Monoxide (CO). Other parameters maybe warranted as and when requested by the Supervision Consultant. Limit values: - As per national regulation - As per WHO Global Air Quality Guidelines ³³ (2021)	- Closest residential properties and sensitive receptors to the road traffic (e.g. within 50 m from the road)	- Quarterly - As a response to an event of a complaint (community grievance).	Instrumental measurement	KazAvtoZhol or contracted third party (analysis to be conducted by an accredited testing laboratory ³⁴ and staff with the appropriate qualifications, in accordance with recognized international practice and relevant national legislation.
Erosion control	Soil erosion risk	Erosion-prone areas (e.g. steep slopes)	Quarterly	- Visual site inspections / observations of erosion indicators	KazAvtoZhol or contracted qualified third party
Operational noise	The following noise indicators shall be measured by the Contractor: - Leq,T (Equivalent noise level) - Average Daily Noise level Limit values: - As per national regulation - WHO Environmental Noise Guidelines for the European Region ³⁵ (2018)	- Closest residential properties and sensitive receptors to the road traffic (e.g. within 50 m from the road)	- Quarterly - As a response to an event of a complaint (community grievance)	Type 1 sound level meter that meets all appropriate International Electro-technical Commission's standards and is subject to annual calibration by an accredited laboratory. It is to be operated under the conditions specified by the manufacturer.	KazAvtoZhol or contracted qualified third party
Biodiversity	As per the Project's BMP	As per the Project's BMP	Daily walkovers	Visual site inspections / observations	KazAvtoZhol with support of contracted qualified third party

³³WHO Global Air Quality Guidelines - particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide, 2021.

<https://www.who.int/publications/i/item/9789240034228>

³⁴Accreditation by a competent accreditation body (Accreditation Certificate of Testing Laboratory, EN ISO 17025) is deemed required

³⁵WHO Environmental Noise Guidelines for the European Region, 2018. <https://www.who.int/europe/publications/i/item/9789289053563>

Topic	Parameters to be monitored / Limit values (where applicable)	Location(s)	Frequency	Method	Responsibility
Waste management	- Volume of waste generated during maintenance (by waste stream) - Solid maintenance waste handling and disposal facilities - Volume of maintenance waste re-used - Volume of maintenance waste recycled (by waste stream) - Volume of maintenance waste disposed-off to landfill - Welfare facilities for wastewater / sewage collection and sewage disposal - Hazardous maintenance wastes management	Along the whole road alignment	Monthly	- Continuous visual site inspections/observations of waste management requirements. - Review of waste transfer notes.	KazAvtoZhol with support of contracted Maintenance Contractor(s)
Chemicals and hazardous substances	- Number of spills/leaks of hazardous materials - Number of pollution events (e.g. surface water, soil) due spills/leaks of hazardous materials	Along the whole road alignment	Quarterly	Review of incident reports	KazAvtoZhol with support of contracted Maintenance Contractor(s)
Social Monitoring					
Labour and employment issues	- All required training has been provided to all maintenance/third-party contractor employees depending on the activities they will perform. - All maintenance/third party contractor employees have been provided with a copy of their contract prior to commencing work. - No maintenance/third party contractor employees are minors. - Percentage of maintenance contractor workforce employed from local municipalities (for large maintenance jobs).	Along the whole road alignment	Monthly	- Audit of maintenance/third-party contractor training records. - Audit of maintenance/third-party contractor employment records.	KazAvtoZhol
Occupational health and safety	- Number of near misses reported by maintenance/third party contractor workforce. - Number of lost time injuries amongst maintenance/third party contractor workforce. - Number of fatalities amongst maintenance/third party contractor workforce.	Whole road alignment	Monthly	Audit of maintenance/third-party contractor OHS statistics and incident reports.	KazAvtoZhol

Topic	Parameters to be monitored / Limit values (where applicable)	Location(s)	Frequency	Method	Responsibility
	- Number of traffic accidents involving maintenance/third party contractor employees.				
Community health, safety and security	- Number of traffic accidents or other road safety incidents. - Number of fatalities due to traffic accidents or other road safety incidents. - Number of traffic accidents on the road alignment involving livestock. - Number of traffic accidents on the road alignment involving agricultural machinery. - Trends in community grievances, including in relation to traffic, safety, noise, air quality and waste.	Whole road alignment	Quarterly	- Review of Community Grievance Register - Review of accident reports	KazAvtoZhol
Emergency response	- Number of emergencies - Number of emergency drills held.	Whole road alignment	Quarterly	- Review incident reports. - Review emergency drill records.	KazAvtoZhol

The indicative costs of the instrumental monitoring actions as proposed in the previous Table are presented below.

Table 9 - Indicative estimate of instrumental monitoring costs

Phase	Topic	Unit Cost [EUR]	Number of units (approximate)*)	Total Cost [EUR]	Total Cost by Phase [EUR]	Assumptions / comments
Pre-construction (one-time)	Air quality	100	20	2,000		
	Soil quality	300	10	3,000		
	Sub-total (one time mission)			5,000	5,000	Pre-construction
Construction phase (34 months period)	Air quality	100	10	1,000		Quarterly during construction
	Soil quality	300	10	3,000		Quarterly during construction
	Noise	100	10	1,000		Quarterly during construction
	Sub-total (monthly)			5,000	5,000	
	Sub-total (for the construction phase)			238,000	170,000	Construction (total 34 months)
Pre-construction and construction (TOTAL):					175,000	
Phase	Topic	Unit Cost [EUR]	Number of units (approximate)**)	Total Cost [EUR]	Total Cost by Phase [EUR]	Assumptions / comments
Operational phase (annually)	Air quality	100	15	1,500		Quarterly
	Soil and water quality	300	20	6,000		Quarterly
	Noise	100	20	2,000		Quarterly
	Sub-total			9,500	38,000	Annually
Operation (annual cost, TOTAL):					38,000	

*) The number/ location of units need to be further identified and confirmed by the Supervision Consultant

**) The number/ location of units need to be further identified and confirmed by KazAvtoZhol

8 Indicative Cost Estimate for Implementation of the ESMP

8.1 Key Management Actions and associated Indicative Cost Estimate

The indicative costs of the minimum mitigation and control measures recommended in this ESMP are presented in the Table below.

Table 10 - Summary of key E&S management actions and associated indicative cost

Topic	Mitigation measures / Management Plan (MP)	Contractor's Responsibility (D and/or I) ³⁶	Target / Indicator	Indicative cost of mitigation (EUR) ³⁷
Pre-construction and Construction phases – responsibility of Contractor(s)				
Air Quality	- Mitigation as per Section 4.2.4.2 - MP: Air Quality Monitoring Plan	D&I	- Air Quality Monitoring Plan and proposed monitoring and mitigation measures for the pre-construction phase are developed, and approved and implemented, where needed. - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for preparation of the respective MP: 3,000 EUR - Estimates of instrumental measurements – 36,000 EUR (Table 9) - Other costs included in the Project budgets of each party, and ESHS management costs.
Soil management and erosion control	- Mitigation as per Sections 4.2.4.3-4.2.4.4 - MP: Topsoil Management Plan and Soil Quality Monitoring Plan	D&I	- Topsoil Management Plan is developed and approved prior to construction commencing. - Soil Quality Monitoring Plan is developed and approved prior to construction commencing. - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for preparation of the respective MP: 5,000 EUR - Estimates of instrumental measurements - 105,000 EUR (Table 9) - Other costs included in the project budgets of each party, and ESHS management costs.

³⁶ D: Development, I: Implementation

³⁷ This is based on the ESIA Consultant's assumptions and prepared for indicative purposes only.

Topic	Mitigation measures / Management Plan (MP)	Contractor's Responsibility (D and/or I) ³⁶	Target / Indicator	Indicative cost of mitigation (EUR) ³⁷
Pre-construction and Construction phases – responsibility of Contractor(s)				
Spoil management	- Mitigation as per Section 4.2.4.4 - MP: Spoil Management Plan	D&I	- Spoil Management Plan is developed and approved prior to construction commencing. - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for preparation of the respective MP: 3,000 EUR - Other costs included in the project budgets of each party, and ESHS management costs.
Construction noise	- Mitigation as per Section 4.2.4.5 - MP: Construction Noise Management Plan	D&I	- Construction Noise Management Plan is developed and approved prior to construction commencing. - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for preparation of the respective MP: 3,000 EUR - Estimates of instrumental measurements – 34,000 EUR (Table 9) - Other costs included in the project budgets of each party, and ESHS management costs.
Biodiversity	- Mitigation as per Section 4.2.4.8 - MP: Biodiversity Management Plan (BMP)	I	- BMP is update and aligned with the Project's Detailed Design(s), if necessary. - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for update of BMP: 25,000 EUR, if needed - Other costs included in the project budgets of each party, and ESHS management costs.
Chemicals and hazardous substances	- Mitigation as per Section 4.2.4.4 - MP: Hazardous Materials Management Plan and Spill Prevention and Response Plan	D&I	- Hazardous Materials Management Plan is developed and approved prior to construction commencing. - Spill Prevention and Response Plan is developed and approved prior to construction commencing. - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for preparation of the respective MP: 6,000 EUR - Other costs included in the project budgets of each party, and ESHS management costs.
Waste management	- Mitigation as per Section 4.2.4.6 - MP: Waste Management Plan	D&I	- Waste Management Plan is developed and approved prior to construction commencing. - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for preparation of the respective MP: 3,000 EUR - Other costs included in the project budgets of each party, and ESHS management costs.

Topic	Mitigation measures / Management Plan (MP)	Contractor's Responsibility (D and/or I) ³⁶	Target / Indicator	Indicative cost of mitigation (EUR) ³⁷
Pre-construction and Construction phases – responsibility of Contractor(s)				
Site reinstatement	- Mitigation as per Section 4.2.4.1 - MP: Site Reinstatement Plan	D&I	- Site Reinstatement Plan is developed and approved prior to construction commencing. - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for preparation of the respective MP: 3,000 EUR - Other costs included in the project budgets of each party, and ESHS management costs.
Labour management	- Mitigation as per Section 4.2.5.1 - MP: Labour Management Plan (LMP)	I	- LMP is updated and aligned with the Project's Detailed Design(s), if necessary.(updated LMP shall be approved by the EBRD). - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for update of LMP: 3,000 EUR, if needed - Other costs included in the project budgets of each party, and ESHS management costs.
Employment issues	- Mitigation as per Section 4.2.5.2 - MP: Local Employment Programme	D&I	- Local Employment Programme is developed and approved by the EBRD, prior to construction commencing. - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for preparation of the respective MP: 3,000 EUR - Other costs included in the project budgets of each party, and ESHS management costs.
Supply chain	- MP: Supply Chain Management Plan (as per Section 4.2.5.3)	D&I	- Supply Chain Management Plan is developed and approved prior to construction commencing. - All specified actions and measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for preparation of the respective MP: 3,000 EUR - Other costs included in the project budgets of each party, and ESHS management costs.
Occupational health and safety	- Mitigation as per Section 4.2.5.4 - MP: Health and Safety Management Plan	D&I	- Health and Safety Management Plan is developed and approved prior to construction commencing. - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for preparation of the respective MP: 3,000 EUR - Other costs included in the project budgets of each party, and ESHS management costs.

Topic	Mitigation measures / Management Plan (MP)	Contractor's Responsibility (D and/or I) ³⁶	Target / Indicator	Indicative cost of mitigation (EUR) ³⁷
Pre-construction and Construction phases – responsibility of Contractor(s)				
Emergency preparedness and response	- Mitigation as per Section 4.2.5.5 - MP: Emergency Preparedness and Response Plan	D&I	- Emergency Preparedness and Response Plan is developed and approved prior to construction commencing. - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for preparation of the respective MP: 3,000 EUR - Other costs included in the project budgets of each party, and ESHS management costs.
Community health, safety and security	- Mitigation as per Section 4.2.5.6 - MP: Community Health and Safety Plan	D&I	- Community Health and Safety Plan is developed and approved prior to construction commencing. - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for preparation of the respective MP: 3,000 EUR - Other costs included in the project budgets of each party, and ESHS management costs.
Cultural heritage	- Mitigation as per Section 4.2.5.7 - MP: Cultural Heritage Management Plan		- Cultural Heritage Management Plan is developed and approved prior to construction commencing. - Chance Find Procedure (CFP) is developed and approved prior to construction commencing. - All specified mitigation measures are implemented effectively throughout construction.	- Cost for preparation of the respective MP CFP: 5,000 EUR - Other costs included in the project budgets of each party, and ESHS management costs.

Topic	Mitigation measures / Management Plan (MP)	Contractor's Responsibility (D and/or I) ³⁶	Target / Indicator	Indicative cost of mitigation (EUR) ³⁷
Pre-construction and Construction phases – responsibility of Contractor(s)				
Traffic management	- Mitigation as per Section 4.2.4.7 - MP: Traffic Management Plan	D&I	- Traffic Management Plan is developed and approved prior to construction commencing. - Optimal construction organization/methods and measures and control are established to ensure suitable access arrangements and connectivity for local roads users to minimise the temporary severance effect due to Project construction along the road alignment. Where reasonably practicable, appropriate measures are established to ensure the local communities, economy and transport networks can continue to operate effectively or, otherwise alternative measures are identified to maintain continued public access to the road and local roads in the vicinity of the construction sites. - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	- Cost for preparation of the respective MP: 8,000 EUR - Other costs included in the project budgets of each party, and ESHS management costs.

Topic	Mitigation measures / Management Plan (MP)	Responsibility (D&I, A or M) ³⁸	Target / Indicator	Indicative cost of mitigation (EUR) ³⁹
Operational phase (annually)				
Air Quality (pollution prevention)	- ESMS of KazAvtoZhol (respective EHS procedures)	D&I: KazAvtoZhol/ Maintenance Contractor. A: Lenders M: KazAvtoZhol	- Effective mitigation of air pollution risk due to traffic emissions of pollutants and dust.	- Estimates of instrumental measurements - 6,000 EUR per year (Table 9).
Soil and water quality (pollution prevention)	- ESMS of KazAvtoZhol (respective EHS procedures)	D&I: KazAvtoZhol/ Maintenance Contractor. A: Lenders M: KazAvtoZhol	- Effective mitigation of water and soil pollution risk due to traffic emissions of pollutants.	- Estimates of instrumental measurements – 24,000 EUR per year (Table 9).
Operational noise	- ESMS of KazAvtoZhol (respective EHS procedures)	D&I: KazAvtoZhol/ Maintenance Contractor. A: Lenders M: KazAvtoZhol	- Effective protection against traffic noise throughout operation of the road.	- Estimates of instrumental measurements – 8,000 EUR per year (Table 9).
Biodiversity	- ESMS of KazAvtoZhol (respective EHS procedures)	D&I: KazAvtoZhol/ Maintenance Contractor. A: Lenders M: KazAvtoZhol	- All specified mitigation measures are implemented effectively throughout the maintenance project.	Maintenance and operations costs for waste management included in annual budget of KazAvtoZhol and Maintenance Consultant.
Waste management	- ESMS of KazAvtoZhol (respective EHS procedures)	D&I: KazAvtoZhol/ Maintenance Contractor. A: Lenders M: KazAvtoZhol	- Sound waste management established throughout operation of the road.	Maintenance and operations costs for waste management included in annual budget of KazAvtoZhol and Maintenance Consultant.
Labour management	ESMS of KazAvtoZhol	D&I: KazAvtoZhol/ Maintenance Contractor. A: Lenders M: KazAvtoZhol	All specified mitigation measures are implemented effectively throughout the maintenance project.	Costs for labour management included in annual budget of KazAvtoZhol and Maintenance Consultant.
Employment issues	ESMS of KazAvtoZhol	D&I: KazAvtoZhol/ Maintenance Contractor. A: Lenders M: KazAvtoZhol	All specified mitigation measures are implemented effectively throughout the maintenance project.	Cost for employment issues included in annual budget of KazAvtoZhol and Maintenance Consultant.

³⁸ D: Development, I: Implementation, A: Approval, M: Monitoring of effective implementation of required control/mitigation measures.

³⁹ This is based on Consultant's assumptions and prepared for indicative purposes only.

Topic	Mitigation measures / Management Plan (MP)	Responsibility (D&I, A or M) ³⁸	Target / Indicator	Indicative cost of mitigation (EUR) ³⁹
Operational phase (annually)				
Occupational health and safety	ESMS of KazAvtoZhol (respective EHS procedures)	D&I: KazAvtoZhol/ Maintenance Contractor. A: Lenders M: KazAvtoZhol	All specified mitigation measures are implemented effectively throughout the maintenance project.	Maintenance and operations costs for OHS included in annual budget of KazAvtoZhol and Maintenance Consultant.
Emergency preparedness and response	ESMS of KazAvtoZhol (respective EHS procedures)	D&I: KazAvtoZhol/ Maintenance Contractor. A: Lenders M: KazAvtoZhol	All specified mitigation measures are implemented effectively throughout the maintenance project.	Maintenance and operations costs for emergency preparedness and response included in annual budget of KazAvtoZhol and Maintenance Consultant.
Community health, safety and security	ESMS of KazAvtoZhol (respective EHS procedures)	D&I: KazAvtoZhol/ Maintenance Contractor. A: Lenders M: KazAvtoZhol	- Community Health and Safety Plan is developed and approved prior to construction commencing. - All specified mitigation measures are implemented effectively throughout construction. - All monitoring actions are implemented effectively throughout construction.	Maintenance and operations costs for community health, safety and security included in annual budget of KazAvtoZhol and Maintenance Consultant.

ANNEXES

Annex I - Typical Outline / Structure of a Management Plan

1. Objective and Scope
2. Legal Requirements
 - Applicable IFI Environmental and Social requirements / standards and procedures
 - Regulatory framework of Kazakhstan, standards and guidelines applicable
3. Roles and Responsibilities
 - Responsible parties
 - Organisation / key personnel, organisational chart
 - Roles and responsibilities for implementation of the MP, for each key personnel
 - Reporting lines and schedule
 - Training programme
4. Key Receptors
 - Sensitive receptors identified throughout Project planning (design and ESIA)
5. Key Sources of Risks
 - Source of risks identified throughout Project planning (design and ESIA)
6. Management Actions / Mitigation Measures
 - Detailed site-specific measures that will be implemented to mitigate the impacts / risks
7. Monitoring
 - Inspection schedule and checklist
 - Corrective action plan

Appendices, where necessary

Note: The above is a generic Management Plan structure. Each MP will include specific aspects for the topic considered.