SUPPLEMENTARY INITIAL ENVIRONMENTAL EXAMINATION REPORT

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CAREC Corridors 1 and 3 Connector Road, Section 2B Epkin-Dyikan [Bashkuugandy], Km: 89+500 – 159+200 Project, Engineering and Construction Supervision of Additional Access Road Sections

Table of Contents

TABLES

Abbreviations

ADB	-	Asian Development Bank
HIV	-	Human Immunodeficiency Virus
PIU	-	Project Implementation Group
RMC	-	Road Maintenance Company
SIEER	-	Supplementary Initial Environmental Examination Report
STD	-	Sexually transmitted disease
LAR	-	Land Acquisition and Resettlement
km	-	kilometer
KR	-	Kyrgyz Republic
CSC	-	Construction Supervision Consultant
AP	-	Affected Person
MOTC	-	Ministry of Transport and Communications
MNRETS KR	-	Ministry of Natural Resources, Environment and Technical Supervision
NTAETS	-	Naryn Territorial Administration for Environmental and Technical Safety
EIA	-	Environmental Impact Assessment
SSEMP	-	Site-Specific Environmental Management Plan
RAP	-	Resettlement Action Plan
PCU	-	Passenger Car Unit
ROW	-	Right-of-Way
RP	-	Resettlement Plan
EMP	-	Environmental Management Plan
IEE	-	Initial Environmental Examination
SA	-	Social Assessment
AIDS	-	Acquired Immune Deficiency Syndrome
TOR	-	Terms of Reference
TA	-	Technical Assistance
CAREC	-	Central Asia Regional Economic Cooperation

SUMMARY.

1. The Government of the Kyrgyz Republic has requested the Asian Development Bank (ADB) to identify, formulate and prepare a follow-on loan and/or grant for the rehabilitation of the CAREC Corridors 1 and 3 Connector Road. This Supplementary Initial Environmental Examination Report (SIEE) has been prepared for the project “Additional sections of access roads for road repairment and disbursement of savings under the CAREC Corridors 1 and 3 Connector Road Project, Section 2B, Epkin – Dyikan [Bashkuugandy] Road [km 89+500 – km 159+200]".
2. The project “Additional sections of access roads for road repairment and disbursement of savings under the CAREC Corridors 1 and 3 Connector Road Project, Section 2B, Epkin – Dyikan [Bashkuugandy] Road [km 89+500 – km 159+200]” is aimed at improving local roads approaching the project.

3. As part of this project, road sections with a total length of 11.0 km were surveyed in 4 different locations:
   - Kuiruchuk - Shilvili access road (1.5 km), Kyzart aiyl district, Jumgal district - IV category (Category IV: 13 meters from the road center line);
   - access road to Jany-Aryk village from the Epkin-Bashkuugandy project road (3 km), Kyzart aiyl district, Jumgal district - IV category;
   - access road to Lama village (6.0 km), Jumgal aiyl district, Jumgal district – IV category;
   - access road to Ak-Chiy village from the project road (0.5 km), Cholpon aiyl district, Kochkor district - IV category **(Law "About Highways", No. 72 of 1998 (as amended in 2014)**:

   1) This law establishes the economic, legal foundations and principles of management of all roads in the Kyrgyz Republic. It includes the organizations and road authorities in the transport and highway sector that ensure the development, repair, and operation of roads. In addition, it defines the rights, duties and responsibilities of the owners, holders and users of roads.

   2) Article 3 of this law provides the following definition of the right-of-way and establishes its size depending on the category of the road:

   - Category 1 - 32 meters from the road centerline;
   - Category 2 - 16 meters from the road centerline;
   - Category 3 - 14 meters from the road centerline;
   - Category 4 - 13 meters from the road centerline;
   - Category 5 - 12 meters from the road centerline;
   - Chapter 4 regulates issues of road repair and maintenance.

   Public consultations were held on environmental protection issues, in which residents of the aforementioned villages, as well as residents of surrounding villages, participated.

4. The Supplementary Initial Environmental Examination Report (SIEEE) for the Epkin (89 km) to Bashkuugandy (159 km) section has been prepared based on the IEE report cleared for disclosure by ADB in December 2020, a detailed design developed for the proposed road sections, additionally obtained reconnaissance data at the site, monitoring data (noise impact, vibration, air quality, surface water quality) and etc. Public consultations on environmental

safeguards were held with the community, where residents of the Ak-Chiy, Lama, Kuyruchuk, and Jany-Aryk villages, as well as residents from surrounding villages, participated.

5. This SIEE report is a supplement to the IEE prepared within the framework of the CAREC Corridors 1 and 3 Connector Road Project, Section 2B, Epkin – Dyikan [Bashkuugandy] Road [km 89+500 – km 159+200] and should be considered in conjunction with the main IEE, since these sections adjoin or are located in close proximity to the main Epkin-Dyikan [Bashkuugandy] road section.

6. According to the classification of the ADB Safeguard Policy Statement, the main CAREC Corridors 1 and 3 Connector Road Project, Section 2B, Epkin – Dyikan [Bashkuugandy] Road [km 89+500 – km 159+200] was classified as category B and this Supplementary Initial Environmental Examination Report (SIEE) for additional sections of access roads is its supplement.

7. The SIEE report includes general information about the Kyrgyz Republic, relevant legislation and the project area. It provides a detailed description of the proposed project and describes the current environmental conditions in the project area. The report identifies various environmentally sensitive impact receptors (mosques, residential buildings, school, etc.), defines appropriate mitigation measures to reduce the expected impact to the technically acceptable minimum, and a Site-Specific Environmental Management Plan (SSEMP) has been prepared.

8. The majority of impacts are expected to be limited to the Project construction phase due to possible increased levels of dust, gas emissions and noise impact. In addition, there is a risk of emergency incidents associated with possible spills of harmful substances. The following types of impacts have been identified: (i) noise impacts, emissions of air pollutants, and vibration, which are particularly important within populated areas near additional roads and in areas where sensitive receptors are located, such as schools, cemeteries, mosques and etc.; (ii) impacts to watercourses and rivers; (iii) impacts to soil and vegetation, including roadside tree planting near additional roads, due to site clearance activities; (iv) impacts resulting from rehabilitation of drainage structures. In addition, the impacts were divided into the following groups: impacts during the design phase, impacts during the construction phase and impacts during the operational phase.

9. Mitigation measures for all impacts were developed and included in the Site-Specific Environmental Management Plan (SSEMP). In addition, before commencing work, the Contractor will provide the Engineer with information covering the following aspects: (i) dust management; (ii) disposal of waste and unsuitable soil; (iii) instructions for the temporary placement of machinery and equipment at the construction site; and (iv) the method statements for artificial structures.

I. INTRODUCTION.

HEADLINE INFORMATION.

10. Due to the fact that the new additional roads under consideration are adjacent to or located in close proximity to the main part of the Epkin-Dyikan [Bashkuugandy] project road, it was necessary to prepare a SIEE, which was developed by the Consultant, reviewed by ADB and agreed upon by the MOTC KR.

11. It is planned to carry out road repairment of 4 road sections within the existing boundaries of the road without changing the existing road category, without widening the roadway and alignment. According to the Resolution of the Cabinet of Ministers of the Kyrgyz Republic "Regulations on the issuance of documents for design, construction and other changes to real estate objects and assessment of the conformity of commissioned completed construction projects in the Kyrgyz Republic" (No. 240 dated May 10, 2024) does not require a State examination of the developed detailed project for 4 road sections. In turn, the absence of the need for a State technical examination of the detailed design eliminates the need for a State environmental examination.

12. The following provides general information about the Kyrgyz Republic, the Project and the environment within the Project area.

13. The Kyrgyz Republic is a landlocked mountainous country, and regional trade is heavily dependent on road transport, which dominates the Kyrgyz transport system and heavily relies on road transport. The government of the Kyrgyz Republic asked the Asian Development Bank (ADB) to assist in financing the implementation of the CAREC Corridors 1 and 3 Connector Road Section 2B Epkin (Km: 89+500) - Dyikan (Bashkugandy) (Km: 159+200) Project (Fig.1).

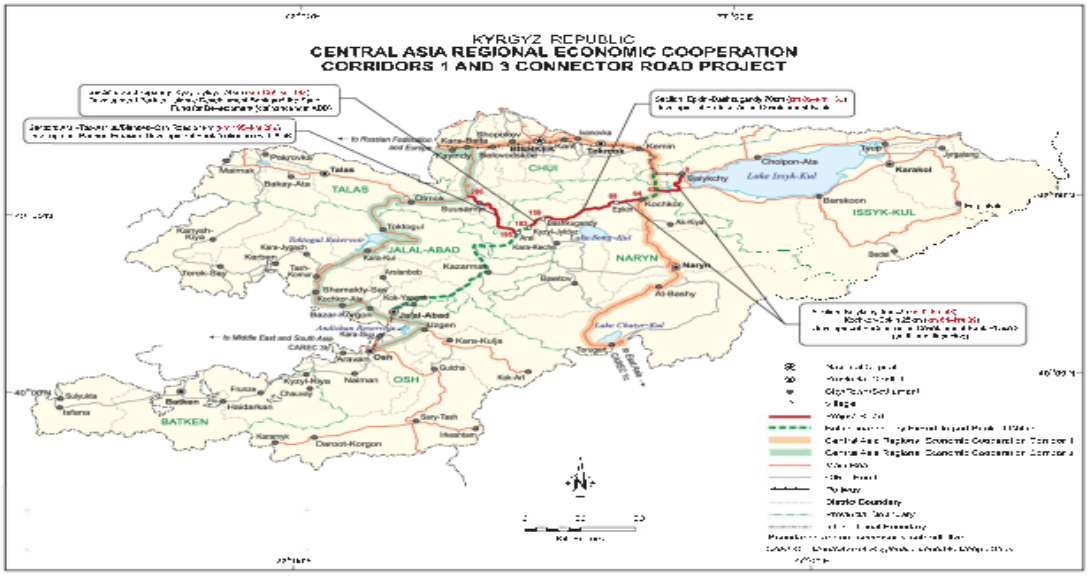


Figure 1. CAREC Corridors 1 and 3 Connector Road.

14. The Epkin (89+500km)–Dyikan (Bashkuugandy) (159+200km) project road of the CAREC Corridors 1 and 3 Connector Road, is part of the North-South Economic Cooperation Corridor, which connects Osh, Batken and Jalal-Abad in the south with Naryn and Issyk-Kul in the north.

Recognizing the positive effect of infrastructure development, local communities living near the project road have submitted requests for the construction of additional roads connecting their respective settlements. This demonstrates the wider effect of the project on local development, driving demand for increased connectivity and accessibility within the region.

15. The Epkin (89 km) to Bashkuugandy (159 km) section of the project road is 70 km from east to west. In general, the present section follows the existing road from Epkin to Bashkuugandy (km 159). The entire section is located in the Naryn region and crosses the small western part of the Kochkor district (Kochkor center); while most of it is located in the Jumgal district (Chaek center).

16. The western parts of the Kochkor district are occupied by vast areas of agricultural land related to agriculture and livestock raising. The road rises to approximately 2600 m, which is the highest point on the Kyzart pass, after which it descends to the Jumgal district. Most of it appears to be the boundary between the Kochkor and Jumgal districts, as well as the demarcation of the drainage basins for the Chu and Jumgal rivers. This high level on the road is a pass level between mountain ranges running parallel from east to west from the Naryn region. The terrain is characterized as undulating and mountainous, covered with grass suitable for grazing.

17. The development of the transport sector is very important for the mainland Kyrgyz Republic, as it will help provide cost-effective access to regional and domestic markets. In addition, the development of the transport sector will help create jobs and develop service sectors throughout the country.

18. There will be an environmental impact as a result of the additional road improvements, but this will be temporary and will impact while construction work is ongoing at site as most of the construction work is planned to perform along the existing right-of-way. The impact will include, but is not limited to:

    (i) noise impact, emissions of pollutants into the air, as well as vibration, which is especially important within populated areas near this road;
    (ii) impact on culverts (drainage culverts running along the road);
    (iii) impact on soil and vegetation, including the Project roadside tree planting, due to site clearance activities;

19. In addition, impacts were divided into the following groups: impacts during the design phase, impacts during the construction phase, and impacts during the operational phase. A detailed description of the impacts is presented in the section “Environmental Impact Classification and Mitigation Measures”. In accordance with ADB policy, a Site-Specific Environmental Management Plan (SSEMP) has been prepared because all expected impacts are known, ensuring that localized impacts are effectively managed and that ADB's sanitary and phytosanitary requirements are met.

20. The Kuiruchuk – Shilvili road section, 1.5 km long, is located in the Kyzart aiyl district of the Jumgal district. The road category is IV and starts from km: 143+020 (LHS) of the project road. Currently there are 2 drainage and irrigation water pipelines. The road to Shilvili runs through Kuyruchuk village and this section is unpaved. Along part of the road there are houses and barns, and a sheep shelter for local residents. The beginning of the section is an asphalt road in Kuyruchuk village, the end of the section is an irrigation canal. The lands on the right and left

sides of the road are used by locals mainly for agricultural purposes. Cultivated crops on the plots are mainly represented by wheat, fodder and industrial crops (Fig. 2).

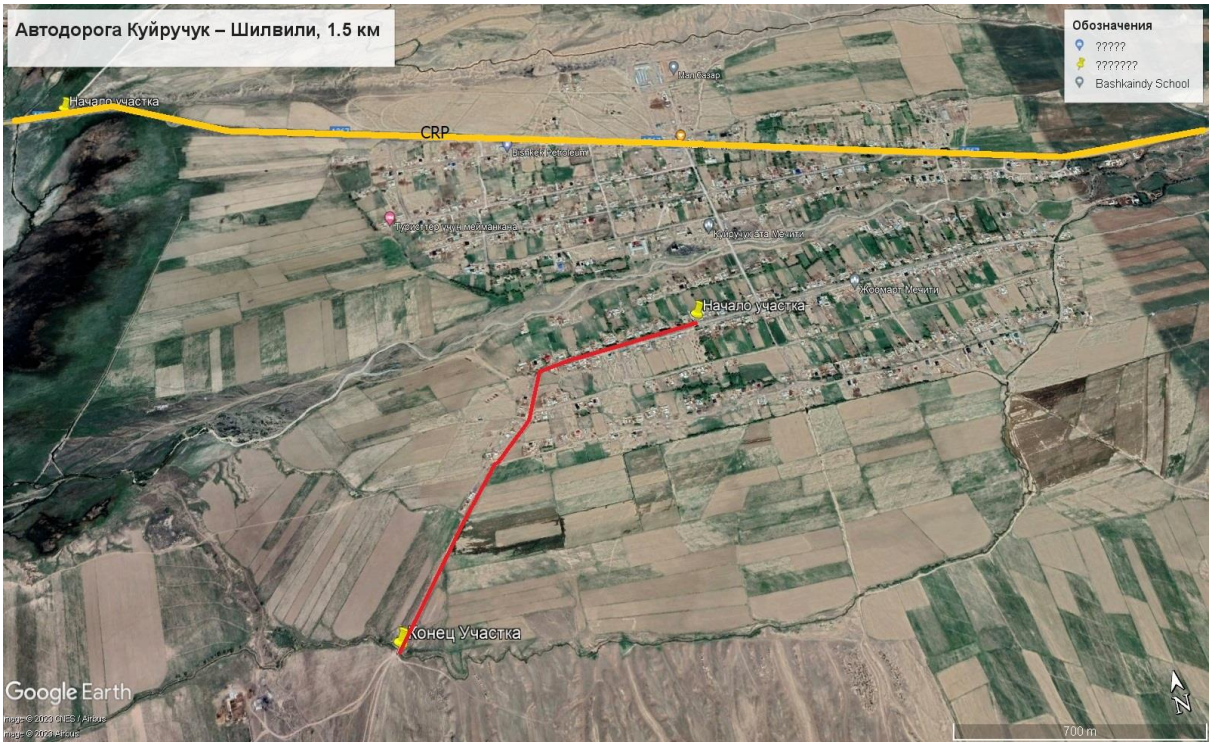


Figure 2. Kuyruchuk – Shilvili access road section, 1.5 km long.

21. Among the alternative options, the "no-action" scenario implies that the road will remain in its current condition without any repair work. This would result in adverse environmental effects (including dust, noise, and vibration generation) and negative social consequences for nearby communities. However, implementing a full-scale reconstruction of this road section would prevent dust, noise, and vibration pollution while enhancing accessibility for residents—both to the project road and to the connecting route to the Son-Kul Lake.

22. There are no sensitive receptors in this additional section area (school, mosque, and hospital) but there are residential buildings that are identified as sensitive receptors.

23. The access road to Jany-Aryk village from the Project Road, 3.0 km long, is located in Kyzart aiyl district of the Jumgal district. The road category is IV and starts from km: 138+060 (LHS) of the project road. Currently there are 7 drainage and irrigation water pipelines. This is the connecting road between Jany-Aryk village and the project road. The section is unpaved. The beginning of the section is the Epkin-Bashkuugandy Project Road; the end of the section is to the asphalt road in Jany-Aryk village. The designed road mainly runs in a sensitive receptor, and along the road there are houses and barns of local residents (Fig. 3).

Figure 3. Access road to Jany-Aryk village, 3.0 km long.

24. Among the alternative options, the "no-action" scenario implies that the road will remain in its current condition without any repair work. This would result in adverse environmental effects (including dust, noise, and vibration generation) and negative social consequences for nearby communities. However, implementing a full-scale reconstruction of this road section would prevent dust, noise, and vibration pollution while enhancing accessibility for residents to the project road.

25. The sensitive site in this area includes a mosque located 80m northwest of the designed road and residential buildings.

26. Access road to Lama village (Jumgal - Lama), with a length of 6.0 km, is located in the Jumgal aiyl district of the Jumgal district. The road category is IV and starts from km: 128+010 (RHS) of the project road. Currently there are 3 drainage and irrigation water pipelines. The section is unpaved. The beginning of the section is the Epkin-Bashkuugandy Project Road (Jumgal village), the end of the section is Lama village. This road goes mainly outside the settlement along the adyr terrain; there are houses and barns of local residents from Jumgal and Lama villages along the road (Fig. 4).

Figure 4. Access road to Lama village (Jumgal – Lama), 6.0 km long.

27. Among the alternative options, the "no-action" scenario implies that the road will remain in its current condition without any repair work. This would result in adverse environmental effects (including dust, noise, and vibration generation) and negative social consequences for nearby communities. However, implementing a full-scale reconstruction of this road section would prevent dust, noise, and vibration pollution while enhancing accessibility for residents to the project road.

28. There are no sensitive objects in this additional section area (school, mosque, and hospital) but there are residential buildings that are identified as sensitive receptors.

29. The access road section to Ak-Chiy village, 0.5 km long, is located in the Cholpon aiyl district of the Kochkor district outside the territory of populated areas. The road category is IV and starts from km: 91+900 (LHS) of the project road. The section is unpaved. The beginning of the section is the Epkin-Bashkuugandy Project Road, the end of the section is the beginning of Ak-Chiy village. The road is crossed by a stream and there are 3-4 house buildings and barns along the road (Fig. 5).

Figure 5. The access road section to Ak-Chiy village, 0.5 km long.

30. Among the alternative options, the "no-action" scenario implies that the road will remain in its current condition without any repair work. This would result in adverse environmental effects (including dust, noise, and vibration generation) and negative social consequences for nearby communities. However, implementing a full-scale reconstruction of this road section would prevent dust, noise, and vibration pollution while enhancing accessibility for residents to the project road.

31. The sensitive object in this section area is a mosque located 20 m to the right of the project road and a secondary school 100-110 m to the left of the project road.

32. Therefore, among the alternatives assessed for the designated road sections requiring major rehabilitation, implementing the planned repairs proves to be the most effective option. This will minimize or eliminate environmental effects and contribute to the socioeconomic development of nearby communities.

33. Field survey to study the state of the environment on additional sections of access roads for the road repairment and disbursement of savings under the CAREC Corridors 1 and 3 Connector Road Project, Section 2B, Epkin – Dyikan [Bashkuugandy] Road [km 89+500 – km 159+200] were carried out in 2023. During the survey, a desk study was carried out of the legal and regulatory framework, project description and initial environmental data. Available literature was studied, design and statistical data, maps and aerial photographs were collected. Comprehensive site visits to collect data on the physical and biological environment were conducted in the autumn 2023 and spring 2024. Based on field observations and studies, environmental impacts were identified and appropriate mitigation measures were prepared.

34. There are no channels on existing roads to drain surface water. Simple earthen channels need to be constructed to drain surface water on both sides of the road. Drainage structures entail the need to construct embankments in the same places. There is no need for additional expropriation of all roads proposed to be improved.

35. Due to the fact that the Project involves road repairment of the existing road, and taking into account that there are no specially protected natural areas within the Project impact area, the resulting environmental impacts are mainly limited to the construction phase. Based on the data received and further field inspections, the SIEE has been prepared in accordance with the legislation of the Kyrgyz Republic and the ADB's Safeguard Policy Statement.

36. Sensitive receptors located along road sections were identified and basic indicators were measured in the spring 2024.

II. POLITICAL, LEGAL AND ADMINISTRATIVE FRAMEWORKS.

Table 1. Relevant Laws and Regulations Regarding Environmental Impact of Road Projects.

No.	Legislative Act	Number Year of Adoption	Purpose / Content
Basic Provisions of Environmental Legislation.			
1	Constitution of the Kyrgyz Republic	05.05.2021	The earth, its subsoil, airspace, water, forests, flora and fauna, and other natural resources are used, but at the same time are protected. Everyone is obliged to take care of the natural environment, flora and fauna of the state.
2	Concept of Ecological Safety of the Kyrgyz Republic	№506 dtd 23.11.2007	Establishes the basic principles of environmental policy and identifies global, national and local environmental problems; priorities in the field of environmental protection at the national level, as well as tools to ensure environmental safety
3	National Strategy for Sustainable Development of the Kyrgyz Republic for 2013-2017	№11 dtd 21.01.2013	Provides a conceptual framework for sustainable development that addresses the needs of current generations without compromising the needs of future generations.
4	Law of the Kyrgyz Republic "On Environmental Protection"	№53 dtd 16.06.1999	Establishes the basic principles of environmental protection and provides the legal authority to create environmental quality, establish a system of monitoring and control of the environment Among the environmental quality standards and norms authorized under this law are the following relevant to the project: • standards for the use of natural resources; • standards for maximum safe levels of noise, vibration and other hazardous physical impacts. • standards for maximum safe levels of noise, vibration and other hazardous physical impacts. This law establishes requirements for conducting environmental assessments in

			order to prevent possible harmful environmental impacts. It prohibits the financing or implementation of projects related to the use of natural resources without obtaining a positive conclusion from the State Environmental Expertise.
5	Law of the Kyrgyz Republic “On Environmental Expertise”	№54, dtd 1999	It is the main legislation relating to environmental assessment. Its mission is to prevent negative impacts on human health and the environment resulting from economic or other activities and to ensure that such activities comply with the country's environmental requirements.
6	Law of the Kyrgyz Republic “General technical regulations to ensure environmental safety in the Kyrgyz Republic”	№151, dtd 2009	It is used for environmental protection purposes, defines the main provisions of technical regulation in the field of environmental safety and establishes general requirements for ensuring environmental safety in the design and implementation of activities at economic and other activities for all legal entities and individuals.
7	Regulations on the procedure for conducting environmental impact assessments in the Kyrgyz Republic	№ 60 dtd 13.02.2015	Establishes the procedure for assessing the impact of the planned activity on the environment (hereinafter referred to as the IEE). The purpose of the IEE is to prevent and/or mitigate the impact of the planned activity on the environment and related social, economic and other consequences.
8	Regulations on water protection zones and strips of surface water bodies in the Kyrgyz Republic	№271 dtd 7.07.1995	Defines the procedure for establishing water protection zones and strips on water bodies of the Kyrgyz Republic, establishes the regime of economic activity and use of lands that are part of water protection zones and strips, as well as responsibility for their maintenance in proper condition.
9	Law of the Kyrgyz Republic “On Air Protection”	№51 dtd 1999	Regulates relations on the use and protection of atmospheric air.
10	Law of the Kyrgyz Republic “On Production and Consumption Waste”	№89 dtd 2001	Defines the state policy in the field of production and consumption waste management and is designed to help prevent the negative impact of production and consumption waste on the environment and human health when handling them, as well as maximize their involvement in economic turnover as an additional source of raw materials.

11	Law of the Kyrgyz Republic “On the Protection and Use of Flora”	№53 dtd 2001	Establishes the legal basis for ensuring effective protection, rational use and reproduction of flora resources
12	Law of the Kyrgyz Republic “On Fauna”	№59 dtd 1999	Establishes legal relations in the field of protection, use and reproduction of objects of the animal world.
13	Law of the Kyrgyz Republic “On Local Self-Government and Local State Administration”	№101 dtd 2011	Establishes the principles of the organization of local government at the level of administrative-territorial units of the Kyrgyz Republic
14	Law “On access to information under the jurisdiction of State bodies and local self-government bodies of the Kyrgyz Republic”	№213 of December 28, 2006	This law regulates the rights and obligations of government agencies to provide information to the local population in order to achieve transparency of work
15	Resolutions of the Cabinet of Ministers of the Kyrgyz Republic “Regulations on the issuance of documents for design, construction and other changes to real estate objects and assessment of the conformity of commissioned completed construction projects in the Kyrgyz Republic”	№240 dated May 10, 2024	This resolution regulates the requirement for types of work that do not require a state examination of design and estimate documentation when preparing a detailed project. According to this Resolution, a State environmental expertise is not required when carrying out road repairment.
Legislation on land acquisition and involuntary resettlement.			
16	Constitution of the Kyrgyz Republic	2010	Article 12 recognizes the diversity of forms of ownership and guarantees equal legal protection for private, state, municipal and other forms of ownership (Article 12, paragraph 1). Land may be in private, municipal and other forms of ownership, with the exception of pastures, which may not be in private ownership (Article 12, paragraph 5). Property is inviolable. No one may be arbitrarily deprived of their property. The seizure of property by the state against the will of the owner is permitted only by a court decision (Article 12, paragraph 2). The seizure of property for public needs determined by law may be carried out by a court decision with fair and preliminary provision for compensation for the value of this property and other losses caused as a result of alienation (Article 12, paragraph 2).

17	Civil Code	№16 dated May 8, 1996, as amended on May 30, 2013	Determines that a person whose right has been violated may demand full compensation for the damages caused to him, unless otherwise provided by law or a contract in accordance with the law (Article 14, paragraph 1). The Civil Code defines the following damages that are subject to compensation: expenses that the person whose right has been violated has made or will have to make to restore the violated right (Article 14, paragraph 2); loss of or damage to property (Article 14, paragraph 2); lost income that this person would have received under normal conditions of civil turnover if his right had not been violated (lost profit) (Article 14, paragraph 2); compensation for lost profit along with other expenses, at least in the amount of this income to the person who loses land, assets or sources of livelihood.
18	Land Code	№45 dated June 2, 1999, as amended on May 26, 2009	Regulates land relations in the Kyrgyz Republic, the grounds for the emergence, procedure for the exercise and termination of rights to land and their registration, and is also aimed at creating land-market relations in the context of state, communal and private ownership of land and the rational use of land and its protection. The Land Code is the main document regulating land use
19	Law of the Kyrgyz Republic “On transfer (transformation) of land plots”	№145 dated July 15, 2013	The law was developed in accordance with the Land Code of the Kyrgyz Republic, other regulatory legal acts of the Kyrgyz Republic and defines the legal basis, conditions and procedure for the transfer (transformation) of lands from one category to another or from one type of land to another.
20	Law of the Kyrgyz Republic "About highways"	№72 dated June 2, 1998	- (Article 4), public roads are state property, are not subject to sale, and cannot be transferred to private ownership. - (Article 27) determines that without prior permission from the State Automobile Inspectorate and the Ministry of Transport and Communications of the Kyrgyz Republic, the following is prohibited on roads, among other things:

			• roadside trading; • placement of kiosks, pavilions and similar structures, - (Article 23) unauthorized use of lands of roads by illegal users.
21	Regulations on asset valuation		The valuation of assets is carried out on the basis of the Temporary Rules for the Activities of Appraisers and Appraisal Organizations (Government Resolution No. 537 of August 21, 2003), Property Valuation Standards (Government Resolution No. 217 dated April 3, 2006) and other provisions of national legislation.
Legislation on the Protection and Use of Historical and Cultural Heritage.			
22	Law of the Kyrgyz Republic "On the protection and use of historical and cultural heritage"	№91 dated July 26, 1999	Establishes legal norms in the field of protection and use of historical and cultural heritage sites on the territory of the Kyrgyz Republic, representing a unique value for the people. Historical and cultural heritage are historical and cultural monuments associated with historical events in the life of the people, the development of society and the state, works of material and spiritual creativity representing historical, scientific, artistic or other value.

International Conventions and Agreements.

1	UN Framework Convention on Climate Change	2000	Aimed at combating global climate change and its consequences.
2	UNECE Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus)	2001	Aimed at supporting the protection of human rights to a healthy environment for health and well-being, access to information, public participation in decision-making and access to justice in environmental matters.

37. Due to the lack of economic or physical resettlement, no additional funds will be required for compensation payments.

ADB Safeguard Policy Statement.

38. According to the classification of the ADB Safeguard Policy Statement (2009), the project belongs to Category B and does not require a full Environmental Impact Assessment (EIA). As part of ADB policy, it is necessary to prepare an Initial Environmental Examination (IEE). The project categorization, according to the legislation of the Kyrgyz Republic, is not carried

out, however, these documents of the IEE can be considered as a full-fledged document reflecting all the necessary measures aimed at minimizing the impact on the environment due to construction work. According to the Resolution of the Cabinet of Ministers of the Kyrgyz Republic "Regulations on procedure for issue of documents for designing, construction and other changes of real estate objects and assessment of conformity put into operation completed by construction of facilities in the Kyrgyz Republic" (No. 240 dated May 10, 2024), the State Technical Expertise of the detailed project is not required for the planned repairment work of 4 road sections, which in turn, eliminates the need for a State Environmental Expertise.

Projects are assigned one of the following four environmental categories:[1]

- Category A: Projects that are likely to have a significant adverse impact on the environment. In order to take measures to reduce significant impacts, it is necessary to conduct an environmental impact assessment and a simplified EIA.
- Category B: Projects that may have some negative impact on the environment but to a lesser extent and/or significance compared to projects of category A. In order to determine the likelihood of a significant negative impact on the environment, which will serve as the basis for the EIA, it is necessary to carry out a preliminary environmental assessment and a simplified IEE. If the EIA is not needed, the IEE is considered the final environmental examination report.
- Category C: Projects with a low probability of having a negative impact on the environment. EIA and IEE are not required but environmental impacts are also being analyzed.
- Category FI: Projects belong to the FI category if they provide a credit line through a financial intermediary or through an investment in the equity of a financial intermediary. The financial intermediary should apply an environmental management system if all subprojects do not entail a minor impact.

- *Special Environmental Management Plan:* A Site-Specific Environmental Management Plan (SSEMP) shall be prepared, which addresses the potential impacts and risks identified by the environmental assessment. The level of detail and complexity of the SSEMP and the priority of specific measures and actions will be commensurate with the impacts and risks of the project.

- *Public Disclosure:* ADB will post the following safeguard documents on its website to enable affected persons, other interested parties, and the general public to provide meaningful contribution into the design and implementation of the project.

39. The SIEE report will not be submitted to the Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic for the State Environmental Expertise, since it was developed on the basis of a detailed project providing for road repairment of existing roads[2]. However, the developed SIEE is a Supplementary to the IEE of the main project, it shall be considered together with the IEE of the main project.

[1]ADB. 2003. *Environmental Assessment Guidelines*, Manila.

[2] Resolution of the Cabinet of Ministers of the Kyrgyz Republic On Amendments to the Resolution of the Cabinet of Ministers of the Kyrgyz Republic "On Approval of the Regulation on procedure for issue of documents for designing,

Ecological Standards for Environmental Quality.

40. The project will apply the following environmental quality standards during implementation. International standards are also proposed here for comparison with Kyrgyz standards; stricter standards will subsequently be applied as monitoring requirements.

1. Requirements for the air quality (additional standards are presented in the section on Air Quality).

Table 2 Air Quality Standards.

Pollutant	**Maximum Permissible Concentrations (mg/m^3)**	**Average Daily Concentration (mg/m^3)**	**According to international requirements (IFC*)**
Solid particles:			
With silica content > 70%	0.15	0.05	0.01
70-20% (cement, coal, clay, etc.)	0.3	0.1	0.1
< 20% (dolomite, etc.)	0.5	0.15	0.05
Cement dust (calcium oxide > 60%, silica > 20%)	0.5	0.5	0.4
Sulfur dioxide SO_2	0.5	0.05	0.02
Carbon monoxide CO	5	3	0.1
Nitrogen dioxide NO_2	0.085	0.04	0.04
Nitrogen oxide NO	0.40	0.06	0.04
Lead (Pb) and compounds (except tetraethyl)	-	0.0003	0.0002

Source: Sanitary and Hygienic Standards SGN 2.1.6.1338-03 "Maximum permissible concentration (MPC) of pollutants in the atmospheric air of settlements".
* World Health Organization (WHO). WHO guidelines for ambient air quality.

2. Requirements for Noise Exposure Levels.

Table 3 Noise Impact Level Standards (Unit: dBA).

Description of Activity/Category	L_{eq}*		L_{max}**	
	Day	Night	Day	Night
Areas located in close proximity to hospitals and health resorts	45	35	60	50
Areas located in close proximity to residential buildings, clinics, medical centers, nursing homes, holiday vacation centers, libraries, schools, etc.	55	45	70	60
Areas located in close proximity to hospitals and dormitories	60	50	75	65
Recreation areas in hospitals and health resorts	35		50	
Recreation areas in the territories of microdistricts and groups of residential buildings, holiday vacation centers, health resorts, schools, nursing homes, etc.	45		60	

SN 2.2.4/21.8.562-96 "Noise in workplaces, residential premises, public buildings and on the territory of residential development".

construction and other changes of real estate objects and assessment of conformity put into operation completed by construction of facilities in the Kyrgyz Republic" No. 240 dated May 10, 2024.

3. Requirements for Surface Water Quality.

41. The standards are presented in the Table below, based on the Water Legislation of the Kyrgyz Republic (Rules for the Protection of Surface Waters in the Kyrgyz Republic, No. 128 dtd 14.03.2016).

Table 4 Surface Water Quality Standards[3].

	Norm
Hydrogen Ion	6-9
Dissolved Oxygen, DO, mg/l	<4
Sulfate, S, mg/l	<250
Ammonium Nitrogen, NH4-N, mg/l	<3.3
Oil/petroleum and fat, mg/l	<0.05

[3] More than 1,200 ingredients are listed in Kyrgyz legislation.

III. PROJECT DESCRIPTION.

GENERAL.

42. The main CAREC Corridors 1 and 3 Connector Road Project, Section 2B, Epkin – Dyikan [Bashkuugandy] Road [km 89+500 – km 159+200] is aimed at improving transport connectivity and access to markets in the Kyrgyz Republic. The project will result in efficient movement of freight and passenger traffic along CAREC Corridors 1 and 3, improved safety for both road users and pedestrians, and a reduced environmental impact.

43. Main goals:
   (i) to provide safe and comfortable conditions for movement to all road users, namely: motor vehicles, cyclists/motorcyclists and pedestrians, optimized for the intended function of the road and the level of use;
   (ii) to provide the state road administrations (Government) with low-cost operation of the road for the entire service life;
   (iii) to ensure compliance with the standards of road pavement and other relevant norms and/or standards of state road administrations for the road category I;

44. Benefits of the project for the local community:

- Market accessibility and trade revival;
- Market diversification and availability of key goods and services;
- Development of the territory tourist potential;
- New employment opportunities;
- Improving social connections, accessibility and mobility;
- Reduction in prices for agricultural resources such as fertilizers, seeds, and pest control chemicals;
- Other: car maintenance costs, travel time, etc.;

PROJECT TYPE AND CATEGORY.

45. In terms of environmental assessment, the Epkin (km 89+500)–Dyikan (Bashkuugandy) (km 159+200) project was assigned category “B”. This SIEE has been prepared on the basis of a detailed design covering four new sections of additional roads with planned repairment. The total length of roads with planned repairment is 11.0 km. The SIEE is considered as an integral part and supplement to the existing IEE of the main project.

NEED FOR THE PROJECT.

46. The main rehabilitation of Epkin (km 89+500) – Dyikan (Bashkuugandy) (km 159+200) road project will improve the following social and economic indicators of the regions in the Kyrgyz Republic:

- To reduce the cost of passenger and freight transport between the southern and Issyk-Kul and Naryn regions by providing direct access.
- To reduce transport costs by shortening the route and improving road conditions.
- To increase local and international transportation.
- To create additional income opportunities for local residents.

- To create new jobs.
- Good condition of vehicles/Reduced operating costs.

LOCATION.

47. Additional sections of access roads of the Epkin (km 89+500) – Dyikan (Bashkuugandy) (km 159+200) road are located in the Jumgal and Kochkor districts (Figure 6,7). The roads are unpaved, some of them run through small settlements interspersed with agricultural lands. The relief along the entire section can be classified as mountainous and valley with an altitude of 1600-2000 m above sea level.

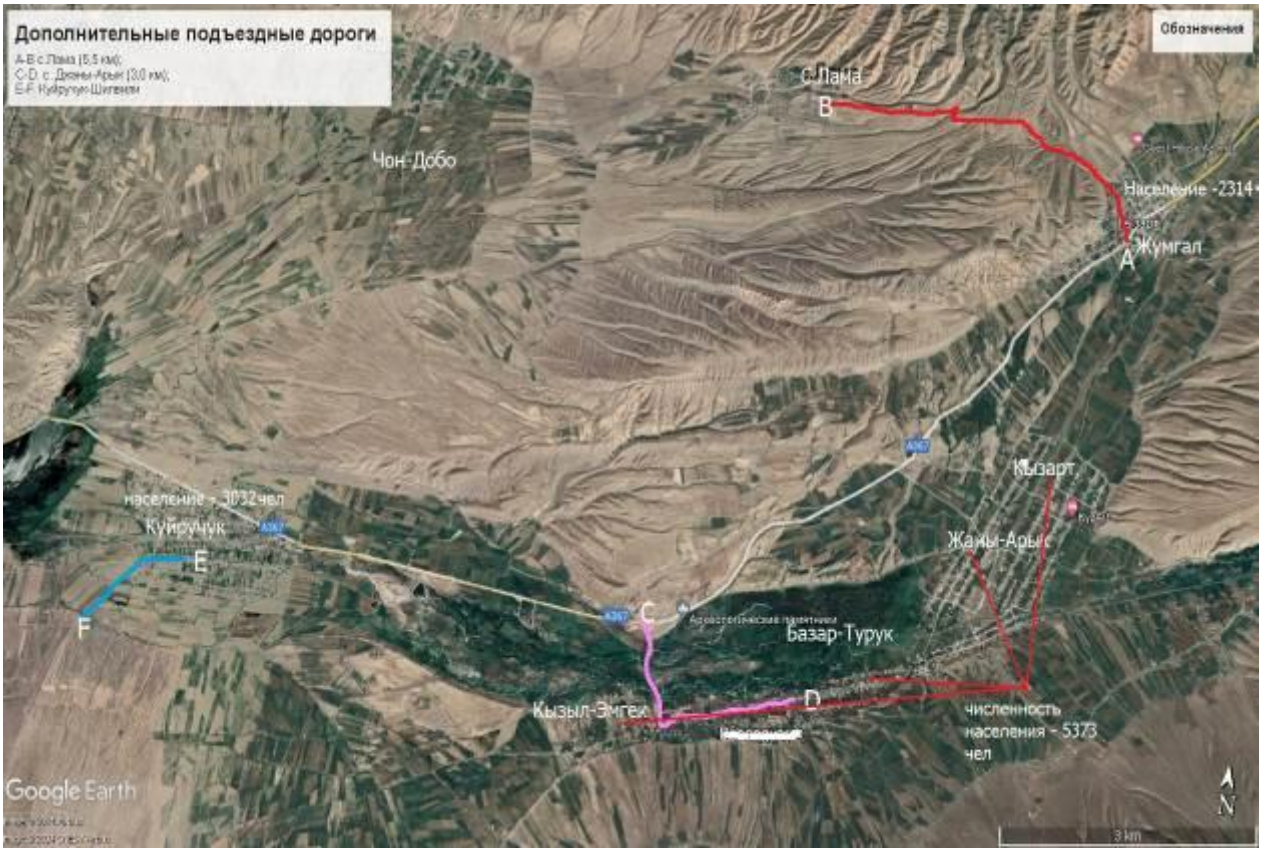


Figure 6: Additional sections of access roads of the Epkin (km 89+500) – Dyikan (Bashkuugandy) (km 159+200) road.

Figure 7: Additional sections of access roads of the Epkin (km 89+500) – Dyikan (Bashkuugandy) (km 159+200) road

Figure 8. Access road to Jany-Aryk village.

Figure 9. Access road to Kuyruchuk-Shilvili v.

Figure 10. Access road to Lama v.

Figure 11. Access road to Ak-Chiy v.

SCOPE OF WORK.

48. The repairment work on the specified road sections is planned to be carried out within the existing boundaries without widening the existing road right-of-way, thus minimizing the impact on the environment.

Table 5. Information on the work scope for access works

№	Village Name	Length (m)	Cut Excavation	Embankment	Subbase (t=15 cm)	Base (t=15 cm)	Upper Shoulder (t=6+4 cm)	Binder Course (W=6m, t=6 cm)	Wearing Course (W=6m, t=4 cm)	Prime Coarse (m^2)
1	Ak-Chiy	500	500	500	645	630	150	180	120	3,000
2	Lama	5500	2,500	5,000	7,095	6,930	1,650	1,980	1,320	33,000
4	Jany-Aryk	3000	1,500	3,000	3,870	3,780	900	1,080	720	18,000
5	Kuyruchuk	1,500	1,000	1,500	1,935	1.890	450	540	360	9,000

6	A) Culvert d=1000 mm in 35 sections (L=10 m, total length=350 m (excluding wingwalls) B) Culvert d=500 mm in 35 sections (L=10 m, total length=350 m (excluding wingwalls) C) R/c chute, total length=10,000 m	

Note: The figures in the table are approximate, the specific quantity will be adjusted according to the site conditions.

PROJECT DETAILS.

The aim of this project is to carry out road repairment of additional road sections as part of the ongoing reconstruction work on the main Epkin (km 89+500) – Dyikan (Bashkuugandy) (km 159+200) road project section. Main objectives of the project are-

(i) to provide safe and comfortable conditions for movement to all road users, namely: motor vehicles, cyclists/motorcyclists and pedestrians, optimized for the intended function of the road and the level of use;
(ii) to provide the State road administrations (Government) with low-cost operation of the road (i.e. minimum costs for the entire service life);
(iii) to ensure compliance with the standards of road pavement and other relevant norms and/or standards of the state road administrations.

49. The road rehabilitation will be carried out mainly within the existing road right-of-way, thus minimising the environmental impact. The road sections will be classified as Category IV:

- additional sections of roads to be rehabilitated are mostly located outside settlements.
- No permanent and/or temporary impacts on households and their infrastructure are expected and therefore no losses are expected.
- Road width is 6.0 m with two layers of asphalt (t=4+6=10 cm);
- The width of the shoulders on road sections is 1.0 m;
- It will be necessary to construct a subbase coarse of 20 cm thick and a base coarse of 15 cm thick.
- There can be an existing road surface under the base coarse, or some places can require a construction of a subgrade to improve the longitudinal profile.

50. Rehabilitation activities include rehabilitation/reconstruction of road sections in accordance with the above parameters.

51. It should be noted that the scope of work for this project does not include the construction of additional lanes, despite the fact that the road will be widened. Construction work will be carried out to reconstruct the existing road. Therefore, the environmental impact is reduced to a technically possible minimum.

52. The following works are envisaged as part of the road repairment: setting out of the road central line; setting out and fixing the elements of the subgrade with laying out of corners and pickets beyond the construction site; excavation and removal of unusable material to a spoil area; scarifying, planning and compaction of the existing subgrade; construction of a gravel subbase and upper shoulder coarse, crushed stone base coarse; laying coarse-grained asphalt concrete; road marking.

53. Inert material will be obtained from potential quarries of the main Project and used for the construction of road embankments.

54. Unusable material will be removed to the nearest spoil areas obtained for the main Project.

GENERAL CHARACTERISTICS OF PROJECT ROAD ENVIRONMENT.

55. In terms of the physical and biological environment, there are only a few ecologically significant areas along the project road section. These are mature trees on some road sections, as well as a few drainage and irrigation waterways.

56. During the field surveys, locally important sensitive areas were identified on the additional access roads. These sensitive areas are discussed in more detail in the Roads' Lists in this report. These sensitive areas are:

    1. Jany - Aryk village (mosque) and residential building nearby;
    2. Ak-Chiy village (mosque, and school in 100-110m) and residential building nearby;

IV. ENVIRONMENT DESCRIPTION.

PHYSICAL RESOURCES OF PROJECT AREA.

Topography.

57. The topography of the Kyrgyz Republic is very complex. The surface structure is located in the range of absolute heights from 400 to 7000 m. In orographic terms, it consists of several mountain ranges, stretched mainly in latitudinal and sublatitudinal directions, and intermountain valleys and depressions separating them. The average height of the territory is 2750 m above sea level, the highest point is Pobeda Peak (7439 m), located in the Central Tenir-Too, on the crest of the Boz-Kyr ridge in the eastern continuation of Kakshaal-Too, on the border with China. The lowest point (401 m) is near Kulundy village, Leilek district, Batken region, near the border with Tajikistan.

58. The Epkin (89 km) to Bashkuuganda (159 km) road section starts in the west of Epkin village in the Kochkor district. This area is part of the Kochkor Valley, which is described as a depression with an altitude of 1800-2500 m, with a length of 80 km and a width of 20 km. The overall area can be considered as a steppe area with fragments of forests and meadows. Agriculture and livestock farming are common near the road, which is the main activity.

59. Approximately 20-25 km west of the starting point of the section, the road rises to its highest point at the Kyzart Pass with an altitude of about 2600 meters. Its highest point, the Kyzart Ridge, has a maximum altitude of 4400 meters (average altitude 3800 m), a length of 30 km, and a maximum width of 16 km. At this point, the water basin divides into the Kochkor River basin to the east and the Jumgal River basin to the west. The general area on both sides of the road is mountainous and mainly covered with grasses, which are mainly found in the spring and summer. Shrub vegetation: barberry (Berberis SPP), rose hips (Rosa SPP), sea buckthorn (Hippophae rhamnoides), pea shrub and others can be found along the streams that flow into the main Kochkor and Jumgal rivers.

60. At about 128 km the road descends into the Jumgal valley - the altitude of the basin lowland above sea level is 1500-2600 m, the length is 80 km within the lowland, within the maximum width of the lowland 25 km - and enters Jumgal village, runs along the valley bed to Bashkuugandy village (elevation is 1850 m). The roadside area is mainly pasture for grazing animals. Local vegetation is sparse but some parts of the road are planted with trees (mainly poplars, elm trees and locust trees).

Soil Characteristics.

61. The territory of the Kyrgyz Republic is characterized by mountainous relief and occupies the western part of the Tien Shan mountain system, as well as a small part of the Northern Pamirs.

62. The project road section is located mainly in the Jumgal Valley. Its relief is predominantly mountainous and valley-like and is subject to rock falls or rockslides. It is part of a 9-point

seismic hazard zone. The section is located within the area of landslide distribution and accumulation with a very low risk of landslides.

63. Soil erosion is a major environmental problem throughout the Kyrgyz Republic due to seismic activity, steep slopes, soil fragility and human activities (poor livestock management, removal of protective vegetation and poor water management practices).

64. The soils of the project road section consist of brown and dark-brown soils. The soils are fertile, most of the territory is successfully used for agricultural purposes in this section. Soil erosion is considered low in this section.

Climate.

65. The location of the Kyrgyz Republic in the center of Eurasia, its remoteness from oceans and seas and the proximity of deserts predetermine the formation of a climate with features of sharp continentality and aridity and clearly defined seasons.

66. Most of the Naryn region is mountainous. The climate is continental; winters are cold and long. The lowest absolute temperature drops to 45°C (below zero). Summers are short and cool. There are several climatic zones in the area: (i) at an altitude of 1400-1600 m above sea level - deserts, semi-deserts; (ii) 1600-1800 m, 1800-2000 m - steppe; (iii) 2500-4000 m - subalpine and alpine zones; (iv) above 4000 m - zone of perennial snow.

67. The average air temperature in January is 15°C. The absolute minimum temperature (50°C) was recorded in the Aksai Valley. The Aksai and Arpa valleys are located in the area of Lake Chatyr-Kol, in the headwater of the Naryn River, in the Son-Kul River basins, winters are cold, summers are warm but short. During the day, there may be sharp changes in temperature, frosts may occur even in the summer months.

68. The average annual precipitation on the plains is 200-300 mm, slightly more in the mountains. The period of heavy rains is in the second half of spring and the first half of summer, when precipitation makes up 30 to 60% of the annual precipitation. In the valleys, the amount of precipitation increases from west to east. Snow cover in the valley reaches up to 40 cm, in the mountains - up to 80 cm. Due to strong winds, snowfalls in the Kochkor Valley are rare, and the cover is unstable.

Water Resources.

69. There are more than 5,000 rivers and streams in the Naryn region. The mountain ranges of perennial glaciers, which are the source of many rivers, extend far beyond the region. The glaciers are located at an altitude of 4,000 m. The total area of glaciers is about 500 km^2. Most of the glaciers are located on the Kakshaal ridges. The largest glaciers are Aksai, Ai-Tal, Orto-Tash. There are also many alpine lakes in the region. The largest of them are Son-Kol and Chatyr-Kol.

70. The longest river in the country is the Naryn River, it flows through the Naryn Region and supplies seven hydroelectric power stations. The Naryn River provides a large flow of water, which significantly affects economic activity not only in Kyrgyzstan but also in Uzbekistan, Kazakhstan, and Tajikistan. It flows within 10-14 km^3. Outside Kyrgyzstan, the Naryn River merges with the Sarydzhaz, Inilchek and Ak-Shirak rivers, which then flow into China to the Tarim River basin. The most important tributaries of the Naryn River are the Maly Naryn

(407 m³/s), On-Archa (160 m³/s), Jergetal (65.4 m³/s), Kok-Gert (Kazhyrty) (64.5 m³/s). The Syr Darya River, including the Naryn River, forms the second largest river in Central Asia – the Syr Darya River.

71. The eastern water-parting line up to the Kyzart Pass forms a drainage basin that drains into the Orto-Tokoy Reservoir via the Kochkor River. The main rivers in this area are the Jany-Aryk River, which joins the Kochkor River at 67 km (43 mi). The Kochkor River is a river in the Kochkor District of Naryn Region. It is formed by the confluence of the Karakol and Seok Rivers. The river is 45 kilometres (28 mi) long, has a basin area of 2,590 square kilometres (1,000 sq mi), and an average annual discharge of 12.6 cubic metres per second (440 cubic ft/s). The Chu River is formed by the confluence of the Kochkor and Jany-Aryk Rivers near Kok-Jar village.

Environmental Resources in Project Area.

72. Naryn region is considered rich in flora and fauna. Some of the main species are the relict Tien Shan blue spruce, herbs: sea buckthorn, ephedra, St. John's wort, yarrow, valerian, rose hips and many others.

73. The area has nature reserves: Narynsky and Karatal-Zhapyryksky, hunting reserves: Kochkor, At-Bashi, Ugutskoye, etc. The designed road section is located outside the lands of specially protected natural areas.

Fauna.

74. The species diversity in the Kyrgyz Republic is very significant. According to official data, there are more than 500 species of vertebrates (including 83 species of mammals, 368 species of reptiles and 75 species of fish), 2,000 species of fungi and more than 3,000 species of insects. Habitat loss (deforestation), competition with livestock, hunting and poaching have led to a reduction in many animal species. The most critical situation is related to the protection of habitats and populations of the most valuable (from both an economic and scientific point of view) species of large mammals, such as ibex, goitered gazelle, mountain sheep, snow leopard, Tien Shan bear, lynx and Menzbier's marmot.

75. The area of the project road is a desert and semi-desert. According to geographical zoning - inner-Tian Shan mid-mountain. Typical species of this area are reptiles: desert lidless skink, lizards, steppe ribbon snake, and Central Asian viper; birds: little owl, Mongolian dotterel, short-toed lark, tawny pipit, wheatears, black redstart, lesser rock nuthatch, Mongolian trumpeter finch, ruddy shelduck (in water bodies), Daurian partridge, partridge (in open habitats), turtle dove, black-bellied sandgrouse is a passing flock, and sheld duck lives on the Jumgal River; Animals: greater horseshoe bat, lesser mouse-eared bat, tolai hare, sand-launce, steppe polecat, stone marten, grey marmot, muskrat (in water bodies), fox, and jackal; fish: Suusamyr scaly osman, marinka, trout, and snakeheads.

Flora.

76. According to official data, there are more than 4,500 species of higher plants in the Kyrgyz Republic. The territory of the Epkin (89 km) to Bashkuuganda (159 km) section is classified as arable irrigated land in place of steppes and deserts. According to geobotanical division, the territory belongs to the province of the inner Tien Shan. Large areas are covered with vegetation communities with sparse vegetation. The type of strips is desert steppe with fragments of forests and meadows. Vegetation types: Desert: hawthorn, cushion plant formation, turf steppe, high meadows, cryophyte cushion plant; swamps, spruce forests, broad-leaved forests: deciduous shrubs; juniper stands. Main plant species: Sympegma regeli, Salix acutifolia, Hippophae rhamnoides, Geranium regelii, Geranium himalayense, Kalidium cuspidatum, Reaumuria soongorica, Acantholimon alatavicum, Artemisia tianschanica, Stipa caucasica, Festuca sulcata, Phlomis oreophila, and Carex stenocarpa. Medicinal plants include Begger's rose, Rosa laxa, and Ural licorice.

77. Due to the fact that the project road section has been significantly affected as a result of agricultural development, the probability that any natural environment suitable for the growth of endangered or endangered plant species may arise here is very low.

Desertification.

78. In December 1997, the Kyrgyz Republic acceded to the United Nations Convention to Combat Desertification, which was ratified in mid-1999. Desertification is defined in the Convention as land degradation in arid, semi-arid, dry and sub-humid areas, which is the result of various factors, including climate change and human activity. According to this definition, approximately 90% of Kyrgyzstan's agricultural land can be included in the category that can be defined as prone to desertification. Of the 10.6 million hectares of agricultural land, most of which was used for pasture, about 74% of this land is in some stage of desertification.

79. On average, there is 0.35-0.2 hectares of irrigated arable land per capita in the north of the Republic, and 0.04-0.05 acres in the south, which is clearly insufficient to maintain the food source of the Kyrgyz Republic. As a result, the socio-economic situation in the country has worsened. Although the area of actually irrigated land is about 1 million hectares, almost half of it is dehumified, compacted, chemically degraded, and polluted. Pasture degradation in the form of erosion has affected approximately 4.5 million hectares, or half of the entire territory occupied by pastures. Soil compaction caused by grazing of large livestock has accelerated soil erosion in pastures located on steep slopes. Wind erosion is typical for non-irrigated pastures and meadow pastures located in the lower reaches. Chernozem is compacted in humid conditions, as a result of which it loses its ability to infiltrate and is more easily washed away. Erosion is aggravated by the cultivation of meadow grasses on fragile and steep slopes. Often such fields are ploughed longitudinally towards the slope, which accelerates erosion and the formation of gullies. Overgrazing, a major problem in the Kyrgyz Republic, causes severe deterioration of pastures, resulting in a loss of agricultural productivity. Therefore, during road reconstruction work, all attention should be paid to preventing the creation of conditions for desertification of new areas.

80. The increase in population and the orientation towards higher living standards are causing increasing pressure on land and water resources, which form the basis of agricultural production, from year to year. The majority of the Kyrgyz people live in rural areas and

directly or indirectly depend on the productivity of the land. Therefore, it is especially important to ensure the preservation and increase of land productivity.

Endogenous and Exogenous Processes.

81. Seismic hazard. According to the seismic zoning of the territory of the Kyrgyz Republic, the surveyed area belongs to the 9-point seismic zone, according to SNiP KR 20-02:2009. The project site is not susceptible to landslides.
82. Mudflow hazard. Mudflows of rainfall origin may occur in rural areas of Bashkuugandy and Jany-Aryk, threatening houses, bridges, roads and canals. According to the Ministry of Emergency Situations of the Kyrgyz Republic, mudflows may occur once every two years or less often in most of the mountainous territory of the region. Mudflows of rainfall origin may occur in April-September, most likely in May-July.
83. **Flood.** Areas with high groundwater levels are confined to the lower terraces of the Jumgal River valley. As a rule, a high groundwater level is observed in the locations of culverts.

Labor and Economic Resources.

Population.

84. The Kyrgyz Republic is a sparsely populated country. The permanent population of the Kyrgyz Republic at the beginning of 2018 was 6 million 257 thousand people, the actual population was 6 million 2 thousand people. A third of the permanent population (33.9 percent) lived in urban settlements and two thirds (66.1 percent) in rural areas. The population density was, on average, 31 people per square kilometer. The change in population is influenced by natural population growth, which is formed under the influence of changes in the birth and mortality rates, as well as the level of population migration. Since the migration balance is still characterized by an excess of emigrants over immigrants, population growth is achieved only through natural growth. In 2017, the population growth rate was 1.9 percent, which is quite high by world standards. An important characteristic of the republic's population is the ratio of age groups younger than working age, working age and older than working age - 33.9 percent at the beginning of 2018.

85. The majority of the population consisted of children and adolescents, 58.6 percent were of working age and 7.5 percent were older than working age.

86. As a result of emigration, as well as differences in the level of natural reproduction, there have been changes in the national composition of the population. Thus, the share of Kyrgyz, Uzbeks and other ethnic groups increased, and the share of Russians, Ukrainians, Belarusians, Jews, Germans and others decreased. But, despite high emigration in the 1990s and early 2000s, representatives of all ethnic groups that historically lived in the country have been preserved. In total, more than 100 ethnic groups live in the country, the most numerous of them (as of the end of 2016) are the Kyrgyz - 4 million 493 thousand people (73.2 percent of the total population), Uzbeks - 898 thousand people (14.6 percent) and Russians - 357 thousand people (5.8 percent).

Table 6. Population Living Along Additional Roads.

District	Settlement Name	Population Size (thousand people, as of 31.12.2023)
Jumgal	Jany-Aryk	1153
Jumgal	Bazar-Turuk	1306
Jumgal	Kyzart	1532
Jumgal	Kyzyl-Emgek	1382
Jumgal	Kuyruchuk	3032
Jumgal	Lama	657
Jumgal	Jumgal	2314
Kochkor	Ak-Chiy	166
Kochkor	Uzun-Bulak	144
Total Affected Persons		**11,686**

Social Infrastructure.

87. The Kyrgyz Republic is one of the poorest and least industrialized countries in the Europe and Central Asia (ECA) Region: Gross domestic product (GDP), calculated by the production method, according to preliminary estimates, in 2017 amounted to 493.3 billion soms, and increased by 4.5 percent compared to 2016. However, the literacy rate remains high, as in other countries of the former Soviet Union, and accounts for 99% of people aged 15 years and above (2009).

Table 7. Main Social and Economic Indicators (Kyrgyz Republic)

		2016	2017
1	Number of permanent population (million people)	5.81	6.25
2	Natural population growth (thousands of people)	118.7	120.7
3	Total GDP (thousand soms)	476,331.2	493,322.0
4	% of GDP:		
5	Agriculture	12.8	12.6
6	Industry and Construction	26.5	27.0
7	Services	47.5	48.8
8	GDP per capita, soms	81,777.8	83,004.7
9	GDP in % to previous year	101.6	102.7

Source: National Statistical Committee. Statistical collection "Information bulletin of the Kyrgyz Republic on food security and poverty"

88. The poverty level in 2016, calculated based on consumer spending, was 25.4 percent in the country as a whole, down 6.7 percentage points from the previous year. The value of the general poverty line in 2016 was 31,151 soms per capita per year, and the extreme poverty line was 17,052 soms. The poverty level in rural areas decreased by 4.6 percentage points, and in urban areas by 10.7 percentage points. In 2016, 1 million 557 thousand people lived below the poverty line, of which 74.0 percent were residents of rural settlements.

Agriculture and Industry.

89. Agriculture is the main area of employment in the Kyrgyz Republic, which accounts for almost a quarter of the country's total GDP. As of January 1, 2018, more than 429 thousand operating commercial entities operating in agriculture, forestry and fisheries were registered in the Republic. Of these, about 323 thousand, or 75.4 percent of the total number of such

entities were peasant (farm) households, 105 thousand entities, or 24.6 percent, were individual entrepreneurs engaged in agricultural production. The gross output of agriculture, forestry and fisheries in 2017 in the Republic as a whole amounted to 208,530.0 million soms.

Transport and Road Accidents.

90. A well-functioning transport sector is very important for the Kyrgyz Republic due to the mountainous terrain of this continental country, both from an economic and socio-political point of view.

91. The development of the transport sector is very important for the continental Kyrgyz Republic, as it will help to provide cost-effective access to regional and domestic markets. The development of the transport sector will also contribute to the creation of jobs and the development of service sectors throughout the country.

92. This review process revealed that the road safety situation and the high number of accidents in Kyrgyzstan require major improvements. However, many projects have already been implemented in the country, including the training of local road design engineers and transport engineers in the analysis of hazardous road sections and procedures for auditing of road safety based on international best practices. The traffic police have also received training in enforcement procedures and the use of special equipment from international donors. A detailed Road Safety Strategy has already been developed and is currently being discussed by policy-makers at the highest level.

93. This Strategy is the basis for the formation and implementation of the state policy of the Kyrgyz Republic in the field of road safety at the national and local levels. The authors defined the goal of this Strategy as ensuring by 2023 an increase in the safety of all road users in the Kyrgyz Republic, a reduction in mortality and the level of road traffic injuries as a result of accidents by 30%.

94. To achieve the stated goal of the Strategy, the following priority areas have been selected:
    I. Management of road safety.
    II. Improving road infrastructure.
    III. Improving the safety of road users.
    IV. Improving the efficiency of post-accident response.

95. There are no existing national methodological principles for providing road safety education in the country, and many teachers use their own methods and sources to present information. It is necessary to develop a practical guide for teachers on how to convey road safety information to children.

Cultural and Historical Monuments, Random Archaeological Finds.

96. During the site survey at the stage of studying the project sections conducted by the CSC, as well as based on desk studies conducted by a local archaeologist, no sensitive adjacent monuments of historical or cultural significance were identified. The road repairment of the project road sections will be carried out within the existing road lane, without changing the road category (the existing roads belong to category IV), without flattening road sections.

97. Random archaeological finds may be discovered during construction work. If any signs of historical and cultural heritage objects (human and animal bones, ceramic fragments, etc.) are discovered, construction work will be suspended at this site.

98. The Contractor will inform the CSC and the PIU of MOTC KR about the discovery of archaeological finds. In turn, the PIU of MOTC KR will forward official information about the discovered finds to the Ministry of Culture, Information, Sports and Youth Policy of the Kyrgyz Republic (MCISYP KR).

99. A local archaeologist will be brought in to study the archaeological finds and carry out "archaeological rescue work" (the local specialist shall have the appropriate permission from the MCISYP KR to carry out such work).

100. Resumption of the road repairment at this site will be possible only after receiving the relevant conclusion of a local archaeologist, which shall be confirmed by the Ministry of Culture, Information, Sports and Youth Policy of the Kyrgyz Republic.

Roads' List.

101. The following Roads' List provides an overview of the sensitive areas and sensitive receptors located along the additional access road sections. The Roads' List serves as the basis for the subsequent impact analysis.

Table 8. Roads' List.

№	Location	Issue / Drawing	Background indicators
Measurements of baseline indicators along additional roads using portable instruments on additional road sections			
1	Jany-Aryk v. 42.964761 74.906981	 Mosque is along the road	Noise, vibration, SO2 NO2 CO suspended solids

№	Location	Issue / Drawing	Background indicators
2	Access road to Jany-Aryk v. 41.580873 74.542335	 There are 6 drainage and irrigation canals at the site	Access road to Jany-Aryk village Transparency, suspended solids, Biochemical consumption, Oil/petroleum and fats,
3	Ak-Chiy v. 42.090990 75.212967	Sensitive recipient of impact.  Sensitive recipient of impact. Mosque 20m and school 100m is from the road	Noise, vibration, SO2 NO2 CO suspended solids
4	Ak-Chiy v. 42.091198 75.212967	 There is 1 drainage water canal at the site.	Transparency, suspended solids, Biochemical consumption, Oil/petroleum and fats,

№	Location	Issue / Drawing	Background indicators
	Access road to Lama v. 42.020547 74.583251	 There are 3 drainage and irrigation water canals at the site.	Transparency, suspended solids, Biochemical consumption, Oil/petroleum and fats,
	Kuyruchuk-Shilvili access road 42.975207 74.826467	 There are 2 drainage and irrigation water canals at the site.	Transparency, suspended solids, Biochemical consumption, Oil/petroleum and fats,

Basic Indicator Measurements.

102. In accordance with the above Roads' List, basic environmental performance measurements were taken in 2024.

Air Quality Measurements.

103. The outcomes of the measurements will serve as reference values for monitoring during the construction phase. Air quality measurements were taken at 4 points (Table 9) along the

road, which were identified as areas sensitive to air pollution due to the proximity of schools, mosques and other special facilities.

Table 9. Air Sampling Points

№	**Point Number and Location**
1	Jany-Aryk village (mosque), coordinates: N - 42.964761 E-74.906981
2	Ak-Chiy village (mosque, 200 m - school), coordinates: N-42.090990, E-75.212967
3	Jumgal village, beginning of the access road to Lama village, coordinates: N - 42.034798, E -74.976045
4	Kuyruchuk village, beginning of the Kuyruchuk-Shilvili access road, coordinates: N-42.975207 E-74.826467

104. The measurements were carried out in March 2024 in accordance with the requirements of RD 52.04.186-89 "Guidelines for Air Pollution Control", GOST R 50820-95 "Gas Cleaning and Dust Collection Equipment. Methods for Determining the Dust Content of Gas and Dust Flows", Operating Manual YAVSHA 413311.012 RE IBYaL 416143004 RE, IBYaL 413411.042 RE.[4]

105. According to laboratory analysis data, the indicators (**SO_2, NO_2, CO, TSP**) were not exceeded at all sampling points (Table 10).

[4] Method of analysis:
1) Portable gas analyzer PGA-200. Operating manual YAVSHA 413311.012 RE;
2) Atmospheric pollution control manual RD 52.04 186-69 and STP DEM 03-01-2021;
3) IKVCH-V3 measuring device. Operating manual IBYaL 416143004 RE.

Table 10. Air Quality within 100 m of the Impact Corridor in 2024 (mg/m^3).

№	Location		SO_2	NO_2	CO	TSP	
	Name	**Coordinates**	**2024**	**2024**	**2024**	**2024**	
1	Ak-Chiy v. (mosque)	42.090990 75.212967	0.048±0.006	0.085±0.015	1.3±0.26	0.167±0.042	
2	Jumgal v. (the beginning of the access road to Lama v.)	42.034798 74.976045	0.143±0.017	0.081±0.015	1.6±0.32	0.250± 0.062	
3	Jany - Aryk v. (mosque)	42.964761 74.906981	0.052±0.006	0.084±0.015	1.2±0.24	0.167±0.042	
4	Kuyruchuk v., beginning of the Kuyruchuk-Shilvili access road	42.975207 74.826467	0.262±0.031	0.135±0.024	1.4±0.28	0.167±0.042	
	MPC		**0.5**	**0.085**	**5.0**	**0.5**	

Source: Outcomes of measurements by the Department of Environmental Monitoring under the Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic in 2024.

Water Quality Measurements.

106. There are a total of 12 drainage and irrigation canals (seasonal watercourses) at 4 project sections of additional access roads. The measurement outcomes will serve as reference values for water quality monitoring during the construction phase. Water quality sampling and analysis were defined at 6 points but water samples were collected and analyzed at 2 points because there was no water at the remaining 4 points during the monitoring (Table 11).

Table 11. Water Sampling Points.

№	Sampling Point Number and Location	Remark
1	River in Ak-Chiy village	
2	Jumgal River (access road to Jany-Aryk village)	
3	Irrigation canal at the beginning of Lama village (access road to Lama village)	There was no water during sampling.
4	Irrigation canal at the end of Jumgal village (access road to Lama village)	There was no water during sampling.
5	Irrigation canal in Jumgal village (access road to Lama village)	There was no water during sampling.
6	Irrigation canal at the end of the project site (access road to Kuyruchuk-Shilvili village)	There was no water during sampling.

107. Sampling was carried out in March 2024 in accordance with GOST 31861 - 2012. Water. General requirements for sampling. PND F 12.15.1 - 08. Guidelines for sampling for wastewater analysis. Laboratory analyzes were carried out according to the test method of CMEA part 1.M.1977∗, PND F 14.1: 2: 3.110-97, PND F 14.1: 2: 3: 4.123-97, PND F 14.1: 2: 4.128-98,

108. According to laboratory analysis data, the indicators (**transparency, suspended solids, Biochemical Oxygen Demand (BOD_5), and petroleum products**) were not exceeded at the sampling points (Table 12).

Table 12. Water Quality Indicators at Selected Locations in 2024 (mg/l).

№	Location		Transparency, cm	Suspended Solids, mg/l	Biochemical Oxygen Demand (BOD_5), mgO_2/l	Oil Products, mg/l	
	Name	**Coordinates**	**2024**	**2024**	**2024**	**2024**	
1	River in Ak-Chiy village	42.091198 75.212967	47.0	5.60±1.68	2.93±0.76	0.057±0.020	
2	The Jumgal River (access road to Jany-Aryk)	41.580873 74.542335	48.0	4.00±1.20	1.44±0.37	0.031± 0.011	
	MPC		**-**	**-**	**4.0**	**0.3**	

Source: Outcomes of laboratory analyses made by the Environmental Monitoring Department under the Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic in 2024.

Noise Level Measurements.

109. The existing levels of external noise within the project Epkin (89 km) - Bashkuugandy (159 km) road section are mainly related to traffic and construction work. The outcomes of all measurements taken do not exceed the permissible standards, both at night and during the day. There is noise coming from the road in the settlements located along the road. Given the width of the right-of-way on the project section, significant noise impacts (if any) on these residential areas can be easily avoided.

Outcomes of Noise Level Measurements.

110. The noise level was measured by ProfiLAB LLC in March 2024 using an Oktava 101A No. 04A445 noise meter, which was calibrated in August 2023. All measurements were carried out in accordance with GOST 20444-2014. Traffic flows. Methods for determining noise characteristics, GOST 32847-2014 Public roads. Requirements for environmental surveys. According to Table 13, the noise level is within the norm limits at the measurement points.

Table 13. Current Noise Measurement Outcomes along Road Sections.

№	Noise Measurement Points	Coordinates	Date of Measurement	Noise Level (dBA)	Maximum Permissible Level (MPL)
1	Ak-Chiy village, mosque	42˚15`26``, 75˚35`82	05.03.2024	44	**55**
2	Jumgal v., beginning of the access road to Lama v.	42˚03`47 74˚94`57	05.03.2024	51	**55**
3	Jany-Aryk village, mosque	41˚96`46`` 74˚90`70	05.03.2024	50	**55**
4	Kuyruchuk village, the beginning of the Kuyruchuk-Shilvili road	41˚97`50``, 74˚82`86`	05.03.2024	52	**55**

111. Conclusion: The outcomes of measurements at 4 points in 2024 showed that the noise level on the design road sections did not exceed the maximum permissible level for each indicator.

Vibration Level Measurements

112. Vibration level measurements in June 2024 were also performed by ProfiLAB LLC using the Ecophysics-110A, No. 04AB 130044, which was calibrated in March 2024. Calibration certificate number No. K0037 – 0503/24. All measurements were carried out in accordance with GOST 31319-2006. “Vibration. Measurement of general vibration and assessment of its impact on humans. Requirements for measurements at workplaces.” GOST 12.1.012-2004. Sanitary standards 2.2.4./2.1.8.566-96. “Industrial vibration in premises, residential and public buildings”/ GOST ISO 8041-2006.
According to Table 14, the noise level is within the norm limits at the measurement points.

Table 14. Vibration Measurement Outcomes along Road Sections

№	Noise and Vibration Measurement Points	Coordinates	Date of Measurement	Noise Level (dBA)	Maximum Permissible Level (MPL)
1	Ak-Chiy village, mosque	N 42˚15`26``, 75˚35`82	04.06.2024	98	**110**
2	Jumgal v., beginning of the access road to Lama v.	42˚03`47 74˚94`57	04.06.2024	92	**110**
3	Jany-Aryk village, mosque	41˚96`46`` 74˚90`70	04.06.2024	94	**110**
4	Kuyruchuk village, the beginning of the Kuyruchuk-Shilvili road	N41˚97`50``, 74˚82`86`	04.06.2024	90	**110**

113. Conclusion:

- The outcomes of instrumental measurements showed that the vibration level is not constant but does not exceed the norm limits for low and medium frequency vibration.
- The outcomes of the measurements showed that the noise level on the project road sections did not exceed the maximum permissible level for each indicator.
- According to the laboratory analysis, the indicators were not exceeded at the water sampling points.
- According to the laboratory analysis, the indicators were not exceeded at all air sampling points.

V EXPECTED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES.

114. Based on the legislation, the results of the field surveys and the project characteristics, the environmental impacts have been identified and appropriate mitigation measures have been prepared. Since the Project involves the rehabilitation of existing roads and there are no protected areas within the Project impact area, it is assumed that the occurrence of environmental impacts will be mainly related to the construction phase. The most serious impacts are related to the human habitat, in particular, noise levels, air pollutant emissions, especially where the Project road runs near sensitive receptors such as schools, hospitals, mosques, water resources, etc. In general, the main categories of impacts arise from the following activities: (i) construction activities within or near populated areas entailing noise, air pollutant emissions and vibration, which is of particular importance where the Project road runs near sensitive receptors; (ii) site clearance activities entailing the removal of soil and vegetation; Additional impacts relate to the following: (iii) impacts resulting from rehabilitation of artificial structures; (iv) potential impacts on surface waters. A detailed description of the impacts is provided in the following sections. The impacts have been divided into the following types: impacts during the design phase, impacts during the construction phase and impacts during the operational phase.

Design Phase.

Physical Environment.

115. A large number of potentially significant impacts can be avoided by proper planning/preparation of the works, including ensuring that key environmental provisions are included in the contract documents, providing the SIEE and SSEMP to the Contractor and other relevant authorities, holding an appropriate information meeting and training on the implementation of the SSEMP. For this reason, the SSEMP has defined mitigation measures, the most important of which are proper distribution of assessment documents, inclusion of environmental standards/specifications in the tender documents, training on environmental protection measures for the CSC and the Contractor, preparation of a tree management and felling plan that will avoid unwanted felling of trees, followed by planting and care of new seedlings.

116. **Quarry Development.** It is planned to use the existing quarry areas used within the framework of the main project, see Table 15. The Contractor's work on quarry areas shall be carried out in compliance with the mandatory procedures stipulated by the provisions of the KR. Monitoring of the work performed will be carried out by the CSC and the PIU of MOTC KR.

Table 15: Quarries at the Epkin-Bashkuugandy Section (km 89+500 – km 159+200)

№	KM	LHS\RHS	Permission №	Under Development	Area ha.
1.	**91+680**	RHS-71m	№ 04-9/12238 dtd 03.10.19	Yes	11.2
2.	92+630	RHS-525m	№ 04-9/12238 dtd 03.10.19	No	15.6

3.	94+080	RHS-39m	№ 04-9/12238 dtd 03.10.19	No	1.04
4.	100+790	RHS-54m	№ 04-9/12238 dtd 03.10.19	No	1.8
5.	**106+350**	LHS-78m	№ 04-9/12238 dtd 03.10.19	No	2.5
6.	**106+420**	RHS-250m	№ 04-9/12238 dtd 03.10.19	Yes	3.3
			№05-5/323, dtd 23.01.24		0.61
7.	**110+900**	RHS-94m	№ 04-9/12238 dtd 03.10.19	Yes	2.1
			№05-5/323, dtd 23.01.24		5.3
8.	112+870	RHS-27m	№03-6/6540 dtd 20.07.20	Yes	5.8
9.	133+000	RHS-320m	№04-04/10138 dtd 02.08.18	No	0.93
10	**135+280**	LHS-25m	№04-04/10138 dtd 02.08.18 №03-6/2323 dtd 04.03.20	No	7.2
11	**140+990**	LHS-212m	№04-04/10138 dtd 02.08.18	No	6.5
12	**148+630**	RHS-1800m	№04-04/10138 dtd 02.08.18		18360
			№-01-6/1721, dtd 25.03.23	Yes	7.5
13	**119+300**	RHS-542m	№-01-6/1721, dtd 25.03.23	Yes	9.632
14	104+158	RHS-274m	№05-5/4548, dtd 19.10.23	No	4,16
15	100+800	RHS-	№91 dtd 06.04.2023, order of the Kochkor District Administration 06.04.2023, Civil Commission Act	No	9,6

117. **Construction Materials Transportation Route Plan**. The hauling of construction materials will be carried out mainly by trucks from quarries and aggregate plants. The CSC will monitor the roads used by the Contractor's equipment (frequency of dust suppression, speed limits) to minimize dust generation. Any roads passing through residential areas will only be used at certain times, i.e. between 07:00 and 18:00.

118. **Training on the Implementation of Environmental Protection Measures.** The CSC will continue to employ a full-time environmental specialist who will monitor the environmental conditions at the sites, implement the SIEE, SSEMP and monitor compliance with environmental provisions specified in the contract specification. In addition, this requirement applies to the Contractor and all inspectors at the site. The CSC will conduct

additional training for the Contractor's staff on the implementation of the SSEMP and monitoring. This training will be held during the pre-construction stage.

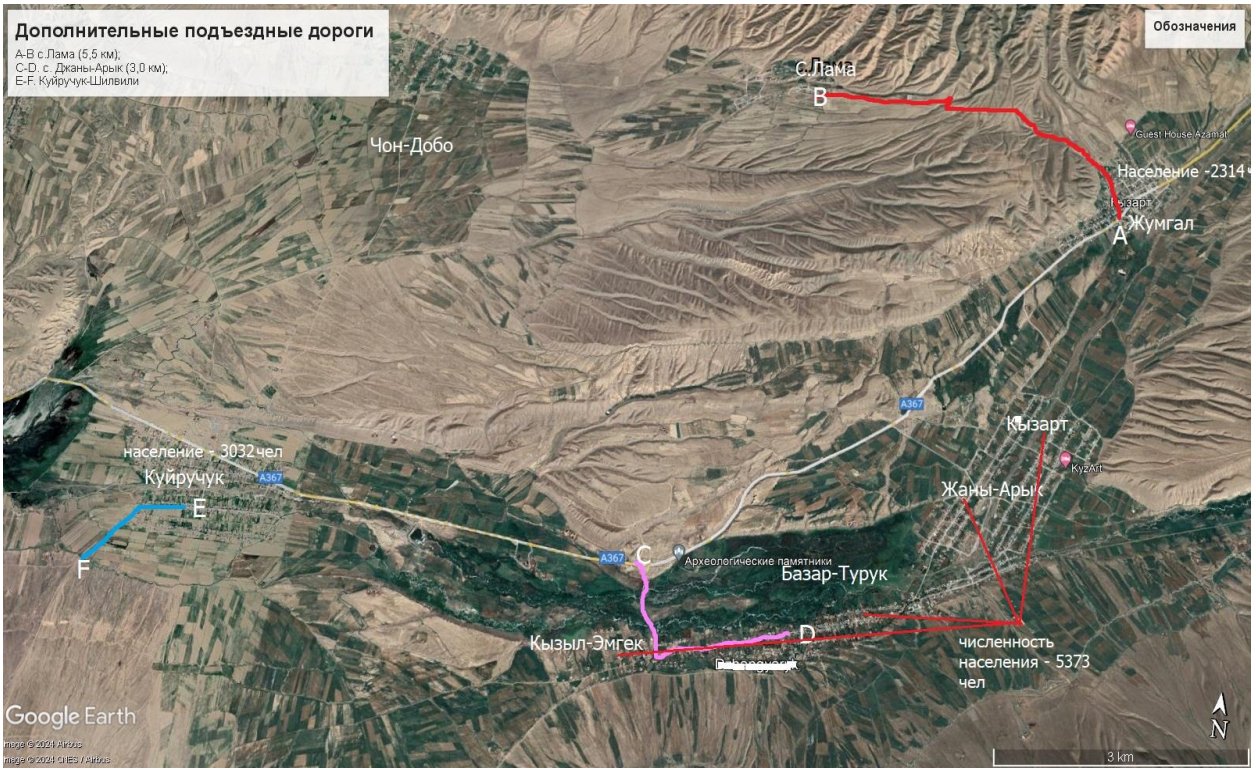


Figure 12. A map showing affected/nearby communities.

Figure 13. Map showing affected/nearby communities.

Ecological Environment.

119. The impact on the environment is minimal due to the fact that the design work will be carried out within the existing road boundary, without changing the road category. There are permanent surface watercourses on the design sections of additional roads. There are no specially protected areas or places with biological diversity along the entire length of the design roads within 500 meters on both sides.

120. It is anticipated that most of the impacts from the road project will arise directly from construction activities, with some impacts arising during operation.

121. Impacts during the construction phase include: noise, vibration, emissions of pollutants into the atmosphere, which are of particular importance in populated areas where sensitive receptors such as schools, hospitals, mosques, etc. are located; impacts on watercourses and rivers; impacts on soil and vegetation, including trees near the Project roads, due to site clearing activities; impacts resulting from the rehabilitation of artificial structures.

122. Avoidance of impacts may be possible through strict compliance by the Contractor with the requirements specified in the SSEMP, proper planning of construction work, including during the construction of artificial structures

Social Environment.

123. The social environment issues that arise at this phase concern the provision of rational design solutions to the local population, as well as consideration of the possibility of involving local residents living along the road. The following are considered to be the most important issues:

124. **Access control process during the road repairment** – Any project involving major construction work in the form of a complete reconstruction of the road, rehabilitation of large culverts and all bridges will require the provision of bypass at culvert construction sites, closure of road lanes and restriction of access for local residents, for example, intersections will be closed for a certain period of time. In order to minimize these inconveniences, the CSC together with the Contractor will maintain constant contact with the aiyl okmotu, in order to inform the local population about the road repairment being carried out, the organization of temporary bypass to ensure the travel of vehicles, pedestrians and livestock. The Contractor shall take all necessary measures to ensure road safety during the period of road repairment.

CONSTRUCTION PHASE.

125. The SSEMP tables list potential impacts during the construction period, focusing mainly on the control of air emissions and noise levels through monitoring, proper earthworks management, waste management and good Contractor's domestic practices, which include handling of fuels and lubricants, removal of construction waste from project sites, and health and safety practices for the Contractor's workforce. The main points of the SSEMP are listed below.

Physical Environment.

Air Quality, Noise and Vibration.

126. Impacts on air quality during construction will come from a variety of sources. These sources include exhaust from construction equipment, dust generated during construction work, transportation of construction materials, and material unloading areas.

127. The noise level from construction works will be significant, since the entire existing roadbed will be removed by excavation using heavy construction equipment mounted on excavators (noise level approximately 89-90 dBA at 15 m from the work site), but it will be temporary and will come from operating construction equipment. Summarizing the results of the instrumental monitoring, it is expected that: (i) during the construction period there will be a temporary impact from the noise of operating equipment, which will be temporary in nature; (ii) after completion of construction works and laying of new asphalt (porous asphalt; pores >15% 0/11), the level of operational noise from vehicles will decrease.

128. The main part of the road section goes outside populated areas. In places where there is compaction of the road surface, it will be carried out without the use of vibration. To achieve quality compaction, the number of roller runs will be increased.

129. To reduce emissions from construction equipment, the Contractor will implement the following mitigation measures: (i) maintain construction equipment to keep it in good condition and avoid idling engines as much as possible; (ii) prohibit the use of machinery or equipment that is a source of excessive pollution (e.g. visible exhaust gases); (iii) the

Contractor shall use low emission construction equipment, and iv) any vehicle on the construction site shall be shut down if not in use or left unattended for more than 3 minutes.

130. The negative impacts of noise exposure can be reduced by limiting construction work from 06:00 to 19:00 in populated areas, as well as by reducing the speed of dump trucks when transporting construction materials through populated areas. Monitoring of noise exposure during construction is carried out in accordance with the provisions of the SSEMP.

131. An air quality, surface water and noise monitoring programme will be implemented at sensitive receptors along this road section (Table 7. Roads' List). Monitoring will be carried out on a quarterly basis to assess air quality and noise at each site, i.e. at the location of the receptor (sensitive object). Tests will be carried out for the content of: CO, NO_2, SO_2, suspended matter and noise level.

Surface and Ground Water.

132. **Surface waters** – The road sections cross natural rivers and irrigation canals, therefore there may be potential impacts on surface water during construction. The Contractor will schedule work on the artificial structures during the seasonal absence of water in the river and irrigation canals.

Topsoil Protection and Erosion.

133. Impacts to soils will be as a result of site preparation and clearance. To prevent soil compaction, the Contractor shall limit the use of heavy machinery within the existing road. Impacts caused by these activities are expected to be spatially limited to small strips along the existing road.

134. **Quarries** – As part of the planned work, the Contractor will use existing quarry sites developed within the framework of the main project. Activities to comply with environmental protection requirements will be regulated within the framework of the existing "Quarry Management Plan" (the Contractor's SEMP approved by the Ministry of Transport and Communications of the Kyrgyz Republic in 2022. Appendix VI. Quarry Management Plan). The reclamation of these quarry sites will be carried out upon completion of all construction work on the main project.

135. In order to reduce dust formation, the Contractor will develop "Dust Suppression Measure Program for 4 sections" and submit for approval by the CSC. This Program will ensure the humidification of dirt roads on the routes of material transportation in order to reduce dust pollution. Air quality monitoring will involve accurate registration of dust emissions (particulate matter) in order to establish compliance with Kyrgyz standards and specifications of the SSEMP. Currently, along the entire length of the main project section, there is asphalt concrete pavement, which in turn will allow the use of about 6 water trucks to perform dust control work.

Asphalt Plant, Crushing and Screening Plants, Concrete and Asphalt Mixers.

136. **Pollution from Asphalt, Concrete Mixers and Crushers** – As part of the planned work, the Contractor will use existing production facilities (asphalt plant, crushing plants). The necessary measures to comply with environmental protection requirements will be regulated within the framework of the SSEMP for the main project.

(e) Culvert Rehabilitation.

137. Reconstruction of culverts at road crossings will improve the current situation. The CSC will monitor the work performed by the Contractor to ensure that mitigation measures related to good Contractor management practices are observed. Such measures include proper handling of fuels and lubricants, and removing debris immediately after completion of construction. The timing of partial reconstruction shall coincide with periods of low or no flow, i.e. from mid-May to mid-September.

138. The environmental impacts associated with this work can be minimized if the culverts are properly maintained, i.e. of sufficient size and correct slope, with appropriate downstream erosion/washout protection measures. Wherever possible, culvert work will be undertaken during the dry season, otherwise temporary bypass channels will be required. However, some culverts provide irrigation water, which is applied according to a set irrigation schedule. Contractor will need to maintain close contacts with local residents in order to determine when work can be carried out without compromising crop growth.

139. Almost all structures will be concrete culverts, prefabricated, with each section installed on site and sealed together using a special commercially available sealing/joint filling material.

(f) Disposal of Building Materials

140. During the course of road repairment, unusable material generated on project road sections is planned to be removed to spoil areas used within the framework of the main project. Table 16 shows the spoil area that was used in the main project and all available permits from the relevant authorities.

Table 16. List of spoil areas

№	Facility	Facility Location		Aiyl District	Note
		By Road Picket, km	Distance from Road, m.		
1	Spoil Area	158+550	150 m LHS	Bashkuugandy	
2	Spoil Area	157+300	320 m RHS	Bashkuugandy	
3	Spoil Area	150+100	50 m RHS	Tugol-Sai	Private land
4	Spoil Area	150+080	50 m RHS	Tugol-Sai	Private land
5	Spoil Area	149+200	50 m RHS	Tugol-Sai	Private land
6	Spoil Area	149+080	120 m RHS	Tugol-Sai	Private land 0.15 ha
7	Spoil Area	148+740	50 m RHS	Kuyruchuk	Private land, turn to base
8	Spoil Area	148+220	50 m LHS	Kuyruchuk	Private land
9	Spoil Area	143+020	86 m RHS	Kuyruchuk	
10	Spoil Area	143+020	1700 m LHS	Kuyruchuk	Road, south side of the village
11	Spoil Area	143+020	700 m LHS	Kuyruchuk	
12	Spoil Area	138+600	50 m LHS	Kuyruchuk	Private land

13	Spoil Area	136+940	435 m RHS	Jany-Aryk	
14	Spoil Area	121+620	49 m LHS	Jany-Aryk	
15	Spoil Area	120+310	37 m LHS	Jany-Aryk	
16	Spoil Area	117+520	78 m LHS	Jany-Aryk	
17	Spoil Area	115+350	60 m LHS	Semiz-Bel	
18	Spoil Area	113+970	33 m LHS	Semiz-Bel	
19	Spoil Area	112+600	45 m LHS	Semiz-Bel	
20	Spoil Area	110+660	85 m RHS	Cholpon	
21	Spoil Area	106+720	55 m LHS	Cholpon	
22	Spoil Area	106+540	49 m RHS	Cholpon	
23	Spoil Area	103+060	16 m RHS	Cholpon	
24	Spoil Area	100+790	50 m RHS	Cholpon	
25	Spoil Area	93+980	66 m RHS	Cholpon	

(g) Contractor's Domestic Management Practices

141. Considering that the road repairment of the project roads will be carried out by the Contracting Company "China Railway No. 5", which carries out construction work on the main project, the Contractor will use the existing production bases and the Contractor's camp. Activities to comply with environmental protection requirements at the Contractor's production bases and the Contractor's camp will be regulated within the framework of the existing "Contractor's SSEMP approved by the MOTC KR in 2022" developed within the framework of the main project.

Health and Safety.

142. The following measures will be taken for the health and safety of workers and nearby communities: (i) Adequate medical care facilities (including first aid) at construction sites; (ii) Training of all personnel involved in construction in basic sanitation and hygiene, general health and safety issues, and the specific hazards at their workplaces; (iii) Personal protective equipment for workers such as safety shoes, helmets, gloves, protective clothing, eye-protection goggles and ear muffs in accordance with Kyrgyz legislation; (iv) Clean drinking water for all workers; (v) Adequate protection for the community, including safety fences and marking of danger zones; (vi) Safe travel through the construction area for people whose accommodation and access are temporarily restricted due to road construction works; (vii) Adequate drainage system in work camps to prevent standing water and puddles; (viii) Toilets and waste containers on construction sites will be emptied when full, which will be the Contractor's responsibility to prevent outbreak of disease.

143. Where possible, the Contractor will provide temporary collection and removal of waste from construction sites to existing waste collection and removal sites used by nearby local communities.

144. The Contractor will engage existing qualified health and safety specialists, an environmental specialist, who will train personnel in accordance with the requirements for an individual workplace. Before the start of work, the personnel will be instructed on compliance with the requirements of the SSEMP, safety precautions regarding the handling and storage of hazardous substances (fuel and lubricants, oils, bitumen, paint, etc.), as well as on maintaining the equipment used clean.

145. The Contractor shall provide workers with information that would promote changes in individual behavior and encourage them to take protective measures. The purpose of such information is to prevent the risk of transmission of HIV and sexually transmitted diseases among construction personnel, service personnel in work camps and local communities.

Ecological Environment

146. Given that the project area is located within an existing road (category IV) where there are no environmental receptors, it is expected that the environmental impact will be minor, other than the impact from dust generation, replacement of culverts and removal of unsuitable material, which has already been discussed in detail above.

Social Environment.

147. *Road Traffic* – The impact of the road road repairment will include temporary disruption to traffic on the additional roads. Prior to commencement of works, the Contractor will review the material prepared by the Road Safety Consultant and provide the local authority with relevant information, and if necessary, inform the regional Road Traffic Safety Department. Information on the scale and schedule of the construction works, as well as any disruptions to traffic and access restrictions, will be provided to the local authority. During construction, the Contractor will arrange for an appropriate level of traffic bypassing the construction works, including the provision of traffic control personnel and, where necessary, road signs indicating the presence of a bypass road.

148. *Occupational Health, Safety and Hygiene* – Construction camps are likely to have public health impacts. There is potential for disease transmission, which will be exacerbated by inadequate health and safety services. The Contractor will be required to employ a Safety Specialist to address such issues directly on the worksites. This Specialist should keep contacts and work closely with the communities living nearby if preventive health and safety measures are required, and if the Consultant suggests such measures.

149. *Mitigation measures* will include (i) availability of first aid facilities at construction sites; (ii) presence of safety and environmental specialists; (iii) training/instruction of all construction personnel in basic hygiene and health (e.g. HIV/AIDS and other sexually transmitted infections), public health and occupational safety issues and specific workplace hazards before work commences; (iv) personal protective equipment for workers such as safety shoes, helmets, gloves, protective clothing, goggles and ear defenders (depending on the type and complexity of work performed); (v) provision of clean drinking water to personal; (vi) appropriate protection for the local population, including fencing and marking of hazard zones in accordance with existing laws and regulations; (vii) safe access to crossings through construction sites for people living in settlements where access is temporarily restricted due to road construction works.

Operation Phase.

Physical Environment.

Air Quality and Noise Levels.

150. **Air Quality** – Carrying out road repairment of 4 road sections will improve the condition of the roads and significantly reduce the noise from travelling vehicles, and in addition, will significantly reduce dust formation.

151. **Noise –** A noise level survey conducted in March 2024 showed that noise levels did not exceed the standards of the Kyrgyz Republic.

152. During operation, noise should be measured in places where sensitive impact receptors are located. The monitoring outcomes will be used for monitoring and, if necessary, for the application of additional most appropriate noise reduction measures. Summarizing the noise modeling studies, it was proposed to reduce the impact to an acceptable level during road operation by: laying new asphalt (porous asphalt; pores >15% 0/11) and reducing the speed limit from 60 km/h to 50 km/h.

Soils and Erosion Control.

153. Soil erosion problems associated with the road will be minor if the Contractor properly implements all measures specified in the SSEMP during the construction period and the Consultant's environmental specialist conducts a post-construction audit of the mitigation measures to confirm that all mitigation measures have been and continue to be implemented.

154. MOTC will assign this work to the Contractor during the warranty period, after the road is fully commissioned, and then after this period, this task will be transferred to the RMC of MOTC.

VII DISCLOSURE OF INFORMATION, CONSULTATION AND PARTICIPATION.

A. Public Consultation Processes and Disclosure of Information.

155. The proposed 4 road sections are the most necessary for the local community in terms of improving road communication and connection to the main project site. Before considering the proposed project sections, the MOTC KR held internal discussions and also took into account the proposals of local authorities.

156. On July 26, 2024, public consultations were held on all proposed 4 road sections, where environmental protection issues were raised and discussed. These public consultations were organized by the PIU of MOTC KR, representatives of the Supervision Consultant, the Contractor, the Aiyl Okmotu and local residents took part.

157. During the public consultations, the local population was informed by the ADB PIU and the CSC about the planned road repairment, complaint handling procedures, environmental protection issues (in particular, removal of unsuitable material, dust control of project sites, ensuring road safety and safety measures). The results of the public consultations are presented in the SIEE Appendix.

Table 17. Public Consultations held in July 2024.

Time	Location	Attendees	Issues Reviewed	Answers and Suggestions for Review
July 26, 2024, 9:30-10:30	Ak-Chiy v. Access road from the main road to Ak-Chiy village is 0.5 km long.	IPIG/MT&R Asylbek Abdygulov - Environmental Specialist of ADB PIU; Aibek Kashimov – Sociologist of the ADB PIU Gentek Consult Alvan Jamalov – International Quality Assurance Engineer; Talant Zhumaliev - Environmental Specialist of the CSC; CR №5 Zhang Zhongyi – Engineer, Contractor's Representative; Berdibek Abylabekov – Contractor's Community Liaison Coordinator; Nurlan Nurdinov – Contractor's Environmental Specialist; Bulanbek Dzhumaliev – Contractor's Safety Engineer.	The local population was provided with information about the planned works, in particular, the overhaul of the access road to Ak-Chiy village, 500 m long. Road category is IV, asphalt-concrete pavement width is 6 meters, shoulders are 1.5 meters, asphalt thickness is 9 cm, installation of a new culvert at the entrance to the village, marking and installation of road signs are planned. The planned works are scheduled for the construction season of 2024. Moreover, information is provided on the existing *Grievance Redress Mechanism*. This step is intended to improve and speed up feedback from the population. Information is provided on reducing environmental and social impacts. **Question** from Alygozhoev Asker Zholchievich. Is it possible to extend the road and construct asphalt through the entire village, the length is approximately another 700 m? Ak-Chiy village is a relatively new settlement and was founded in 1992. The village has 49 households, a Rural Medical Post, and a secondary school designed for 200 students (education is up to grade 11). Currently, students from neighboring villages (Epkin, Uzun-Bulak) come to school. Paving the road through the entire village would significantly improve the situation with access to the main road for the population and would give impetus to the expansion of the village in the future.	**Response from PIU specialists**. Unfortunately, it is currently not possible to extend the section to the end of the village, since the planned work includes road repairment of the existing road. Carrying out any work inside the settlement will require the preparation of additional documents, since it may impact houses and buildings located inside the village. However, when carrying out the work, the possibility of improving the road surface located inside the village will be considered by placing and leveling the street with unsuitable material.

Time	Location	Attendees	Issues Reviewed	Answers and Suggestions for Review
			There were no more questions from the local population. The local population gave its blessing to start the planned works, expressed gratitude to the MOTC KR, CSC and Contractor. And in addition, a request to start the planned works as soon as possible.	
26.07.2024, 11:20-12:40	Lama v. Access road from the main road to Lama village is 6.0 km long.	IPIG/MT&R Asylbek Abdygulov - Environmental Specialist of ADB PIU; Aibek Kashimov – Sociologist of the ADB PIU Gentek Consult Alvan Jamalov – International Quality Assurance Engineer; Talant Zhumaliev - Environmental Specialist of the CSC; CR №5 Zhang Zhongyi – Engineer, Contractor's Representative; Berdibek Abylabekov – Contractor's Community Liaison Coordinator; Nurlan Nurdinov – Contractor's Environmental Specialist; Bulanbek Dzhumaliev – Contractor's Safety Engineer.	The local population was provided with information about the planned works, in particular, the overhaul of the access road to Lama village, 6 km long. Road category is IV, asphalt-concrete pavement width is 6 meters, shoulders are 1.5 meters, asphalt thickness is 9 cm, replacement of the existing culverts, marking and installation of road signs are planned. Moreover, information is provided on the existing *Grievance Redress Mechanism*. This step is intended to improve and speed up feedback from the population. Information is provided on reducing environmental and social impacts. In particular, the issue of dust suppression and possible temporary inconveniences during repair work was raised. The CSC and Contractor will apply an approach to minimize as much as possible discomfort to the local population.	

Time	Location	Attendees	Issues Reviewed	Answers and Suggestions for Review
			There were no questions from the local population. Sharipkalov Marat, on behalf of all residents of Lama village, thanked for the information provided about the planned work. He apologized for the fact that a small number of residents attended the meeting that day. This was due to the fact that the majority of them were harvesting hay, but the information provided would be communicated to all residents. The MOTC KR, CSC and Contractor were blessed to begin the planned work as soon as possible and the population was ready to provide full support for the speedy completion of repair work at this road section.	In addition, the PIU informed that before the start of work, specialists from the PIU, CSC and Contractor will additionally visit the village for an additional meeting and, if necessary, discuss technical issues.
July 26, 2024, 14:00-15:00	Jany-Aryk v., EAccess road from the main road to Kyzart village is 3 km long section with asphalt pavement.	IPIG/MT&R Asylbek Abdygulov - Environmental Specialist of ADB PIU; Aibek Kashimov – Sociologist of the ADB PIU Gentek Consult Alvan Jamalov – International Quality Assurance Engineer; Talant Zhumaliev - Environmental Specialist of the CSC; CR №5 Zhang Zhongyi –	The local population was provided with information about the planned works, in particular, the overhaul of the access road to Kyzart village, 3 km long. Road category is IV, asphalt-concrete pavement width is 6 meters, shoulders are 1.5 meters, asphalt thickness is 9 cm, replacement of the existing culverts, marking and installation of road signs are planned. Moreover, information is provided on the existing *Grievance Redress Mechanism*. This step is intended to improve and speed up feedback from the population. Information is provided on reducing environmental and social impacts. In particular, the issue of dust suppression and possible temporary inconvenience during repair work was raised.	

Time	Location	Attendees	Issues Reviewed	Answers and Suggestions for Review
		Engineer, Contractor's Representative; Berdibek Abylabekov – Contractor's Community Liaison Coordinator; Nurlan Nurdinov – Contractor's Environmental Specialist; Bulanbek Dzhumaliev – Contractor's Safety Engineer.	**Question**. When is the planned work scheduled to begin?	**PIU response**. The preparation of the necessary documents is currently being completed, in accordance with ADB requirements. The road repairment is scheduled for the 2024 construction season.
			Question. Will the planned work interfere with watering and access to the house?	**PIU response**. The planned works include replacement of 10 existing culverts. The works on replacement of culverts will be carried out during the period of minimum water level or during the period of absence of water. The Contractor will carry out dust suppression, in turn, the CSC will conduct constant monitoring of these works. In addition, instrumental monitoring (by certified accredited laboratories) will be carried out to determine the level of air pollution. As for access to residential buildings, the CSC and the Contractor will apply an approach to minimize discomfort to the local population as far as possible.
			Question. Will lighting be installed?	**PIU response**. Lighting in the settlement is not provided, as it is planned to carry out road repairment of the existing road section. Lighting is not provided as part of the planned work.
			Residents of Kyzart village thanked the MOTC KR and asked to speed up the start of the planned works. In additions, the population expressed its readiness to provide full support to the Contractor in carrying out repair works on this road section.	

Time	Location	Attendees	Issues Reviewed	Answers and Suggestions for Review
July 26, 2024, 15:30-16:30	Kuyruchuk v.	IPIG/MT&R Asylbek Abdygulov - Environmental Specialist of ADB PIU; Aibek Kashimov – Sociologist of the ADB PIU Gentek Consult Alvan Jamalov – International Quality Assurance Engineer; Talant Zhumaliev - Environmental Specialist of the CSC; CR №5 Zhang Zhongyi – Engineer, Contractor's Representative; Berdibek Abylabekov – Contractor's Community Liaison Coordinator; Nurlan Nurdinov – Contractor's Environmental Specialist; Bulanbek Dzhumaliev – Contractor's Safety Engineer.	The local population was provided with information about the planned works, in particular, the overhaul of the access road to Kyzart village, 3 km long. Road category is IV, asphalt-concrete pavement width is 6 meters, shoulders are 1.5 meters, asphalt thickness is 9 cm, replacement of 1 culvert, marking and installation of road signs are planned. Moreover, information is provided on the existing *Grievance Redress Mechanism*. This step is intended to improve and speed up feedback from the population. Information is provided on reducing environmental and social impacts. In particular, the issue of dust suppression and possible temporary inconvenience during repair work was raised. Major repairs are scheduled for the 2024 construction season.	

Time	Location	Attendees	Issues Reviewed	Answers and Suggestions for Review
			Question. Why isn't the road being constructed further towards the pass to the Son-Kol Lake from the Shilvili section? This section is necessary to provide access to pastures and access for tourists to the Son-Kol Lake.	**PIU response**. Initially, a 1.5 km section was included in the plan for road repairment. The PIU and CSC considered including an additional 10 km section from the Shilvili area towards the pass leading to the Son-Kol Lake. However, during a detailed study of the section in July in this year, together with the ADB Mission, it was determined that this section can be subject to road repairment only after a full study and preparation of a separate IEE. Since, without a full study of possible impacts on the environment, any work will be impossible.
			Question. To allocate inert material for Kuyruchuk village, since the Contractor's camp, asphalt plant, crushing plant and quarries are located on the territory of the aiyl okmotu.	**Contractor's response**. The Contractor will assist in the allocation of inert material where possible, but this issue shall be resolved within the framework of current legislation.
			Question. Local residents expressed dissatisfaction with the length of 1.5 km of the road repairment. Considering that the Contractor's main camp, as well as the asphalt plant, crushing plant and main quarry are located on the territory of the aiyl okmotu, the length of the road under reconstruction should be increased or the section from the Shilvili site towards the pass leading to the Son-Kol Lake should be increased.	**PIU response**. Taking into account that without conducting a full study of possible impacts on the environment and preparing an IEE, it is not impossible to carry out any work.

Time	Location	Attendees	Issues Reviewed	Answers and Suggestions for Review
			Question. Based on the response of the PIU, local residents expressed their indignation at this campaign. Local residents proposed that if the section from the Shilvili site towards the pass towards the Son-Kol Lake is not included, then additional road sections inside Kuyruchuk village should be included in addition to the proposed 1.5 km section. Or it is necessary to review the option of additionally widening the reconstructed section of the main project road at the beginning and end of Tugol-Sai village (Tugol-Sai village is located on the project road section.	**PIU response**. The section from the Shilvili site towards the pass to the Son-Kol Lake will not be included in the road repairment due to the need to conduct a full study of possible environmental impacts and prepare an IEE. As for the inclusion of additional sections in Kuyruchuk village, this proposal will be submitted for study by the CSC. There is a possibility that in the case of inclusion of other road sections inside Kuyruchuk village, there may be an impact on land plots, and this will require a full study of the LARP preparation. The MOTC and CSC do not have the necessary time and funds for this.
			Residents of Kuyruchk village expressed dissatisfaction regarding the planned work only at 1.5 km.	

VIII GRIEVANCE REDRESS MECHANISM.

Grievance Redress Mechanism.

Goals.

158. The planned works will use the grievance mechanism established under the main project to deal with complaints/appeals. This will allow Affected Persons to appeal any unpleasant decision, practice or activity. Affected Persons will be fully informed of their rights and the grievance procedures, orally or in writing, during consultations, surveys, as well as the timing of compensation and project implementation. Steps will always be taken to prevent a grievance rather than going through a lengthy redress process.

159. The GRM will include aspects related to social, environmental and other safeguard issues in accordance with mandatory ADB Safeguard Policy Statement and Kyrgyz law.

Grievance Redress Group (GRG).

160. In 2017, the GRG was established as part of the main project and continues to operate to this day. The GRG's task includes all activities necessary to discuss grievances, assess their validity, assess the scale of potential impacts, address potential compensation issues, and provide guidance on the operation of the grievance mechanism/facilitate its operation.

b.1 GRG Work within the scope of the Grievance Redress Mechanism

161. The Grievance Redress Mechanism (GRM) includes the following 2 stages of grievance redress:

Stage 1, Local Level (at the village level)

162. The grievance is initially submitted at the level of the rural community where the complainant lives. The complainant reports his/her grievance to the local contact person (LCP). The LCP initiates the work of the GRG, which assesses the situation and seeks a solution through negotiations with the complainant, the local road maintenance company (RMC), the regional Ombudsman and the selected representative of the affected person.

Stage 2, Central Level

163. If within an additional 15 days the grievance is still not resolved at the local level, the complainant forwards his/her issue to the main office of the MOTC (Bishkek), again with the support of the LCP, his/her representative and the regional Ombudsman. The GRG determines the validity of the grievance and makes a decision in agreement with the PIU/MOTC.

164. The work of the GRM involves one or more meetings for each grievance and may require field investigations by special technical experts or assessors. Claims submitted by more than one complainant may be consolidated into a single case.

165. Meetings to consider grievances at the local level will be held in the villages of the complainants. Meetings to consider grievances at the central level will be held in the building of the MOTC (Bishkek), and members of the GRG will also visit the villages to see the complainants.

GRG Composition.

166. GRG was created by order of MOTC. At different levels of grievance submission, the GRG consists of the following persons/employees.

GRG at Local Level.

167. The GRG will be formed by order of the MOTC. The GRG will consist of the following persons/employees at various levels of appeal:

Table 18. Local GRG Composition.

Members	**Position**
Head of aiyl-okmotu	LCP
Representative of RMC	Members
2 representatives of the APs	Members
Regional Ombudsman	Member

GRG at Central Level.

168. At the central level, the following 6 people will be part of the GRG.

Table 19. Central GRG Composition.

Members	**Position**
Head of MOTC PIU	Chairman
Project Coordinator of PIU	Member
Representative of Safeguards Department of PIU (Ecology)	Member
Representative of Safeguards Department of PIU (Resettlement)	Member
Representative of RMC	Member
Regional Ombudsman	Member

169. At each level of grievances, the work of the GRG will be assisted, if necessary, by the professional staff required to resolve each individual case. This will include, among others:

- Representatives of the District State Administration;
- Representatives of the District Branch of the State Agency for Architecture and Construction;
- District branches of Cadastre State Institution;
- Ministry of Water Resources, Agriculture and Processing Industry
- Ministry of Natural Resources, Ecology and Technical Supervision;
- State Agency for State Property Management;
- Technical knowledge of professional engineers.

Responsibilities of GRG Members.

Local Contact Person (LCP)/Head of Aiyl Okmotu.

170. Upon receipt of a written notice of grievance, the LCP takes the following measures:

- draws up a grievance note, which is signed by the complainant and the LCP, indicating the full name of the complainant, the date and place of the grievance submission, with a description of the grievance and with the provision of supporting documents (if any);
- sends a grievance note to all members of the local GRG, convenes them for a meeting of the GRG and sets the date of the first meeting to consider the grievance (and subsequent ones, if necessary);
- sends a request to the village authorities to organize a meeting(s);
- chairs the meetings of the GRG;
- forwards requests and questions from complainants to the PIU/MOTC and other GRG members at the village level;
- keeps minutes of all meetings and contacts with complainants;
- acts as a witness for appeals of cases at all levels;
- provides administrative and organizational support to the work of the GRG members;
- disseminates information about the GRM to affected local communities.

Representative of RMC.

171. Upon receipt of a grievance notice and an invitation to a consultation to consider the grievance from the LCP, the representative of the RMC takes the following measures:

- contacts the complainant(s) and prepares a note with his/her understanding of the grievance;
- registers grievances and submitted supporting documents;
- participates in all meetings to consider grievances, expresses his/her opinion and carries out analysis, keeps minutes of discussions;
- accompanies appraisers at the site (if their involvement is necessary);
- Based on the reports of the GRG members setting out their position and understanding of the case (the essence of the grievance), prepares a final report on the grievance redress and recommendations that will be sent to the complainant, other members of the GRG and the PIU. The report may indicate that: i) the case has been resolved without further action; ii) the case can be resolved, but compensation shall be paid or other action taken; iii) the case remains unresolved;
- if the grievance is recognized as valid and the PIU has approved the required compensation/required action, deals with the issue of payment of compensation or execution of the appropriate action to redress the grievance;
- upon receipt of a notification from the LCP that the complainant with an unresolved claim wants to submit his/her grievance at a higher level, informs the PIU/MOTC about this and starts organizing a meeting to redress the grievance at the central level.

Representatives of LCP.

172. Two representatives of the LCP from the affected community will attend all GRG meetings, and:

- will participate in all grievance redress meetings;
- will provide relevant information related to grievances submitted;
- will provide other GRG members with a note outlining their position, which will be reflected in the final report of the meeting.

Ombudsman.

173. Upon receipt of a grievance notice and an invitation to a meeting to redress the grievance from the LCP, the Ombudsman shall take the following measures:

- monitors the grievance redress process and ensures that decisions taken by the GRG are fair and objective;
- expresses his/her independent opinion and makes recommendations related to the decision taken by the GRG on the grievance;
- notifies the complainant(s) of his/her/their rights to receive compensation (if necessary);
- participates in all meetings of the GRG and site visits;
- participates in the assessment carried out at the site (if such an assessment is required);
- after the meeting(s), prepares a note setting out his/her position and sends it to the LCP/Chairman of the GRG.

Chairman of GRG/ Head of MOTC PIU.

174. Upon receipt of notification that the complainant has submitted his/her grievance at the central level, the Chairman of the GRG shall take the following measures:

- contacts the complainant(s) and prepares a note with his/her understanding of the grievance;
- involves members of the GRG through a written invitation;
- chairs meetings of the GRG and ensures that minutes of the meetings are distributed to all interested parties;
- familiarizes himself with the content of each decision prepared after discussions to ensure the correctness and consistency of the answers provided to complainants;
- provides administrative and organizational support in the work of the GRG members;
- supports the decision taken by the GRG and ensures control over its implementation.

Project Coordinator of PIU.

175. Upon receipt of a notification that the complainant has submitted his/her grievance at the central level, the Project Coordinator of the PIU shall take the following measures:

- contacts the complainant(s) and writes a note with his/her understanding of the grievance;
- participates in the meeting to redress the grievance, expresses his/her opinion and carries out an analysis, keeps minutes of the discussions;
- if necessary, calls the appraisers again and accompanies them to the site;
- asks the Chairman to organize meetings (if necessary);
- maintains contact between the GRG and the complainants.

Representatives of Safeguards Department of PIU.

176. Upon receipt of notification that the complainant has submitted his/her grievance at the central level, the representatives of the Safeguards Department and the Technical Department of PIU shall take the following measures:

- prepare a chronology of events to understand the sequence of circumstances leading up to the grievance;
- express their views on environmental and resettlement issues in relation to the impact claimed by the complainant;
- contact the Chairman with a request to organize meetings (if necessary);
- maintain contact between the GRG and complainants.

Technical Specialists.

177. Upon receipt of a notice for professional advice to assess the impact claimed by the complainant, the relevant technical specialist will conduct the necessary research and prepare a report, which will be provided to the complainant and other members of the GRG. The technical specialist's duties include the following:

a. to provide an appropriate technical opinion on the matter under consideration;
b. to conduct the necessary research in accordance with their qualifications;
c. to give a recommendation if a legal opinion is required from the relevant government authorities.

B. Grievance Redress Process

178. The LCP of GRG will be available at all times to address concerns and grievances from affected persons. He/she will assist dissatisfied affected persons in formally submitting their grievances to the GRG. Grievances received from APs will be dealt with in the manner described below.

Table 20. Grievance Redress Process

Stages	Redress Level	Process
Stage 1	Negotiation	At the initial stage, the LCP listens to the dissatisfied person and tries to find acceptable solutions to his/her problem. If the dissatisfied AP is not satisfied with the solution found, he/she submits his/her grievance in writing to the relevant local GRG within 7 days.
Stage 2	Grievance redress at the local GRG level	Upon receipt of a written grievance by the AP, the LCP prepares a file for a consultation and consideration of the grievance by the GRG. The formal consultation is held with the participation of the GRG on a date set by the LCP and agreed upon with the dissatisfied AP. On the day of the consultation, the dissatisfied AP appears before the GRG in the building of the relevant ayil okmotu and presents evidence to support his/her grievance. The LCP records the complainant's statements and documents all evidence. The decision of the majority of the GRG members is considered final. This decision is issued by the LCP and signed by other GRG members. The recorded materials on the grievance are updated, and the LCP communicates the decision to the AP within 15 days of submission. If the dissatisfied AP is not satisfied with the decision, the LCP submits his/her grievance in writing to the central GRG under the MOTC along with the conclusion and supporting documents prepared at the local level.
Stage 3	Grievance redress at the central GRG level	Upon receipt of a written grievance from a AP, the Chairperson of the central GRG prepares a File for Consultation and Consideration of the Grievance by the Grievance Redress Group. A formal consultation is held with the participation of the GRG on a date set by the Chairperson of the GRG and agreed upon with the dissatisfied AP. The GRG contacts the

		complainant and visits his/her village. The Project Coordinator of PIU records the complainant's statements and documents all evidence. The decision of the majority of the GRG members is considered final. This decision is issued by the Chairperson of the GRG and signed by the other members. The recorded materials on the grievance are updated and the Project Coordinator of PIU communicates the decision to the affected complainant within 15 days of submission.

179. If the grievances of dissatisfied APs are not addressed through the grievance redress system, they may seek the desired remedy at any time and at any stage from the relevant court at their own expense. At any stage after the registration of grievances in the GRM log, APs have access to the ADB Reporting Mechanism.

180. The Grievance Redress Process is shown in the flow chart below.

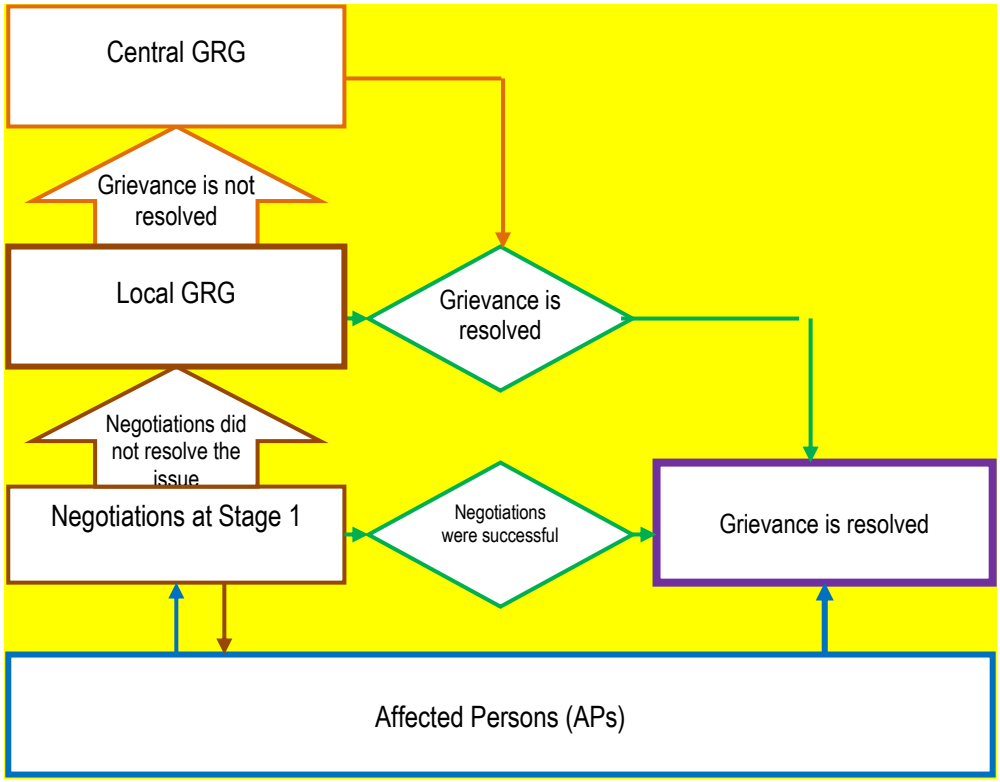


Figure 14. Grievance Redress Process.

GRG Reporting and Documentation.

181. The MOTC PIU will maintain a record of all grievances for regular monitoring of grievances and the results provided by the GRG, as well as for periodic verification by ADB.

IX. SITE-SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN.

Organizational Structure.

182. The relevant institutions working with the project include the Ministry of Finance of the KR, the Ministry of Transport and Communications of the KR (EA), the Project Implementation Unit (PIU) of the MOTC KR, the Ministry of Natural Resources, Ecology and Technical Supervision of the KR (MNRETS), the Disease Prevention and State Sanitary and Epidemiological Surveillance Department of the Ministry of Health of the Kyrgyz Republic.

183. MOTC KR is responsible for the development of the transport sector and is the Executing Agency (EA) of the project. MOTC has overall responsibility for planning, design, implementation and monitoring of the project. MOTC PIU carries out the tasks assigned by MOTC.

184. MF KR is an authorized state body responsible for coordinating actions with the ADB and other donors regarding issues of foreign aid.

185. MNRETS KR is the leading state environmental agency responsible for the state policy in this area and coordinating the actions of other state bodies in these matters. Its functions include:

- development of environmental policy and its implementation;
- conducting state environmental assessments;
- issuance of environmental licenses;
- environmental monitoring;
- provision of environmental information services.

186. MNRETS KR carries out its activities in accordance with the Law "On the procedure for conducting inspections of business entities". In addition, it carries out supervision over compliance in accordance with the established procedure:

i. environmental legislation, established rules, limits and standards for the use of natural resources, standards for emissions and discharges of pollutants and waste disposal in the natural environment;
ii. industrial safety requirements during construction, expansion, reconstruction, technical re-equipment, operation, conservation and liquidation of hazardous production facilities;
iii. land legislation requirements;
iv. safety requirements for equipment and means for storing and dispensing petroleum products and gases, overhead cranes;
v. safety requirements for operation during construction, installation and adjustment of electrical networks and electrical equipment.

187. DPSSESD carries out supervision in the sphere of sanitary and epidemiological welfare of the population, safety of goods, products, environmental objects and conditions, prevention of harmful effects of environmental factors on human health.

188. Kyrgyzstan has also developed a sector of non-governmental organizations that actively participate and sometimes lead in addressing environmental issues in the country.

189. The CSC and the PIU will take the following measures to ensure compliance with environmental laws in accordance with the SSEMP during the implementation of the Project:

(i) The CSC and the PIU will inform the Contractor and the Contractor's obligations regarding the implementation of measures to reduce adverse environmental impacts set out in the SSEMP will be clearly defined.
(ii) The cost of mitigating adverse environmental impacts is included in the Bill of Quantities as separate items. This will ensure that there is a dedicated budget for mitigating adverse environmental impacts that will be used as needed.
(iii) The Contractor will provide an environmental, health and safety specialist who will be responsible for the implementation of the Contractor's environmental obligations. The Contractor will also be responsible for occupational health and safety issues at work sites.
(iv) The CSC will carry out environmental monitoring and assist the PIU in implementing the SSEMP and monitoring the implementation of mitigation measures by contractors.

Reporting Requirements.

190. MOTC (PIU), with the support of the Consultant, will monitor the work on compliance and implementation of the safeguards specified in the SSEMP. The results of the monitoring will be reflected in monthly progress reports. In this regard, during the construction phase, the Construction Supervision Consultant will prepare and submit to MOTC semi-annual reports on the results of the monitoring within 1 month after the reporting period. These reports will then be posted on the ADB and MOTC websites.

Site-Specific Environmental Management Plan.

191. The SSEMP covers new sections of additional roads and describes the various measures proposed under the Project designed to prevent, minimize or offset adverse environmental impacts that may result from the Project.

192. The SSEMP consists of two tables. Table 21 provides a summary of the environmental impact mitigation activities, and Table 22 provides general information on environmental monitoring. Finally, a provision is provided that includes timelines and obligations for environmental monitoring.

Table 21. Site-Specific Environmental Management Plan.

MEASURES TO REDUCE ADVERSE IMPACTS AT THE STAGE OF PREPARATION FOR CONSTRUCTION, DURING CONSTRUCTION AND EXECUTION OF WORKS				
Work Item	**Potential Impact**	**Impact Mitigation Measures**	**Responsible Party**	
			Implementation	Supervision
CONSTRUCTION PHASE				
Preservation of the topsoil.	Degradation of the topsoil.	Removal of topsoil within the clearing corridor. Topsoil should be removed and stored for reuse. Long-term topsoil stockpiles will be immediately protected to prevent erosion or degradation of fertility. Fast-growing vegetation, such as grass, will be grown on them to protect against erosion.	Contractor	CSC, PIU
In areas where the base of the project road embankment is very close to tree plantations.	Potential damage to trees during construction work.	Provide temporary protective fencing for plants during construction work.	Contractor	CSC
Water channels, rivers, surface water drainage.	Potential water pollution.	To prevent water pollution, reduce emissions and protect water quality, it is necessary: • To prevent interference with the natural water flow of rivers, streams or creeks within or adjacent to the Works, and prevent diversion of water from water sources at the Site and polluting them; • To prevent water streams, rivers, creeks, drains, canals and ditches within or adjacent to the Works from being polluted, silted up, flooded or eroded as a result of the Project activities; • Description and layout of maintenance areas for fuel and lubricant storage equipment and facilities, including distance from water sources and irrigation facilities. Fuel and chemical storage facilities will be located away from water courses. Such facilities will be limited and provided with a hermetic lining to contain spills and prevent contamination of soil and water. • To conduct sediment containment, such as silt fences, sediment weirs, and other structures to prevent siltation and sediment movement during project activities near rivers and streams; • Not to allow construction water with sediment or materials (including excavation spoil) to be discharged directly into surface water. • To store hydrocarbons and petroleum materials	Contractor	CSC, PIU

MEASURES TO REDUCE ADVERSE IMPACTS AT THE STAGE OF PREPARATION FOR CONSTRUCTION, DURING CONSTRUCTION AND EXECUTION OF WORKS				
Work Item	**Potential Impact**	**Impact Mitigation Measures**	**Responsible Party**	
			Implementation	Supervision
		used for asphalt concrete mixtures and other chemicals in secure and sealed containers or tanks located away from surface water. Storage areas will be built on a concrete foundation or other protective casing that will allow spills to be collected in containers and cleaned up immediately.		
	Competition for water resources.	Before construction of work camps, to consult with local authorities to identify water sources whose use will not compete with the needs of local populations.	Contractor	CSC
Selection and preparation of the site, operation of the contractor's building materials storage areas (continued).	Risks to the health and safety of workers and surrounding communities.	To protect the health and safety of workers and surrounding communities, the following shall be provided: • adequate medical facilities (including first aid stations) within construction sites; • training of all construction workers in basic sanitation, medical care, occupational health and safety, and the specific risks of their work; • personal protective equipment for workers such as safety shoes, helmets, gloves, protective clothing, goggles and ear protection in accordance with legislation; • clean drinking water for all workers; • proper protection for the public, including safety fences and marking of danger zones; • safe passage through the construction site for people whose houses and road accesses are temporarily separated due to road construction; • proper drainage throughout the camp to prevent the formation of standing water and puddles; • the Contractor will clear on the regular basis toilets and garbage bins at the construction site to prevent outbreaks of epidemics. Where possible, the Contractor will arrange for temporary waste removal from work sites with existing waste collection systems and treatment facilities in	Contractor	CSC, PIU

MEASURES TO REDUCE ADVERSE IMPACTS AT THE STAGE OF PREPARATION FOR CONSTRUCTION, DURING CONSTRUCTION AND EXECUTION OF WORKS				
Work Item	**Potential Impact**	**Impact Mitigation Measures**	**Responsible Party**	
			Implementation	Supervision
		nearby communities.		
Construction site operation / Operation of equipment maintenance and fuel storage areas.	Worker health and soil/water pollution.	The Contractor shall employ a qualified occupational health and safety expert who shall conduct safety training for the personnel in accordance with the requirements of the individual workplace. Before the commencement of work, the construction site personnel shall be familiarized with the safety regulations for handling hazardous substances (fuel, oil, lubricants, bitumen, paint, etc.) and their storage, as well as for cleaning the equipment. In preparing such training, the Contractor shall draw up a short list of materials (a list of options compiled by selection from the options of the extended list) to be used (in terms of quality and quantity) and provide a rough concept of the training/instruction for the construction workers. Fuel and chemical storage facilities shall be located away from watercourses. Such facilities shall be enclosed and provided with a sealed lining to contain spills and prevent contamination of soil and water. Store and dispose of waste/used oil in accordance with environmental protection legislation. Restoration of work areas: after completion of construction work, the Contractor shall carry out all work necessary to restore the original condition of the areas (removal and proper disposal of all materials, waste, structures; surface modeling (if necessary); distribution and leveling of accumulated topsoil).	Contractor	CSC, PIU
Construction camp.	Road construction projects have a high potential to impact on local communities and the health and well-being of those living in or near temporary work camps, contributing to the spread	Provision of information to workers that will encourage personal behavioural changes and encourage the use of precautionary measures. The purpose of providing such information is to reduce the risk of HIV/STI transmission among construction workers, camp support staff and the local community. Training of all construction workers in basic sanitation and health, general health and safety issues and the	Contractor	CSC, PIU

MEASURES TO REDUCE ADVERSE IMPACTS AT THE STAGE OF PREPARATION FOR CONSTRUCTION, DURING CONSTRUCTION AND EXECUTION OF WORKS				
Work Item	**Potential Impact**	**Impact Mitigation Measures**	**Responsible Party**	
			Implementation	Supervision
	of sexually transmitted diseases and HIV/AIDS. In addition, the transport sector itself actually helps spread epidemics, as infrastructure and associated transport services help people and infections move.	specific hazards of their work; Personal protective equipment for workers such as safety boots, helmets, gloves, protective clothing, goggles and ear protection in accordance with legislation; - clean drinking water for all workers; proper public protection, including protective barriers and marking of hazardous areas; - safe access through the construction site for people whose settlements and access are temporarily disrupted by road construction; - proper drainage in all camps to prevent stagnant pools and puddles from forming; - sanitary latrines and waste bins at the construction site, which will be periodically cleaned by the Contractor to prevent outbreaks of disease. Where possible, the Contractor will arrange for temporary waste collection from the worksites into existing waste collection systems and disposal facilities of nearby communities; Prior to commencement of work, the worksite personnel shall be instructed in the safety regulations for handling and storing hazardous substances (fuels, oils, lubricants, bitumen, paints, etc.). In preparation for this, the Contractor shall draw up a short list of the materials to be used (in quality and quantity) and provide a rough outline explaining the training/instruction to be provided to the construction personnel.		
Earthworks and various construction works.	Damage to the topsoil.	The topsoil in areas that will be used to store excess construction material on road embankments shall be removed and stored for reuse to cover these areas upon completion of the work. In addition, a soil management plan shall be developed detailing the measures to be taken to minimize the effects of wind and water erosion at the spoil areas; measures to reduce degradation of the topsoil; timing; transport routes; waste disposal and disposal sites.	Contractor	CSC
Earthworks and various construction works (continued).	Siltation of surface waters and/or impact on soils	Almost all of the excavated soil will be reused. In addition, the old asphalt pavement will be reused to	Contractor	CSC

MEASURES TO REDUCE ADVERSE IMPACTS AT THE STAGE OF PREPARATION FOR CONSTRUCTION, DURING CONSTRUCTION AND EXECUTION OF WORKS				
Work Item	**Potential Impact**	**Impact Mitigation Measures**	**Responsible Party**	
			Implementation	Supervision
	due to improper disposal of excess materials.	construct the new pavement. Thus, the potential impact associated with the need to dispose of excess material will be minimized.		
	Air pollution due to exhaust emissions from construction equipment.	The Contractor will maintain construction equipment in good condition and avoid running engines at low speeds (idling of engines) whenever possible. The use of machinery or equipment that causes excessive air pollution (e.g. smoke) is prohibited.	Contractor	CSC
	Dust rising from excavation work and a truck driving on a paved road in a sensitive area	Sprinkling water on the surface of the dirt road every 2 hours when it is dry and there is a strong wind. Sprinkling water during dry periods and imposing strict speed limits of no more than 30 km/h on the rehabilitation areas will control dust on the construction site. Water for dust suppression will be taken from the following water bodies: - Ak-Chiy v. - the Kara Suu river - Lama v. - the Cholok ditch, Karol ditch, Ichke Kyzart river. - Kuyruchuk v. - daily pond pool, Jumgal suu - Jany-Alysh v. - Jumgal suu	Contractor	CSC
	Disturbance of nearby settlements due to increased noise levels.	Restrict work from 08:00 a.m. to 07:00 p.m. within 500 m of populated areas. In addition, a limit of 70 dBA shall be established and strictly observed near the construction site.	Contractor	CSC
	Soil compaction due to heavy equipment.	Restrict the operation of heavy equipment within the corridor that is essential for road construction to avoid compaction of soil near the road and on agricultural lands located near the road.	Contractor	CSC
Earthworks and various construction works (continued).	Creating inconvenience to the traffic flow.	Submit a traffic management plan to local transport authorities prior to mobilization. Provide the public with information about the scale and schedule of construction work, as well as expected	Contractor	CSC, PIU

MEASURES TO REDUCE ADVERSE IMPACTS AT THE STAGE OF PREPARATION FOR CONSTRUCTION, DURING CONSTRUCTION AND EXECUTION OF WORKS				
Work Item	**Potential Impact**	**Impact Mitigation Measures**	**Responsible Party**	
			Implementation	Supervision
		disruptions to normal life and restrictions on access/travel/passage. Provide for proper traffic flow bypassing construction sites.		
Quarry operation	Increased dust emissions. Siltation and obstruction of surface waters.	Wet aggregates and/or to provide cover on dump trucks to minimize dust emissions and material spills. Locate stockpiles away from surface water.	Contractor	CSC, PIU
Aggregate crusher operation	Increased dust and noise emissions	Careful selection for the aggregate crusher location so as not to interfere with the operation of any social facility. The distance to the nearest settlement and residential buildings is at least 300 m downwind. Spray water on the surface of the crushed material every 2 hours when it is dry and there is a strong wind.	Contractor	CSC, PIU
Asphalt plant operation	Water pollution due to spilled bitumen.	Asphalt plants shall be located 500 m downwind from any populated areas or residential buildings. Bitumen shall not be allowed to flowing water or dry river beds, nor shall it be disposed of in ditches or small waste disposal areas prepared by the Contractor. Bitumen storage and mixing areas shall be protected from spills and all contaminated soil shall be handled in accordance with current environmental requirements. Such storage areas shall be maintained so that any spills can be immediately contained and cleaned up.		
Construction work in close proximity to existing infrastructure, including water pipes and other utility lines, wastewater disposal facilities, power lines, etc.	Damage to infrastructure, interruption of household communications in infrastructure enterprises.	During the engineering design, measures will be taken to prevent any disruption to the existing infrastructure. The relevant authorities shall be informed about construction work before the project is commenced. If it is necessary to interrupt the operation of any public utility service, it is necessary to coordinate this with the relevant departments and notify the population in advance.	Contractor	CSC, PIU
Rehabilitation work in villages and around	Noise exceeding current	For sensitive recipients such as schools and hospitals, it	Contractor	CSC, PIU

MEASURES TO REDUCE ADVERSE IMPACTS AT THE STAGE OF PREPARATION FOR CONSTRUCTION, DURING CONSTRUCTION AND EXECUTION OF WORKS				
Work Item	**Potential Impact**	**Impact Mitigation Measures**	**Responsible Party**	
			Implementation	Supervision
sensitive impact sites such as schools, hospitals and mosques.	noise standards. Vibrations may cause damage to local infrastructure, including private property and local (transport) roads.	is necessary (as far as technically feasible) to comply with current noise standards by measuring noise levels and, if standards are exceeded, to set time restrictions for construction work between 8.00 am and 7.00 pm. In the event of potential damage to local infrastructure, including private property and local (transport) roads, compensation procedures shall be established. These shall be prepared before construction begins and approved by the Engineer. Grievance procedures should also be established to facilitate communication between the Contractor and people who may be affected. In addition, the Contractor and local authorities should discuss and jointly approve transport routes and access roads to the construction site to minimize the risk of conflict.		
Dust suppression	The uncontrolled dust formation in places where construction equipment is operating, as well as when hauling inert material	It is necessary to carry out work on watering construction sites. Taking into account temperature conditions, increase/decrease the intensity of watering, as well as increase the number of watering equipment	Contractor	Contractor CSC PIU
OPERATION PHASE				
Increasing the intensity of traffic flow.	Increased levels of waste gas emissions and noise pollution due to increased traffic volumes. In addition, there has been an increase in the number of accidents involving pedestrians and vehicles due to increased traffic volumes and high speeds as a result of improved road surface design.	Include safety measures in the engineering design, such as speed limit signs, appropriate road markings, street lighting, pedestrian crossings, cattle passes and other visual aids.	Design Consultant	CSC

MEASURES TO REDUCE ADVERSE IMPACTS AT THE STAGE OF PREPARATION FOR CONSTRUCTION, DURING CONSTRUCTION AND EXECUTION OF WORKS				
Work Item	**Potential Impact**	**Impact Mitigation Measures**	**Responsible Party**	
			Implementation	Supervision
Damage to the drainage system or uncontrolled erosion.	Harmful effects on the environment resulting from damage to drainage systems or uncontrolled erosion.	Systematic monitoring of drainage systems and erosion control at least twice a year.	MOTC PIU	PIU
Air quality	Some increase in air pollution in villages near the road. Impact on flora and fauna.	Water is used for dust suppression. It is prohibited to operate an asphalt plant with a faulty cleaning system. Mandatory technical inspection of heavy equipment.	Contractor	CSC, PIU
Flora and fauna	Population decline and habitat disturbance	Construction equipment operates only in the specified areas of access roads. Sections located in the area of human activity do not require any special measures to protect flora and fauna.	Contractor	CSC, PIU
Waste	Environmental pollution (water sources, groundwater, soil)	All waste is collected and transported to an approved disposal site or authorized landfill.	Contractor	CSC, PIU
Discovery of cultural and historical heritage sites (CHHS)	Discovery of random finds of CHHS at the construction site	In case of discovery of cultural finds or other significant finds during excavation work, all works will be stopped at this site. Immediately inform the CSC and PIU of MOTC KR. The MOTC KR will inform the Ministry of Culture and, if necessary, involve an archaeologist to study the discovered finds. Work will be resumed only after receiving official permission from PIU of MOTC KR and the CSC.	Contractor	CSC, PIU

Environmental Monitoring Plan.

193. Environmental monitoring is an important aspect of environmental management during the project construction and operation phases to ensure environmental protection. During construction, environmental monitoring will ensure that the embankment is protected from potential soil erosion and that soil reserves are restored, and will monitor the location of work areas, material storage areas, asphalt plants, community relations and safety precautions. During the execution of works, monitoring of noise levels, air quality and surface water will be an important parameter of the control program.

Table 22. Environmental Monitoring Plan.

Issue	What parameter is needed to be controlled?	Where should the parameter be controlled?	How should the parameter be controlled?	When should the parameter be monitored? Frequency	Responsible Party
Construction Phase					
Surface water quality (rivers)	Transparency, suspended solids, Biochemical Oxygen Demand (BOD_5), petroleum products	A river in Ak-Chiy village, the Jumgal river (access road to Jany-Aryk village), an irrigation canal at the beginning of Lama village, an irrigation canal at the end of Jumgal village (access road to Lama village), an irrigation canal in Jumgal village (access road to Lama village), an irrigation canal at the end of the project site (access road to Kuyruchuk-Shilvili village)	Using laboratory tests from the accredited laboratory	During construction work at points located near sensitive impact recipients, on a quarterly basis	CSC, MOTC PIU
Noise/vibration Rehabilitation works within populated areas where the Project road runs close to sensitive impact receptors such as schools, hospitals, mosques, bazaars and other sensitive socio-economic infrastructure	Before and during construction work within the identified areas of increased environmental sensitivity and in the immediate vicinity of sensitive recipients of impact, regularly to monitor the noise level using a portable measuring device. In case of exceeding noise standards, to introduce time restrictions for construction work.	Ak-Chiy village, mosque, Jumgal village, the beginning of the access road to Lama village, Jany-Aryk village, mosque, Kuyruchuk village, the beginning of the planned Kuyruchuk-Shilvili road	Using a portable noise/vibration meter	During construction work in areas located near sensitive impact receptors, on a quarterly basis	CSC, MOTC PIU

Issue	What parameter is needed to be controlled?	Where should the parameter be controlled?	How should the parameter be controlled?	When should the parameter be monitored? Frequency	Responsible Party
Air quality deterioration	Dust, noise,SO2, NO2, CO	Instrumental monitoring at points that fall or are defined as "sensitive: Ak-Chiy village (mosque); Jumgal village, the beginning of the access road to Lama village; Kuyruchuk village, the beginning of the Kuiruchuk-Shilvili access road	Using an appropriate portable measuring instrument	During construction work in areas located near sensitive impact receptors, on a quarterly basis	CSC, MOTC PIU
Potential tree felling due to embankment being constructed in areas located near tree trunks	Trees located on the new designed embankment	In appropriate tree locations	Inspections, monitoring. It is allowed to build an embankment up to 30 cm high at the base of the zone adjacent to tree trunks. Filling more than 30 cm will damage the tree, and felling will be necessary. The decision is made by the Construction Supervision Consultant.	During the construction phase	Construction supervision (CS)
Preservation of the topsoil	Arrangement of stockpiles and protective measures	Construction site	Inspections, monitoring	When preparing a construction site, after creating stockpiles and after completing work on the shoulders	Construction supervision (CS)
Maintenance and refueling of equipment	Preventing oil and fuel spills	Contractor's building materials storage area	Inspections, monitoring	Unannounced inspections during construction	Construction supervision (CS)

Issue	What parameter is needed to be controlled?	Where should the parameter be controlled?	How should the parameter be controlled?	When should the parameter be monitored? Frequency	Responsible Party
Safety and health of workers	Official approval of the work camp. Availability of appropriate personal protective equipment. Organization of traffic flow on the construction site. Conducting safety training for personnel in accordance with the requirements of the individual workplace.	Construction site and work camp	Inspection, surveys, comparisons with the Contractor's method statement	Weekly site visits by an empoyed health and safety specialist. Unannounced inspections during construction and when complaints are received.	Construction supervision (CS)
Training for workers on AIDS and STDs	Has appropriate training been provided?	The decision will be made by the appointed CSC	The decision will be made by the appointed CSC	After the work commencement and at certain intervals throughout the construction	Construction supervision (CS)
Material supply Asphalt production plant (asphalt plant)	Availability of official approval or valid operating permit	Asphalt production plant (asphalt plant)	Inspections	Before work commencement	Construction supervision (CS)
Quarry zones	Availability of official approval or valid operating permit	Sand and gravel reserve soil and/or quarry	Inspections	Before work commencement	Construction supervision (CS)
Materials transportation Asphalt	Is the load in the vehicles covered and dampened?	Construction site / transportation routes	Inspections	Unannounced inspections during work	Construction supervision (CS)
Stone	Compliance with the Contractor's method statement (limited duration of	Construction site / transportation routes	Inspection, unannounced (random) checks	Unannounced inspections during work	Construction supervision (CS)

Issue	What parameter is needed to be controlled?	Where should the parameter be controlled?	How should the parameter be controlled?	When should the parameter be monitored? Frequency	Responsible Party
Sand and gravel	work; transport routes). Dust suppression methods, if necessary.	Construction site / transportation routes	Inspections	Unannounced inspections during work	Construction supervision (CS)
Surface water protection	Transparency, suspended solids, biochemical consumption, petroleum products	Culverts and drainage channels	Inspections	Unannounced inspections during work on bridges and culverts	Construction supervision (CS)
Air pollution due to improper maintenance of equipment Asphalt production plant (asphalt plant) and equipment	Sulfur dioxide, nitrogen dioxide, carbon monoxide, dust,	Production base at km 148+630 Production base at km 106+300	Measurements near crushers and asphalt production plants. Regular inspection reports of vehicles and equipment.	Unannounced inspections during work	Construction supervision (CS), Road Administrations (RA, PLRM and BO SRD)
Planting new trees on the roadside	Continuous monitoring and control of the survival rate of newly planted trees	In places where new trees are planted	Planting new trees to replace felled ones	Monitoring should be carried out in the autumn to allow replacement of trees that have not taken root.	Contractor - in the 1st year / Territorial divisions of MT&R - in subsequent years
Operation Phase					

Issue	What parameter is needed to be controlled?	Where should the parameter be controlled?	How should the parameter be controlled?	When should the parameter be monitored? Frequency	Responsible Party
Increase in the number of pet deaths on the roads due to increased traffic volumes and vehicle speeds	Animal deaths on the roads	Along the new additional roads	Register accidents. In case of detection of accident-dangerous points involving large mammals, it is necessary to develop appropriate safety measures (e.g. reflectors/local fences, warning signs, reduction of speed, etc.)	During a year	Regional Divisions of the Road Administrations (RA, PLRM and BO SRD)
Damaged drainage system or uncontrolled erosion	Drainage leaks and erosion damage	Culverts and drainage structures	Documentation	During a year	Territorial Divisions of MOTC

194. The estimated cost of environmental management and consultation monitoring for the entire 1-year period of the construction project is shown in Table 23. This will include fees and other related costs for the management and monitoring of construction sites and affected areas within the projected road.

Table 23. Budget expenditures on specialists.

Item	Qnty	Unit Price	Total Cost
SEMP implementation		US $	US $
International Environmental Specialist (IES)	2 months/ 1 year,	15,400	30,800
National Environmental Specialist (NES)	6 months/ 1 year,	2,750	16,500
Total			47,200

195. In addition, the main Contractor shall carry out periodic parametric measurements as a basis for taking measures to improve their performance in implementing the measures. Therefore, the budget for periodic parametric measurements is given below in Table 24.

Table 24. Budget cost of environmental monitoring requirements.

Item	Qnty	Unit Price	Total Cost
SEMP implementation		US $	US $
Periodic parametric measurements			
4* points (air) x 4 times a year** month	16	120***	1,920.0
4* points (water) x 4 times a year** month	16	100***	1,600.0
4* points (noise, vibration) x 4 times a year** month	16	45***	800.0
Total			2,600.0

* - the number of points and measurements can vary

** - 1 year of physical work and 1 year of technical examination

*** - unit price for May 2025

CONCLUSIONS AND RECOMMENDATIONS.

Conclusions.

196. The reconstruction of additional sections of access roads under the CAREC Corridors 1 and 3 Connector Road Project, Section 2B, Epkin – Dyikan [Bashkuugandy] Road [km 89+500 – km 159+200] will improve the road surface condition and reduce operating costs for all vehicle owners, which will help make vehicles more durable. Road safety will also be improved by providing new road signs, protective barriers, pedestrian crossings and cattle passes.

197. In general, the project brings significant benefits to local communities and companies operating in the country by providing improved access to local and regional markets.

198. At the same time, the project consists of a number of operational components that potentially lead to long-term environmental impacts. These include: associated soil erosion, air pollution and noise issues, etc. The SIEE and SSEMP define the mitigation measures necessary to avoid a variety of impacts during the construction period by developing appropriate protocols and work programs to control potential impacts and which will be implemented accordingly.

199. The following types of impact, which are discussed in detail in the SIEE and SSEMP materials, are considered to be the most important and the extent of which, if the EMP is properly implemented, can be reduced accordingly.

200. During the period prior to construction, the MOTC, PIU and CSC will have to complete the following key tasks:

1. Ensuring proper compliance by the Contractor with the requirements of the SSEMP, to mitigate the impacts of the work carried out. The CSC will monitor compliance with the requirements of the SSEMP;
2. Preparation of a list of sites where it will be necessary to carry out work to preserve the topsoil during road rehabilitation;
3. Development of a program for transportation during excavation work, with the definition of those sections where transport will be prohibited;
4. Carrying out the necessary measures for timely dust removal of project sections, depending on the ambient temperature.

During the construction period, the CSC and the Contractor(s) shall:

1. Perform field measurements of air quality and noise levels during road repairment. The Contractor will conduct these studies with the involvement of accredited laboratories with the participation of CSC's representatives. If necessary, the number of points can be increased upon the recommendation of the CSC.
2. The Contractor shall ensure the timely removal of construction waste and unsuitable material from work sites.
3. The Contractor shall ensure that health and safety requirements are met at work sites, including first aid, water, special clothing including helmets, boots and face masks.

4. The Contractor shall implement a dust suppression program on all material haulage roads and at all construction sites.
5. The CSC shall inspect all culverts to ensure that their new installation does not result in permanent leakage and that any obstructions for the flow and debris are properly cleared.

Recommendations.

1. The Contractor shall strictly comply with the requirements of the SSEMP to minimize the impact on the environment. The required reporting is to be submitted to the CSC on time.
2. The CSC and PIU will conduct training for all involved project participants and will focus on providing reliable advice to the Contractor, especially on the preparation and implementation of environmental work plans during construction.
3. The SIEE is a “living document” and will be updated as necessary to take into account all environmental requirements.

Appendix 1.

Rapid Environmental Assessment (REA) Checklist

Instructions:

(i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Safeguards Division (SDSS), for endorsement by Director, SDSS and for approval by the Chief Compliance Officer.

(ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's: (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.

(iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title:	Project Number: 48401-008 Loan Number: ADB Loan 3432-KGZ (SF) Grant Number: 0496-KGZ (SF) CAREC Corridors 1 and 3 Connector Road, Section 2B Epkin-Dyikan [Bashkugandy], Km: 89+500 – 159+200 Project
Sector Division:	PIU MOTC KG

Screening Questions	Yes	No	Remarks
A. PROJECT SITING IS THE PROJECT AREA ADJACENT TO OR WITHIN ANY OF THE FOLLOWING ENVIRONMENTALLY SENSITIVE AREAS?			
▪ CULTURAL HERITAGE SITE		No	
▪ PROTECTED AREA		No	
▪ WETLAND		No	
▪ MANGROVE		No	
▪ ESTUARINE		No	
▪ BUFFER ZONE OF PROTECTED AREA		No	
▪ SPECIAL AREA FOR PROTECTING BIODIVERSITY		No	
B. POTENTIAL ENVIRONMENTAL IMPACTS WILL THE PROJECT CAUSE…			
▪ encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?		No	It is planned to use existing/used quarries and dumps.

Screening Questions	Yes	No	Remarks
▪ encroachment on precious ecology (e.g. sensitive or protected areas)?		No	
▪ alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site?	Yes		On sections of road there are drainage pipes crossing the road. These pipes will be replaced with new pipes, and a drainage ditch will be installed along the road to drain melt and rain water.
▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		No	The contractor's existing camp will be used. The contractor's camp is equipped in accordance with all sanitary and epidemiological requirements
▪ increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing?	Yes		Short-term impact is expected for the duration of the work. It is planned to use the existing asphalt concrete plant and crusher. Production sites are located at a sufficient distance from residential areas.
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation during project construction and operation?		No	The construction supervision consultant will monitor the entire construction process, including the contractor's compliance with environmental protection, occupational health and safety, and road safety requirements.
▪ noise and vibration due to blasting and other civil works?	Yes		Short-term impact is expected for the duration of the work. All sections of roads are located outside populated areas.
▪ dislocation or involuntary resettlement of people?		No	
▪ dislocation and compulsory resettlement of people living in right-of-way?		No	
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples, or other vulnerable groups?		No	
▪ other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress?		No	All sections of roads are located outside populated areas.
▪ hazardous driving conditions where construction interferes with pre-existing roads?		No	The construction supervision consultant will monitor the entire construction process, including the contractor's compliance with environmental protection, occupational health and safety, and road safety requirements.
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STI's and HIV/AIDS) from workers to local populations?		No	The contractor's existing camp will be used. The contractor's camp is equipped in accordance with all sanitary and epidemiological requirements
▪ creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents?		No	

Screening Questions	Yes	No	Remarks
▪ accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials?		No	During the period of work, sections of roads will be equipped with all necessary temporary road signs, and dust removal work will be carried out. The construction supervision consultant will monitor the entire construction process, including the contractor's compliance with environmental protection, occupational health and safety, and road safety requirements.
▪ increased noise and air pollution resulting from traffic volume?		No	All sections of roads are located outside populated areas.
▪ increased risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road?		No	
▪ social conflicts if workers from other regions or countries are hired?		No	
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		No	
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?		No	The construction supervision consultant will monitor the entire construction process, including the contractor's compliance with environmental protection, occupational health and safety, and road safety requirements.
▪ community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning.		No	

A Checklist for Preliminary Climate Risk Screening

Country/Project Title: Project Number: 48401-008
Loan Number: ADB Loan 3432-KGZ (SF)
Grant Number: 0496-KGZ (SF)
CAREC Corridors 1 and 3 Connection Road, Section 2B Epkin-Dyikan [Bashkugandy], Km: 89+500 – 159+200 Project/

Sector:

Subsector:

Division/Department:

Screening Questions		Score	Remarks[5]
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather-related events such as floods, droughts, storms, landslides?	0	
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc.)?	0	
Materials and Maintenance	Would weather, current, and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?	0	
	Would weather, current, and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?	0	
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design lifetime?	0	

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1–4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high risk project.

Result of Initial Screening (Low, Medium, High):_____

Other Comments:_____
Prepared by: ___PIU MOTC KR_____

[5] If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

Appendix 2. Public Consultation

1. Ak-Chiy v. Access road from the main road to Ak-Chiy village is 500 m long.

Photos. Ak-Chiy village, Public Consultations.

List of Participants in Public Consultations in Ak-Chiy v.

ТИЗМЕ катышуучулар /СПИСОК присутствующих

Өтүүчү жер / Место проведения Ак Чий

«26» июнь 2024 г.

№	Фамилиясы Аты Атасынын аты / Ф.И.О	Телефон	Кол коюу Подпись
1	Эсенгелди уулу Азизбек	0706467535	[signature]
2	Кадырбекова Бегимай	0552884646	[signature]
3	Эсенгелди у. Ырыскелди	0700316736	[signature]
4	Карагулов Болотбек	0502898013	[signature]
5	Кашкелдиев Калнурат	0500715594	[signature]
6	Абдраев Эсенгелди	0703180666	[signature]
7	Алабанов Нурбек	0708 05 3599	[signature]
8	Дуйканов Эсенали	0705906042	[signature]
9	Абылабеков Арлан	0703888196	[signature]
10	Карамолдоева Назгул	0702 83 20-25	[signature]
11	Арпомбаев Аскер	0702 830223	[signature]
12	Исмаилов Нурбек	0501 75 7550	[signature]
13	Кулова Ф	0702 140472	[signature]
14	Илгижоев Азат	0706 4131 21	[signature]
15	Бакасова Бактыгул	0502030774	[signature]
16	Толебова Айзада	0705827337	[signature]
17	Шерамиева Асель	0705998214	[signature]
18	Мурзакматова Айгул	0708059539	[signature]
19	Мурзакматова Алмагул	0507 377 294	[signature]
20	Калмамбетов Тилебек	0702322532	[signature]
21	Иманов Азамат	0700013147	[signature]
22	Нурдинов Нурлан	0707 407295	[signature]
23	Атай уулу Данияр	0505220702	[signature]
24	Камалбетов Жоргалбек	0709198214	[signature]

A.S.

25	Ураимова Толганкул	0702 57 57 74	
26	Садакова Бикеш	0701856049	
27	Аманбек улы Айбек	0709 113 094	
28	Тулусбеков Бурканай	0704 19 27 24	
29	Курманбек кызы Канакей	0703 68 66 93	
30	Кулмолов А.	0705 81 1 110	
31	Токтакунова А	0708 63 67 91	
32	Сокулов У.	0708 67 12 01	

2. Lama v. Access road from the main road to Lama village is 6 km long.

Photos. Lama v., Public Consultations.

List of Participants in Public Consultations in Lama v.

ТИЗМЕ катышуучулар /СПИСОК присутствующих

Өтүүчү жер / Место проведения Лама

«26» Июль 2024 г.

№	Фамилиясы Аты Атасынын аты / Ф.И.О	Телефон	Кол коюу Подпись
1	Долоткелдиев Союзбек	0999970073	
2	Долоткелдиев Союзбек	0999970735	
3	Солобаев Танайбек	0703483337	
4	Мидинкеев Советбек		
5	Нурманов Баябек	0709270871	
6	Исаков Майрамбек	0705 144745	
7	Абдыкалиев Жолдош	0702016925	
8	Карымшакова Айгуль	0700 851624	
9	Абдыназарова Зайнура	0709170880	
10	Абдыкадырова Э	0709 219744	
11	Иманов Каныбек	0703 763938	
12	Мусаева Н	0706 156417	
13	Иманкулова Бегайым	0705654910	
14	Дамирбек к Нуржан	0502 84 02 07	
15	Кадырбек у Кентбек	705 202624	
16	Жоомартов Өскөн	0500274893	
17	Медетов Азиретали	0 703064012	
18	Шарипов Талант	0500271581	

А.Б.

3. Jany-Aryk v. Access road from the main road to Kyzart village is 3 km long section with asphalt pavement.

Photos. Jany-Aryk v., Public Consultations.




List of Participants in Public Consultations.

ТИЗМЕ катышуучулар /СПИСОК присутствующих

Өтүүчү жер / Место проведения Жаңы-Арык (Козарт)

«26» июля 2024 г.

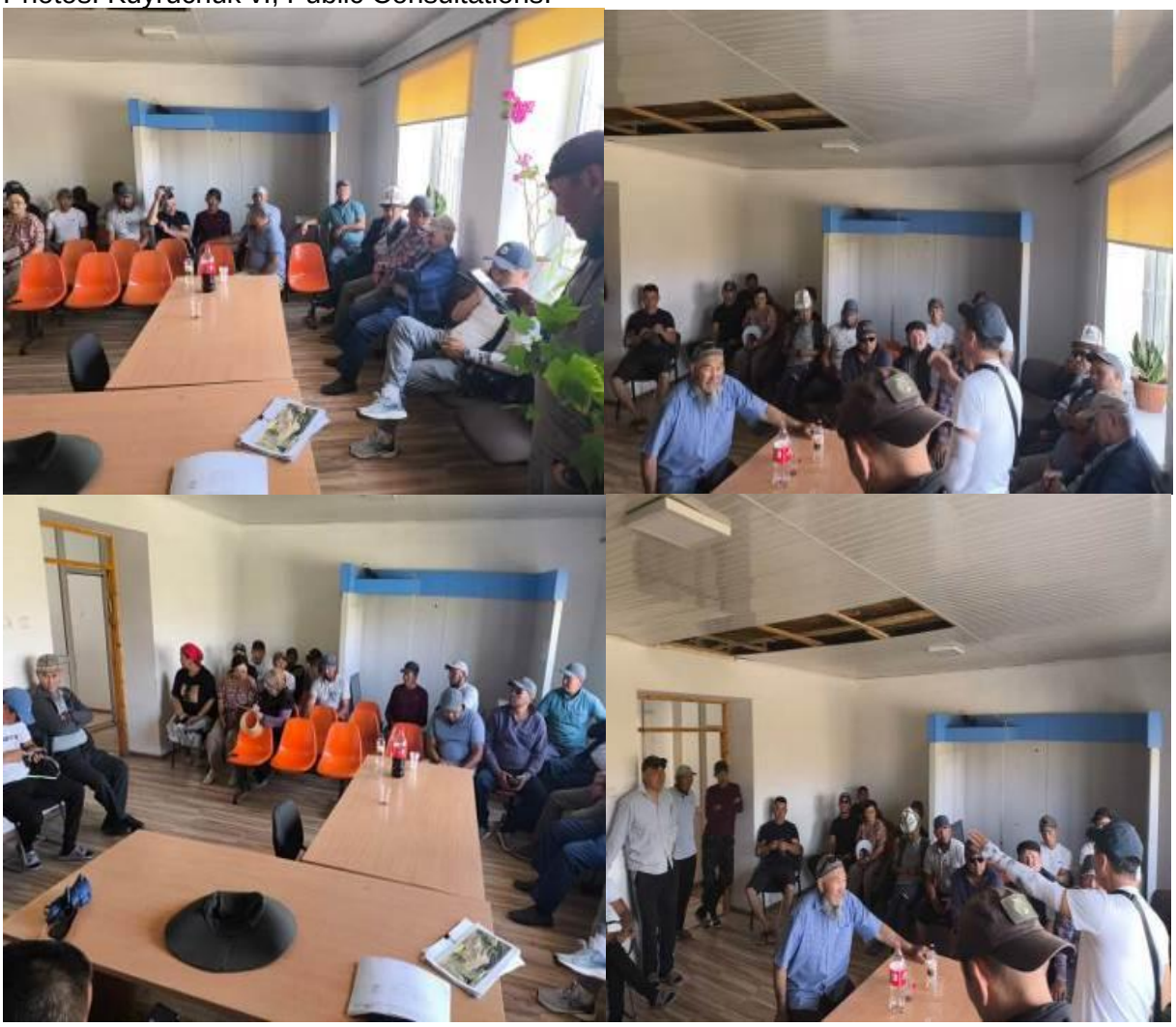
№	Фамилиясы Аты Атасынын аты / Ф.И.О	Телефон	Кол коюу Подпись
1	Сарткеев Тилек	0705646442	
2	Жеңиш у Амай	0507 96-34-98	
3	Жайырбек у С	0507565686	
4	Кадыров М.	11-11-11-	
5	Кондыбаев С	—11—11—11—	
6	Абылгазиев Г.О	0702850750	
7	Жумалиев Дуулат	0700627820	
8	Асанова Искра	0553384500	
9	Кожомкулов. Т.С	0504959698	
10	Ибраимова Мээрим	0707825246	
11	Бакиев Канболот	0705429842	
12	Нурматов Нурлан	0503050079	
13	Бакиев Азамат	0500507588	
14	Кадыров Жаңырбек	0707596089	
15	Жанузаков Талант	0708188480	
16	Кадыров Токторбек	0503031977	
17	Кадырова Акак	0701011770	
18	Тешебеков Асылбек	11-11-11-	
19	Акмолдоева Арсынбубу	11-11-11-	
20	Жайырбек уулу Жаңырбек	0709028457	
21	Бектемиров Улан	0700149813	
22	Исамидинов Таалайкул	0700389076	
23	Токтоналиев Замирбек	0707822848	
24	Шейшекеева Роскул	0704634884	
25	[illegible] Кенжебек	070528809[illegible]	

КЫЗОРТ

26	Аманбаев. Б. А.	0507891489	
27	Жуканбетова К.	0502250358	
28	[illegible] К.		
29	Жаматаева М.	0700275872	
30	Ажырова К.	0705 9321 16.	
31	Кулубаев. К	0708 96-0712	
32	Жайнакова Э	— — —	
33	Жайгонбаев Ш	0504740616	
34	Бообалаева Ж.	— — —	
35	Курчубек к Табыкей		
36	Курманова Э	0706768070	
37	Исмаилова. Зулайка		
38	Айтбаева Бермет	0700212587	
39	[illegible]		
40	[illegible]		
41	Исаконов Кайрат	0708803350	
42	Курманов Бекзат	0702012211	
43	Борондаева Зина	0502231614.	
44	Сансызбаева Сулайка		
45	Балиев Жоомартбек	0503505910	
46	Эшмиров Медетбек	0707506072	
47	Орозбалаев Кубанычбек	0706516401	
48	Усубеков Сыдыкбек	0707579185	

4. Location: Kuyruchuk village. Road repairment of 1.5 km of the road section inside Kuyruchuk village from the asphalt section towards the Shilbili section.

Photos. Kuyruchuk v., Public Consultations.



List of Participants in Public Consultations.

ТИЗМЕ катышуучулар /СПИСОК присутствующих

Өтүүчү жер / Место проведения Куйручук

«28**»** июнь **20**24 **г.**

№	Фамилиясы Аты Атасынын аты / Ф.И.О	Телефон	Кол коюу Подпись
1.	Юсоев Кылычбек Осмонович	0705456414	[signature]
2	Карымшаков Кубан	0509961010	[signature]
3.	Сагарбеков Болотжан	0705913642	[signature]
4.	Джолбеков Нарзабек.	0702211104	[signature]
5.	Нурматбеков Улан У.	0705564057	[signature]
6.	А Б Исакбек у Тынчтыкбек	0500573457	[signature]
7	Рысаев Илим	0554119200	[signature]
8	Алиев Керезбек	0703222519	[signature]
9	Жерышбекова Р.	0702545529	[signature]
10	Абытоҗип уулу Ноззат	0504311112	[signature]
11	Нарынбаев Бексултан	0708150954	[signature]
12	Самаков [illegible]	0501011559	[signature]
13	Молдоташев. Бакытбек	050355539	[signature]
14	Акарбеков Байназар	0708854191	[signature]
15	Бакытбеков Улугбек	0507908087	[signature]
16	Султаналиев Медет	0707616131	[signature]
17	Жумабеков Максат	0704795589	[signature]
18	Эсенгулова Айдана	0708181170	[signature]
19	Исмаилова Райым	0708-66-05-66	[signature]
20	Эрмекбаев. Нурсеит	0708858677	[signature]
21	Калыбеков уул. Фархад	0700400497	[signature]
22	Кудайбергенова Нуркамал	0	[signature]
24.	Кулманбетова Бегайым	0707206063	[signature]
25	Токтобекова Мээрим	0551114408	[signature]

26	Дүйшөкалиев Кайырбек С.	0700265491	
27	Шамбеков Алмасбек	0702854990	
28	Жарылбеков Нематбек	0503 21 1058	
29	Текирова Карлыга	0705440020	
30	Ферма князя Назгул		
31	Асылбек Ж	—	
32	Сүйүнбеков Талантай	0702-30-5564	
33	Аскарова Рысжул.	0708 51 97 44	
34	Жоорбаев Рамазан	0557061008	

Appendix 3. Laboratory Water Test Outcomes.

Аттестат аккредитации
№KG417/КЦА.ИЛ.049
от 12.08.2022
*-Вне аккредитации.

КЫРГЫЗ РЕСПУБЛИКАСЫНЫН ЖАРАТЫЛЫШ РЕСУРСТАРЫ, ЭКОЛОГИЯ ЖАНА ТЕХНИКАЛЫК КӨЗӨМӨЛ МИНИСТРЛИГИНЕ КАРАШТУУ ЭКОЛОГИЯЛЫК МОНИТОРИНГ ДЕПАРТАМЕНТИ

ДЕПАРТАМЕНТ ЭКОЛОГИЧЕСКОГО МОНИТОРИНГА ПРИ МИНИСТЕРСТВЕ ПРИРОДНЫХ РЕСУРСОВ, ЭКОЛОГИИ И ТЕХНИЧЕСКОГО НАДЗОРА КЫРГЫЗСКОЙ РЕСПУБЛИКИ

720005, г. Бишкек, ул. Байтик-Баатыра, 34 тел. (312) 54-61-26

ПРОТОКОЛ ИСПЫТАНИЙ ПРОБ ВОДЫ

№ 89 - 90

1. **Наименование предприятия, организации (заявитель):**
   Нарынская область КОО "Китайская железнодорожная групповая компания №5" в Кыргызской Республике.

2. **Регистрационный номер и место отбора проб:**
   89 – речка, с. Ак-Чий возле мечит 42.091198 75.212967;
   90 – речка Жумгал, северная сторона с. Жумгал, 41.580873 74. 542335.
   - оросительный канал в начале с. Лама нет воды;
   - оросительный канал в конце с. Жумгал нет воды;
   - оросительный канал в с. Жумгал нет воды;
   - оросительный канал в конце проектируемого участка нет воды.

3. **Дата и время отбора проб:**
   18.03.2024г. с 11 часов 00 мин.

4. **Нормативный документ:**
   Правила охраны поверхностных вод КР от 14 марта 2016-год №128; ПНД Ф 12.15.1-08 Методическая указания по отбору проб для анализа сточных вод.

5. **Дата(ы) проведения испытаний:**
   06.03 – 12.03.2024 г.

6. **Результаты испытаний:**

№ п/п	Наименование определяемого показателя	Ед. изм.	Данные анализа по точкам		ПДК		НД на метод испытаний	Испытания провел	Испытания проверил
			01-89-24	01-90-24	+	++			
1	Прозрачность	см	47,00	48,00	-		СЭВ ч.1 М. 1977*	Жунусова А.А. Абдыралиева А.А.	Кутманбаева Г.К.
2	Взвешенные вещества	мг/л	5,60±1,68	4,00±1,20	Увел. 0,25/0,75		ПНД Ф14.1:2:3.110-97		
3	Биохимическое потребление кислорода ($БПК_5$)	мгО/л	2,93±0,76	1,44±0,37	3,0	4,0	ПНД Ф 14.1:2:3:4.123-97	Жунусова А.А. Абдыралиева А.А.	Кутманбаева Г.К.
4	Нефтепродукты	мг/л	0,057±0,020	0,031±0,011	0,05	0,3	ПНД Ф 14.1:2:4.128-98		

Правила охраны поверхностных вод Кыргызской Республики от14 марта 2016 год №128
+Перечень ПДК для рыбохозяйственного водопользования
++Перечень ПДК хозяйственно-питьевого и культурно-бытового водопользования
Постановление Правительства КР от 11 апреля 2016г. №201

Неопределенность измерений: Неопределенность измерений, возникающая в результате отбора проб, включена в расширенную неопределенность измерений.

Указанная расширенная неопределенность получена из суммарной стандартной неопределенности путем умножения на коэффициент охвата k=2, который обеспечивает уровень доверия приблизительно 95%.

Заключение*: По результатам химического анализа, в отобранных пробах воды, превышение ПДК (Предельно-допустимая концентрация) для культурно-бытовой категории не обнаружено.

Протокол оформила:
Заведующая ОАМКОП **Дарбакова А.С.**

Протокол испытаний касается только образцов, подвергнутых испытаниям
Исполнитель не несет ответственности, если проба отобрана самим заказчиком
Перепечатка протокола без разрешения испытательной лаборатории запрещена

Конец протокола.

КЫРГЫЗ РЕСПУБЛИКАСЫНЫН ЖАРАТЫЛЫШ РЕСУРСТАРЫ, ЭКОЛОГИЯ ЖАНА ТЕХНИКАЛЫК КӨЗӨМӨЛ МИНИСТРЛИГИНЕ КАРАШТУУ ЭКОЛОГИЯЛЫК МОНИТОРИНГ ДЕПАРТАМЕНТИ

ДЕПАРТАМЕНТ ЭКОЛОГИЧЕСКОГО МОНИТОРИНГА ПРИ МИНИСТЕРСТВЕ ПРИРОДНЫХ РЕСУРСОВ, ЭКОЛОГИИ И ТЕХНИЧЕСКОГО НАДЗОРА КЫРГЫЗСКОЙ РЕСПУБЛИКИ

720005, г. Бишкек, ул. Байтик Баатыра, 34 тел. (312) 54-61-26

ПАСПОРТ НА ПРОБУ
(вода)

1. **Наименование, адрес объекта:** Нарынская область, ООО „Китайская железнодорожная компания группы №5" в Кыргызской Республике
2. **Основание для отбора:** письмо
3. **Порядковый номер и место отбора проб:**
   1. речка с. Ак-Чий возле мечеть 42.051198 75.212967
   2. речка Кумтор, северная сторона с. Кочк-Арык 41.580873 24.542335
4. **Цель отбора:** определение
5. **Характер отобранных проб:** разовый
6. **Условия окружающей среды** солнечно
7. **Дата отбора проб** 18.03.2024. / 11:00
8. **НД:** *ГОСТ 31861-2012 "Вода. Общие требования к отбору проб"; ПНД Ф 12.15.1-08 Методические указания по отбору проб для анализа сточных вод.*

Пробы отобрали: гл. спец. Салимбек у. М

Представитель ДЭМ главный спец. Момоева Г. Н. ____________

(должность, фамилия)

Присутствовали:

Госинспектор ____________

(должность, фамилия)

Представитель предприятия эколог Нурдинов К ____________

(должность, фамилия)

1 стр из 1

Appendix 4. Laboratory Air Test Outcomes.

Аттестат аккредитации
№KG417/КЦА.ИЛ.049
от 12.08.2022
*- Вне аккредитации.

КЫРГЫЗ РЕСПУБЛИКАСЫНЫН ЖАРАТЫЛЫШ РЕСУРСТАРЫ,
ЭКОЛОГИЯ ЖАНА ТЕХНИКАЛЫК КӨЗӨМӨЛ
МИНИСТРЛИГИНЕ КАРАШТУУ
ЭКОЛОГИЯЛЫК МОНИТОРИНГ ДЕПАРТАМЕНТИ

ДЕПАРТАМЕНТ ЭКОЛОГИЧЕСКОГО МОНИТОРИНГА
ПРИ МИНИСТЕРСТВЕ ПРИРОДНЫХ РЕСУРСОВ, ЭКОЛОГИИ И
ТЕХНИЧЕСКОГО НАДЗОРА КЫРГЫЗСКОЙ РЕСПУБЛИКИ

720005, г. Бишкек, ул. Байтик-Баатыра, 34 тел. (312) 54-61-26

ПРОТОКОЛ ИСПЫТАНИЙ ПРОБ АТМОСФЕРНОГО ВОЗДУХА

№ 131 - 134

1. **Наименование предприятия, организации (заявитель):**
   Нарынская область, КОО "Китайская железнодорожная групповая компания №5" в Кыргызской Республике.

2. **Регистрационный номер и место отбора проб:**
   131 – с. Ак-Чий, возле мечит 42.090990, 75.212967;
   132 – Подъездной путь к с. Лама, северная сторона с. Жумгал, 42.034798, 74.976045;
   133 – Западная сторона с. Жаны-Арык возле мечит, 42.964761, 74.906981;
   134 – с. Куйручук, начало проектирование дороги 42.975207, 74.826467.

3. **Дата и время отбора проб:**
   18.03.2024г с 11 :00 часов.

4. **Нормативный документ:**
   ГОСТ 17.2.4.06 – 90 «Охрана природы. Атмосфера. Методы определения скорости и расхода газопылевых потоков, отходящих от стационарных источников загрязнения». ГОСТ 17.2.4.07 – 90 «Охрана природы. Атмосфера. Методы определения давления и температуры газопылевых потоков, отходящих от стационарных источников загрязнения».

5. **Дата(ы) проведения испытаний:**
   19.03. – 20.03.2024г.

6. **Результаты испытаний:**

Стр. 1 из 3

Наименование определяемого показателя	НД на метод испытаний	Код пробы	Данные анализа по точкам, мг/м^3	ПДК макс.раз. мг/м^3	Испытания провел	Испытания проверил
Диоксид серы	РД 52.04.186-89	03-**131**-24	0,048 ±0,006	**0,5**	Райкеева Р.Н.	Жолдошбекова З.Ж.
Диоксид азота	РД 52.04.186-89	03-**131**-24	0,085 ±0,015	**0,085**		
Оксид углерода	СТП ДЭМ 03-01-2021 СТП ДЭМ 03-02-2021	03-**131**-24	1,3 ±0,26	**5,0**		
Взвешенные вещества	РД 52.04.186-89	03-**131**-24	0,167 ±0,042	**0,5**		

Наименование определяемого показателя	НД на метод испытаний	Код пробы	Данные анализа по точкам, мг/м^3	ПДК макс.раз. мг/м^3	Испытания провел	Испытания проверил
Диоксид серы	РД 52.04.186-89	03-**132**-24	0,143 ±0,017	**0,5**	Райкеева Р.Н.	Жолдошбекова З.Ж.
Диоксид азота	РД 52.04.186-89	03-**132**-24	0,081 ±0,015	**0,085**		
Оксид углерода	СТП ДЭМ 03-01-2021 СТП ДЭМ 03-02-2021	03-**132**-24	1,6 ±0,32	**5,0**		
Взвешенные вещества	РД 52.04.186-89	03-**132**-24	0,250 ±0,062	**0,5**		

Наименование определяемого показателя	НД на метод испытаний	Код пробы	Данные анализа по точкам, мг/м³	ПДК макс.раз. мг/м³	Испытания провел	Испытания проверил
Диоксид серы	РД 52.04.186-89	03-133-24	0,052 ±0,006	0,5	Райкеева Р.Н.	Жолдошбекова З.Ж.
Диоксид азота	РД 52.04.186-89	03-133-24	0,084 ±0,015	0,085		
Оксид углерода	СТП ДЭМ 03-01-2021 СТП ДЭМ 03-02-2021	03-133-24	1,2 ±0,24	5,0		
Взвешенные вещества	РД 52.04.186-89	03-133-24	0,167 ±0,042	0,5		

Наименование определяемого показателя	НД на метод испытаний	Код пробы	Данные анализа по точкам, мг/м³	ПДК макс.раз. мг/м³	Испытания провел	Испытания проверил
Диоксид серы	РД 52.04.186-89	03-134-24	0,262 ±0,031	0,5	Райкеева Р.Н.	Жолдошбекова З.Ж.
Диоксид азота	РД 52.04.186-89	03-134-24	**0,135 ±0,024**	0,085		
Оксид углерода	СТП ДЭМ 03-01-2021 СТП ДЭМ 03-02-2021	03-134-24	1,4 ±0,28	5,0		
Взвешенные вещества	РД 52.04.186-89	03-134-24	0,167 ±0,042	0,5		

«ПДК загрязняющих веществ в атмосферном воздухе населенных мест».
Постановление Правительства КР № 201 (прил.№ 17) от 11 апреля 2016г.

Неопределенность измерений: Неопределенность измерений, возникающая в результате отбора проб, включена в расширенную неопределенность измерений.

Указанная расширенная неопределенность получена из суммарной стандартной неопределенности путем умножения на коэффициент охвата k=2, который обеспечивает уровень доверия приблизительно 95%.

Заключение*: *По результатам проведенных испытаний атмосферного воздуха превышение предельно-допустимой концентрации (ПДК) максимально разовый, обнаружено по диоксиду азота в пункте №134 1,5 раз. Остальные испытания в пределах установленных норм.*

Протокол оформила:
Заведующая ОАМКОП **Дарбакова А.С.**

*Протокол испытаний касается **только** образцов, подвергнутых испытаниям*
*Исполнитель **не несет ответственности**, если проба отобрана самим заказчиком*
*Перепечатка протокола без разрешения испытательной лаборатории **запрещена**.*

Конец протокола.

Appendix 5. Noise Measurement Outcomes.

ПРОФИЛАБ
оперативная лаборатория

ISO/IEC 17020
№KG 417/КЦА.ОК.095
от: 21.08.2023 г.
область аккредитации
на сайте: www.kca.gov.kg

ОсОО «ПрофиЛаб» г. Бишкек,
ул. Тоголок-Молдо, 60[а] каб. 319.

тел.0701005051
e-mail: profilab.ltd@mail.ru

ПРОТОКОЛ ИЗМЕРЕНИЯ ШУМА

№ 06 от «19» марта 2024г.

1. Юридическое лицо, индивидуальный предприниматель или физическое лицо, где производятся измерения, адрес: **ФКО «Китайская железнодорожная инженерная групповая компания №5» в КР. Нарынская область, Жумгалский район.**
2. Объект, где производятся измерения: **Жумгалский район**
(наименование, фактический адрес)
3. Основание для проведения измерения: **Договор №6**
4. Наименование средств измерений и сведения о государственной калибровке измеряемого прибора:

Наименование средства измерения	Номер	Сертификат о калибровке		Меж калибровочный интервал
		номер	Дата	
Экофизика - 110А	**№АВ 130044**	**№ К0037-0503/24**	**05.03.2024 г.**	**12 месяцев**

5. Нормативная документация, в соответствии с которой проводились измерения:
ГОСТ 20444-2014. Транспортные потоки. Методы определения шумовой характеристики., ГОСТ 32847-2014 Дороги автомобильные общего пользования. Требования к проведению экологических изысканий.

6. Нормативная документация на нормы:
7. Условие окружающей среды: Температура: 8°С
Влажность: 60%

8. Источники физических факторов и их характеристики: **Транспортный поток**
9. Эскиз :

Места где были произведены замеры. Контрольная точка – ☆

10. Дата произведения измерения: **«18» марта 2023 г**

страница: 1 из 2

Результаты измерений:

№	Место измерений	Характер шума						Уровни звукового давления в дБ в октавных полосах со среднегеометрическими частотами в Гц									Уровень звука (ДБА)
		По спектру		По временным													
		Широкопол.	Тональный	Постоянный	Колебл.	Прерывистый	импульсный	31,5	63	125	250	500	1000	2000	4000	8000	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Село Ак Чий, рядом с мечетью																
	Широта: 42° 15′26″; Долгота: 75°35′82″.																
1	Leq		+	+				54	48	44	47	46	41	39	36	27	44факт
	Slow max																**57**
	Подьездной путь к селу Лама, северная сторона села Жумгал																
	Широта: 42° 03′47″; Долгота: 74°94′57″.																
2	Leq		+	+				40	41	44	50	44	43	37	56	41	51факт
	Slow max																**59**
	Западная сторона села Жаны Арык, возле мечети																
	Широта: 41° 96′46″; Долгота: 74°90′70″.																
3	Leq		+	+				50	49	46	48	42	46	41	38	35	50факт
	Slow max																**57**
	Начало проектируемой дороги, село Куйручук																
	Широта: 41° 97′50″; Долгота: 74°82′86″.																
4	Leq		+	+				37	34	48	53	48	45	40	38	30	52факт
	Slow max																**58**

Заключение по результатам замеров: **На момент проведения замеров уровень шума составляло в дневное время от 44 дБа до 52 дБа.**

Должность	ФИО	Подпись
Генеральный директор	Буланбеков И.	
Технический менеджер/инженер	Нуриддин уулу Т.	

МП

Протокол составлен в двух экземплярах: 1-й экземпляр выдается по месту требования; 2-й экземпляр остается в лаборатории.
Общее количество страниц 2: страница 2
Срок хранения протокола: 4 года
Примечание: Результаты протокола соответствуют на момент проведённых измерений.
Перепечатка протокола без разрешения начальника лаборатории запрещена.
Результаты измерений относятся только данным объектам.

Конец протокола

Appendix 6. Vibration Measurement Outcomes.

ПРОФИЛАБ
оперативная лаборатория

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область аккредитации
на сайте: www.kca.gov.kg

ОсОО «ПрофиЛаб» г. Бишкек,
ул. Тоголок-Молдо, 60[а] каб. 319.

тел. 0312 591461
e-mail: profilab.ltd@mail.ru

ПРОТОКОЛ ИЗМЕРЕНИЯ ВИБРАЦИИ

№ 08 от «07» Июня 2024г.

1. Юридическое лицо, индивидуальный предприниматель или физическое лицо, где производятся измерения, адрес: **ФКО «Китайская железнодорожная инженерная групповая компания №5» в КР. Нарынская область, Жумгалский район.**

2. Объект, где производятся измерения: **Жумгалский район**
(наименование, фактический адрес)

3.Основание для проведения измерения: **Договор №6/22**

4. Наименование средств измерений и сведения о калибровке измеряемого прибора:

Наименование средства измерения	Номер	Сертификат о калибровке		Меж калибровочный интервал
		номер	Дата	
Экофизика - 110А	**№АВ 130044**	**№ К0037-0503/24**	**05.03.2024 г.**	**12 месяцев**

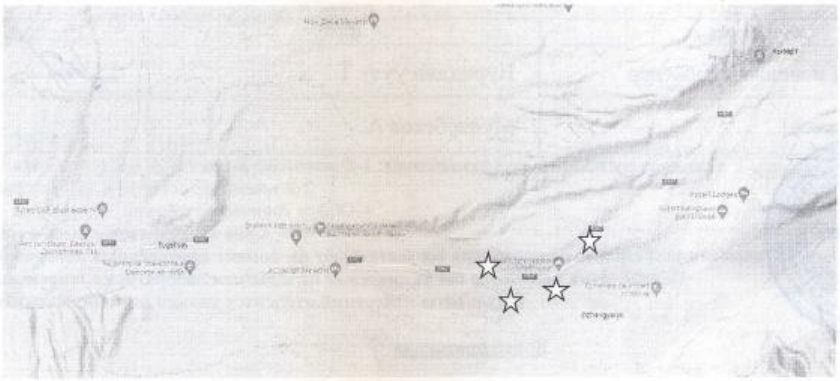
5. Нормативная документация на методы измерений, в соответствии с которой проводились измерения: **ГОСТ 31319-2006 «Вибрация. Измерение общей вибрации и оценка ее воздействия на человека. Требования к проведению измерений на рабочих местах».ГОСТ 12.1.012-2004**

6. Нормативная документация на нормы: **Санитарные нормы 2.2.4./2.1.8.566-96. «Производственная вибрация в помещениях, жилых и общественных зданий»/ГОСТ ИСО 8041-2006**

7. Условие окружающей среды: Температура: 14°С
Влажность: 68%

8. Источники физических факторов и их характеристики: **Транспортный поток**

9. Эскиз:



Места где были произведены замеры. Контрольная точка – ☆

10. Дата произведение измерения: «04» Июня 2024 г

Общее количество страниц 2: страница 1

Результаты измерений:

№	Место измерений	Вид вибрации				Уровни звукового давления в дБ в октавных полосах со среднегеометрическими частотами в Гц						Корректированные и эквивалентные корректированные значения и их уровни	
		Общая			Локальная							Частотная коррекция W_m (дБ)	
		Транспортная	Транспортно-технологическая	Технологическая		2	4	8	16	31,5	63		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Село Ак Чий, рядом с мечетью												
	Широта: 42° 15′26″; Долгота: 75°35′82″.												
1	Leq	+				87	78	71	65	61	64	**98**	Уровень вибрации
	Slow max											**104**	Макс. Уровень
	Подьездной путь к селу Лама, северная сторона села Жумгал												
	Широта: 42° 03′47″; Долгота: 74°94′57″.												
2	Leq	+				97	94	91	88	59	59	**92**	Уровень вибрации
	Slow max											**98**	Макс. Уровень
	Западная сторона села Жаны Арык, возле мечети												
	Широта: 41° 96′46″; Долгота: 74°90′70″.												
3	Leq	+				94	91	88	85	71	63	**94**	Уровень вибрации
	Slow max											**100**	Макс. Уровень
	Начало проектируемой дороги, село Куйручук												
	Широта: 41° 97′50″; Долгота: 74°82′86″.												
4	Leq	+				96	93	66	61	59	65	**90**	Уровень вибрации
	Slow max											**96**	Макс. Уровень

Заключение по результатам замеров: : <u>По результатам инструментальных замеров уровень вибрации от транспортного потока на автодорогах составляет от 90 дБ до 98 дБ.</u>
Санитарные нормы 2.2.4./2.1.8.566-96. «Производственная вибрация, вибрация в помещениях, жилых и общественных зданиях»

Должность	ФИО	Подпись
Технический менеджер/Инженер	Нуриддин уулу Т.	
Инженер-Стажер	Мунарбеков А.	

"ПрофиЛаб"

Протокол составлен в двух экземплярах: 1-й экземпляр выдается по месту требования;
2-й экземпляр остается в лаборатории.
Общее количество страниц 2: страница 2
Срок хранения протокола: 4 года
Примечание: Результаты протокола соответствуют на момент проведённых измерений.
Перепечатка протокола без разрешения начальника лаборатории запрещена.
Результаты измерений относятся только данным объектам.

<u>Конец протокола</u>