Semi-Annual Environmental Monitoring Report

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Kyrgyz Republic: Central Asia Regional Economic Cooperation Corridors 1 and 3 Connector Road Project (Phase 2) - Additional Financing Section 1 (Lot 1) "Balykchy - Kochkor km. 0-km. 43", Section 2A (Lot 2) "Kochkor-Epkin (km 62+400-km 89+500)".

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Prepared for:

Ministry of Transport and Communications of Kyrgyz Republic

Approved by: [Name and signature of Executive Agency staff]

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Abbreviations

ACP	Asphalt Concrete Plant
ADB	Asian Development Bank
CAREC	Central Asian Regional Economic Cooperation
CBT	Concrete Batching Plant
CO	Carbon Monoxide
CSC	Construction Supervision Consultant
DDPSSES	Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health
DNP	Defect Notification Period
EA	Executing Agency
IEE	Initial Environmental Examination
EMP	Environmental Management Plan
PIU	Project Implementation Unit
km	kilometer
ES	Environment Specialist
NEPS	National Environmental Protection Specialist
EIA	Environmental impact assessment
IES	International Environment Specialist
KR	Kyrgyz Republic
GoKR	Government of Kyrgyz Republic
m	Meter
m^2	Square meter
m^3	Cubic meter
MPC	Maximum Permissible Concentration
MPL	Maximum Permissible Level
MOTC	Ministry of Transport and Communication of KR
MEoC KR	Ministry of Economy and Commerce of the Kyrgyz Republic
MoF KR	Ministry of Finance of the Kyrgyz Republic
NO_2	Nitrite
pcs	pieces
SAEMR	Semi-annual Environmental Monitoring Report
MNRETS	Ministry of Natural Resources, Environment and Technical Supervision
TOR	Terms of Reference
SSEMP	Site Specific Environment Management Plan
SCP	Stone Crushing Plant
HCHS	Historical and cultural heritage sites
SPL	Soil-plant layer
SHW	Solid household waste
SPS ADB	ADB Security Policy Statements
SCEC	State Committee on Ecology and Climate
DEM	Department of Environmental Monitoring
KGZ	Kyrgyzstan
GC	General Contractor
LARP	Land Acquisition and Resettlement Plan
LS	Left side
lm	Linear meter
IBAT	Integrated Biodiversity Assessment Tool
masl	Meter above sea level
MoCIT KR	Ministry of Culture, Information and Tourism of Kyrgyz Republic
NRS	National Resettlement Specialist
RS	Right side
SF	Supplemental Financing
SDRS	Social Development and Resettlement Specialist
SAEPF	State Agency on Environmental Protection and Forestry Agency
SCIES	State Committee for Industry, Energy and Subsurface Use
TA	Technical Assistance

1 INTRODUCTION.

1.1 Preamble.

1. Government of Kyrgyz Republic (GoKR) entered into supplemental loan and grant agreements with Asian Development Bank (ADB) for identification, design, implementation, and construction-supervision of Central Asia Regional Economic Cooperation Corridors 1 and 3 Connector Road Project (Phase 2) - Additional Financing Section 1 (Lot 1) "Balykchy - Kochkor km. 0-km. 43", Section 2A (Lot 2) "Kochkor-Epkin (km 62+400-km 89+500)" (The Project).

2. The Project is part of North-South Alternate Corridor which is a priority project in Sustainable Development Strategy of Government of Kyrgyz Republic.

3. Project involves rehabilitation of two road sections: Balykchy section from km 0 to km 43 and Kochkor – Epkin section from km 62+400 to km 89+500. For bidding and construction purposes, Balykchy section is referred to as Lot 1 and Kochkor-Epkin section is referred to as Lot 2. A location map of Project is shown in Figure 1.

4. Project is aimed at improving socio-economic conditions of Kyrgyz Republic regions through: (i) shortened travel time for movement of people and goods between southern districts of Osh, Batken and Jalalabad and northern districts of Naryn, Issyk-Kul, Chui and Talas; (ii) reduced transport costs due to reduced route and better road conditions; (iii) increased local and international traffic and trade particularly between Kyrgyzstan and Tajikistan; (iv) increased income-generating opportunities for local people; (v) creation of new jobs; (vi) good condition of vehicles; and (vii) reduced transportation costs.

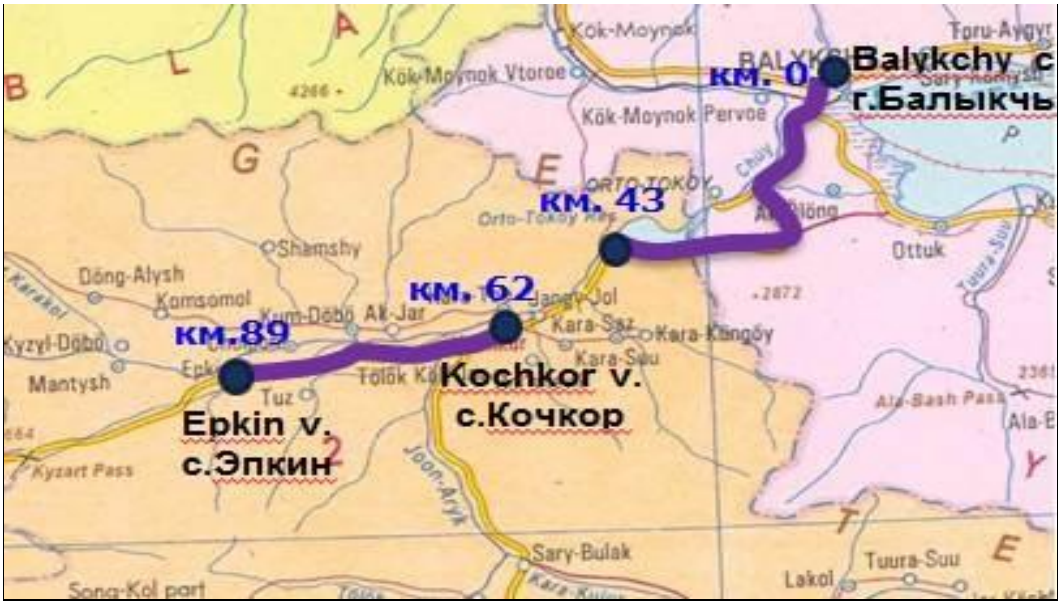


Figure 1. Project Location.

5. Project is classified as environmental "Category B" based on ADB Safeguard Policy Statement 2009 (SPS 2009). Accordingly, an Initial Environmental Examination (IEE) reports[1] that include an Environmental Management Plan (EMP) were prepared separately for two road sections by Ministry of Transport and Communication (MOTC) through an international consulting team. Each IEE contains recommended environmental management measures and monitoring programs. Their aim

[1] https://www.adb.org/sites/default/files/project-documents/48401/48401-008-iee-en.pdf
https://www.adb.org/sites/default/files/project-documents/48401/48401-008-iee-en_3.pdf

to ensure that identified negative environmental and social impacts associated with Project implementation will be avoided or at least minimized to acceptable levels. As required by IEE/EMP, the civil works Contractor prepared a Site-Specific Environmental Management Plan (SSEMP) for each lot. SSEMPs specified how Contractor would ensure compliance with SPS 2009, the IEE/EMP, and applicable laws and regulations of GoKR. Construction Supervision Consultant (CSC) monitors Contractor's implementation of SSEMP and thus, its compliance with IEE/EMP. monthly, quarterly, and semi-annual reports are prepared by CSC's environmental specialists and submitted to PIU. Semi-annual report is submitted by PIU to ADB for disclosing on ADB website, in line with SPS 2009.

6. This report is the **eleventh** semi-annual Environmental Monitoring Report covering the period from January to June 2025. The main construction works were completed in 2023; the reporting period relates to the post-construction stage and includes road maintenance, the defects liability period, and activities related to PBM management. The report contains materials on the works carried out by the Contractor and the Construction Supervision Consultant, as well as on the implementation of environmental mitigation measures.

1.2 Headline Information.

7. All contract's major construction works have been completed in 2023. Since 1st December 2023 the Defects Notification Period (DNP) and the Performance Based Maintenance Contract (PBMC) began the period during which the Contractor is responsible to remedy any defective work which become apparent and road maintenance. DNP covers main rehabilitation project, including environmental monitoring. PBMC has a much smaller budget, so its monitoring will be less extensive, as major construction is complete and only maintenance remains DNP on this project is 36 months period has started. At same time, PBM's validity period includes 5 years, which ends on December 1, 2028. DNP and PBMC periods operate in parallel. DNP serves as guarantee period, meaning on one hand resolving "snag list" and on the other hand, supervising that there are no hidden defects. For PBMC, the responsibility covers all maintenance activities, as described in specifications. Elimination of identified defects and road maintenance are performed by Contractor in parallel

8. In 2020, during project site's control marks fixing, 1909 trees were identified as falling under "forced" cutting, of which: 160 pieces on Lot 1 and 1,749 on Lot 2. To minimize the impact on green spaces, Consultant and Contractor conducted a joint analysis of control marks. This reduced the number of trees cut down, preserving 83 trees. Contractor completed tree cutting in 2020. Contractor obtained all necessary permits for cutting. Prior to cutting down trees, the commission conducted a survey of green plantations and obtained all necessary permits from territorial bodies of Environmental Protection Agency: Permit for tree removal No. 000 461 dated November 3, 2020 from Naryn Territorial Department of State Agency for Environmental Protection and Forestry under GoKR. Act of survey of green plantations under GoKR Balykchy No. 006603 dated November 16, 2020, Permit for tree removal from Issyk-Kul Territorial Department of State Agency for Environmental Protection and Forestry under GoKR

9. Compensatory tree planting was completed in the first half of 2024. The total number of trees subject to forced removal amounted to 1,602, including: 122 trees in Lot 1;480 trees in Lot 2. The contractor was required to plant new saplings at a ratio of 1:2 (two saplings for each felled tree), i.e., 3,204 saplings.

Planting by sections

Lot 1 – 240 weeping willow saplings.

Lot 2 – 3,162 saplings (birch – 350 pcs., weeping willow – 499 pcs., poplar – 910 pcs., tree of heaven – 70 pcs., almond – 30 pcs., Scots pine – 100 pcs., Tien Shan spruce – 10 pcs., elm – 445 pcs., Karagach – 748 pcs.).

10. As reported in previous SAEMRs, for Lot 1 and Lot 2, all preparatory activities that are relevant to environmental management were completed by Contractor between 2020 and 2021. These include:

- preparation of SSEMP, Health and Safety Plan, and Covid-19 Prevention and Mitigation Plan. The SSEMP was approved by MoTC KG in October 2020.
- acquisition of permits or approval from local authorities and State Agency on Environmental Protection and Forestry Agency (SAEPF) for development and use of campsites, sites for construction facilities, quarry sites, and spoils disposal sites. Permits were received between September 2020 and May 2021.
- conducting an agreement with relevant agencies for solid waste collection, wastewater collection, and hazardous waste collection. Contracts with specialized companies were concluded in 2021 and were renewed every year.
- acquisition of temporary permit for use of quarry sites from the State Agency for Geology of Subsoil Use №03-5/682
- construction and/or development of campsites, field offices, asphalt plants, crushing plants, fabrication areas, machinery areas, quarries, scarified asphalt and spoils disposal sites, and auxiliary installations,
- conducting an agreement with Chui-Bishkek Territorial Laboratory of Department of State Agency for Environmental Protection and Forestry under GoKR to carry out instrumental monitoring of water and atmospheric air quality and with LLC "ProfiLab" for instrumental monitoring of vibration and noise levels in areas of high environmental sensitivity and with socially sensitive receptors along the Project alignment, and in the quarry areas. Contracts with laboratories for instrumental monitoring were concluded in April 2021 and were renewed every year.

11. During the reporting period, instrumental environmental monitoring of environmental quality components (water, air, noise levels, and vibration) was not carried out, as it had been completed in the previous reporting period following the completion of road construction works.

The volume of completed construction work as of 30th December 2024 is presented below.

Scope of Construction Works.

Work Item	Unit	Quantity (Original Plan)			
		Lot 1	%	Lot 2	%
Tree cutting	pcs	122	100	1480	100
Clearing and Grubbing	ha	37	100	35	100
Excavation	m3	116 485	100	42 823	100
Existing Asphalt Break Up	km	38 597	98	10 833	98
Fill and Embankment	m3	205 306	100	93 725	100
Culverts	set	63	100	51	100
Subgrade	m3	154 700	100	90 010	100
Subbase	m3	220 850	100	125 000	100
Base	m3	91 079	100	61 750	100
Binder	m3	37 883	100	25 750	100
Bridges	set	4	100	1	100
Gabions	pcs	696	100	-	100
Drainage	m	1 569	100	139	100
Parking near markets	Pcs	4	100	2	100
Parapet fence	pcs	1 339	100	946	100
Reconstruction of communication lines • Overhead line -10kV • Overhead line - 0.4 kV • Communication line • Lighting poles • PVC pipes	 poles poles poles pcs l.m.	 8 - 14 193 848	100	 22 7 - 337 820	100
Others		Tree planting; Archaeological survey and monitoring; Removal of bus stops; Environmental monitoring; Auxiliary facilities	100	Tree planting; Archaeological survey and monitoring; Removal of bus stops; Environmental monitoring; Auxiliary facilities	100

2 PROJECT DESCRIPTION AND CURRENT ACTIVITIES.

2.1 Project Description.

2.1.1 Project Rationale and Project Area.

12. Kyrgyzstan is a mountainous and landlocked country, where regional trade is heavily dependent on roads which dominates Kyrgyzstan's transport system. There is no rail or water transport network while air transport is expensive and not suitable for mass transport and freight.

13. Central Asia Regional Economic Cooperation Corridors 1 and 3 Connector Road Project (Phase 2) - Additional Financing Section 1 (Lot 1) "Balykchy - Kochkor km. 0-km. 43", Section 2A (Lot 2) "Kochkor-Epkin (km 62+400 - km 89+500)" will connect two major CAREC regional corridors by rehabilitating an existing but narrow connector road. It is part of the North-South Alternative Corridor, a priority project in the National Sustainable Development Strategy.

14. Entire road corridor lies within Northern and Inner Tien Shan Mountain ranges. Route passes through mountains and plains of Issyk-Kul region at altitudes between 700 meters and 3,500 meters above sea level (masl), crossing Chu River valley. Based on Köppen Climate Classification System (BSK), Issyk-kul region has mid-latitude steppe climate which is described as continental with cold winters and hot summers. Difference between mid-summer and mid-winter temperatures can be extreme and areas of permafrost are notable.

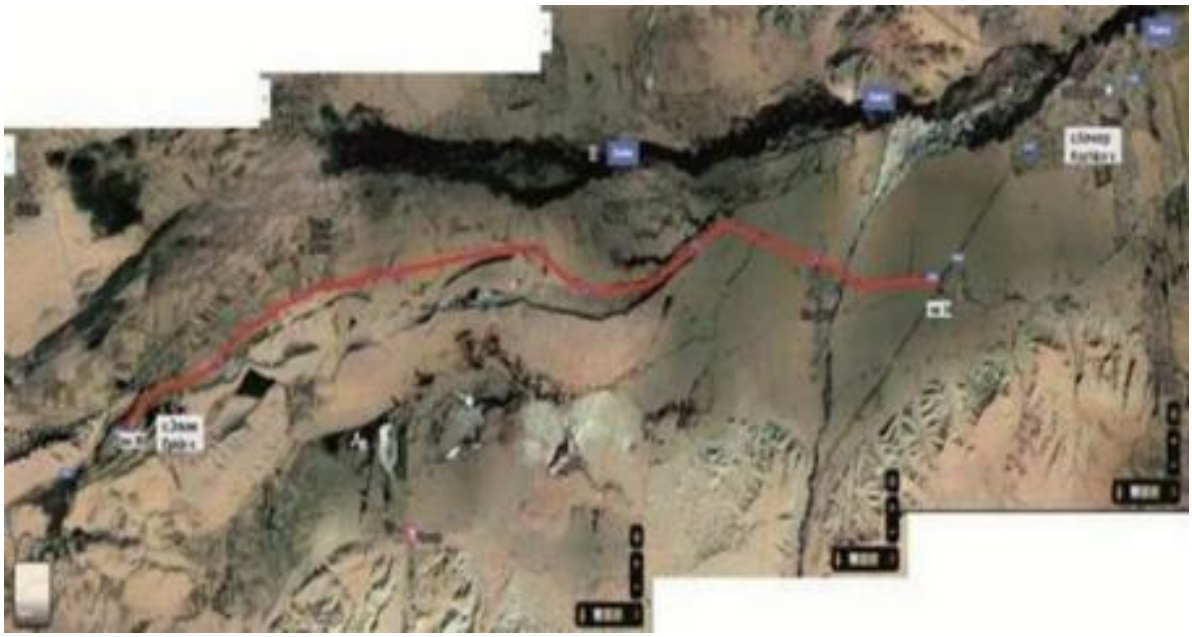
15. Section 1 (Lot 1), the Balykchy Project section, is 43 km long and runs from east to south-west. It begins at a traffic circle located at the entrance to Balykchy City. Five roads converge at this point, one of which is a section of CAREC road heading south. Lot 1 follows the existing highway up to km 43. The first 29 km of the road is within Ton District (District) of Issyk-Kul Region (Province) while the remaining 14 km is within Kochkor District of Naryn Region. The road elevation at km 0 is 1,632masl while the elevation at km 43 is 1,756 masl. Throughout the road section, the elevation ranges from 1,610masl to 1,820masl. Figure 2 shows the general topography of areas traversed by Lot 1.

16. Kochkor-Epkin road section (Lot 2) is 25 km long and runs from east to west. It begins at junction of three roads (km62+400) in Kochkor town where Bishkek-Naryn-Torugart Highway serves as a detour for Kochkor town and this road section. Road follows existing highway and ends at km89+500 in Epkin. Entire road section is within Naryn region and crosses only Kochkor District. Kochkor is center of Kochkor District of Naryn region.

17. Areas surrounding the roadway are vast agricultural lands used for crop and livestock production. Kochkor has rolling and mountainous terrain which is covered with grasses suitable for grazing. Kochkor Valley is bounded by Kyzart mountain ridges on north and Karagatty Kyzart on south. Mountainous region has a very dissected relief with high slopes. Elevation in valley ranges from 1,700masl to 2,400masl. Road elevation at km 62+400 (beginning of ot 2) is 1,845masl while the elevation at km 89+500 (end of Lot 2) is 2,080masl. Elevation along entire road section ranges from 2,400masl to 4,502masl. Figure 3 shows general topography of areas traversed by Lot 2.

Figure 2. Topographical Map of Areas Traversed by Lot 1.

Figure3. Topographical map of Areas Traversed by Lot 2



2.1.2 Project Summary.

18. Information about the grant and loan, consulting services and construction contracts are summarized in Table 1.

Table 1. Contract Information.

Item	Description
Project Name	Kyrgyz Republic: CAREC Corridors 1 and 3 Connecting Road Project, Phase 2 (Additional Financing)
Funding Agency	Asian Development Bank
Project References	Project number: TA-8887 KGZ Loan number: ADB Loan 3432-KGZ (SF) Grant number: 0496-KGZ (SF)
Executing Agency (EA)	Ministry of Transport and Communication of the Kyrgyz Republic (MOTC)
Implementing Unit	Project Implementation Unit (PIU) under MOTC
Construction Supervision Consultant (CSC)	Roughton International Ltd., and RAM Engineering Associates LLC
Date of CSC contract	14/02/2017
Notification for CSC's work commencement	20/05/2020
Civil Works Contractor	Sinohydro-Powerchina Roadbridge JV
Approved subcontractors	• Arek Story LLC • Balkchi Trans LLC • Shera Trans LLC. • Jumgalsuukurulush Open Joint Stock Company In 2021 Shera Trans was replaced by Kyrgyzgidrospecstroy LLC as a consortium partner with Zhagalmay LLC
Road Sections covered by Contract	Total length of two road sections - 68 km
Lot 1	Balykchy - 43 km
Lot 2	Kochkor – Epkin - 25 km
Notice to commence works	22/06/2020
Completion date (original)	22/06/2022
Completion date (Revised)	21 June 2023
Time to finish – days	730 days
Extension - days	First extension (delay due to COVID-19) 365 days
Warranty period - days	36 months
Contract Amount	
Lot 1	USD 22,671,896.26
Lot 2	US$ 17,537,958.57

2.1.3 Scope of construction works and technical specifications.

19. Project was designed in accordance with Kyrgyz Highway Standard (SNIP 32-01:2004), with geometrical and structural requirements up to Technical Category II (main streets of city importance). Lane width 3.5m – 3.75m; width of carriageway 7.00m – 7.50 m; width of shoulder 3.25m – 3.75m (of which 0.50m - 0.75m will be paved). Average total road width is 15m. Road rehabilitation includes repair or replacement of existing small bridges and culverts, construction of side drains and other drainage facilities, construction of retaining walls for river protection where needed, provision of road signs and road markings, and construction of bus stops and one underground crosswalk. Scope of works is summarized in Table 2 while the technical specifications are summarized in Table 3.

Table 2. Scope of Construction Works.

Work Item	Unit	Quantity (Original Plan)	
		Lot 1	Lot 2
Tree cutting	pcs	30	38
Clearing and Grubbing	ha	37	35
Excavation	m3	116 485	42 823
Existing Asphalt Break Up	km	38 597	10 833
Fill and Embankment	m3	205 306	93 725
Culverts	set	63	51
Subgrade	m3	154 700	90 010
Subbase	m3	220 850	125 000
Base	m3	91 079	61 750
Binder	m3	37 883	25 750
Bridges	set	4	1
Gabions	pcs	696	-
Drainage	m	1 569	139
Parking near markets	Pcs	4	2
Automobile pavilion	pcs	8	11
Parapet fence	pcs	1 339	946
Reconstruction of communication lines • Overhead line -10kV • Overhead line - 0.4 kV • Communication line • Lighting poles • PVC pipes	 poles poles poles pcs l.m.	 8 - 14 193 848	 22 7 - 337 820
Others		Tree planting Archaeological survey and monitoring Removal of bus stops Environmental monitoring Auxiliary facilities	Tree planting Archaeological survey and monitoring Removal of bus stops Environmental monitoring Auxiliary facilities

** Note: Increased to 1704 trees based on actual survey*

Table 3. Technical Specifications.

Item	Specification	Remarks
Number of traffic lane	2	
Traffic lane width	3.5m to 3.75m	
Width of carriageway	2 x 7.5m	
Shoulder width	3.25m to 3.75m	Of which, 0.5m to 0.75m should have covering
Total width of carriageway	15m	
Design axle load	11.5 tons	
Width of the road right-of-way	30m to 60m	
Road Pavement • Top pavement (SMA) layer • Coarse-grained asphalt at junctions • Leveling layer • Base course • Sub-base course • Asphalt concrete mixture on sidewalks	6 cm thickness; vol. 42,505 m^3 5 cm thickness vol. 682 m^3 9 cm thickness; vol. 63,633 m^3 20cm thickness; vol. 152,829 m^3 25cm thickness; vol. 345,850 m^3 4cm thickness; vol. 434 m^3	

2.1.4 Summary of Identified Negative Impacts of Project Implementation.

20. Based on EIA reports for Lot 1 and Lot 2, majority of negative environmental impacts arising from project implementation will occur during construction phase, but some impacts will occur during operation phase.

21. Identified potential negative impacts during Project construction phase include:

- noise and vibration
- generation of dust and air emissions from earthworks and from the operation of vehicles, construction equipment, concrete batching plants, asphalt batching plants and rock crushing plants
- impacts on water courses (siltation, deterioration of water quality)
- impacts of quarrying (removal of vegetation, changes in landscape, soil erosion/landslide, degradation of soil quality)
- impacts on soil due to removal of trees and vegetation
- Impacts resulting from rehabilitation of bridges and drainage structures,
- Impacts from operation of campsites, and
- Impacts on historical and archaeological sites

22. Identified potential negative impacts during Project operation phase include:

- increase in gas emissions
- increase in noise levels
- increase in traffic accidents involving pedestrians and vehicles, and
- increased risk of accidents associated with possible spills of harmful substances attributable to increased traffic and high vehicle speeds due to good road surface.

23. Satisfactory management of noise, airborne pollutant emissions, and vibration are of particular importance to communities near the road and in places where sensitive receptors such as schools, hospitals, mosques, etc. are located.

2.2 Project Contracts and Management.

2.2.1 Project Management.

24. The Executing Agency (EA) for Kyrgyz Republic is Ministry of Transport and Communication (MOTC). Project Implementation Unit (PIU) under MOTC is implementing agency directly responsible for overseeing execution of contracts, financial management, and for ensuring compliance with loan conditions. PIU is supported by Construction Supervision Consultant (CSC), Roughton International Ltd., and Sub-consultants RAM Engineering LLC. CSC supervises civil works to ensure quality and progress in accordance with construction contracts. The CSC is responsible for ensuring Project's compliance with ADB's environmental and social safeguards. Construction of project roads is being undertaken by Joint Venture Sinohydro Corporation Ltd – Power China Road Bridge Group Co. Ltd. (Sinohydro-Powerchina Roadbridge JV) which was awarded the contracts for both Lot 1 and Lot 2. Sinohydro-Powerchina Roadbridge JV, General Contractor (GC) is supported by local subcontractors approved by PIU (Arek Stroy LLC).

25. Other agencies involved in Project include Ministry of Finance (MoF KR), Ministry of Natural Resources, Environment and Technical Supervision (MNRETS), and Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of Ministry of Health (DDPSSES).

26. Functions, roles, and/or responsibilities of entities involved in Project management are summarized in Table 4. Table 5 lists names and contact numbers of persons involved in environmental safeguards implementation

Table 4. Functions, Roles, and Responsibilities of Entities involved in Project Management.

Agency/Entity	Function/Roles/Responsibilities
Asian Development Bank	Lending institution. Provides financing for Project and ensures Project implementation follows ADB project cycle. Provides project management support to MOTC and PIU. Monitors Project implementation through regular missions. Provides workshops and seminars for staff of EA, PIU, CSC and Contractor on project management, procurement, contracting of consulting services, disbursement, accounting, and financial management, and on social and environmental safeguards.
Ministry of Finance of the Kyrgyz Republic	Authorized state body responsible for coordination with ADB and other donors regarding external assistance issues.
Ministry of Transport and Communication of KR	Responsible for development of transport sector and is EA for project. MOTC has overall responsibility for planning, design, implementing and monitoring of project. PIU operates under MOTC and performs tasks assigned from MOTC.
Project Implementation Unit	Implementing agency directly responsible for supervising contracts implementation, financial management, and for ensuring compliance with loan conditions, including social and environmental safeguard requirements.
Ministry of Natural Resources, Environment and Technical Supervision	Lead Government Environment Protection Agency is responsible for governmental environment policy and coordinates with other governmental agencies. Functions include: – development of environmental policy and implementation; – carrying out state environmental expertise; – issuing environmental licenses; – environmental monitoring; supervision of compliance with environmental legislation, established rules, limits and norms of natural resource use, standards for emissions and discharges of pollutants and waste disposal in natural environment;
	Lead Government Environment Protection Agency is responsible for governmental environment policy and coordinates with other governmental agencies. Functions include: – development of environmental policy and implementation; – carrying out state environmental expertise; – issuing environmental licenses; – environmental monitoring; – supervision of compliance with environmental legislation, established rules, limits and norms of natural resource use, standards for emissions and discharges of pollutants and waste disposal in the natural environment;
Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health	Supervises sanitary and epidemiological well-being of population, safety of goods, products, environmental facilities and conditions, prevention of harmful impact of environmental factors on human health
Construction Supervision Consultant	Supervises construction works to ensure quality and progress of works in accordance with construction contracts. CSC is also responsible for ensuring Contractor's compliance with ADB's social and environmental safeguards.
General Contractor	Responsible for execution of construction works and all works covered by construction contract in accordance with technical specifications. Also responsible for implementation of ADB social and environmental safeguards as specified in contract agreement with IA.
Subcontractors	Execution of construction works covered by sub-consultancy agreement with GC in accordance with technical specifications. Subcontractors are also responsible for implementation of ADB social and environmental safeguards in same manner as GC

2.2.2 Management of Social and Environmental Aspects.

27. ADB has appointed a Country Environmental Coordinator and a team of permanent social and environmental specialists to monitor the Project's compliance with ADB's social and environmental safeguards. ADB team conducts site visit missions regularly during Project implementation to check social and environmental conditions.

28. MOTC has designated PIU Environmental Officer to take charge of matters relating to environment aspects of Project.

29. Table 5 lists names and contact information responsible of project's social and environmental management.

2.2.3 Construction-Supervision Consultant's Team.

30. Roughton International, Ltd. and Sub-consultants RAM Engineering LLC, as construction supervision consultant are mainly responsible for ensuring Main Contractor and its subconsultants are carrying out works in accordance with contract conditions and technical specifications. CSC is also responsible for ensuring Project's compliance with ADB's social and environmental safeguards as well as her involvement in PBMC period. CSC's organizational structure is shown in Figure 4. List of staff as of 30th December 2023 is shown in Table 6.

31. CSC's team has National Environmental Protection Specialist (NEPS), National Resettlement Specialist (NRS), and National Archeologist. SDRS is responsible for monitoring and reporting on progress of resettlement activities and status of compliance with social safeguards. NEPS is responsible for preparing SAEMR reports, and providing monitoring and supervision functions regarding Contractor's compliance with environmental safeguards reflected in IEE-EMP and SSEMP. They also provide guidance to environmental staff of Contractor on rectification of environmental non-compliance issues. Contractor has designated a national Environmental Specialist (ES) who is mainly responsible for implementation of Contractor's SSEMP commitments. Contractor's ES is also responsible to supervise instrumental monitoring of noise, vibration, water quality, and air quality which Contractor has sub-constructed to an accredited laboratory.

Table 5. Contact Information of Persons responsible of Social and Environmental Management.

No	Organization	Designation	Name	Contact information
1	ADB	Country Environment Focal	Lizandro C. Racoma	lracoma@adb.org
2	ADB Resident Mission in Kyrgyz Republic	National Environmental Consultant	Sultan Bakirov	Sbakirov.consultant@adb.org
3	PIU under MOTC	PIU Environmental Officer	Abdygulov Asylbek	asylbeka@piumotc.kg
4	Roughton International Ltd., and sub-consultant RAM Engineering Associates LLC.	National Environmental Protection Specialist	Akmatova Nasiba	ahmatovanm@gmail.com
5	Sinohydro-Powerchina Roadbridge JV.	Contractor's National Environmental Specialist	Beisheev Isake	isake.beysheev@bk.ru

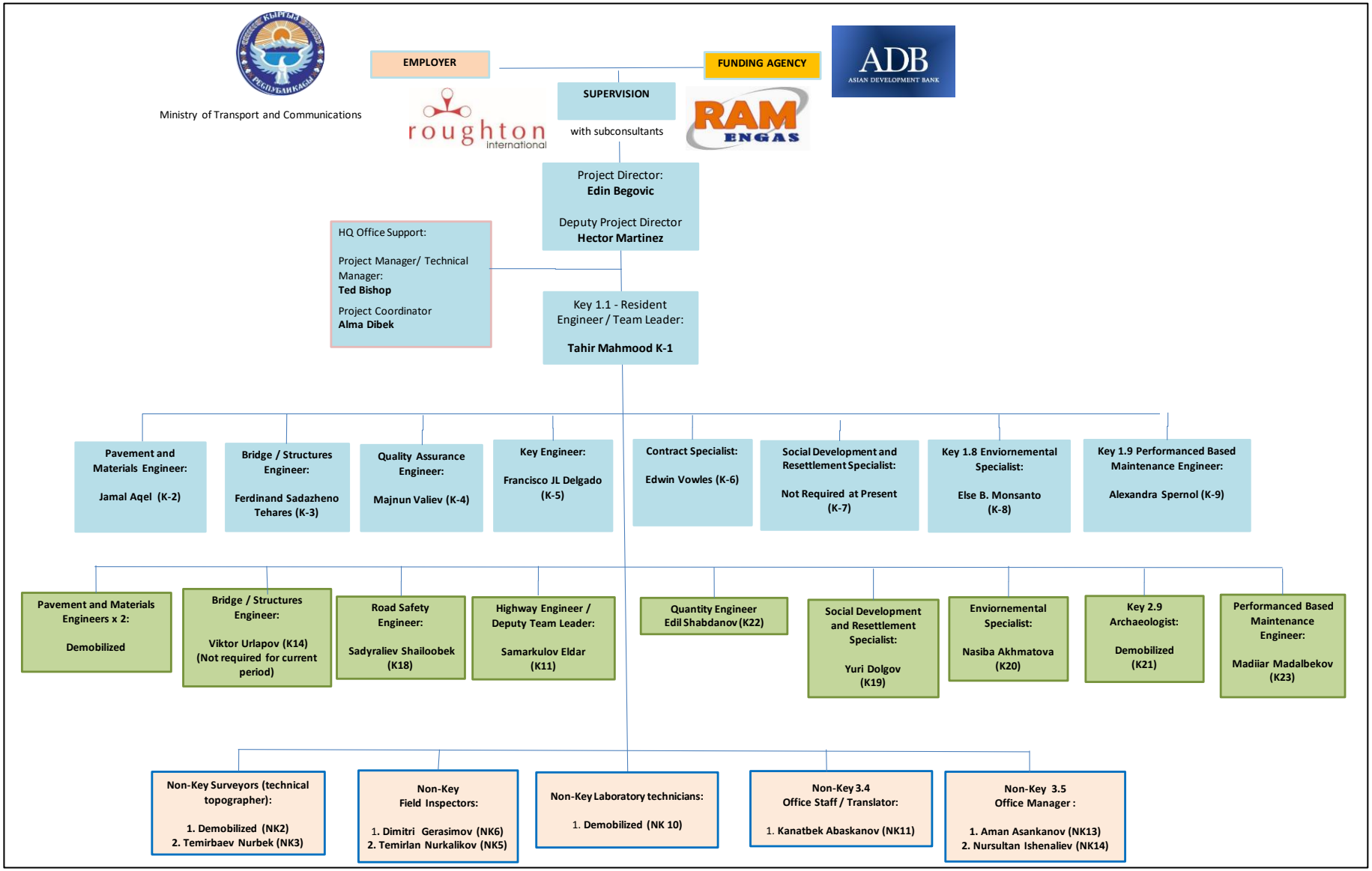


Figure 4. Organizational Structure of the Construction Supervision Consultant.

Table 6. List of Consultant's Staff.

International staff	
Project Director	Edin Begovich
Resident Engineer-Team Leader	Tahir Mahmood
Contract Specialist	Ed Vowles
PBM Engineer	Alexandra Spernol
Road Safety Engineer	Francisco Javier Lopez Delgado
Local staff	
DTL	Eldar Samarkulov
Road Safety Engineer	Shailoobek Sadyraliev
Office manager – 1	Aman Asankanov
Office manager – 2	Nursultan Ishenaliev
Site Inspector – 2	Temirlan Nurkalikov
Site Inspector – 3	Dmitrii Gerasimov
National Environmental Specialist	Nasiba Akhmatova
Resettlement Specialist	Yuri Dolgov

2.3 Project Activities During Current Reporting Period.

2.3.1 Road construction works.

32. The main construction works were completed in 2023; the reporting period relates to the post-construction stage and includes road maintenance, the defects liability period, and activities related to PBM management. Below is information on the types and volumes of construction works carried out during the implementation of the Project on Lot 1.

33. During the road construction period on Lot 2, the following volume of work was completed:

- **Clearing and grubbing**. Works cover 37 ha under initial project and completed- 100 %.
- **Excavation**. Amounted of soil excavation is 37,489 m^3. Total work implementation from beginning of the project to December 2023 was 110%.
- **Removing existing asphalt**. In 2023, asphalt removal work on the project road section of 43 km was 100% complete.
- **Backfill and earthen embankment**: from project implementation start to December 2023, the fulfillment of works amounted to - 124 %.
- **Subgrade.** Earth bed construction of 42.92 km and includes paving and compaction of 399,940 m3. Total execution of works from the project start to report period start 100 %.
- **Subbase**: Subbase works are carried out on a total road length of 42.92 km and include laying and compaction of 260,095 m3 of subbase material, 39,245 m3 on shoulders and 220,850 m3 on the main road. The overall execution of works since the project commencement as of July 2024 is 100%.
- **Base.** Base course works with total length of 42.92 km include paving and compaction of 92,737 m^3 of base course material. The total execution of works since the start of the project as of July 2024 is 100%.
- **Binder**: Project involves paving and compaction of binder course on 42.92 km with a total volume of 38,390 m3. Total completion of works since the beginning of the project implementation at the beginning of the reporting period - 100%.

- **SMA Asphalt Pavement**: Project involves paving and compaction of asphalt on 42.9 km of road with total volume of 25,339 m^3. The total execution of works since project start as of July 2024 is 100%.
- **Culverts**: Project involves construction of 63 culverts. Culverts' construction was 100% completed.
- **Bridge**. Project includes the construction of one bridge at km 12+063, which was completed in the first half of 2023.
- The volume of work completed on Lot 1 from the start of the Project up to June 2025, including the installation of parapets, reinforced concrete drainage trays, delineator posts, road signs and markings, bus stops, sidewalks, access roads, and lighting, is presented in Table 7

Table 7: Scope of Work for Lot 1

№	Description	Unit rate	Per project	Completed	Incomplete	% Incomplete work	Notes
1	Reinforced concrete chutes	м	1611	1611		100%	
2	Reinforced concrete parapets	pcs	2697	2697		100%	
3	Signal posts	pcs	1105	1105		100%	
4	Road signs	pcs	271	271		100%	
5	Road markings	м	146894	146894		100%	Defects are not fully eliminated
6	Bus stops	pcs	14	14		100%	
7	Sidewalk	м	4702	4702		100%	
8	Road exits	pcs	45	45		100%	
9	Lighting	pcs	193	193		100%	
10	Road culverts at exits	pcs	6	6		100%	
11	Railway crossing km1+300	set	1	0,85	0,15	15%	
12	Traffic light km2+700	set	1	1		100%	
13	Toilet	pcs	2	1	1	50%	
14	Road shoulders	km	86	86		100%	

34. The reporting period relates to the post-construction stage and includes road maintenance, the defects liability period, and activities related to PBM management. Below is information on the types and volumes of construction works carried out during the implementation of the Project on Lot 2.

35. During the road construction period on Lot 2, the following volume of work was completed:

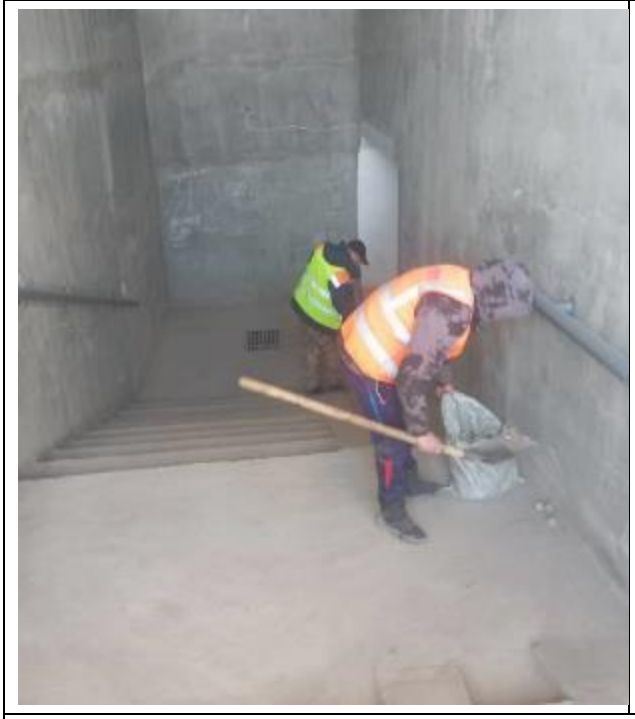
- **Clearing and grubbing.** Original project covers 35 ha of works. Clearing and grubbing works are 100% complete as of the beginning of the reporting period.
- **Excavation**: This item includes the excavation and disposal of unsuitable soil resulting from rock excavation and road construction. Total excavation for project is 9,045 m3. Excavation volume at the beginning of the reporting period amounted to 25,587 m3. The total fulfillment of works since the beginning of the project implementation at the beginning of the reporting period amounted to 124 %.

- **Removal of Existing Asphalt**. At the beginning of current reporting period, old asphalt had been removed from entire 27.1 km project site (shown in Table 15).
- **Fill and embankment**: Project involves work amount of 93,725 m3. Works under the Project have been completed. The total volume of works completed since the beginning of the Project at the beginning of the reporting period amounted to 142,523 m3 - 152%;
- **Subgrade**: Project's excavation works to be carried out with total length of 27.1 km in the amount of 90,010 m3. As of the beginning of the reporting period, 100 % of subgrade works were completed.
- **Subbase**: Subbase works are carried out on a total road length 27 km and include installation and compaction of 152,626 m3 of subbase material; 26,220 m3 for shoulders and 126,516 m3 for the main road. The overall execution of works has been completed and since the beginning of the project implementation at the beginning of the reporting period amounted to 100%.
- **Base**. Base course requirement according to original project is 62,300 m3. Base layer works are 100% complete as of the beginning of the reporting period.
- **Binder**: Binder and wearing course paving and compaction on road with a total length of 27.1 km and a volume of 62,300 m3. Binder course works 100% complete as of the beginning of the reporting period.
- **Reinforced Concrete Pipes.** Project involves the construction of 45 culverts. Construction of 45 culverts was completed in previous reporting period. (There wasn't any asbestos – containing materials used during construction)
- **Bridge**: Project involves construction of bridges at km 65+410, km 68+044, km 86+261 and km 88+795. Bridge construction was 100% complete at the beginning of the reporting period.
- The volume of work completed on Lot 2 for the installation of parapets, reinforced concrete drainage trays, delineator posts, road signs and markings, bus stops, sidewalks, access roads, and lighting are presented in Table 8.

Table 8: Scope of Work for Lot 2

№	Description	Unit rate	Per project	Completed	Incomplete	% Complete work	Notes
1	Reinforced concrete chutes	м	471	471		100%	
2	Reinforced concrete parapets	pcs	1423	1423		100%	
3	Signal posts	pcs	720	720		100%	
4	Road signs	pcs	232	232		100%	
5	Road markings	м	94526	94526		100%	
6	Bus stops	pcs	13	13		100%	
7	Underground crosswalk	pcs	1	0.95	0,05	95%	
8	Sidewalk	м	7367	7367		100%	
9	Exits with asphalt surface	pcs	90	90		100%	
10	Entrances without asphalt	pcs	63	63		100%	
11	Lighting	pcs	324	324		100%	
12	Tree planting	pcs	3204	3204		100%	
13	Restoration of dead trees	Pcs.	628	639		100%	
14	Barrier fencing	м	158	158		100%	
15	Curbs	kilometre	54,2	54,2		100%	
16	The lawn at roundabout	pcs	1	0	1	0%	The lawn was reseeded in July after an unsuccessful initial seeding in May.

36. During the reporting period, maintenance works were carried out on Lots 1 and 2 (photos 1–10) to keep the road, drainage, and artificial structures in working condition. Sanitary cleaning of the project road, sidewalks, drainage trays, and culverts was performed, as well as road washing and defect repair.



Photos 1, 2. General cleaning of the underpass and clearing of its entrance at km 86+360.

Photos 3, 4. Cleaning of sidewalks and drainage chutes.


Photos 5, 6. Cleaning of culvert channels and concrete chutes.


Photos 7, 8. Cleaning of the underpass.


Photos 9, 10. Cleaning of bus stops.

<u>Contractor's Campsite and Facility Area for Lot 1.</u> <u>(Balykchy-Kochkor 00+00 to 43+00).</u>

37. Contractor's Production Base and Camp dismantling, which started in December 2023, was completed in January 2024. The land reclamation used for the Manufacturing Base and Residential Camp was completed in January and handed over to landowner in February in accordance with KR regulations.

Contractor's Campsite and Facility Area for Lot 2.

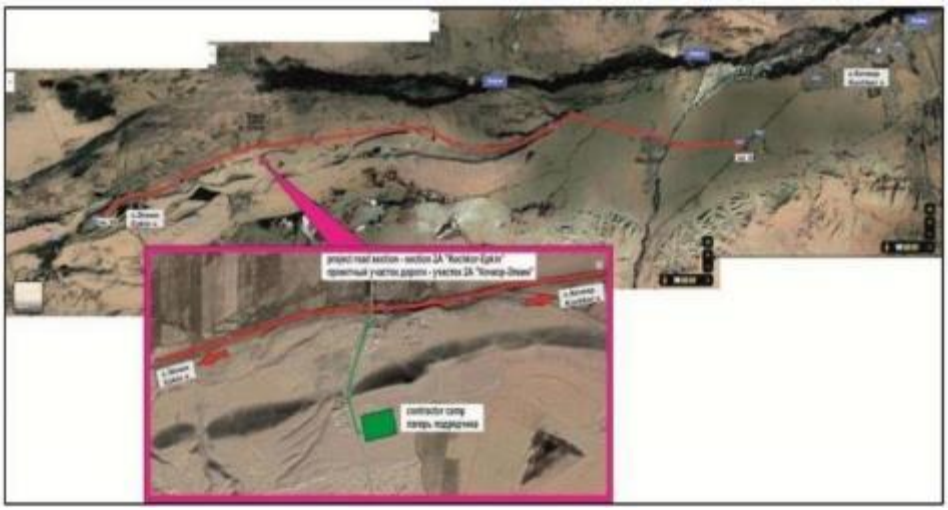
38. As the road construction has been completed, the present reporting period covers the road maintenance stage, the defects rectification period, as well as activities related to PBM management. To carry out these works, the Contractor continues to operate a construction camp on Lot 2.

39. Contractor's Camp Lot 2 is located at Section 2A "Kochkor-Epkin" 81 km, 250 meters from project site, area 4.5 ha (Figure 7). All necessary documents/approval from local authorities and coordination of state environmental protection agencies have been received (Letter to village administration of Cholpon on allocation of land plot no. 310 dated 27.05.2020. Resolution of deputies' session VI convocation of Cholpon village administration No. 35/4 dated 12.06.2020 on allocation of site for temporary use for camp and production base, Permit of Naryn Territorial Department of Environmental Protection No. 45 dated 17.08.2020 Letter No. 02-4/553 dated 17.08.2020). The Contractor's camp will operate during PBM period.

40. The camp area is fenced and is in satisfactory sanitary condition (photos 11–12). Within the camp territory are located: an office, a medical point with a doctor and first aid supplies, residential quarters for the Contractor's staff, a construction equipment parking area, and a canteen with a kitchen block. Each residential room has a bathroom and a shower.

41. Emergency and firefighting equipment are available. Fire extinguishers and fire boards are distributed outside buildings, and rooms inside buildings are equipped with automated fire extinguishing systems. Various informational materials about COVID-19 and fire safety, emergency response is placed around buildings. During reporting period sanitary condition of camp space, living and working facilities were in good condition.

Figure 5. Location of Lot 2 Contractor's Campsite and Facility Areas.



Lot 2 site area with crushing plant in the foreground and Contractor's camp in the background.

Фото 11. Living camp

Фото 12. Camp’s cafeteria

Personnel information.

42. During the reporting period, the average total number of personnel of the General Contractor and subcontractor was 25 people, mostly local residents. The General Contractor entered into a contract with the subcontractor LLC "High Build Service."

43. Table 9 provides a summary of Contractor's personnel information.

Table 9. Contractor’s Personnel.

Personnel	Contractor SINOHYDRO	
	Local (Lo 1, Lot 2)	Foreign
Administrative/ Engineer/ Technician	13	2
Operators and drivers	6	
Workers	4	
Subtotal	23	2
TOTAL	25	

2.4 Description of any changes to project design.

44. The Project construction was completed in 2023; the reporting period includes the defects liability period and activities related to PBM management. Throughout the entire Project implementation period, two amendments were made to the design documentation, which are reflected in the table below.

№	Design Change	Period	Reason	Implications for Mitigation Measures	EMP Updates
1	Changes were introduced to the sidewalk design by combining sidewalks with a width of 1.0 m along road sections in the villages of Kok-Zhar, Chekildek, and Epkin on Lot 2.	July–December 2021	Minimization of Project impacts on private land plots	As a result of revising the sidewalk design in three villages, the affected area was reduced from the originally planned total of 3,506.4 m² to 864.38 m².	Not required
2	A change was introduced to the design of the roundabout at km 02+706 on Lot 1: replacement of the roundabout intersection at km 02+706 with a T-junction.	July–December 2022	Unforeseen land-related issues at this section; specifically, in early October 2022 on Lot 1 it was identified that a privately owned land plot, which had not been developed to date, was located within the road right-of-way of the Project at the location of the planned roundabout.	In November, the landowner installed a fence along the plot boundary measuring 30 m × 50 m.	Not required

2.5 Description of changes in agreed methods of construction.

45. No changes have been made to construction methods.

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES.

3.1 General Description of Environmental Safeguard Activities.

46. All environmental safeguard activities of Contractor are based on approved SSEMP (for Lot 1 approved in October 2020, for Lot 2 approved in November 2020). Contractor's Environmental Protection Specialist (EPS) is primarily responsible for the implementation of Contractor's environmental protection commitments as specified in SSEMP. Contractor's Project Manager provides necessary resources and management support to put all relevant plans into action. Among others, the Contractor's safeguard activities include: (i) securing all needed environmental permits for temporary use of some land, and for Contractor's facilities' installation and operation; (ii) consultations and dialogues with local communities to explain project activities and to resolve public grievances (no grievances recorded in GRM log during this period). The Contractor's environmental specialist routine conducts dialogues with local communities during site inspections to clarify project activities and resolve public complaints; (iii) carrying out monitoring by contractor's and consultant's environmental specialist, the construction sites and facilities to ensure that conditions are in accordance with the ADB SPS 2009, IEE-EMP, SSEMP, government regulations, and best management practices; (iv) implementation of corrective actions that may be recommended by CSC NEPS; (v) supervision of sampling and testing of ambient pollution indicators; (vi) implementation of social, health and safety requirements; (vii) keeping daily logs and maintaining records of all environmental activities; and (viii) preparation of environmental reports.

47. CSC NEPS monitors Contractor's compliance with IEE-EMP and SSEMP during construction stage through site visits and audits of Contractor's logbooks and records. Site visits are usually done together with Contractor's ES so that instructions for correction of non-compliances can be clearly and immediately explained for prompt action. CSC-NEPS also participates in air and water sampling and noise and vibration monitoring. CSC NEPS didn't inspect objects in reporting period.

3.2 Site Audits.

48. During reporting period CSC NEPS visited site in June. PIU conducted monitoring of project site. PIU's environmental specialist made about 3 visits to the site.

Table 10. Contractor's activities to correct SSEMP non-compliances.

№	Date of Visit	Auditor name	Purpose of Inspection/Audit	Summary of any Significant Findings
1	10.04.2025	Abdygulov A.	Visual monitoring conducted	no non-conformities identified
2	28.05.2025	Abdygulov A.	Visual monitoring of quarry sites conducted	no non-conformities identified
3	05.06.2025	Abdygulov A.	Visual monitoring of the contractor's base conducted	no non-conformities identified
4	15.06. 2025	Akhmatova N.M. CSC Specialist	Visual monitoring of project sites: Contractor's camps, quarries, spoil dumps	During the site visit in June 2025, the Consultant's environmental specialist inspected the condition of the spoil dumps and quarries. It should be noted that the results of the leveling works of the spoil dumps and access roads are excellent: the terrain corresponds to the local landscape, and natural grass overgrowth has begun (Photos 13–25).

3.3 Non-Compliances Tracking (Based on Non-Compliance Notices).

49. If non-compliance is identified during site visit, the CSC shall initially give a verbal instruction to Contractor, clearly stating suggestions for immediate correction. For issues that are not immediately corrected, CSC shall send a follow-up letter to formalize the instruction with a deadline date for correction. If Contractor is unable to correct noncompliance by deadline, the issue is carried forward to next notice of noncompliance. A new deadline date is assigned by CSC if Contractor has a valid reason for delaying the corrective action. Issues are tracked and their status is included in monthly, quarterly, and semi-annual environmental reports of CSC. Similarly, Contractor shall track status of Notices of Non-Compliance issued by CSC and include status in monthly reports submitted to CSC.

3.3.1 Contractor's activities to eliminate SSEMP non-compliances.

50. In the reporting period, no non-compliances were identified. The non-compliances that occurred in previous reporting periods as of the end of 2024 have been eliminated in full.

51. The table below provides information on the non-compliances/violations of the SSEMP that occurred during the entire period of the Contractor's construction and operational activities, as well as the corrective measures taken to address them and the timeframes for their resolution.

Contractor's activities to address and rectify SSEMP non-compliances.

No	Remarks / Non-compliances / Recommendations	Corrective Measures (CM)	Implementation Deadline	Status of Previous CM / Date of Non-compliance Resolution
Lot 1				
1	During the development of the quarry at km 16+600, industrial safety requirements regarding the stability of the quarry walls were violated: the angle of inclination of the quarry wall is 90˚, which could lead to its collapse.	Bring the sides of the quarry to a stable, safe condition, i.e. the angle of inclination of the quarry side should be 70°.	Immediately. 31 January 2023.	Completed
2	Proper watering of seedlings planted along the planned road on the section between km 9+350 and 10+460 has not been provided.	Ensure seedlings are watered, increasing the frequency of watering in hot weather.	constantly	completed
3	The recultivation of land allocated for the construction of bypass roads on Lot 1 has not been ensured.	Ensure the reclamation of land used for bypass roads located at: km 18+300, km 21+430, km 24+430, km 24+492, km 26+330, km 26+720, km 31, km 34+220, km 34+646, km 35+210, km 36+102, km 36+490, km 37+050, km 37+540, km 37+700, km 38+380, km 42+582 (photos 79-82).	Deadline: February 2024.	Completed November 2024
4	There is no dedicated area for inspecting, repairing and changing the oil in the equipment.	Ensure the construction of a specialized box for inspection, repair and oil change of equipment.		
Lot - 2				
2	Production base. Pollution of the area near the fuel storage facility.	Ensure that the area is cleaned of oil product contamination.	Immediately	Completed within 24 hours, upon issuance of verbal instructions.
3	Areas planted with seedlings on the territory of the sports complex and in the vicinity of the stadium in the village of Kok-Zhar are overgrown with grass (	Ensure that the grass is mowed.	Deadline until 15 August	Completed on time
4	Wastewater from washing the concrete mixing plant is discharged into a water-permeable pit.	Ensure that a watertight tank is installed to collect wastewater from the concrete mixing plant.	Until 15 March 2023. Until 22 June 2023. Extended until 10 July 2023.	Completed July 2023
5	The construction of bridges at km 86+261 and 88+795 has been completed. The use of the bypass road has been discontinued.	Ensure that the land allocated for the bypass road is recultivated.	Until 1 July 2023.	Completed

3.4 Trends.

52. There were no non-compliances in the reporting period.

53. Based on the information obtained during the current and previous monitoring periods, a steady trend toward increased environmental responsibility on the part of the Contractor is observed. The number of previously identified non-compliances is gradually decreasing, as confirmed by the data presented in the table below. During the reporting period, four inspections were conducted, the results of which did not identify any non-compliances. The only non-compliance that was ongoing and extended until October 2024 concerned the rehabilitation works of land plots allocated for detour roads; these works were completed 100% during the reporting period.

№	Audit period	Number of inspections	Number of discrepancies	eliminated	In the process
1	2020	14	Did not occur		
2	2021	50	21	19	2
3	2022	41	8	7	1
4	2023	59	4	4	1
5	2024	20	2	2	0

3.5 Unanticipated Environmental Impacts or Risks.

54. During the reporting period, there were no unforeseen environmental impacts or risks, as confirmed by inspections conducted between April and June 2025 inclusive, on the following dates: 10 April, 28 May, 5 June and 15 June.

4. RESULTS OF ENVIRONMENTAL MONITORING.

4.1. Overview of Monitoring Conducted during Current Period.

55. Final instrumental measurements of noise and vibration levels and laboratory tests of water and air quality were carried out upon completion of the main construction works in the first half of 2024.

56. During the site visit in June 2025, the Consultant's environmental specialist inspected the condition of the spoil dumps and quarries. It should be noted that the results of the leveling works carried out on the spoil dumps and detour roads are excellent: the terrain corresponds to the local landscape, and natural grass regrowth has begun (Photos 13–25).

Photo 13. Lot 1. Area designated for the disposal of unsuitable soil at km 12+00.

Photo 14. Lot 1. Disposal site of unsuitable soil at km 12+00 after reclamation.

Photo 15. Old asphalt dump at km 70+180 LHS.

Photo 16. Old asphalt dump at km 70+180 LHS after reclamation.

Photo 17. Disposal site of unsuitable soil at km 80+900.

Photo 18. Disposal site of unsuitable soil at km 80+900.

Photo 19. Lot 2. Surface of the unsuitable soil disposal site at km 80+900 overgrown with grass.

Photo 20. Lot 2. Site for old asphalt disposal at km 89+093 before placement.

Photo 21. Lot 2. Old asphalt dump at km 89+093 after reclamation.

Photo 22. Lot 2. Bridge at km 86+261 over the Sazdyn-Suusu River, bypass road.

Photo 23. Bridge at km 86+261 over the Sazdyn-Suusu River, bypass road.

Photo 24. Lot 2. Bridge at km 86+261 over the Sazdyn-Suusu River, bypass road, after reclamation.

Photo 25. Lot 2. Bridge at km 86+261 over the Sazdyn-Suusu River, bypass road, after reclamation.

4.2. Trends.

57. Based on the instrumental monitoring data, conducted during the construction period (2020-2023) and upon its completion (2024), no deviations from the Maximum Permissible Concentrations (MPC) were recorded. The results indicate that the construction works did not have a significant impact on the environment and, to some extent, improved the situation. In particular, the levels of dust particles in the air and water, as well as background noise and vibration levels, remained within the MPC limits. There is a noted trend of increasing environmental responsibility by the Contractor, who has ensured the planting of saplings to replace those that were lost.

4.3. Monitoring Outcomes Summary.

58. According to the results of instrumental studies of air, water quality and noise and vibration levels conducted during previous reporting periods, it can be concluded that upon completion of construction works there is no harmful impact on the environment, as concentrations of substances in water and air are within an established MPCs and MPLs for determined components

4.4 Material Resources Utilization.

4.4.1 Current period.

Water Resources

59. Contractor's requirements for drinking water in camps, offices, and worksites are brought from local suppliers by containers of five (5) gallons. The Contractor uses sources near camp sites (Lot 2) to meet water requirements for domestic and potable water supply, dosage plants, equipment maintenance areas, and production areas. Water is pumped from the source into water tanks and distributed through pipelines to taps.

60. To provide water for dust suppression, Contractor obtained permission from local authorities to intake water from following sources listed in Table 12. Water consumption was insignificant as the road construction was completed in the previous reporting period

- Letter of consent of Kok-Jar village administration No. 319 dated July 21, 2020

- Letter of consent of Cholpon village administration No. 405 dated June 20, 2020.

Table 11. Water Source Intake Points Lot-1 and Lot-2.

№	Water source	GPS coordinates
For Lot 1		
1	Orto-Tokoi reservoir	N 42* 12.765 E 075* 30.966
2	Orto-Tokoi reservoir	N 42* 18.315 E 075* 54.123
3	Orto-Tokoi reservoir	N 42* 17.739 E 075* 55.975
4	River Chu	N 42* 21.882 E 076* 03.894
5	River Chu	N 42* 22.324 E 076* 04.886
6	River Chu	N 42* 23.207 E 076* 05.868
7	River Chu	N 42* 23.831 E 076* 05.939
For Lot 2		
1	Joon-Aryk	N 42* 10.394 E 075* 25.194
2	Mukandyn Suusu	N 42* 10.394 E 075* 39.708
3	Chekildektin Suusu	N 42* 11.852 E 075* 37.128
4	Sazdyn Suusu	N42*09.753 E075*23.393
5	Sazdyn Suusu	N42*09.798 E075*23.576
6	Tarmal Saz	N42*11.266 E075*34.744

Filling Materials and Aggregates.

61. Soil and aggregates needed for filling, embankment, subgrade, and subbase works are obtained from quarries near road alignment. Before developing and mining the land, Contractor obtained necessary permits from respective owners and from local and national government authorities that have jurisdiction over identified quarry sites.

62. As of the end of June 2024, Contractor owns 17 quarries for construction materials, the main contract expires on July 15. The Contractor plans to begin quarry reclamation work and complete it by the end of 2024. However, taking into account that within the framework of current project there are savings the MOTC KG are planned to be used for the major repairs of individual sections of roads located in project area. Most likely, individual quarry sections will not be transferred to district commission, since an additional volume of aggregate material will be required. Table 12 shows the characteristics of these quarries.

63. The Contractor carried out technical grading of the quarries, bringing the quarry slopes to a safe condition. The contractor also developed the "Quarry Reclamation Project," which is currently undergoing state technical and environmental review.

Table 12. Characteristics of Quarries.

Quarries are to be transferred only after their reclamation

№	Location		Volume (m3)	Land Area (ha)	Distance from the road	Yes/no development was in progress
	Station	**Village**				
Lot 1						
№1	km 5+500		600 000	5,09	430 m	Depleted
№2	km 7+100		164 000	4,1	122 m	Depleted
№3	km 7+200		195 200	4,88	122 m	Depleted
№4	km 9+000	Boz-Barmak	380 000	7,6	25 m	Depleted
№5	km 16+600		1 744 000	43,6	42 m	Depleted
№6	km 16+600		51 000	12,84	42 m	Depleted
№7	km 16+600		113 000	2,83	42 м	Depleted
№8	km 22+700		380 000	9,5	37 m	Depleted
№9	km 26+800		488 000	12,2	80 m	Depleted
№ 10	km 34+240		245 600	6.14	325 m	Transferred to the State Enterprise "Bridge Construction Unit" under GAUGI.
№ 11	km 39+450		164 000	4.1	520 m	Depleted
№ 12	км 43+400		124 000	3.1	40 m	Depleted
Lot 2						
№13	km 71+500		-	5,2	5 м.	Depleted
№ 14	km81+200		-	5,6	50 м	Depleted
№15	км 81+300		375 000	7,5		Depleted
№ 16	km 86+000	Эпкин	85 000	2,0	20 м	Depleted
№ 17	km 89+093		105 145	0.77		Depleted

Concrete, Asphalt, and Reinforcing Steel Bars.

64. Cement, reinforcing steel required for fabrication or construction of culverts, concrete pipes, bridge retaining walls, and other concrete structures shall be purchased from approved commercial sources

POL (petroleum, oil and lubricants)

Petroleum requirements for heavy equipment, machineries and vehicles are supplied by gasoline stations near project sites, either pumped into the Contractor's cylindrical tank installed near fabrication areas or by the drums. These are stored in Contractor's fuel storage area. Lubricants and acetylene are supplied also from commercial sources within locality.

4.4.2. Cumulative Resource Utilization.

65. Since the project's reporting period beginning, the Contractor has removed from quarries 459,507 m3 of fill/rock/composite materials for Lot 1 and 487,444 m3 of these materials for Lot 2. As of this reporting period, the Contractor has no records or breakdown of actual water use (potable, domestic, batching plants, site watering and production areas, equipment washing areas, etc.). For road watering the Contractor has 1 watering vehicle.

4.5 Waste management.

66. After major and secondary road reconstruction works the following wastes were generated:

- unusable soil
- removed old asphalt and demolished concrete slabs
- domestic solid waste (biodegradable and non-biodegradable) from the kitchen, dining areas, offices and camps
- wastewater and solid waste generated by personnel at construction camp

67. The spoils and scarified asphalt are disposed in Project's disposal sites. Contractor has all necessary permits from relevant state agencies (village administration, territorial environmental authorities) for disposal of unusable soil and old asphalt concrete in old pits in accordance with Landfill Plan, agreed with the Department of Environmental Protection of SCER KR. Table 14 shows utilization of soil disposal sites while Table 15 - scarified asphalt disposal sites.

Lot 1. Km. 12 + 000 (letter of consent of Kok-Moynok village administration No. 465 of 10.16.2020. Permit from Issyk-Kul territorial administration of State Agency for Environmental Protection and Forestry for disposal of waste in the environment No. 005952 dated 19.10.2020, No. 005967 dated 20.05.2021).

Lot 2. Km. 80 + 900 and km 89 + 090 (Permit of the Naryn Territorial Department of Environmental Protection No. 02-4 / 682 dated 03.11.2020, Letter of consent of Cholpon village administration No. 662 dated 29.10.2020, Permit of Kochkor Forestry Development Department Forest ecosystems No. 02-2 / 71 dated 27.04.2021).

68. In the first half of 2024, the contractor completed the technical recultivation of all waste dumps in Lot 1 and Lot 2 and ensured their transfer to the landowners, on whose territory the dumps are located, by official statements ("Statements" are given in Appendix 3).

69. Contractor has completed technical recultivation of old asphalt dumps on Lot 1 and Lot 2, and ensured their transfer under the Statement to landowners where dumps are located (Statements are given in Appendix 3).

70. Solid domestic wastes are transported and disposed at Cholpon village landfill. Wastewater is transported to treatment facilities according to contract with the municipal enterprise "Gorvodokanal" of Balykchy city.

Table 13. Characteristics of unusable soil disposal area.

№	Location		Distance from the road (m)	Spoil capacity			Spoil quantities m^3	As of June 30 2024,	Assessment of conditions and compliance to environmental protection measures
	Station	Village	(LS/RS)	Area, m^2	Height m	Volume (m^3)			
Lot 1									
1	km 12+100	Tash-Sarai	100 (LS)	12500	4	50 000	24544	Activity completed	Technical recultivation has been carried out
2	km 40+360	-	30 (LS)	10645	2,1	22 015	4489	Activity completed	Technical recultivation has been carried out
Lot 2									
3	km 71+640		410 (LS)				918		Technical recultivation has been carried out
4	km 71+860		1(RS**)**				2632		Technical recultivation has been carried out
5	km 80+900		29(LS)				2207		Technical recultivation has been carried out
6	km 89+090		**RS**				3049		Technical recultivation has been carried out
7	70+180		400(LS				11704		Technical recultivation has been carried out
8	km 71+640	-	12 (LS)	3850	4	5 401	14691		Technical recultivation has been carried out
9	km 71+860	-	12 (LS)	2069	4	8 278	8758		Technical recultivation has been carried out
10	km 80+900	-	70 (LS)	4200	3	12 600	12000		Technical recultivation has been carried out
11	km 89+090	-	60m (RS)	12000	1,8	21 800	18000		Technical recultivation has been carried out

Table 14. Characteristics of old scarified asphalt dump sites

№	Location		Distance from the road (m)	Spoil capacity			Disposed Quantity m^3	As of June 30 2024,	Assessment of conditions and compliance to environmental protection measures
	Station Village		(LS/RS)	Area, m^2	Height m	Capacity (m^3)			
Lot 1	km 7+000	50 (RS)	10 400		62 862	21000	21000	Activity completed	Technical recultivation has been carried out
	km 20+100	50 (RS)	48 700		33 902	9000	9000	Activity completed	Technical recultivation has been carried out
	km 21+260	-	50 (RS)	48 700		80 374	10500	Activity completed	Technical recultivation has been carried out
	km 32+720	-	150 (LS)	4 100	3,0	16 000	11500	Activity completed	Technical recultivation has been carried out
	km 38+660	-	545 (LS)	26 100	3,0	78 535	3500	Activity completed	Technical recultivation has been carried out
	km 40+200	-	141 (LS)	9 000	1,4	12 461	4500	Activity completed	Technical recultivation has been carried out
	km 40+360		106400			4500			Old asphalt distributed and levelled.
Lot 2	km 70+180	-	400 (RS)	18 800	4,4	82 784	11000	Activity completed	Technical reclamation has been carried out
	km 89+090	-	80 (RS)	12 000	1,8	21 800	22000	Activity completed	Satisfactory. Old asphalt is spread and leveled.

4.5.1 Current period.

71. At the beginning of reporting period, the total amount of unsuitable soil was 166,068 m3; 66552 m3 from Lot 1 and 99546 m3 from Lot 2. All materials were delivered to the soil stockpile sites as indicated in Table 13.

72. By the beginning of reporting period, the total volume of scraped asphalt from Lot 1 was 388,732 m3. The materials are disposed at approved landfills as shown in Table 14. Total volume of scarified materials from Lot 2 was 12,583 m3.

73. Solid domestic waste Lot 2 is transported from the construction camp to the city landfill Cholpon village administration. Volume of solid domestic waste for the reporting period under Lot 2 amounted to 1,500 kg.

74. Volume of discharged wastewater from Lot 2 - 222.5 m3. Wastewater is transported to treatment facilities according to contract with the municipal enterprise “Gorvodokanal” of Balykchy city.

4.5.2. Cumulative Waste Generation.

75. Major part of waste generated is soil and cut asphalt, as mentioned above. Cumulative volume of industrial waste from the beginning of Project’s implementation to beginning of reporting period is 401,315 m3. The cumulative volume of municipal solid waste generated because of the Project was 63,3 tn.

4.6 Health and safety.

4.6.1 Community health and safety.

76. During this reporting period, there were no incidents or accidents related to construction activities that affected public health and safety. Warning signs and information boards were installed at work sites.

77. No road accidents were registered during reporting period. Road signs and road markings were installed along entire road.

4.6.2 Health and safety of workers.

78. During this reporting period, there were no accidents or other diseases among Contractor's working personnel. The Contractor’s workers' accommodation camp on Lot 2 is maintained in good condition and comply with hygienic and sanitary standards. Good living conditions have been created for workers. Contractor provided workers with disinfectants, antiseptics and personal protective equipment (masks, respirators, and gloves), also disinfectants and antiseptics were installed in all public places.

79. The contractor has a specialist in Safety Engineering. This specialist conducts training on compliance with safety engineering requirements. Safety engineering training is conducted as needed. Mandatory training is conducted for new workers arriving at the site.

80. That following information posters were posted and maintained at the Contractor's camp for Lot 1 and Lot 2:

- Structure of the safety management organization. Responsible persons and their contact information.
- Information posters on protective measures against COVID-19, safety precautions, first aid.
- Fire shields and fire extinguishers installed.

4.7. Trainings

81. During training's reporting period, the Consultant did not conduct training. The National Safety Engineer regularly conducts safety trainings and briefings and formally substantiates claims (letters) to the Contractor for non-compliance with safety responsibilities. During the project at least 2 major safety and road safety trainings were conducted jointly with the International Safety Engineer directly at the Contractor's facility. However, during reporting period, partly due to the reduced number of workers and the lower volume of works, no trainings were carried out.

5. SSEMP FUNCTIONING

5.1 SSEMP Review.

82. Review and approval of the SSEMPs were completed in 2020. MoTC KR approved SSEMP for Lot 1 in October 2020 and for Lot 2 in November 2020. SSEMP is effective. The envisaged mitigation measures are relevant and do not require changes. Contractor can implement the established EIA requirements. In line with SSEMP recommendations, each SSEMP includes 14 separate annexes:

1. Emergency Management Plan
2. Grievance redress mechanism
3. Occupational safety, health and hygiene plan
4. Construction camp management plan
5. Construction waste management plan
6. Noise management plan
7. Water quality management plan
8. Air quality management plan
9. Tree management plan
10. Dust control plan
11. Land Protection Management Plan
12. Plan of environmental protection during the construction and reconstruction of bridges
13. Quarry Management Plan
14. Plan for the prevention and control of COVID-19.

83. A plan to prevent the spread of COVID-19 was developed additionally.

84. During construction works, the Contractor has ensured implementation of mitigation measures for the environmental impacts of construction works in accordance with the SSEMP of the following Plans:

Lot-1:	**Lot-2:**
Emergency Management Plan	Emergency Management Plan
Grievance redress mechanism	Grievance redress mechanism
Occupational safety, health and hygiene plan	Occupational safety, health and hygiene plan
Construction camp management plan	Noise management plan
Construction waste management plan	Water quality management plan
Noise management plan	Air quality management plan
Water quality management plan	Dust control plan

Air quality management plan	Land Protection Management Plan
Dust control plan	
Land Protection Management Plan	
Plan of environmental protection during the construction and reconstruction of bridges	
Plan for the prevention and control of COVID-19.	

The following Plans are in implementation process. The following Plans will be implemented after Contract's completion, namely:

85. Quarry Management Plan: As October 1, 2010 the Contractor has provided technical leveling and putting quarry sides in a stable and safe condition on both Lots. Upon receipt of Quarry Reclamation Project, quarry reclamation will be completed in full in accordance with project documentation

Construction Camp Management Plan In 2023, the dismantling of the production base and subcontractor camp on Lot 1 was completed, reclamation of these areas was carried out, and the reclaimed sites were handed over to commission.

Dismantling Contractor's Camp and production bases on Lot 2, reclamation of these areas and their handover to the commission is scheduled to be carried out in 2028, upon completion of the defect liability period.

Construction Waste Management Plan.

Lot 1 - Plan has been implemented in full, i.e. construction waste, solid waste, unsuitable soil after production base and Camp dismantling, has been removed and disposed of/placed in accordance with the concluded Contracts with specialized organizations, specially designated places/dumps.

For Lot 2 - Construction Waste Plan implementation is in process and will be completed by October 2024.

Tree Management Plan (TMP):

In previous reporting period, compensation planting of saplings to replace those cut down by the Project and compensation planting of trees to replace deceased on Lot 1 and 2 was provided.

86. The SSEMP and plans were developed taking into account the possibility of fulfilling specified requirements by Contractor. Based on existing practice, insufficient and timely fulfillment of specified requirements by Contractor is noted. In previous reporting periods (project's beginning), recurring non-conformities were noted, as well as their untimely elimination. However, each non-conformance should be considered separately. As some of the identified non-conformities are due to the Contractor's management misunderstanding and some are due to staff misunderstanding. It may be noted that after Consultant's training on this issue, Contractor shall take necessary corrective measures to improve situation and prevent recurrence in future.

87. A preliminary report on construction activity completion audit has been prepared by NEPS CSC, which is attached to this report and reflects in more detail Contractor's implementation of SSEMP (Annex 2).

6. GOOD PRACTICES AND OPPORTUNITY FOR IMPROVEMENT.

6.1 Good Practices.

88. An example of "Good Practice" is high level and promptness of interaction between ADB, PIU, Consultant and Contractor in implementing ADBs Safeguards Policy Statement and the requirements of SSEMP when burial site was discovered during construction works, in the previous reporting period.

89. The planting of saplings to replace the deceased ones was ensured.

90. Contractor ensured technical leveling of all worked-out quarries site and bringing quarries sides to a stable position, technical leveling of unsuitable soil and old asphalt dumps. Upon receipt of Quarry Reclamation Project, quarries reclamation will be completed in full in accordance with design documentation

91. Unused quarries were transferred under Statement of Transfer to Owners (Annex 1)

92. Contractor ensured technical layout of territory of all spoil dumps and their transfer under Statement to owners (Annex 1).

93. Ensured environmental audit upon completion of construction activities (Annex 2)

7. SUMMARY AND RECOMMENDATIONS.

7.1 Summary.

94. In general, based on results of monthly inspections and monitoring of construction sites, the Contractor has satisfactory performance in mitigating and preventing negative environmental impact of works.

95. There is a positive dynamic: Contractor has ensured technical layout of territory of all exhausted quarries and putting quarry sides in a stable position. Upon receipt of Quarry Recultivation Project, reclamation of quarries will be completed in full in accordance with project documentation and reclaimed quarries and spoil areas will be handed over to landowners. The Contractor made a commission transfer of lands used:

- for the production base of the asphalt concrete plant (ACP), road construction unit (RCU), and the Contractor's camp in Lot 1;
- for the quarries at km 7+500, 36+560, 33+000, 11+300, 19+360, 20+600, and 31+240 (Appendix 1);
- for the spoil disposal sites at km 7+100, 12+100, 19+960, 21+260, 32+720, 34+240, 36+760, 38+660, and 40+200 in Lot 1, and at km 65+180, 65+300, and 65+520 in Lot 2 (Appendix 1).

96. It should be noted that waste dumps grading results and access roads are excellent: the terrain corresponds to the local landscape, and grass growth has begun. Dumps grading, which mimics natural relief and promotes grass growth, is a key step in ecosystem restoration. These changes can not only improve the appearance of the site but also accelerate the reclamation process, supporting the return of local flora and fauna.

97. As part of its obligations to restore green spaces, the Contractor implemented a large-scale program to plant saplings to replace the felled trees, as well as to replenish those that had deceased.

98. Given the limited space along the planned road for tree planting, and in response to a request from the local village administration to place saplings on socially significant sites (general education institutions, medical facilities, feldsher-midwife stations, as well as park areas), the Contractor ensured the planting of saplings in these locations. To guarantee the preservation of the planted trees, the village administration committed to their care, as formalized in the relevant agreements.

99. After handing over the saplings to representatives of village administration, the Contractor continued to participate in ensuring proper care and conducted regular monitoring of survival rates. In 2024, the replacement of 613 dead trees planted in 2022–2023 was carried out.

100. In August 2024, the Consultant, together with Contractor, conducted a control count of surviving saplings. Out of total number of planted trees (3,204 units, including compensatory planting and replacement of dead ones), 2,373 (74%) survived. Thus, the share of dead plants amounted to 831 units (26%).

101. In spring 2026, the Contractor is obligated to replant 831 trees that did not survive.

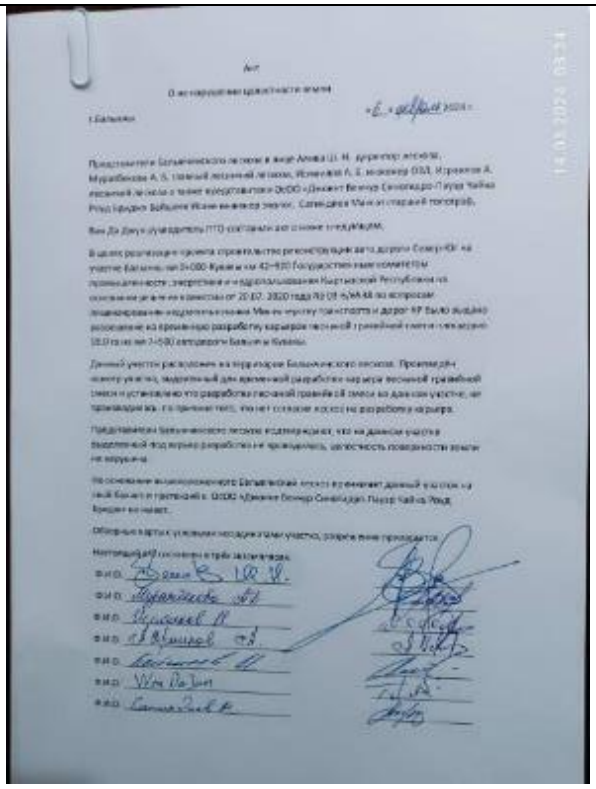
7.2 Recommendations for improvement

102. The CSC recommends including the following measures to improve current practices: Complete the reclamation of lands allocated for quarries and production bases, and transfer them to the landowners with the execution of a handover act in accordance with the regulatory requirements of the Kyrgyz Republic by September 2025.

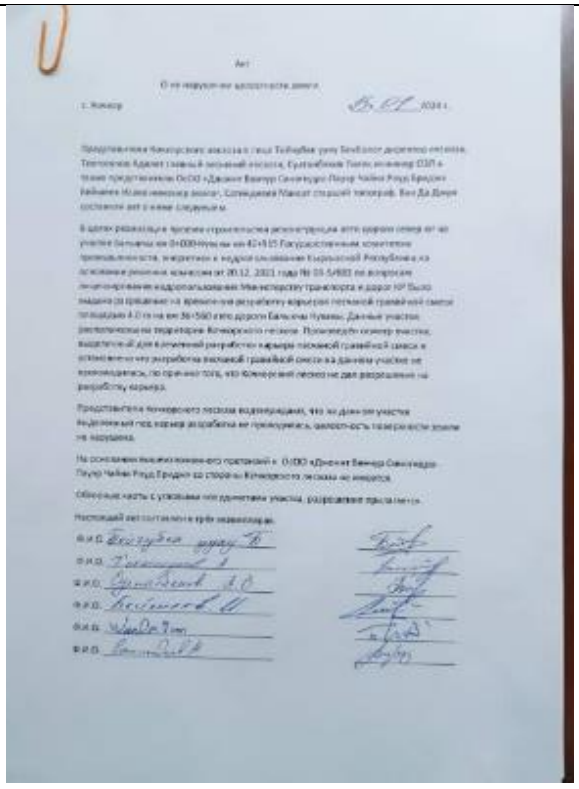
103. Ensure inventory of planted seedlings in August 2025.

Annex 1. Transfer Statements.

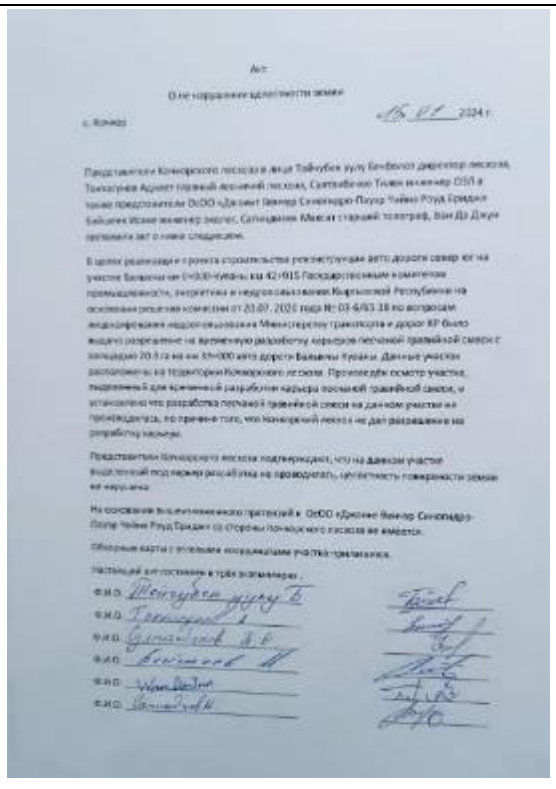
Transfer statement of reclaimed land used for production base AC and Crusher plant, Contractor's camp.



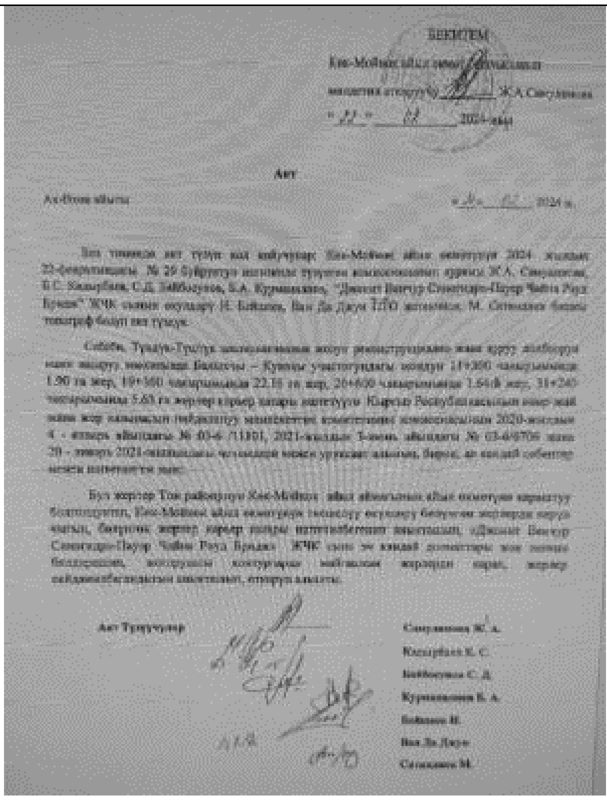
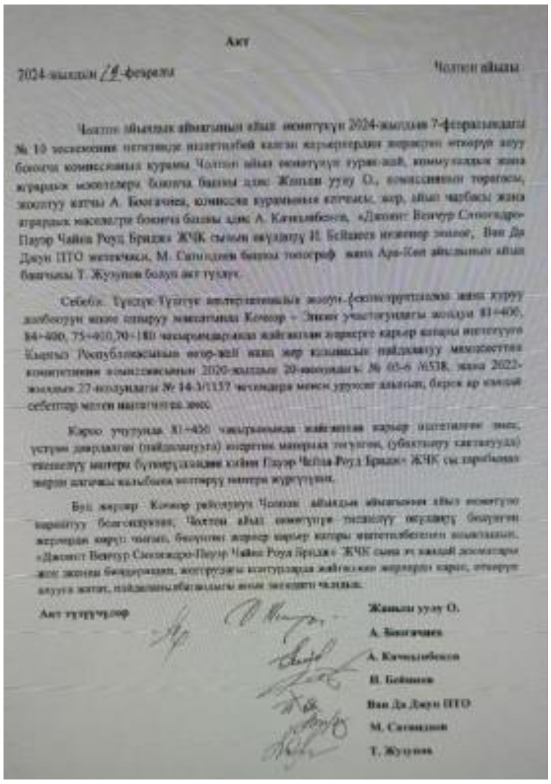
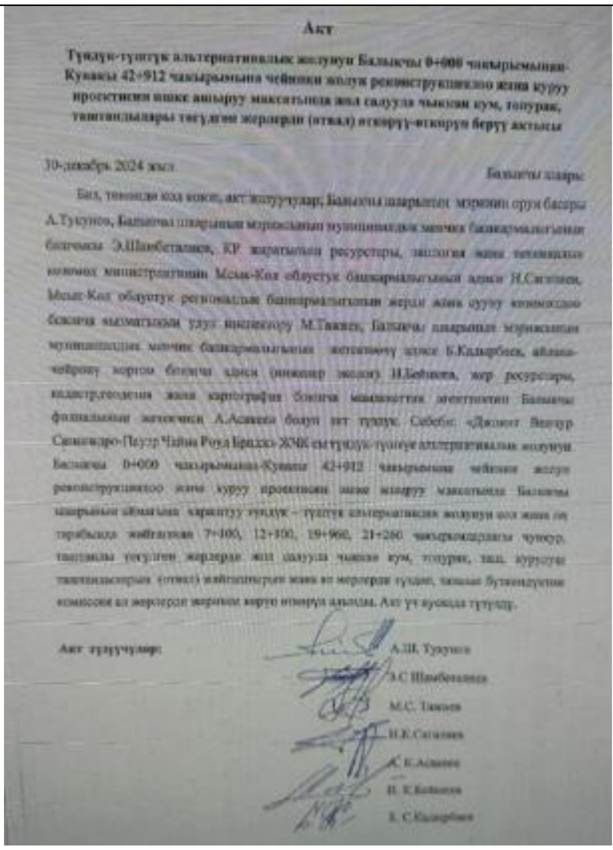
Transfer statement of the site for quarry km 7+500.

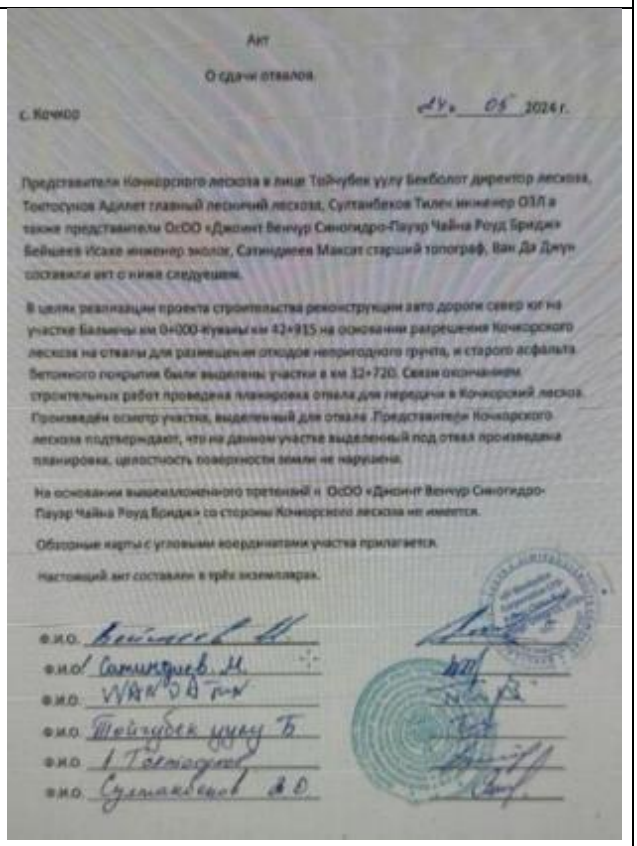


Transfer statement of the site for quarry km 36+560.



Transfer statement of the site for quarry km 33+000.

	
Quarry area transfer statement km. 11+300, 19+360, 20+600, 31+240.	Quarry area transfer statement km 81+400, 84+400, 75+400, 70+180.
	
Landfill sites transfer statements at km.7+100, 12+100, 19+960, 21+260.	Landfill sites transfer statements at km.65+180, 65+300, 65+520, 34+240.

 Акт О сдачи отвалов. с. Кочкор «__» 10 2024 г. Представители Кочкорского лесхоза в лице Тойчубек уулу Бекболот директор лесхоза, Токтосунов Адилет главный лесничий лесхоза, Султанбеков Тилек инженер ОЗЛ а также представители ОсОО «Джоинт Венчур Синогидро-Пауэр Чайна Роуд Бридж» Бейшеев Исаке инженер эколог, Сатиндиеев Максат старший топограф, Ван Да Джун составили акт о ниже следующем. В целях реализации проекта строительства реконструкции авто дороги север юг на участке Балыкчы км 0+000-Куваны км 42+915 на основании разрешения Кочкорского лесхоза на отвалы для размещения отходов непригодного грунта, и старого асфальта бетонного покрытия были выделены участки в км 40+200. Связи окончанием строительных работ проведена планировка отвала для передачи в кочкорский лесхоз. Произведён осмотр участка, выделенный для отвала. Представители Кочкорского лесхоза подтверждают, что на данном участке выделенный под отвал произведена планировка, целостность поверхности земли не нарушена. На основании вышеизложенного претензий к ОсОО «Джоинт Венчур Синогидро-Пауэр Чайна Роуд Бридж» со стороны Кочкорского лесхоза не имеется. Обзорные карты с угловыми координатами участка прилагается. Настоящий акт составлен в трёх экземплярах. ф.и.о. Тойчубек уулу Б ф.и.о. Токтосунов А ф.и.о. WAN DA JUN ф.и.о. Сатиндиев М ф.и.о. _____ ф.и.о. _____	 Акт О сдачи отвалов. с. Кочкор «__» 10 2024 г. Представители Кочкорского лесхоза в лице Тойчубек уулу Бекболот директор лесхоза, Токтосунов Адилет главный лесничий лесхоза, Султанбеков Тилек инженер ОЗЛ а также представители ОсОО «Джоинт Венчур Синогидро-Пауэр Чайна Роуд Бридж» Бейшеев Исаке инженер эколог, Сатиндиеев Максат старший топограф, Ван Да Джун составили акт о ниже следующем. В целях реализации проекта строительства реконструкции авто дороги север юг на участке Балыкчы км 0+000-Куваны км 42+915 на основании разрешения Кочкорского лесхоза на отвалы для размещения отходов непригодного грунта, и старого асфальта бетонного покрытия были выделены участки в км 36+760. Связи окончанием строительных работ проведена планировка отвала для передачи в Кочкорский лесхоз. Произведён осмотр участка, выделенный для отвала. Представители Кочкорского лесхоза подтверждают, что на данном участке выделенный под отвал произведена планировка, целостность поверхности земли не нарушена. На основании вышеизложенного претензий к ОсОО «Джоинт Венчур Синогидро-Пауэр Чайна Роуд Бридж» со стороны Кочкорского лесхоза не имеется. Обзорные карты с угловыми координатами участка прилагается. Настоящий акт составлен в трёх экземплярах. ф.и.о. Тойчубек уулу Б ф.и.о. Токтосунов А ф.и.о. WAN DA JUN ф.и.о. Бейшеев И ф.и.о. _____ ф.и.о. _____
Transfer statements for the disposal site at km 40+200.	Transfer statement for the disposal site at km 36+760.
 Акт О сдачи отвалов. с. Кочкор «12» 10 2024 г. Представители Кочкорского лесхоза в лице Тойчубек уулу Бекболот директор лесхоза, Токтосунов Адилет главный лесничий лесхоза, Султанбеков Тилек инженер ОЗЛ а также представители ОсОО «Джоинт Венчур Синогидро-Пауэр Чайна Роуд Бридж» Бейшеев Исаке инженер эколог, Сатиндиеев Максат старший топограф, Ван Да Джун составили акт о ниже следующем. В целях реализации проекта строительства реконструкции авто дороги север юг на участке Балыкчы км 0+000-Куваны км 42+720 на основании разрешения Кочкорского лесхоза на отвалы для размещения отходов непригодного грунта, и старого асфальта бетонного покрытия были выделены участки в км 38+660 Связи окончанием строительных работ проведена планировка отвала для передачи в Кочкорский лесхоз. Произведён осмотр участка, выделенный для отвала. Представители Кочкорского лесхоза подтверждают, что на данном участке выделенный под отвал произведена планировка, целостность поверхности земли не нарушена. На основании вышеизложенного претензий к ОсОО «Джоинт Венчур Синогидро-Пауэр Чайна Роуд Бридж» со стороны Кочкорского лесхоза не имеется. Обзорные карты с угловыми координатами участка прилагается. Настоящий акт составлен в трёх экземплярах. ф.и.о. Тойчубек уулу Б ф.и.о. Токтосунов А ф.и.о. WAN DA JUN ф.и.о. Бейшеев И. ф.и.о. Сатиндиев М ф.и.о. _____	 Акт О сдачи отвалов. с. Кочкор «24» 05 2024 г. Представители Кочкорского лесхоза в лице Тойчубек уулу Бекболот директор лесхоза, Токтосунов Адилет главный лесничий лесхоза, Султанбеков Тилек инженер ОЗЛ а также представители ОсОО «Джоинт Венчур Синогидро-Пауэр Чайна Роуд Бридж» Бейшеев Исаке инженер эколог, Сатиндиеев Максат старший топограф, Ван Да Джун составили акт о ниже следующем. В целях реализации проекта строительства реконструкции авто дороги север юг на участке Балыкчы км 0+000-Куваны км 42+915 на основании разрешения Кочкорского лесхоза на отвалы для размещения отходов непригодного грунта, и старого асфальта бетонного покрытия были выделены участки в км 32+720. Связи окончанием строительных работ проведена планировка отвала для передачи в Кочкорский лесхоз. Произведён осмотр участка, выделенный для отвала. Представители Кочкорского лесхоза подтверждают, что на данном участке выделенный под отвал произведена планировка, целостность поверхности земли не нарушена. На основании вышеизложенного претензий к ОсОО «Джоинт Венчур Синогидро-Пауэр Чайна Роуд Бридж» со стороны Кочкорского лесхоза не имеется. Обзорные карты с угловыми координатами участка прилагается. Настоящий акт составлен в трёх экземплярах. ф.и.о. Бейшеев И. ф.и.о. Сатиндиев М. ф.и.о. WAN DA JUN ф.и.о. Тойчубек уулу Б ф.и.о. Токтосунов А ф.и.о. Султанбеков Т.О.
Transfer statement for the site with the disposal area at km 38+660.	Transfer statement for the site with the disposal area at km 32+720.

Annex 2.

Post-Construction Environmental Audit Report

Project number: TA-8887 KGZ

Loan number: ADB Loan 3432-KGZ (SF)

Grant number: 0496-KGZ (SF)

Kyrgyz Republic:

Cooperation Corridors 1 and 3 Connector Road Project (Phase 2) - Additional Financing Section 1 (Lot 1) "Balykchy - Kochkor km. 0-km. 43", Section 2A (Lot 2) "Kochkor-Epkin (km 62+400-km 89+500)".

Prepared by:
« Roughton International Ltd. and sub-consultant RAM Engineering Associates LLC »

Prepared for:
Ministry of Transport and Communications of Kyrgyz Republic

Approved by: *[Name and signature of Executive Agency staff]*]

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Abbreviations

ACP	Asphalt Concrete Plant
ADB	Asian Development Bank
CAREC	Central Asian Regional Economic Cooperation
CBT	Concrete Batching Plant
CO	Carbon Monoxide
CSC	Construction Supervision Consultant
DDPSSES	Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health
DNP	Defect Notification Period
EA	Executing Agency
IEE	Initial Environmental Examination
EMP	Environmental Management Plan
PIU	Project Implementation Unit
km	kilometer
ES	Environment Specialist
NEPS	National Environmental Protection Specialist
EIA	Environmental impact assessment
IES	International Environment Specialist
KR	Kyrgyz Republic
GoKR	Government of Kyrgyz Republic
m	Meter
m^2	Square meter
m^3	Cubic meter
MPC	Maximum Permissible Concentration
MPL	Maximum Permissible Level
MOTC	Ministry of Transport and Communication of KR
MEoC KR	Ministry of Economy and Commerce of the Kyrgyz Republic
MoF KR	Ministry of Finance of the Kyrgyz Republic
NO_2	Nitrite
pcs	pieces
SAEMR	Semi-annual Environmental Monitoring Report
MNRETS	Ministry of Natural Resources, Environment and Technical Supervision
TOR	Terms of Reference
SSEMP	Site Specific Environment Management Plan
SCP	Stone Crushing Plant
HCHS	Historical and cultural heritage sites
SPL	Soil-plant layer
SHW	Solid household waste
SPS ADB	ADB Security Policy Statements
SCEC	State Committee on Ecology and Climate
DEM	Department of Environmental Monitoring
KGZ	Kyrgyzstan
GC	General Contractor
LARP	Land Acquisition and Resettlement Plan
LS	Left side
lm	Linear meter
IBAT	Integrated Biodiversity Assessment Tool
masl	Meter above sea level
MoCIT KR	Ministry of Culture, Information and Tourism of Kyrgyz Republic
NRS	National Resettlement Specialist
RS	Right side
SF	Supplemental Financing
SDRS	Social Development and Resettlement Specialist
SAEPF	State Agency on Environmental Protection and Forestry Agency
SCIES	State Committee for Industry, Energy and Subsurface Use
TA	Technical Assistance

1. INTRODUCTION

1.1 Preamble.

1. All of Contractor's environmental protection activities, as required by ADB policy, have been based on an approved SSEMP. The SSEMP describes measures developed under the Project to avoid, minimize, or compensate for adverse environmental impacts that occur as a result of the Project. The purpose of post-construction environmental audit is to assess environmental condition of Project area prior to commencement of construction works and after their completion, and to assess Contractor's compliance with SSEMP.

2. The audit's main objective is to determine whether all environmental safeguards have been fully implemented and whether there are any outstanding issues, and whether all commitments developed during project planning and impact assessment have been fully implemented.

3. This Post-Construction Environmental Audit Report covers project road construction period from 2020 to 2024.

4. Following methods were used during environmental audit: method of photo-fixation of environmental situation at construction sites of project road, waste disposal facilities, quarries, AC production bases, crusher and reinforced concrete products; method of documentation verification (environmental and permit documentation, waste logs) and instrumental environmental quality monitoring results analysis. The results are based on numerous site visits from 2020 to 2024.

5. Environmental audit results confirm that there is no negative environmental impact of project construction works and compliance of the works with SSEMP is satisfactory. The main unresolved issue is quarry reclamation due to Reclamation Project delay in development. The Contractor ensured technical layout of territory of all worked-out quarries and bringing the quarries sides stable position, technical layout of dumps of unsuitable soil and old asphalt. Upon receipt of Quarries Recultivation Project, reclamation will be completed in full in accordance with the design documentation.

1.2 Key Information.

6. The Project is part of North-South Alternate Corridor which is a priority project in Sustainable Development Strategy of Government of Kyrgyz Republic.

7. Project involves rehabilitation of two road sections: Balykchy section from km 0 to km 43 and Kochkor – Epkin section from km 62+400 to km 89+500. For bidding and construction purposes, Balykchy section is referred to as Lot 1 and Kochkor-Epkin section is referred to as Lot 2. A location map of Project is shown in Figure 1

8. Project is aimed at improving the socio-economic conditions of Kyrgyz Republic regions through: (i) shortened travel time for movement of people and goods between southern districts of Osh, Batken and Jalalabad and northern districts of Naryn, Issyk-Kul, Chui and Talas; (ii) reduced transport costs due to reduced route and better road conditions; (iii) increased local and international traffic and trade particularly between Kyrgyzstan and Tajikistan; (iv) increased income-generating opportunities for local people; (v) creation of new jobs; (vi) good condition of vehicles; and (vii) reduced transportation costs.

9. The bidding process selected General Contractor “JV Sinohydro Corporation Ltd - Power China Road Bridge Group Co. Ltd” for civil works and Construction Supervision Consultancy

"Roughton International in association with RAM Engineering Associates LLC" for construction works

10. On February 14, 2020, a contract was signed between MoTC and JV Sinohydro Corporation Ltd - Power China Road Bridge Group Co. Ltd for construction works on Lot 1 and Lot 2. Total contract amount is $40,209,854.83. Notice to Proceed was issued to the CSC on May 20, 2020 and to Contractor on June 20, 2020.

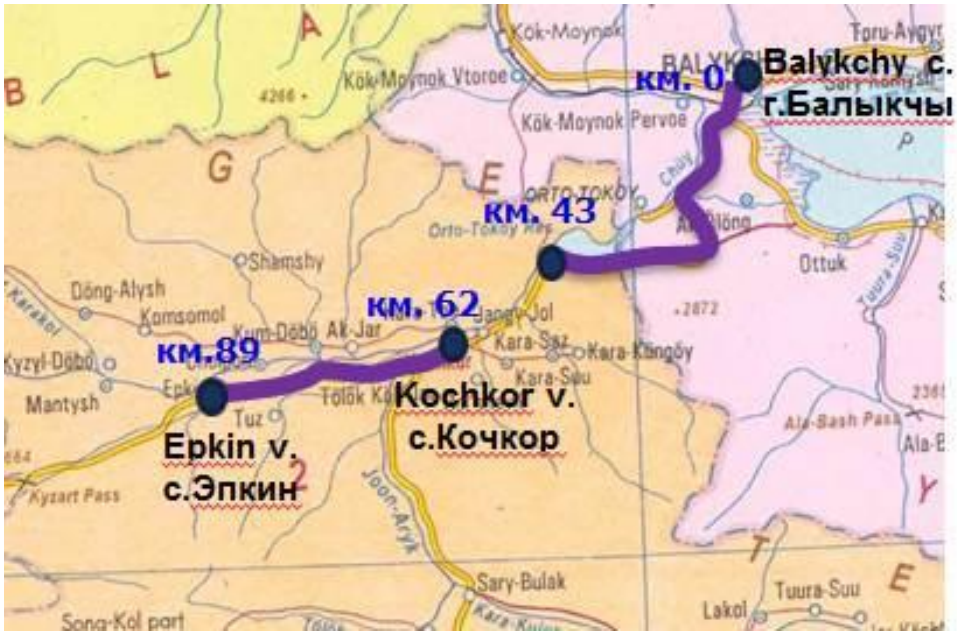
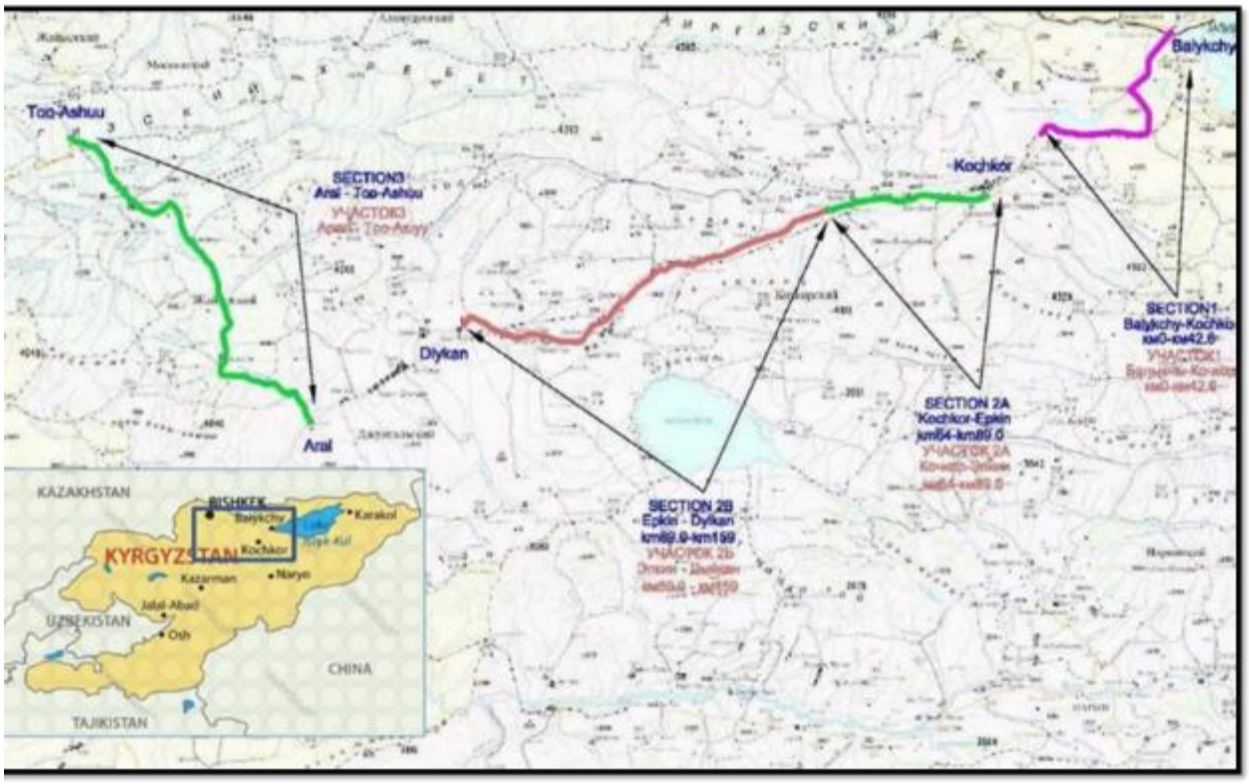


Figure 1: Project Road Sections: Section 1 (Lot 1) "Balykchy - Kochkor km. 0-km. 43", Section 2A (Lot 2)" Kochkor - Epkin (km 62+400-km 89+500).



2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES.

2.1 Project Description.

2.1.1 Project Justification and Project Area.

11. Central Asia Regional Economic Cooperation Corridors 1 and 3 Connector Road Project (Phase 2) - Additional Financing Section 1 (Lot 1) "Balykchy - Kochkor km. 0-km. 43", Section 2A (Lot 2) "Kochkor-Epkin (km 62+400-km 89+500)" will connect two major CAREC regional corridors by rehabilitating an existing but narrow connector road. It is part of the North-South Alternative Corridor, a priority project in the National Sustainable Development Strategy.

12. Terrain throughout the site can be classified as a foothill plain with an elevation of 750-800 m above sea level and steadily gaining elevation to the south towards Tien Shan Mountain range.

13. Section 1 (Lot 1), the Balykchy Project section, is 43 km long and runs from east to south-west. It begins at a traffic circle located at the entrance to Balykchy City. Five roads converge at this point, one of which is a section of CAREC road heading south. Lot 1 follows the existing highway up to km 43. The first 29 km of the road is within Ton Rayon (District) of Issyk-Kul Region (Region) while the remaining 14 km is within Kochkor Rayon of Naryn Region. The road elevation at km 0 is 1,632masl while the elevation at km 43 is 1,756 masl. Throughout the road section, the elevation ranges from 1,610masl to 1,820masl. Figure 2 shows the general topography of areas traversed by Lot 1.

14. Kochkor-Epkin road section (Lot 2) is 25 km long and runs from east to west. It begins at junction of three roads (km62+400) in Kochkor town where Bishkek-Naryn-Torugart Highway serves as a detour for Kochkor town and this road section. Road follows existing highway and ends at km89+500 in Epkin. Entire road section is within Naryn region and crosses only Kochkor district. Kochkor is center of Kochkor district of Naryn region.

15. Areas surrounding the roadway are vast agricultural lands used for crop and livestock production. Kochkor has rolling and mountainous terrain which is covered with grasses suitable for grazing. Kochkor Valley is bounded by Kyzart mountain ridges on north and Karagatty Kyzart on south. Mountainous region has a very dissected relief with high slopes. Elevation in valley ranges from 1,700masl to 2,400masl. Road elevation at km 62+400 (beginning of ot 2) is 1,845masl while the elevation at km 89+500 (end of Lot 2) is 2,080masl. Elevation along entire road section ranges from 2,400masl to 4,502masl. Figure 3 shows general topography of areas traversed by Lot 2.

16. Project was designed in accordance with Kyrgyz Highway Standard (SNIP 32-01:2004), with geometrical and structural requirements up to Technical Category II (main streets of city importance). Lane width 3.5m – 3.75m; width of carriageway 7.00m – 7.50 m; width of shoulder 3.25m – 3.75m (of which 0.50m - 0.75m will be paved). Average total road width is 15m.

17. Road rehabilitation works included reconstruction/construction of bridges, culvert replacement, construction of bus stops and one underpass, removal of old asphalt, construction of sidewalks, culvert installation, tree planting, as well as quarrying, operation of asphalt and concrete plant, stone crushing plant for recycling aggregates, establishment of contractor's work camps and warehouses, etc.

18. According to ADB's SPS, the project is categorized as Category B. Environmental impacts from road rehabilitation are short-term and localized as most of the construction activities are taking place along existing RoW and include:

- noise and vibration
- generation of dust and air emissions from earthworks and from the operation of vehicles, construction equipment, concrete batching plants, asphalt batching plants and rock crushing plants
- impacts on water courses (siltation, deterioration of water quality)
- impacts of quarrying (removal of vegetation, changes in landscape, soil erosion/landslide, degradation of soil quality)
- impacts on soil due to removal of trees and vegetation
- Impacts resulting from rehabilitation of bridges and drainage structures,
- Impacts from operation of campsites, and
- Impacts on historical and archaeological sites

19. Satisfactory management of noise, air pollutant emissions and vibration are particularly important for populations near road and sensitive receptor locations such as schools, hospitals, mosques, etc.

2.2 Project Contracts and Management.

2.2.1 Scope of work under the Contract.

20. The Works involve rehabilitation and improvement up to Technical Category II, including construction of new a pavement, in accordance with the state standards of Kyrgyz Republic for geometric and design requirements with estimated speed of 120 km/h 95 km/h beyond populated areas and 60 km/h within populated areas

- Number of lanes: 2
- Width of lanes – 3,5 - 3,75m;
- Roadway width: – 2x7,5;
- Width of shoulder – 3.25-3.75 m (of which 0.50-0.75 m with surfacing)
- rated axle load - 11.5 tons.
- road right-of-way width is 30-60 meters.

In populated areas, the road is widened to 4 lanes with pedestrian sidewalks.

21. A two-layer asphalt concrete pavement with a thickness of 15 cm, the top layer is 6 cm and the bottom layer is 9 cm has been laid throughout the project area. Volume of asphalt:

Road pavement • Upper SMA layer • Coarse-grained asphalt at intersections • Leveling layer • Base layer • Lower base layer • Asphalt concrete mix on sidewalks	 Thickness 6 cm; Volume 42,505 м^3 5 cm thick; volume 682 m3 9 cm thickness; volume 63 633 m3 20 cm thickness; volume 152 829 m3 25 cm thickness; volume 345 850 m3 4 cm thickness; volume 434 m3

22. Project provides construction and repair of following engineering structures and communications, also parameters of works volumes are given in table 1.

Table 1. Scope of Construction Works.

Work Item	Unit	Quantity (Original Plan)	
		Lot 1	Lot 2
Tree cutting	pcs	30	38
Clearing and Grubbing	ha	37	35
Excavation	m3	116 485	42 823
Existing Asphalt Break Up	km	38 597	10 833
Fill and Embankment	m3	205 306	93 725
Culverts	set	63	51
Subgrade	m3	154 700	90 010
Subbase	m3	220 850	125 000
Base	m3	91 079	61 750
Binder	m3	37 883	25 750
Bridges	set	4	1
Gabions	pcs	696	-
Drainage	m	1 569	139
Parking near markets	Pcs	4	2
Automobile pavilion	pcs	8	11
Parapet fence	pcs	1 339	946
Reconstruction of communication lines • Overhead line -10kV • Overhead line - 0.4 kV • Communication line • Lighting poles • PVC pipes	 poles poles poles pcs l.m.	 8 - 14 193 848	 22 7 - 337 820
Others		Tree planting Archaeological survey and monitoring Removal of bus stops Environmental monitoring Auxiliary facilities	Tree planting Archaeological survey and monitoring Removal of bus stops Environmental monitoring Auxiliary facilities

Vegetation

23. Almost entire length of project road was planted with trees on both sides, many of which were cut down during road rehabilitation. Tree cutting was a “forced” measure. Trees in the areas of road widening, construction of sidewalks and drainage channels were “forced” to be felled. Total number of trees felled under forced felling amounted to 1,602 pcs. As compensatory measures, planting of new tree seedlings at a ratio of 1:2 is designed to restore vegetation. By May 2024, total number of planted trees amounted to 3,404.

Land Acquisition and Resettlement Plan.

24. Project site is in close proximity to settlements, and at site 2 a new road section is planned to be constructed, which is to pass through land used for agriculture, Project has included demolition of fences, which are affected by project, at road widening sites and construction of new sidewalks. A Resettlement Plan has been developed, based on which compensation has been paid to 189 affected persons, including land owners and users.

2.2.2 Main organizations involved in project and related to environmental protection.

Table 2. Contact Information of Persons responsible of Social and Environmental Management.

No	Organization	Designation	Name	Contact information
1	ADB	Country Environment Focal	Lizandro C. Racoma	lracoma@adb.org
2	ADB Resident Mission in Kyrgyz Republic	National Environmental Consultant	Sultan Bakirov	Sbakirov.consultant@adb.org
3	PIU under MOTC	PIU Environmental Officer	Abdygulov Asylbek	asylbeka@piumotc.kg
4	Roughton International Ltd., and sub-consultant RAM Engineering Associates LLC.	National Environmental Protection Specialist	Akmatova Nasiba	ahmatovanm@gmail.com
5	Sinohydro-Powerchina Roadbridge JV.	Contractor's National Environmental Specialist	Beisheev Isake	isake.beysheev@bk.ru

2.3 Project activities during reporting period.

2.3.1 Road construction works.

25. Construction activities on project road were carried out mainly within RoW of existing road, thus minimizing the environmental impact. The project included a number of related activities such as quarry development, operation of AC and a Crushing plant, establishment of Contractor's work camps and warehouses, etc.

26. Regular monitoring of environmental compliance during construction works at project sites was started in August 2020.

Project road segments on Lot 1 and Lot 2 completed and open for public use-November 30, 2023. The completion date for entire Project after PBM phase is June 21, 2028.

27. During reporting period, the following construction works were carried out on project road sections:

- - tree felling and uprooting;
- - clearing and grubbing;
- - excavation of soil into the dump;
- - excavation and removal of unsuitable material from existing earthwork;
- - embankment, common material from quarries;
- - removal of existing asphalt;
- - paving of pavement, laying of subgrade, laying of asphalt;
- - installation of parapets (small concrete barrier/separation barriers);
- - bridge construction;

- - underpass construction;
- - construction of culverts;
- - construction of sidewalks;
- - construction of toilets;
- - installation of reinforced concrete culverts;
- - installation of stopping pavilions and asphalting of stopping areas;
- - works on exits to adjacent streets;
- - construction of ditches and crossings over them;
- - construction of shoulders;
- - installation of poles for lighting;
- - installation of traffic lights, road signs;
- - application of road markings;
- - planting, maintenance and watering of seedlings.

2.4 SSEMP review of environmental issues.

28. All of Contractor's environmental protection activities are based on approved SSEMP (for Lot 1 approved in October 2020, for Lot 2 approved in November 2020). Site Specific Environmental Management Plan (SSEMP) is a form prepared by Contractor based on EMP and intended to be obligatory by him. The SSEMP describes measures developed as part of this Project to avoid, minimize, or compensate for adverse environmental impacts that occur as a result of the Project. The mitigation measures provided in SSEMP are sufficient, effective and acceptable. Contractor has prepared 14 Appendices to SSEMP, which address all major specific potential environmental impacts.

3. RESULTS OF MONITORING OF CONDUCTING CONDITIONAL REQUIREMENTS OF THE ENVIRONMENTAL LAW IN CONSTRUCTION WORKS ON THE "BALYKCHY km.0-km.43" and "KOCHKOR-EPKIN (km.62+400 - km.89+500)" Road Sections

3.1 Cutting and grubbing of trees.

29. There are green spaces (trees) on both sides of project road sections. According to EIA, the preliminary number of trees to be felled is 68 (including 38 trees on Lot 1 and 30 trees on Lot 2), however, based on practice, the exact number of trees may be determined after completion of road construction works, i.e. completion of topographic works on project site, planting of detailed design by coordinate points. Trees located in areas of road widening; construction of sidewalks and drainage channels are subject to "forced" felling.

30. In 2020, during road markers' installation, 1,909 trees were identified for "forced" cutting, of which: 160 on Lot 1 and 1,749 on Lot 2. In order to minimize the impact on green areas, Consultant and Contractor conducted a joint analysis of control points and it was decided, in agreement with ADB, to shift the sidewalk on the left side of the road from the edge of the road to deep between the trees, which avoided the cutting of trees along the road on Lot 1 at km 2+050-2+414 LHS (Photo 1,2). This reduced the planned number of forced trees felling to 122 trees on Lot 1, and 1480 trees on Lot 2.

31. Contractor together with topographers marked trees, prepared a List of trees to be cut down and agreed with Consultant. Then trees, falling under the demolition, were coordinated with environmental services and necessary permits for cutting were obtained from Environmental

Protection's agencies (Permit for tree removal No. 000 461 dated November 3, 2020 from the Naryn Territorial Department of the State Agency for Environmental Protection and Forestry under the GoKR. Green areas statement under GoKR of Balykchy city No. 006603 dated November 16, 2020, Permit for tree removal from Issyk-Kul territorial department of State Agency for Environmental Protection and Forestry under GoKR).


Lot 1. Photos 1 and 2. Relocated sidewalk at km 2+050-2+414 LHS.


Photo 3. Lot 1. Balykchy (km.0 - km. 43) km. 1+813. left before tree cutting and Photo 4. right - after cutting.

Lot 2. Section km 79+300. Photo 5 before tree cutting

Lot 2. Section km 79+300. Photo 6 after tree cutting and road widening.

Lot 2. Photo 7. Uprooted roots of fallen trees at km.75+00.

Lot 2. Photo 8. Area after clearing of stump and uprooted stumps.

32. Total number of felled trees amounted to 1,602: 122 along Lot 1 and 1,480 along Lot 2. In return, 3,843 trees were planted (at a 1:2 ratio), including 450 in autumn 2022, 1,150 in spring 2023, and 2,233 in spring 2024.

33. Removed tree limbs were taken to the sites provided to village administration and transferred to the balance of local administrations understatement. Root residues were also removed to specially designated sites., located on Lot-2 km 79+500 -80+000,




Lot 1. Photos 8-12. Cutting down trees and their removal to designated areas

3.2 Excavation of soil into the cavalier.

34. From all areas to be widened, used for quarries, construction of camps, production bases, the soil and vegetation layer was removed, which was taken to storage sites provided by local authorities.

35. As necessary, the work area was watered with a watering vehicle.

Photo 13. Lot 2. Removal of soil and vegetation layer from roadside on section km. 83+600 - km. 85+000.

Photo 14. Lot 2. Removal of soil and vegetation layer from quarry site

Photo 15. Lot 1. Soil and vegetation layer removed from the site under the quarry km.

Photo 16. Lot 2. Removal of soil and vegetation layer from sidewalk area

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Photo 17. Lot 1. Soil and vegetation layer removed from site for industrial base and stockpiled around base perimeter

Photo 18. Lot 1. Road widening at km. 17+500-18+500: after clearing and grubbing

Photos 19 and 20. Road shoulders with removed soil layer

36. Topsoil was stored in temporary storage areas in vicinity of areas from which it was removed. Soil and vegetation layer was used for reclamation of unsuitable soil dumps, quarries and road shoulder stabilization upon completion of road construction.

3.3 Quarry operations.

37. The aggregate material reserves required for Project needs have been explored and calculated during the preparatory works at project sites, in accordance with which permits for subsoil development rights were obtained from Ministry of Natural Resources, Environment and Technical Supervision of Kyrgyz Republic. Initially 10 quarries were identified, the information is provided in Table 3. In Project implementation process due to insufficiency of available quarries of construction materials, Permits were obtained from MNRETS KR for development of additional 14 quarries, information is provided in Table 4.

Table 3: Characteristics of quarries.

Quarries' No	Stocks (m^3)	Area (Ha)	Distance from road
№1 km. 7+100	164 000	4,1	122 m.
№2 km. 7+500	450 000	18	20 m.
№3 km. 9+000	380 000	7,6	25 m.
№4 km. 11+300	76 000	1,9	50 m
№5 km. 16+600	1 744 000	43,6	42 m
№6 km. 20+600	65 600	1,64	120 m
№7 km. 33+000	609 000	20,3	25 m.
№8 km. 22+700	380 000	9,5	37 m
№9 km. 26+800	488 000	12,2	80 m
Lot-2			
№10 km. 75+400	225 000	4,5	30 m.

38. A Quarry Management Plan was developed and submitted to PIU and ADB for approval prior to the commencement of quarry development.

39. The MoTC KR, generally under Project, has obtained from the Ministry of Natural Resources, Environment and Technical Supervision (MNRETS) a temporary permit for development of 24 quarries on Lot 1 and Lot 2. The Contractor has received all necessary documents/approval from local authorities, Ministry of Natural Resources, Environment and Technical Supervision (MNRETS) and State Agency on Environmental Protection and Forestry Agency (SAEPF) to develop these quarries.

40. Based on the initial archaeological survey reports prepared in 2018, taking into account the presence of HCHS in Project area in order to preserve HCHS, the Consultant's archaeologist conducted additional surveys of areas identified for quarries. As a result, it was possible to fully preserve the areas where there were archaeological monuments in the form of ancient cemeteries (burial grounds with burial mounds).

41. On quarry sections of km.81+400 and km.84+400 ancient cemeteries (Ak-Bel burial grounds), which are archaeological monuments, have been discovered, taking into account that usage of these sections was prohibited.

42. Ten burial mounds were excavated at planned quarry site km.81+200 (Ak-Bel II burial ground). Skeleton and scattered human bones, sheep bones, clay vessels and their fragments were found in the burials (photo 21, 22). All findings were recorded, inventoried and sent to the Laboratories of Archaeology and Ethnography of the Kyrgyz-Turkish State University “Manas” to determine the age of the excavated burials and restoration of pottery.

	
Photo 21. Ak-Bel II burial ground. Human bones.	Photo 22. Ak-Bel II burial ground. Clay vessels.

43. In fact, 15 quarries were utilized under implementation of the Project. The Contractor has obtained all necessary documents/approval from local authorities and the State Agency on Environmental Protection and Forestry Agency (SAEPF) to develop these quarries. Table 4 summarizes the main characteristics of the quarries.

44. By the time of report preparation, the Quarry Reclamation Project is at the stage of completion. Upon receipt of the Reclamation project, with a positive conclusion of the state expertise on environmental and industrial safety, the quarries should be reclaimed in accordance with this project and handed over to the Reclamation Commission. As of December 2024, all used quarries have been technically planned: quarries' sides have been brought to a technically safe condition (photo 23 -28).

Table 4. Characteristics of quarries at report preparation time.

Quarries' No	Chainage location	Volumes (m^3)	Area (Ha)	Distance from road	Remark
Lot 1					
№1	km. 5+500	600 000	5,09	430 m	Technical planning has been carried out
№2	km. 7+100	164 000	4,1	122 m	Technical planning has been carried out
№3	km. 7+500	195 200	4,88	122 m	Not Developed. Submitted under a Certificate of No Land Disturbance dated February 6, 2024.
№4	km. 9+000	380 000	7,6	25 m	Technical planning has been carried out
№5	km. 16+600	1 744 000	43,6	42 m	Technical planning has been carried out
№6	km. 16+600	51 000	12,84	42 m	Technical planning has been carried out
№7	km. 16+600	113 000	2,83	42 м	Technical planning has been carried out
№8	km. 19+360	66 500	22,16		Not Developed. Submitted under a Certificate of No Land Disturbance dated February 22, 2024.
№9	km. 20+600	65 600	1,64	120 m	Not Developed. Submitted under a Certificate of No Land Disturbance dated February 22, 2024.
№10	km. 22+700	380 000	9,5	37 m	Technical planning has been carried out
№11	km. 26+800	488 000	12,2	80 m	Technical planning has been carried out
№ 12	Km. 31+240	225 200	5,63		Not Developed. Submitted under a Certificate of No Land Disturbance dated February 22, 2024
№ 13	Km. 33+000	In the territory of Forestry	20,3		Not Developed. Submitted under a Certificate of No Land Disturbance dated January 15, 2024.
№ 14	km. 34+240	245 600	6.14	325 m	Technical planning has been carried out
№ 15	Km. 36+560	In the territory of Forestry	4,0		Not Developed. Submitted under a Certificate of No Land Disturbance dated January 15, 2024.
№ 16	km. 39+450	164 000	4.1	520 m	Technical planning has been carried out
№ 17	km 43+400	124 000	3.1	40 m	Technical planning has been carried out
Lot 2					
№ 18	km. 71+500	-	5,2	5 м.	Technical planning has been carried out
№ 19	km. 75+400	108 000	2,7	30 м.	Not Developed. Submitted under a Certificate of No

					Land Disturbance dated February 19, 2024
№ 20	km.81+200	-	5,6	50 м	
№ 21	km 81+400	375 000	7,5		Not Developed. Submitted under a Certificate of No Land Disturbance dated February 19, 2024
№ 22	km 84+400	305 000	6,1		Not Developed. Submitted under a Certificate of No Land Disturbance dated February 19, 2024
№ 23	km. 86+000	85 000	2,0	20 м	Technical planning has been carried out
№ 24	km. 89+093	105 145	0.77		Technical planning has been carried out

45. During quarry development, the implementation of Quarry Management Plan was satisfactory. Mitigating measures on impact of the quarry development works, namely: marking of quarry boundaries, removal of topsoil before quarry development, hydro-irrigation of quarry material and access roads to quarry were implemented (Photos 29-36). In the process of quarry development there were observed facts of non-compliance with industrial safety in terms of stability of the quarry sides (Photos 37,38). After written warnings, the Contractor eliminated the violations and further ensured safe quarry development.

Photo 23. Layout (technical reclamation) of the quarry located at km.26+800 LHS.

Photo 24. Lot 1. Quarry km. 9+000, technical layout, the quarry side slopes are brought to a safe condition.

Photo 25. Quarry at km. 71+500 during development and Photo 26 after technical layout.

Photo 27. Quarry km. 75+400. Setting sides to a stable position.

Photo 28. Quarry layout km.89+093.

Photo 29. Quarry technical leveling at km 34+240 and bringing quarry slopes to a safe condition.

Photo 30. Loading of material at the quarry at km. 75+400.

Photo 31: Quarry at km 7+100 on RHS, the quarry boundaries are marked by installing white posts.

Photo 32. Lot 1. The topsoil was removed from quarry site at km.9+000, the quarry boundaries were marked by installing white posts with flags

Photo 33. Quarry at km.75+400. The material is being mined, after it has been moistened.

Photo 34. Quarry at km. 81+200, loading of moistened material.

Photo 35. Watering of access roads to the quarry and Photo 36 to the Crushing plant production base on Lot 2.

	
Photo 37. Quarry km 16+600. There is no stability of quarry sides: slope angle of quarry side is 90°, it should be 40-45°	Photo 38. Quarry km 16+600. Ensuring stability of quarry sides.

3.4 Construction wastes.

46. The following wastes are generated during main and auxiliary economic activities of road reconstruction:

- unsuitable soil
- removed old asphalt pavement and demolished concrete slabs
- municipal solid waste (biodegradable and non-biodegradable) from kitchens, canteens, offices and campsites municipal solid waste (biodegradable and non-biodegradable) from kitchens, canteens, offices and campsites
- wastewater and municipal solid waste from staff activities in the construction camp

Old asphalt

47. The Contractor has obtained all necessary permitting documents from relevant state authorities (village administrations, territorial environmental protection authorities) to place the old asphalt in environment.

48. For Lot 1, removed old asphalt concrete in amount of 64,500 m3 were placed at old quarries located at km. 7+100, 20+100 and at spoil sites at km. 21+260, 32+720, 38+660, 40+200, 40+360 (Photos 39-47), and some of it was used to cover unpaved bypass roads

49. Disposal of old asphalt in quarries was carried out in accordance with the Old Asphalt Disposal Plan developed by Contractor and agreed with the Issyk-Kul Regional Department of Environmental Protection of MNRETS KR. Information on the dumps is presented in Table 5.

50. In accordance with the Disposal Plan, a waterproof screen was placed on the foundation of old quarries and spoil areas to bury old asphalt concrete.

51. The old asphalt concrete spoils were all reclaimed in 2022 upon completion of removal of the old asphalt concrete pavement from the project road (Photos 42, 45-47, 50,52), but they were turned over to the Commission by Certificate in 2024.

52. On Lot 2 removed old asphalt concrete in the amount of 33,000 m3 was used for backfilling of rural streets proposed by local authorities, for construction of unpaved technological roads, and remaining part was removed to dumps (Photos 50-60) agreed with local authorities and state environmental authorities. Information on dumps is reflected in Table 5.

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>Photo 39. Lot 1. Scarifying and removal of old asphalt concrete at km.7+560 to the old quarry at km 7+100.</td><td>Photo 40. Lot 1. Scarifying and removal of asphalt from temporary bypass roads.</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Photo 41. Scarifying of old asphalt at km. 17+500.</td><td>Photo 42. Scarifying and removal of old asphalt at km. 28+200-28+700.</td></tr>
</table>

Photo 43. Old quarry at km. 7+100 before old asphalt waste disposal. April 2021 and Photo 44 after reclamation of the disposal site. October 2024.

Photo 45. Placement of old asphalt concrete at km. 7+100. June 2021.

Photo 46. After completion of old asphalt placement (August 2021).

Photo 47. Recultivated old asphalt dump located at km. 19+960 LHS. November 2022.

Photo 48. Recultivated old asphalt dump located at km. 20+100 RHS.

Photo 49. Recultivated old asphalt dump at km. 33+000. November 2022.

Photo 50. Scarifying of asphalt concrete pavement at km 74+550.

Photo 51. Old asphalt dump at km. 70+180 LHS before reclamation and Photo 52 after. October 2023.

Photo 54. Layout of old asphalt dump located on RHS at km. 89+093.

Photo 55. Lot 2. Old asphalt, to prevent dust formation, laid on the technological ground road to Crushing plant.

Photos 56, 57. Improvement of peripheral street with old asphalt (laying and leveling) in Cholpon village.

Photo 58, 59. Improvement of peripheral street with old asphalt (laying and leveling) in Cholpon village.

Photo 60. Improvement of internal roads in Epkin village.

Table 5: Characteristics of dumping sites for scraped old asphalt.

№	Location	Distance from road	Wastes' volume			Wastes' amount	Assessment of conditions and compliance with environmental protection measures
	Chainage	(LS/RS)	Area (Ha)	Height	Volume (m^3)		
Lot 1	Km 7+000	50 (RS)	10 400		62 862	21000	Reclamation of the old quarry was carried out
	km 20+100	50 (RS)	48 700		33 902	9000	Reclamation of the old quarry was carried out
	km 21+260	130 (LS)	183 000		80 374	10500	Reclamation of waste disposal site was carried out
	km 32+720	150 (LS)	4 100	3,0	16 000	11500	Reclamation of the old quarry was carried out
	km 38+660	545 (LS)	26 100	3,0	78 535	3500	Reclamation of waste disposal site was carried out
	km 40+200	141 (LS)	9 000	1,4	12 461	4500	Reclamation of waste disposal site was carried out
	Km 40+360		106400			4500	Reclamation of waste disposal site was carried out
Lot 2	km 70+180	400 (RS)	18 800	4,4	82 784	11000	Reclamation of waste disposal site was carried out
	km 89+090	80 (RS)	12 000	1,8	21 800	22000	Reclamation of waste disposal site was carried out

Unsuitable soil.

53. During construction period the total amount of unsuitable soil amounted to 166,068 m3; 66552 m3 - from Lot 1 and 99546 m3 - from Lot 2. The Contractor has obtained all necessary permitting documents from relevant state authorities (village administration, territorial environmental protection authorities) to place unsuitable soil in the environment. All materials were delivered to disposal sites as indicated in Table 6. On Lot 1, old quarries were allocated for disposal of unsuitable soil, for purposes of reclamation, at km. 12+00 and km. 40+360, as well as land areas requiring surface leveling and old quarries on Lot 2.

54. It should be noted that during reclamation of unsuitable soil dumps the Contractor has brought land's terrain to a better condition than it was before soil storage (photos 61, 62) or to the original condition (photos 63-69)

Table 6: Characteristics of unsuitable soil disposal sites.

№	Location, km	Distance from road	Waste volumes			Quantity of wastes m3	Assessment of conditions and compliance with environmental protection measures
		(LS/RS)	S, Hectare	Height m	Volume (m^3)		
	Lot-1						
1	12+100	100 (LS)	12500	4	50 000	24544	Reclamation was performed and submitted to Commission by Certificate dated December 30, 2024.
2	40+360	30 (LS)	10645	2,1	22 015	4489	Reclamation was performed and handed over to the commission
	Lot-2						
3	65+180	410 (LS)				918	Reclamation was performed and submitted to Commission by Certificate dated December 30, 2024.
4	65+300	1(RS**)**				2632	Reclamation was performed and submitted to Commission by Certificate dated December 30, 2024.
5	65+520	29(LS)				2207	Reclamation was performed and submitted to Commission by Certificate dated December 30, 2024.
6	65+520	**RS**				3049	Reclamation was performed and submitted to Commission by Certificate dated December 30, 2024.
7	70+180	400(LS				11704	Reclamation was performed and submitted to Commission by Certificate dated December 30, 2024.
8	71+640	12 (LS)	3850	4	5 401	14691	Reclamation was performed and handed over to the commission
9	71+860	12 (LS)	2069	4	8 278	8758	Reclamation was performed and handed over to the commission
10	80+900	70 (LS)	4200	3	12 600	12000	Reclamation was performed and handed over to the commission
11	89+090	60m (RS)	12000	1,8	21 800	18000	Reclamation was performed and handed over to the commission

Photo 61. Lot 1. Site allocated for dumping of unsuitable soil at km.12+00.	Photo 62. Lot 1: Unsuitable soil dump at km.12+00 after reclamation
	
Photo 63. Lot 2. Site allocated for disposal of unsuitable soil at km.65+520 LHS, its condition prior to disposal.	Photo 64. Lot 2. Site allocated for disposal of unsuitable soil at km.65+520 LHS, its condition prior to soil disposal
	
Photo 65. Spoil dump at km. 62+520 LHS, during disposal of unsuitable soil.	Photo 66. Spoil dump at km. 62+520 LHS, after reclamation. June 2024.
	
Photo 66. Spoil dump at km. 65+520 RHS before reclamation.	Photo 67. Spoil dump at km. 65+520 RHS after reclamation.

	
Photo 68. Layout of unsuitable soil dump at km.36+400. September 2023.	Photo 69. Dump of unsuitable soil at km. 80+800 left after reclamation.

Construction reinforced concrete wastes.

55. Construction reinforced concrete waste was generated during dismantling of bridges and culverts.

56. Dismantled reinforced concrete products were timely removed to the sites allocated by the road maintenance organization for storage of old reinforced concrete products.

Domestic waste.

57. Domestic waste is mainly generated in worker camps. Both solid and liquid domestic waste is generated.

58. Solid and liquid household waste consists of packaging materials, paper and cardboard, dry waste, plastic and glass, and food waste, which is pre-collected in plastic bags. Liquid domestic waste is wastewater from living rooms and kitchens.

59. Municipal solid waste was collected in containers installed at Contractor's Camp and production bases and transported in a timely manner (Photos 70, 72) and disposed at municipal landfill in Balykchy on Lot 1 and Cholpon on Lot 2. Cholpon on Lot 2. Wastewater was transported (Photos 71, 73) to the treatment facilities of Balykchy in accordance with the contract with the municipal enterprise of Balykchy. Balykchy municipal enterprise - “Gorvodokanal”.

	
Photo 70. Lot 1. Solid Waste removal from the Contractor's camp.	Photo 71. Lot 1. Removal of liquid wastewater from Contractor's camp.
	
Photo 72. Lot 2. Removal of solid waste from the Contractor's camp.	Photo 73. Lot 2. Removal of liquid wastewater from the Contractor's camp.

3.5 Pavement.

60. Asphalt paving work on project road segments on Lot 1 and Lot 2 was completed in 2023 (Photos 74-83), paving of sidewalks and exits was continued and completed in 2024 (Photos 84-85).

61. During asphalt paving construction works, the Contractor ensured implementation of measures to mitigate the impact of these works on the environmental and social environment in accordance with SSEPM the following Plans: Noise and Vibration Instrumental Monitoring Plan, Noise Management Plan, Water Quality Management Plan, Air Quality Management Plan, Construction Waste Management Plan, Land Protection Management Plan, Safety Plan. Implementation of measures was satisfactory, no adverse environmental and social impacts occurred, as confirmed by instrumental and laboratory studies of noise, vibration, air and water quality, as well as by results of visual monitoring conducted by the Consultant.

Photo 74. Lot 2. Binder course paving km 87+100.

Photo 75. Lot 2. SMA arrangement km 81+675-82+000 RHS.

Photo 76. Lot 1. Binder course paving on km 17+230 - km 17+500.

Photo 77. Lot 1. SMA paving with 3+140 LHS.

Photo 78. Lot 1: Road with new asphalt pavement.

Photo 79. Lot 1. Road with new asphalt pavement.

	
Photo 80. Lot 2. Road with new asphalt pavement.	Photo 81. Lot 2. Road with new asphalt pavement.
	
Photo 82. Lot 2. Roundabout at km 62+00.	Photo 83. Lot 2. Km. 71-73.
	
Photo 84. Sidewalk paving on km 2+050-2+414 LHS. September 2024.	Photo 85. Lot 2. Sidewalk paving at km 70+100-70+740 LHS.

3.6 Bridges construction.

62. Project for Lot 1 included construction of 1 bridge over the irrigation canal at km.12+063 (Photos 86-87).

63. Construction works were carried out outside the irrigation season. Dismantled reinforced concrete slabs were handed over to Road maintenance department. No littering of bridge construction area with construction waste was observed.

64. For Lot 2. in accordance with Project provides for construction of 4 bridges at km. 65+410 over Joon-Aryk River, km 68+044 over Mukandyn-Suusu River, km 86+261 over Sazdyn-Suusu River and km 88+795 over Zhar-Korundu River. The Contractor provided water diversion and bypass roads for construction of bridges at the following sections of km. 86+261, km 88+795 and km 68+044. Construction works on bridge at km. 65+410 were carried out during period when there was no water in the river. Dismantled reinforced concrete slabs of old bridges, bypass bridges and culverts on bypass roads were removed from sections in a timely manner (Photos 88-93).

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>Photo 86. Lot 1: Steel girder strapping of bridge bank abutment at km 12+063.</td><td>Photo 87. Lot 1. Bridge construction completed.</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Photo 88. Bridge construction at km 65+410. Installation of the foundation for the bridge piers.</td><td>Photo 89. Concrete pouring of transition slab 1 km 68+044.</td></tr>
</table>

	
Photo 90. Dismantling of temporary bridge for bypass road at km 62+500 over Joon-Aryk River.	Photo 91. Removal of dismantled parts of temporary bridge for bypass road at km 62+500.
	
Photo 92. Lot 2. Removal of dismantled bridge slabs at km. 62+400.	Photo 93. Lot 2.Photo 6. Construction of a bridge over the Joon-Aryk River at km. 65+410, installation of slabs.

65. During bridge construction, instrumental monitoring of water quality impacts of works was carried out. There was an exceedance of suspended solids in the water quality study according to results of water analysis carried out in June 2023. The causes of the exceedance were identified and eliminated: crumbling and spillage of soil into river from the temporary bypass road section.

66. In general, there was no negative impact of bridge construction on environmental and social environment.

Photo 94. Lot 2. Mukandyn-Suusu River bridge, km. 68+040. There are no protective measures to prevent soil from entering the river during construction works.

Photo 95. Lot 2. Mukandyn-Suusu river bridge, km. 68+040 Water diversion is provided to prevent soil from entering the river during construction works.

Photo 96. Lot 2. Bridge km 86+261. r. Sazdyn-Suusu, bypass road.

3.7 Culvert construction. Installation of parapets.

67. 63 culverts were installed on Lot 1 and 51 culverts on Lot 2. Parapet barriers on Lot 1 - 1339 pcs, on Lot 2 - 946 pcs. During installation of culverts the Contractor ensured implementation of mitigating measures on the impact of works on environment

Photo 97. Lot 1. Completed installation and waterproofing of culvert at 37+161.

Photo 98. Lot 1. Compaction of soil backfill of culvert at km 20+670.

Photo 99. Lot 1. Concrete reinforcement of culvert inlet and outlet at 13+763 BS.

Photo 100. Lot 2. Installation of headwalls km 78+772.

Photo 101. Lot 1. Concrete reinforcement of culvert inlet and outlet at 18+326BS.

Photo 102. Lot 2. Slope reinforcement at culvert inlet km 71+800 LHS.

Photo 103. Lot 1, km 22+575, culvert cleaning.

Photo 104. Lot 1: Culvert cleaning, km 33+869.

Photo 105. Lot 2. Construction of reinforcement at culvert inlet, km.88+692

Photo 106. Lot 2. Pouring of concrete for slope reinforcement at km 64+860.

Photo 107. Lot 1. Assembly of installed parapets from km 14+000-15+000. February

Photo 108. Lot 1. Installation of parapets, km.41

Photo 109. Installation of parapets on 40+700-40+870 RHS.

Photo 110. Installation of parapets at km.11+200.

3.8 Contractor's Production Base and Camp.

68. The asphalt-concrete plant, concrete mixing unit and crushing plant on Lot 1 (Photo 111) are located on a section of the Balykchy project section km 0 - km 43 at km 16+200, RHS at a distance of 50 meters. (Figure 6). All necessary permits/approvals from local authorities and approval of the State Committee on Ecology and Climate (SCEC) have been obtained.

Photo 111. Production base on Lot 1.

69. The following buildings and structures are located on site's territory a control room building, a stone crushing plant, an asphalt-bitumen plant, a fuel oil storage facility, a concrete mixing unit, a tank for primary treatment of wastewater from the (photo 112-118).

Photo 112. Lot 1. Production Facility. The AC plant and photo 113 fuel oil storage facility.

Photo 114. Lot 1. Production base. Concrete mixing plant.

Photo 115. Lot 1. 3-chamber primary wastewater treatment tank. Concrete mixing plant.

Photo 116. Lot 1. Reinforced concrete production site.

Photo 117. Lot 1. Parking lot for construction equipment.

Photo 118. Lot 1. Sanitary condition of filling station territory.

70. The Subcontractor's camp was located on the section of the Balykchy project section km.0 - km.43 at km.16+100, RHS at a distance of 50 meters. The camp site included: office and living quarters, a medical station with a doctor and first aid facilities, a prayer room (namazkana), a dining room with a kitchen block, separate toilet and shower facilities for men and women, and an open space for recreation and meetings in the middle of the buildings. Living quarters for national staff and workers who do not live in the area have a capacity for 60 people (Photos 119-126).

71. Fire prevention and emergency measures are ensured. Fire extinguishers and fire shields are strategically distributed outside buildings, rooms inside buildings are equipped with automatic fire extinguishing system. Various informational materials on COVID-19 and fire safety, emergency response was placed around the buildings. During the entire construction period, the sanitary condition of the camp territory, living and working places were in good condition.

Photo 119. Lot 1. General camp view Lot 1 km 16 + 100.

Photo 120. Lot 1. Accommodation Camp and Subcontractor's Office.

Photo 121 Lot 1. Subcontractor's accommodation camp.

Photo 122. Lot 1. Medical station.

Photo 123. Bathroom.

Photo 124. Contractor's office.

Photo 125. Kitchen.

Photo 126. Lot 1 camp canteen.

72. Dismantling of the Contractor's Production Base and Camp, which started in December 2023, was completed in January 2024 (Photos 127-130). Reclamation of the land used for the Production

Base and Residential Camp was completed in January and handed over to the landowner in February (Attachment 1. Photo Acceptance Certificate dated February 16, 2024).

Lot 1. Photo 127. Production base area after reclamation.

Lot 1. Photo 128. Machinery parking lot at the base of Lot 1, after reclamation.

Photo 129. Lot 1. Camp in the process of completing dismantling. January.

Photo 130. Camp area on Lot 1 in the process of dismantling facilities as of 01/29/24.

73. The Contractor's camp on Lot 2 and production base is located on Kochkor-Epkin section 2A at 81 km, 250 meters from the project site, with an area of 4.5 hectares. All necessary documents/approval from local authorities and approval from state environmental authorities have been obtained.

Photo 131. Location of the stone crushing plant production base and Contractor's camp.

74. Camp territory is fenced and landscaped with tree planting. On camp territory there are: office, medical station with a doctor and first aid facilities, living quarters for the Contractor's personnel, construction equipment parking area, canteen with a kitchen block. The living quarters for international and national staff and workers who do not reside in the area have a capacity of 45 persons. Each living room has a bathroom and a shower room. During the construction period, the sanitary condition of the camp, accommodation and work areas was in good condition (Photos 132-136).

Photo 132. Contractor's camp. Accommodation rooms.

Photo 133. Contractor's Camp. Kitchen.

Photo 134. Living room.

		
Photo 135. Dining room.	Photo 136. Bathroom in the living room.	Photo 137. Material storage

75. The following buildings and structures are located on the site as of December 2024: two stone crushing plants, a concrete mixing unit, a site for the production of reinforced concrete, a garage, a parking lot for construction equipment and vehicles, and a repair and mechanical section.

76. Problems with dust on stone crushing plant territory. Dust occurred at the plant, which led to contamination of adjacent territory, causing harm to health and environment. Several letters of non-compliance were sent to Contractor, which were eliminated/reduced by installing a hydro-irrigation system at the plant and covering the access technological roads to base with old asphalt removed from project road.

		
Photo 133. Lot 2. Crushing plant.	Photo 134. Reinforced concrete production area.	Photo 132. Parking for vehicles.
		
Photo 134. Lot 2. Territory of the production base, reinforced concrete products manufacturing area.	Photo 135. Lack/insufficient hydro-irrigation of dirt access roads.	Photo 136. Lot 2. Operation crushing plant without watering the processed material.

		
Photo 137. Laying old asphalt on unpaved access roads.	Photo 138. Lot 2. Operation of crushing plant after installation of water irrigation system: no dust emission.	Photo 139. Lot 2. Material storage at the production base.

3.9 Tree management.

77. In 2020, during the work to secure the design marks on project site, 1909 trees were identified that were subject to "forced" felling, of which: 160 on Lot 1 and 1749 on Lot 2. To minimize the impact on green spaces, Consultant and Contractor conducted a joint analysis of control points. This made it possible to reduce the number of felled trees to 1,602.

78. In 2024, monitoring of the survival rate of planted saplings was conducted. The results showed that 658 out of 1,610 planted saplings did not survive or died.

79. In 2024, the tree planting was completed. The contractor ensured the full remaining compensatory planting of 1,594 saplings, as well as the replacement planting for 613 out of 628 dead saplings. Cholpon village administration planted 26 Tien Shan spruce saplings to replace the dead pines (E04-06kg.2024 dated June 26, 2024). The total number of saplings planted in 2024 amounted to 2,233.

80. According to the terms of the current contract between the Ministry of Transport and Communications of the Kyrgyz Republic and Sinohydro-Powerchina Roadbridge JV, the contractor must plant new seedlings to replace the cut down trees, as well as carry out maintenance (watering, replacing dried seedlings with new ones) until the end of the defective period.

		

Photo 140, Cholpon village. Condition of pine trees in May 2023, photo 141 in August 2023, photo 142 in September 2023.



Photo 143 s.Cholpon. Samui condition in June 2023, Photo 144 in August 2023, Photo 145 in September 2023.

Photo: Planted fir trees to replace dead pines.

81. Considering that there are practically no places for planting new seedlings on the project road to Lot 2, local village administration proposed sites located at a distance of 1-3 km from the project road for planting seedlings. Also, requests were received from village administration to provide them with seedlings for planting in the organized park areas located on their territory, while they will carry out further work on planting and caring for the seedlings themselves. Considering the lack of places for planting seedlings on the project road, these proposals were approved by ADB.

82. Control and monitoring of planting and watering of seedlings, as well as monitoring of seedling survival are carried out on an ongoing basis by environmental protection specialists of the Consultant, the contracting company and representatives of the Ministry of Transport and Communications of the Kyrgyz Republic.

83. During the monitoring of the survival of seedlings on Lot 1, along the project road, it was found that the seedlings were in a critical condition. A large number of goats and sheep were grazing in the places where the seedlings were planted. As a result, the young shoots on the seedlings were eaten by animals. A large number were broken by them. In this area, in accordance with the Tree Planting Plan, the stadium should have been fenced off before the seedlings were planted, which was done much later, as a result of which the trees died.

84. During defective period, the Contractor must ensure proper care for planted seedlings along the project road to ensure their good survival and safety from livestock.

4. INFORMATION ON THE PROCESSES THAT WENT WELL, AS WELL AS ASPECTS THAT WERE WORSE DURING CONSTRUCTION.

85. At present, all necessary actions to complete the project activities have been completed. With the exception of the quarry reclamation, which must be carried out upon completion of the development and approval of the Quarry Reclamation Project by the Ministry of Natural Resources and Technical Requirements.

86. During the construction period, dusting was periodically observed at the stone crushing plant. The main reason for dusting during the crusher operation was clogging of spray nozzles or failure of water pipes.

87. A positive example during the construction of the project road was the quality of the reclamation of the waste dumps and old asphalt dumps in accordance with the Burial Plan. Reclamation of the waste dumps and old asphalt dumps was carried out immediately after the waste dumps were no longer in use.

88. A positive example is the planting of seedlings in park areas, school grounds, and a stadium located 1-3 km from the project road, at the request of local village administration, with the approval of ADB, since there were practically no places for planting new seedlings on the project road. At the same time, local village administration was obliged to carry out further work on planting and caring for the seedlings themselves. The total number of seedlings planted was 3,825 pieces.

89. A negative example is the frequent recurring contamination of the production base area with petroleum waste on Lot 2. These violations were eliminated in a timely manner according to the written and oral Instructions of the Engineer, although this could have been prevented.

90. In 2023, the construction of the road was completed. A good example is the efficiency of the Contractor's preparation for demobilization: timely meetings were held with land owners to agree on the issues of reclamation of lands used for quarries, dumps, production bases, Contractors' accommodation camps and their acceptance and transfer to Lot 1. Before receiving the Quarry Development Project, the Contractor ensured the technical planning of the territory of the exhausted quarries and bringing the quarry sides to a stable position. Upon receipt of the Quarry Reclamation Project, the quarry reclamation will be completed in full in accordance with the design documentation.

5. CONCLUSIONS AND RECOMMENDATIONS.

91. Contractor has been implementing environmental protection measures stipulated in SSEMP, but not always in a timely manner despite regular trainings conducted by Consultant's national environmental specialist. Having analyzed identified non-compliances, it can be concluded that in future, in order to avoid such facts, Contractor organizations involved in similar projects should build a clear vertical management and compliance with the requirements stipulated in the SSEMP in order to avoid such facts.

92. According to contract's terms, an identified discrepancies and demands for elimination of identified violations were sent from Consultant to Contractor on a regular basis in written and oral form.

93. Considering that Contractor did not always eliminate identified non-conformities within specified timeframes during construction work, the Consultant had no opportunity to apply any measures other than suspending the work. It is necessary to take this experience into account and "include" additional mechanisms of influence when preparing contracts in future projects in order to have more effective "levers" of influencing the Contractor to carry out the necessary environmental protection measures without repeated warnings and to prevent negative consequences in advance. One of such effective mechanisms may be clauses in the contractor's contract concerning the application of penalties, which will increase the contractor's responsibility for compliance with environmental protection requirements.

94. The Contractor must carry out the reclamation of quarries upon receipt of Development Project and hand them over to commission. Dismantle the equipment at production site of the plant and at Contractor's camp site on Lot 2.

95. Contractor to provide proper care of planted saplings, along project road, during defective period, for their good rooting and safety from livestock

Annex 3 Results of air instrumental monitoring.

Location of the monitoring site	Monitoring period	CO mg/m³	NO_2 mg/m³	SO_2 mg/m³	Dust concentration, mg/m³	Noise level, dB	Vibration level
Regulatory maximum permissible concentration of pollutants		**5**	**0.085**	**0.5**	**0.5**	**80**	**112**
LOT 1							
70. Balykchy town 0+000 km Latitude 42˚27′09 Longitude 76˚09′37′′	Dec 2015 (baseline)		0,022±0,004	0,05±0,006	0,29±0,07	43,1	92,4
	June 2021 (baseline)	0,4±0,08	0,082±0,021	0,008±0,002	0,073±0,015	68	96
	Aug 2021 (baseline)					65	97
	Oct 2021 (baseline)		0,135±0,24	0,085±0,01	<0,2	79	91
	Dec 2021 (baseline)		0,164±0,03	0,05	0,228±0,057	70	95
	April 2020 (baseline)					66	98
	June 2020 (baseline)	<0,05	0,15±0,03	0,325±0,057		66	96
	August 2022					70	91
	September 2022	0,7±0,14	0,081	0,138	0,164		
	October 2022					73	94
	April 2023					69	97
	June 2023	0,9±0,18	0,079±0,14	0,078±0,009	0.159±0,040		
	July 2023	1,0±0,2	0.043±0,008	0,012±0,001	0.163±0,041	67	89
	October 2023	1,4±0,28	0.070±0,013	0,018±0,002	0.157±0,039	69	80
	December 2023	1,67±0,25	0,062±0,004	0,205±0,006	0,29±0,07	71	78
	June 2024	0,2±0,31	0.069±0,013	0,017±0,002	0.142±0,031	74	93
71. Tash-Sarai village 11+000 km Latitude 42˚22′14 Longitude 76˚04′53′′	Dec 2015 (baseline)		0,027±0,005	<0,05	<0,26	40,2	91,7
	June 2021 (baseline)	0,2±0,08	0,025±0,0063	0,004±0,001	0,4±0,08	57	87
	Aug 2021 (baseline)					65	88
	Oct 2021 (baseline)		0,09±0,016	<0,05	<0,2	70	92

Location of the monitoring site	Monitoring period	CO mg/m³	NO_2 mg/m³	SO_2 mg/m³	Dust concentration, mg/m³	Noise level, dB	Vibration level
Regulatory maximum permissible concentration of pollutants		**5**	**0.085**	**0.5**	**0.5**	**80**	**112**
	Dec 2021 (baseline)		0,053	<0,05	0,228±0,05	68	92
	Apr 2022						62
	Jun 2022		0,04±0,01	<0,05	0,2±0,05		66
	August 2022					70	88
	September 2022	0,12	0,06	0,149	0,246		
	October 2022					64	85
	April 2023					55	101
	June 2023	1.1±0,22	0,078±0,014	0,088±0,011	0,246±0,062		
	July 2023	2.1±0,42	0,050±0,009	0,008±0,001	0,245±0,061	65	93
	October 2023	0,3±0,22	0.070±0,013	0,018±0,002	0.157±0,039	61	84
	December 2023	1,67±0,25	0,062±0,004	0,205±0,006	0,29±0,07	50	88
	June 2024	1,4±0,28	0,051±0,011	0,010±0,001	0.127±0,082	58	95
72. Production base (Asphalt plant, crushing plant) Quarry km 16+600 Latitude 42˚22′14 Longitude76˚04′53′′ **Asphalt Plant Rock Crusher**	June 2021 (baseline)	0,7±0,14	0,033±0,0083	0,006±0,0015	0,012±0,0024	62	93
	Aug 2021						90
	Oct 2021		0,05	<0,05	0,25	65	94
	Dec 2021		0,087	<0,05	0,19	58	87
	Apr 2022		0,07±0,01	<0,05	0,25	61	93
	Jun 2022		0,04	<0,05	0,35	58	84
	June 2022	0,07±0,01	<0,05	0.25	58	84	
	June 2022	0,04	<0.05	0.35			
	August 2022					61	91

Location of the monitoring site	Monitoring period	CO mg/m³	NO_2 mg/m³	SO_2 mg/m³	Dust concentration, mg/m³	Noise level, dB	Vibration level
Regulatory maximum permissible concentration of pollutants		**5**	**0.085**	**0.5**	**0.5**	**80**	**112**
	September 2022	0,5	0,07	0,27	0,49		
	October 2022					57	89
	April 2023					61	92
	June 2023	2.1±0,42	0,076±0,014	0,067±0,008	0,246±0,062		
	July 2023	1,4±0,28	0,062±0,011	0,010±0,001	0.327±0,082	59	96
	October 2023	0,4±0,38	0,059±0,011	0,033±0,004	0,314±0,079	60	95
	December 2023	0,1±0,07	0,017±0,001	0,02±0,004	0,106±0,079	35	63
	June 2024	The quarry is not active					
Quarry km 7+100 Latitude 42˚40′60 Longitude 76˚09′32′′	June 2021 (baseline)					58	90
	Aug 2021					50	91
	Oct 2021					47	77
	Dec 2021					70	90
	Apr 2021		Quarry not active				
	June 2021		Quarry not active				
Quarry 9+000 Latitude 42˚38′89 Longitude 76˚09′86′′	June 2021 (baseline)					46	90
	Aug					49	90
	Oct 2021					47	77
	Dec 2021					62	94
	Jun 2022					53	66
	August 2022					68	90
	October 2022					51	84

Location of the monitoring site	Monitoring period	CO mg/m³	NO_2 mg/m³	SO_2 mg/m³	Dust concentration, mg/m³	Noise level, dB	Vibration level
Regulatory maximum permissible concentration of pollutants		**5**	**0.085**	**0.5**	**0.5**	**80**	**112**
	April 2023					66	69
	June 2023	1.1±0,42	0,053±0,014	0,036±0,008	0,16±0,062		
	July 2023 - December 2023	Quarry not active					
Quarry km 26+800 Latitude 42˚29′36 Longitude 76˚09′94′′	June 2021 (baseline)					51	85
	Oct					54	87
	Dec 2021		0,02	0,05	0,2	52	91
Quarry km34+240	April 2022					58	86
	June 2022					64	87
	August 2022					63	89
	October 2022					61	88
	April 2023					53	90
	June 2023	2,0±0,3	0,06±0,014	0,04±0,008	0,15±0,06		
	July 2023	1,1±0,22	0.050±0,009	0.015±0,002	0,18±0,021	76	90
	October 2023					75	89
	December 2023					43	75
	June 2024	Quarry not active					
LOT 2							
73. Kok-Jar village km 65+985 Latitude 42˚19′17 Longitude 75˚65′33′′	December 2015 (baseline)		*<0,02*	<0,05	<0,26	57	90
	June 2021 (baseline)	0,3±0,06	0,018±0,0045	0,003±0,0008	0,012±0,0024	51	88
	Aug (baseline)					49	83
	Oct (baseline)		0,042	<0,05	<0,2	63	90

Location of the monitoring site	Monitoring period	CO mg/m³	NO_2 mg/m³	SO_2 mg/m³	Dust concentration, mg/m³	Noise level, dB	Vibration level
Regulatory maximum permissible concentration of pollutants		**5**	**0.085**	**0.5**	**0.5**	**80**	**112**
	Dec (baseline)		0,167	005	0,347	53	94
	Apr 2022						64
	Jun 2022		0,069±0,013	<0,05	0,2		64
	August 2022					66	90
	September 2022	0,5	0,053	0,122	0,164	57	92
	October 2022						
	April 2023					68	94
	June 2023	2,1±0,42	0,074±0,013	0,092±0,011	0.159±0,040		
	July 2023	1,2±0,24	0,052±0,009	0,209±0,025	0.163±0,041	64	91
	October 2023	0,4±0,4	0,061±0,011	0,023±0,003	0.157±0,039	66	89
	December 2023	1,3±0,06	0,078±0,0045	0,04±0,0008	0,012±0,0024	43	82
	June 2024.	1,5±0,3	0.040±0,007	0.006±0,001	0.163±0,041	64	94
74. Chekildek village km 70+003 Latitude 42˚19′44 Longitude 75˚60′80′′	December 2015 (baseline)		0,023±0,004	<0,05	0,028±0,07	68,1	91,1
	June 2021 (baseline indicators)	0,3±0,06	0,018±0,0045	0,003±0,0008	0,103±0,021	56	85
	Aug (baseline)					59	94
	Oct (baseline)		<0,02	<0,05	<0,2	62	91
	Dec (baseline)		0,072	<0,05	0.27	60	96
	April 2022						70
	Jun 2022		0,025	0,03	0,18		68
	August 2022					65	88
	September 2022	0,4	0,067	0,133	0,41		

Location of the monitoring site	Monitoring period	CO mg/m³	NO_2 mg/m³	SO_2 mg/m³	Dust concentration, mg/m³	Noise level, dB	Vibration level
Regulatory maximum permissible concentration of pollutants		**5**	**0.085**	**0.5**	**0.5**	**80**	**112**
	October 2022					69	92
	April 2023					60	96
	June 2023	0,1	0,074	0,058	0,159		
	July 2023	1,5±0,3	0.040±0,007	0.006±0,001	0.163±0,041	67	95
	October 2023	0,4±0,42	0.050±0,009	0,011±0,001	0,236±0,059	69	83
	December 2023	2,7±0,68	0,072	0,23	0,17	48	81
	June 2024	0,85	0,03	0,06	<0,2	61	90
76. Production base Quarry 81+200 Latitude 42˚18′50 Longitude 75˚47′84′′	December 2015 (baseline)						
	June 2021 (baseline)	0,5±0,1	0,016±0,004	0,004±0,001	0,109±0,022	83	98
	Aug 2021	0,4				72	84
	Oct 2021	0,6	0,078	0,155	3,24±0,81	74	84
	Dec 2021	0,85	0,02	0,05	<0,2	65	93
	April 2022						80
	Jun 2022		0,03±0,004	<0,05	0,4		45
	August 2022					69	90
	September 2022	0,18	0,05	0,142	0,246		
	October 2022					70	88
	April 2023					66	97
	June 2023	2,11	0,076	0,067	0,238		
	July 2023	1,5±0,3	0.051±0,009	0.083±0,009	0.245±0,061	72	85
	October 2023	0,3±0,44	0,055±0,010	0.015±0,003	0.236±0,059	70	83

Location of the monitoring site	Monitoring period	CO mg/m³	NO_2 mg/m³	SO_2 mg/m³	Dust concentration, mg/m³	Noise level, dB	Vibration level
Regulatory maximum permissible concentration of pollutants		**5**	**0.085**	**0.5**	**0.5**	**80**	**112**
	December 2023	0,2±0,01	0,006±0,003	0,001±0,001	0,009±0,001	48	65
	June 2024					67	93
Epkin village km 86+000 east side of the road Latitude 42˚10′24 Longitude 75˚25′21′′	June 2021 (baseline)					46	88
	Aug 2021					53	88
	Oct 2021	0,88	0,028	<0,5	0,02	61	83
	Dec 2021	0,92	0,056	<0,05	0,308	65	89
	April 2022						62
	June 2022		0,04±0,01	<0,05	0,25		56
	August 2022						
	September 2022	1,3	0,062	0,163	0,164		
	October 2022						
	April 2023					63	90
	June 2023	2,1	0,077	0,076	0,189		
	July 2023	2.0±0.4	0.043±0.008	0,018±0,002	0.163±0.041	63	93
	October 2023	0,3±0,44	0.063±0,011	0,005±0,001	0.157±0.039	49	78
	December 2023	1,4±0,52	0,075±0,005	0,023±0,002	0,043±0,026	46	73
	June 2024	0,2±0,31	0,042±0,010	0.015±0,003	0.236±0,059	56	92
Quarry km. 71+500 north side of the road Latitude 42˚18′83 Longitude 75˚58′95′′	Aug 2021						52
	Oct 2021						67
	Dec 2021		0,012	0,05	0,347		69
	April 2022						66

Location of the monitoring site	Monitoring period	CO mg/m³	NO_2 mg/m³	SO_2 mg/m³	Dust concentration, mg/m³	Noise level, dB	Vibration level
Regulatory maximum permissible concentration of pollutants		**5**	**0.085**	**0.5**	**0.5**	**80**	**112**
	June 2022						70
	August 2022						
	October 2022						
	April 2023					60	89
	June 2023	0,1	0,06	0,04	0,19		
	July-December 2023	Quarry not active					
Quarry 75 + 400 near the house st. Orkoshov M, 30 Latitude 42˚19′27 Longitude 75˚54′45′′	Aug 2021					52	98
	Oct 2021					67	83
	Dec 2021		0,012	0,05	0,347	69	90
	April 2022					67	83
	June 2022					53	88
	August 2022					64	90
	October 2022					59	87
	April 2023					56	80
	June 2023	1,1	0,078	0,088	0,4		
	July 2023	1,5	0,06	0,09	0,31	61	90
	October 2023	0,3	0,04	0,07	0,15	65	84
	December 2023	0,6	0,07	0,14	0,03	46	79
	June 2024	Quarry is not active					

* No environmental vibration level standards are provided.

Annex 4. Results of laboratory tests of surface water quality.

Sampling location	Selection period	Transparency, cm	Petroleum products	BOD $_5$, mgO_2 /dm^3	Suspended substances, mg/l	Notes
maximum allowable concentration for water reservoirs of domestic category		**Not less than 20**	**0,05* / 0,3****	**3* / 2-4****	**Increase 0,25/0,75**	
Lot 1						
148. Chu river	December 2015 (background)	41	<0,05			
	June 2021 (background)	24	0,012	1,3	3,2	
	October 2021 (construction work in progress)	24	0,07	1,29	0,8	
	December 2021.	15	0,066	2,0	13	
	June 2022	13	0,03	2,3	15	
	September 2022	45	0,0155	0,64	<3,0	
	June 2023	43	<0,005	0,87±0,226	3,20±0,96	Background measurements
	July 2023	37	<0,005	1,95±0,22	3,20±1,08	
	October 2023	47	<0,005	2,87±0,75	2,80±0,84	
	June 2024	49	<0,005	2,6±0,75	1,50±0,72	
149. Irrigation canal	June 2021 (background)	26	0,02	2,5	3,0	
	October 2021 (construction work in progress)	25	0,15	1,23	0,6	
	December 2021	There was no water				

	June 2022	14	0,02	2,3	11	The work was carried out
	September 2022	43	0,0155	0,28	<3,0	
	June 2023	43	0,0351±0,012	2,66±0,692	4,00±1,20	Natural background
	July 2023	39	<0,005	1,87±0,486	3,20±0,96	
	October 2023	49	<0,005	1,87±0,49	2,80±0,84	
	June 2024	There was no water				
150. Chu River, Hydropost. Orto-Tokoi Reservoir km. 42+600	December 2015 (background)	37	<0,05	0,3	3,0	Background measurements 2015
	June 2021 (background)	23	0,017	1,1	3,4	
	October 2021	22	0,04	0,3	0,8	
	December 2021	20	0,048	3,2	18,0	
	June 2022	24	0,01	2,8	16,0	
	September 2022	45	0,0125	0,63	<3,0	
	June 2023	42	0,06 ±0,021	0,82±0,213	3,60±1,080	Natural background
	July 2023	38	<0,005	1,19±0,309	4,00±1,2	

	October 2023	48	<0,005	2,93±0,76	2,40±0,72	
	June 2024	50	<0,005	2,6±0,75	1,50±0,72	
Lot 2						
151.Joon-Aryk River. km.65+410	December 2015 (background)	40	<0,05			Background measurements 2015
	June 2021 (background)	>50	0,03	1,4	1,4	
	October 2021	40	0,04	1,24	0,6	
	December 2021	13,4	0,05	1,4	18,4	
	June 2022	12	0,03	1,2	20	
	September 2022.	37	0,095	2,54	<3,0	
	June 2023 over the bridge under the bridge	There was no water				
	July 2023 over the bridge under the bridge	41 39	<0,005 <0,005	2,19±0,65 2,19±0,65	3,70±0,54 3,70±0,54	
	October 2023 over the bridge	46	<0,005	2,74±0,71	2,80±0,84	

	under the bridge	46	<0,005	2,78±0,72	2,80 ±0,84	
	June 2024 over the bridge under the bridge	 42 42	 <0,005 <0,005	 3,20±0,64 3,20±0,64	 2,65±0,226 2,65±0,226	
152. Sazdyn-Suusu river. km. 86+261	June 2021 (background)	39	0,026	0,3	3,0	
	October 2021.	>50	0,07	0,46	7,6	
	December 2021.	18	0,062	1,5	15,2	
	December below the bridge	17,1	0,045	1,4	27,2	
	June 2022. Before the bridge After the bridge	 15 14,5	 0,04 0,04	 1,9 1,7	 17 15	
	September 2022.	24	0,085	0,87	<3,0	
	June 2023 over the bridge under the bridge	 30 29	 <0,005 <0,005	 0,68±0,177 1,16±0,302	 2,8 4,80±1,44	The background concentration of suspended solids was increased by 2 mg/l, with the permissible 0.75
	July 2023 over the bridge under the bridge	 37 41	 <0,005 <0,005	 2,54±0,66 2,98±0,25	 4,00±1,22 3,89±0,51	

	October 2023 over the bridge under the bridge	 47 47	 <0,005 <0,005	 1,89±0,49 1,94±0,50	 3,20±0,96 3,20±0,96	
	June 2024 over the bridge under the bridge	 49 49	 <0,005 <0,005	 2,89±0,31 2,89±0,31	 2,98±0,74 2,95 ±0,74	
153.Mukandyn-Suusu river. Km.68+044	June 2021 (background)	10	0,026	1,1	20	
	October 2021	38	0,06	2,2	12	
	December 2021	1,0	0,064	1,4	70	
	June 2022	12	0,03	1,8	25	
	September 2022	45	0,0125	0,63	<3,0	
	June 2023 over the bridge under the bridge	 43 37,7	 <0,005 <0,005	 0,68±0,177 1,16±0,302	 3,60±1,080 5,20±1,560	Background concentration of suspended solids is increased by 1, 2 mg/l, with the permissible 0.75
	July 2023 over the bridge	 40	 <0,005	 1,94±0,504	 4,40±1,32	

	under the bridge	38	<0,005	3,02±0,78	3,60±1,08	
	October 2023 over the bridge under the bridge	46 46	0,016±0,006 0,017±0,006	3,35±0,87 3,42±0,89	5,60±1,68 5,60±1,68	
	June 2024 over the bridge under the bridge	43 43	<0,005 <0,005	1,38±0,124 1,26±0,102	2,60±1,080 2,20±1,051	
154.Zhar-Korundu river. km. 88+795	June 2021 (background)	39	0,022	2,5		
	October 2021	35	0,04	3,8	0,4	
	December 2021 above road	14,2	0,05	4,6	26	
	Below the road	2,5	0,042	2,3	30	
	June 2022. before the bridge after the bridge	18 15	0,02 0,025	2,18 2,0	20 17	
	September 2022	19	0,015	1,19	<3,0	
	June 2023 over the bridge under the bridge	31 33,5	<0,005 <0,005	0,68±0,177 1,16±0,302	2,8 6,00±1,80	The background concentration of suspended solids was increased by 3.2 mg/l, with an allowable 0.75

	July 2023 over the bridge under the bridge	 42 39	 <0,005 <0,005	 1,53±0,398 2,4±0,104	 3,6±1,08 2,80±0,75	
	October 2023 over the bridge under the bridge	 48 48	 0,019±0,007 0,021±0,007	 2,83±0,74 2,90±0,75	 2,80±0,84 2,80±0,84	
	June 2024 over the bridge under the bridge	 45 45	 <0,005 <0,005	 2,03±0,15 2,03±0,15	 2,71±0,09 2,83±0,04	